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AZIENDA UNITA' SANITARIA LOCALE

- RIMINI -



FORNITURA DI UN ACCELERATORE LINEARE PER RADIOTERAPIA ONCOLOGICA CON REALIZZAZIONE DEL FABBRICATO PRESSO L'OSPEDALE INFERMI DI RIMINI

DITTA:

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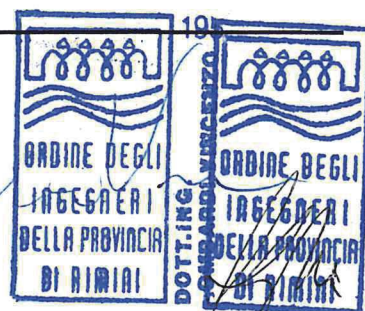
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OGGETTO

PROGETTO ESECUTIVO

ELABORATI GRAFICI ESECUTIVI STRUTTURALI

RELAZIONE TECNICA STRUTTURALE - RELAZIONE SUI MATERIALI

RELAZIONE SULLE FONDAZIONI - RELAZIONE DI CALCOLO

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3					
2					
1					
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RELAZIONE TECNICA

1- Descrizione delle nuove strutture

Oggetto della presente relazione è il Progetto di Inserimento di Unità di Radioterapia Oncologica e Medicina Nucleare all'interno dell'Ospedale "Infermi" di Rimini.

La nuova struttura ha dimensioni planimetriche di circa 32.00 m x 24.15 m; presenta un piano interrato, un piano rialzato ed una copertura piana in gran parte considerata praticabile come via di fuga (tranne sulla zona acceleratore lineare); viene realizzata in adiacenza all'edificio ospedaliero esistente e ad esso collegata da percorsi interni. Dal punto di vista strutturale rimane completamente separata dall'esistente da un idoneo giunto sismico. Questa nuova costruzione presenta due strutture diverse, la principale è costituita da un telaio con travi e pilastri mentre la secondaria è un elemento strutturale autonomo con pareti completamente in c.a. di idoneo spessore per l'alloggiamento di particolari macchinari ospedalieri (locale acceleratore lineare). Il collegamento fra queste due parti che per il diverso peso potranno avere cedimenti differenziati viene realizzato con una campata di solaio in semplice appoggio vincolato a cerniera da un lato ed a carrello sull'altro; questo meccanismo si realizza sia a piano rialzato che in copertura. La struttura principale si configura quindi come un normale telaio spaziale in c.a. con elementi verticali (pilastri) e travi come elementi orizzontali mentre il locale acceleratore lineare è costituita esclusivamente da setti. Gli impalcati sono costituiti da solai in latero-cemento con soletta collaborante e rete elettrosaldata all'interno che li rende infinitamente rigidi per sforzi agenti nel proprio piano. Le fondazioni consistono in una unica platea (con due zone a diverso spessore), nervata con travi di irrigidimento schematizzata su suolo elastico con appositi elementi bidimensionali. All'interno del nuovo edificio sono presenti alcuni ambienti per apparecchiature speciali che presentano carichi ed ingombri particolari, per questo motivo sono state armate queste zone in base alle specifiche tecniche fornite per gli impianti. Alcuni di questi ambienti sono da realizzare anche sulla parte di edificio esistente, per questo motivo sono stati progettati dei rinforzi localizzati su alcune maglie di solaio dopo avere esaminato la documentazione ottenuta sulla struttura esistente.

2 – Descrizione interventi sulla struttura esistente

L'inserimento della nuova unità di radioterapia oncologica e medicina nucleare presso l'Ospedale Infermi di Rimini comporta, oltre alla realizzazione delle nuove strutture anche alcuni interventi sull'edificio esistente.

Gli interventi sull'edificio esistente sono stati progettati sulla base della documentazione grafica, relativa alla costruzione delle strutture dell'Ospedale Infermi, fornita dall'Ufficio Tecnico della AUSL di Rimini.

In particolare vengono previsti i seguenti interventi:

- Scavo di sbancamento a ridosso delle fondazioni esistenti.
Lo scavo sarà realizzato fino ad una quota di sicurezza rispetto alle fondazioni dell'ospedale e, nella fase transitoria corrispondente alla durata dei lavori, non provocherà alcun inconveniente all'edificio esistente.
- Demolizione della parete esistente in c.a. per consentire l'accesso al piano interrato della nuova unità di radioterapia oncologica e medicina nucleare. Tale demolizione non comporterà alcun inconveniente per l'edificio esistente in quanto, dagli allegati disegni costruttivi, risulta che la trave di fondazione si trova ad una quota inferiore rispetto alla nuova apertura e quindi non sarà in alcun modo intaccata con le demolizioni previste.
- Costruzione delle fondazioni della nuova unità di radioterapia oncologica e medicina nucleare. Le nuove fondazioni non interferiranno in alcun modo con le fondazioni esistenti, in particolare le travi di fondazione saranno realizzate in modo da non interferire con le travi rovesce esistenti.
- Rinforzo di alcune zone di solaio in base ai carichi ed agli ingombri dovuti a macchinari speciali.

Risulta quindi evidente che gli interventi previsti per la costruzione della nuova unità di radioterapia oncologica e medicina nucleare non comportano inconvenienti per le strutture degli edifici esistenti.

Si precisa comunque che in corso d'opera, qualora emergessero problemi particolari attualmente non prevedibili si provvederà ad affrontarli con gli interventi di consolidamento necessari.

3 - Strumenti di calcolo utilizzati

Il progetto delle strutture e la relativa verifica sono stati svolti con l'ausilio di elaboratore elettronico procedendo ad una analisi sismica dinamica con individuazione dei modi di vibrare della struttura e del loro effetto.

In particolare sono stati realizzati e calcolati due diversi schemi; uno con la struttura completa con entrambe le parti ed uno con il solo acceleratore lineare in quanto per esso è stato applicato un coefficiente di struttura diverso rispetto al telaio. (Di entrambi si riportano i tabulati di seguito).

Sono stati selezionati i modi di vibrare più significativi al fine di movimentare una sufficiente quantità di massa per entrambe le direzioni. (>85%).

Si è utilizzato un programma agli elementi finiti (denominato XFINEST) di provata affidabilità.

Il progetto è stato inoltre facilitato dall'utilizzo di un pre e post-processore al solutore agli elementi finiti denominato MODEST (MODellatore STRutturale).

Tale secondo programma consente un input grafico facilitato, un efficiente controllo dei dati immessi e dei risultati ottenuti, la verifica delle sezioni e delle armature e la generazione di files DXF che costituiscono la base per la elaborazione CAD dei disegni di progetto.

I risultati ottenuti dallo studio dei singoli corpi sono stati valutati con attenzione eseguendo anche confronti qualitativi e quantitativi semplificati.

Da tali valutazioni di confronto si sono ottenute adeguate conferme sulla attendibilità dei risultati.

4 - Normative di riferimento

Il progetto esecutivo strutturale del nuovo edificio verrà eseguito sulla base della Normativa Vigente di cui vengono di seguito riepilogati i principali elementi :

- Legge 2 febbraio 1974 n° 64 - Provvedimenti per le costruzioni con particolari prescrizioni per le zone sismiche - con relativi D.M. applicativi

- D.M. 11 marzo 1988 - Norme tecniche riguardanti le indagini sui terreni e sulle rocce, la stabilità dei pendii naturali e delle scarpate, i criteri generali e le prescrizioni per la progettazione, l'esecuzione e il collaudo delle opere di sostegno delle terre e di fondazione.
- D.M. 23 luglio 1983 - Aggiornamento delle zone sismiche della regione Emilia Romagna.
- Legge 5 novembre 1971 n° 1086 - Norme per la disciplina delle opere in conglomerato cementizio armato, normale e precompresso ed a struttura metallica - con relativi D.M. applicativi
- D.M. 9 gennaio 1996 - Norme tecniche per il calcolo, l'esecuzione ed il collaudo delle strutture in cemento armato, normale e precompresso e per le strutture metalliche.
- D.M. 16 gennaio 1996 - Norme tecniche relative ai "Criteri generali per la verifica di sicurezza delle costruzioni e dei carichi e sovraccarichi"
- D.M. 16 gennaio 1996 - Norme tecniche per le costruzioni in zona sismica.

5 - Sovraccarichi e parametri di riferimento

Nella redazione del progetto esecutivo strutturale si adotteranno i seguenti carichi di esercizio e parametri di riferimento:

- Sovraccarico accidentale per solaio di piano rialzato $a=500 \text{ Kg/mq.}$
- Sovraccarico accidentale per solaio di copertura (praticabile) $a=500 \text{ Kg/mq.}$
- Sovraccarico accidentale copert. non praticabile (acceleratore lineare) $a=150 \text{ Kg/mq.}$
- Coefficiente di struttura (parte a telaio) $\beta=1.00$
- Coefficiente di struttura (corpo acceleratore lineare) $\beta=1.40$
- Coefficiente di protezione sismica $I=1.40$
- Coefficiente di fondazione $\varepsilon=1.00$
- Coefficiente di intensità sismica $C=0.07$
- Grado di sismicità $S=9$

RELAZIONE SULLE FONDAZIONI

Le opere di fondazione sono state dimensionate sulla base delle indicazioni contenute nella relazione geologica geotecnica redatta dal Dott. Geol. Pier Paolo Pazzaglia redatta in data maggio 2003. Oltre a questo si è studiata attentamente tutta la documentazione tecnica relativa alla parte esistente posta in adiacenza al nuovo intervento e alle sue opere di fondazione (loro dimensioni, quota di imposta, etc.). Gli strati interessati dalle fondazioni sono costituiti da terreno a prevalente componente argilloso-limosa di media consistenza. La fondazione in progetto è costituita da una unica platea che presenta un doppio spessore. La parte sotto la struttura a telaio è di 30 cm di spessore con le nervature di irrigidimento costituite da travi approfondite disposte al di sotto degli allineamenti dei pilastri per riceverne i carichi concentrati e trasmetterli alla platea. La parte al di sotto del locale acceleratore lineare è di 50 cm di spessore con adeguati risvolti per contenere i cedimenti entro valori accettabili. La platea è stata schematizzata con elementi bidimensionali su suolo elastico alla Winkler ottenendo poi direttamente le mappe di tensione sul terreno e le mappe di armatura nelle varie direzioni. In particolare per il corpo degli acceleratori lineari si è posta la necessità di allargare la base di impronta e di approfondire la platea per arrivare ad avere una tensione sul terreno accettabile ai fini dei cedimenti. La quota di imposta della platea è a circa -3 m dal p.c. e si pone leggermente al di sopra delle fondazioni esistenti adiacenti per non andare ad interferire con esse. Si è adottato un coefficiente di fondazione $\epsilon=1.00$ ed una tensione ammissibile pari a $\sigma_t=1.00$ kg/cmq. Le tensioni di esercizio sul terreno ed i cedimenti sono risultati accettabili. E' stata considerata una sottospinta idraulica di circa 2.20 m.

RELAZIONE SUI MATERIALI

Si prescrive l'adozione dei seguenti materiali:

a) Calcestruzzo per fondazioni:

- resistenza caratteristica cubica $R_{ck} > 250 \text{ Kg/cm}^2$;

b) Calcestruzzo per strutture in elevazione:

- pilastri e setti: resistenza caratteristica cubica $R_{ck} > 350 \text{ Kg/cm}^2$;

- travi e cordoli: resistenza caratteristica cubica $R_{ck} > 300 \text{ Kg/cm}^2$;

- altre strutture: resistenza caratteristica cubica $R_{ck} > 300 \text{ Kg/cm}^2$;

- locale acceleratore lineare: calcestruzzo come da apposite specifiche tecniche $R_{CK} = 250 \text{ kg/cm}^2$

c) Acciaio per c.a.:

- acciaio in barre controllato in stabilimento FeB44K $\sigma_{famm} = 2.600 \text{ Kg/cm}^2$;

- reti elettrosaldate $f_{yk} \geq 3.900 \text{ Kg/cm}^2$ $f_{yt} \geq 4.400 \text{ Kg/cm}^2$;

N.B. si è richiesto a favore di sicurezza per i pilastri ed i setti un calcestruzzo avente $R_{ck} = 350 \text{ kg/cm}^2$ anche se il calcolo è stato eseguito considerando un valore di 300 kg/cm^2 .

RELAZIONE DI CALCOLO

- Analisi dei carichi:

- Piano Rialzato Htot=32 cm (Solaio tipo Predalle) Tipo 1 (s=1)

- peso proprio	370 Kg/m ²
- fissi aggiunti	300 Kg/m ²
- carico accidentale	500 Kg/m ²
- carico totale	1170 Kg/m ²

- Piano Rialzato Htot=32 cm (Solaio tipo Predalle) Tipo 2 (s=1)
(Gamma Camera 1)

- peso proprio	370 Kg/m ²
- fissi aggiunti	300 Kg/m ²
- carico accidentale	650 Kg/m ²
- carico totale	1320 Kg/m ²

- Piano Rialzato Htot=21 cm (Soletta in c.a.) Tipo 3 (s=1)
(Simulatore)

- peso proprio	525 Kg/m ²
- fissi aggiunti	300 Kg/m ²
- carico accidentale	500 Kg/m ²
- carico totale	1325 Kg/m ²

- Piano Rialzato Htot=30 cm (Soletta in c.a.) Tipo 4 (s=1)
(Locale Acceleratore)

- peso proprio	750 Kg/m ²
- fissi aggiunti	300 Kg/m ²
- carico accidentale	500 Kg/m ²
- carico totale	1550 Kg/m ²

- Piano Rialzato $H_{tot}=20$ cm (Solaio tipo Predalle) Tipo 5 ($s=1$)

- peso proprio	300 Kg/m ²
- fissi aggiunti	300 Kg/m ²
- carico accidentale	500 Kg/m ²
- carico totale	1100 Kg/m ²

- Copertura $h=28+4$ cm ($s=1$)

- peso proprio	350 Kg/m ²
- fissi aggiunti	150 Kg/m ²
- carico accidentale	500 Kg/m ²
- carico totale	1000 Kg/m ²

- Copertura Locale Acceleratore $h=182$ cm ($s=0.33$)

- peso proprio	4550 Kg/m ²
- fissi aggiunti	150 Kg/m ²
- carico accidentale	150 Kg/m ²
- carico totale	4850 Kg/m ²

- Scale $s=15$ cm ($s=1$) e marciapiede esterno

- peso proprio + fissi aggiunti	500 Kg/m ²
- carico accidentale	500 Kg/m ²
- carico totale	1000 Kg/m ²

- Sbalzo piano rialzato $H_{tot}=32$ cm (Solaio tipo Predalle) ($s=1$)

- peso proprio	370 Kg/m ²
- fissi aggiunti	300 Kg/m ²
- carico accidentale	500 Kg/m ²
- carico totale	1170 Kg/m ²

- Sbalzo copertura $H=28+4$ cm ($s=1$)

- peso proprio	350 Kg/m ²
- fissi aggiunti	150 Kg/m ²
- carico accidentale	500 Kg/m ²
- carico totale	1000 Kg/m ²

- Tamponamenti a cassa vuota o con blocchi termici $q= 800$ kg/ml.

Il calcolo dei solai è stato eseguito tramite un codice di calcolo che provvede alla determinazione delle sollecitazioni flettenti e taglianti per ciascuna delle condizioni di carico, sia in corrispondenza degli appoggi che nelle campate; quindi, con riferimento alle sollecitazioni più gravose, vengono progettate le armature a flessione di ogni singolo travetto nelle sezioni più significative (considerando l'effettiva geometria e trascurando il contributo dei blocchi di alleggerimento), con il metodo delle tensioni ammissibili; infine note le posizioni degli assi neutri, viene effettuata la verifica a taglio nelle sezioni significative.

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== CALCOLO SOLAIO ==

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TITOLO: SOLAIO PIANO RIALZATO tipo predalle H=28+4 (SOLAIO TIPO 1.)

PREMESSA

La struttura in questione e' risolta con l'equazione dei tre momenti; le sollecitazioni risultanti dalle condizioni di carico previste, vengono involupate, ed il calcolo delle armature viene effettuato con riferimento alle massime sollecitazioni; le armature sono calcolate con il metodo delle tensioni ammissibili.

La C. d. C. n. 0 prevede la soluzione solo per pesi propri e permanenti.

CARATTERISTICHE DEI MATERIALI USATI

CALCESTRUZZO: Rck = 300 Kg/cm²: S-c massima per sez. piena = Kg/cm² 97.5
 S-c sez. a T con ala >= 5 cm = Kg/cm² 87.75
 S-c sez. a T con ala < 5 cm = Kg/cm² 73.125

ACCIAIO TIPO Fe B 44 K ad adherenza Migliorata: S-f = Kg/cm² 2600
 Coeff. di omogeniz. n = 15 Copriferro cm 2

TIPOLOGIE DELLE SEZIONI:

Sez. n.	Tip.	Int-Tr.	L-Trav.	H-Sol.	Sp-Cald.	P. P. Calcestr.		P. P. Blocchi	
1: (cm)	T	60	25	28	4	350	Kg/mq	28	Kg/mq
2: (cm)	T	33	8	23	5	234	Kg/mq	27	Kg/mq
3: (cm)	T	60	15	16	4	175	Kg/mq	18	Kg/mq
4: (cm)	R	100	100	15	15	375	Kg/mq	0	Kg/mq
5: (cm)	R	33	33	15	15	375	Kg/mq	0	Kg/mq
6: (cm)	T	50	10	23	5	215	Kg/mq	29	Kg/mq

CARICHI PERMANENTI PER METRO QUADRO (escluso p. p.):

Peso permanente (pavimento+malta) Kg/mq 180
 Intonaco Intradosso Kg/mq 30
 Incidenza tramezzature..... Kg/mq 80

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TOTALE Kg/mq 290

I tabulati riportano i valori riferiti all'interasse tra due travetti; le convezioni sui segni sono le seguenti:

Momenti: [+] -> fibre inf. tese; [-] -> fibre sup. tese
 Reazioni: [+] -> verso il basso; [-] -> verso l'alto
 Frecce: [+] -> abbassamenti; [-] -> innalzamenti

TITOLO: Relazione di Calcolo

SCHEMA STRUTTURALE (luci in cm)

Q 1	Q 2
#####	
#	#
+ 720	+ 800
1	2
[1]	[1]

[n] --> n. Sezione del Travetto associato alla campata

TABELLA DELLE C. d. C. ACCIDENTALE (Kg/mq)

N.	Q 1	Q 2
0 C. d. C.	0	0
1 C. d. C.	500	0
2 C. d. C.	0	500
3 C. d. C.	500	500

CONDIZIONE DEI VINCOLI ESTREMI

Vincolo sinistro: Semi-incastro pari al 10% di un incastro perfetto

Vincolo destro: Semi-incastro pari al 10% di un incastro perfetto

FORZA CONCENTRATA DI PUNZONAMENTO: Campate= Kg 200 LATO IMPRONTA= cm 5

TITOLO: Relazione di Calcolo

MOMENTI NEGLI APPOGGI (Kgm)

		M1	M2	M3
0	C. d. C.	-174	-28 21	-214
1	C. d. C.	-303	-3711	-214
2	C. d. C.	-174	-4042	-374
3	C. d. C.	-303	-4932	-374

MOMENTI MASSIMI IN CAMPATA (Kgm)

		M1-2	M2-3
0	C. d. C.	1269	1822
1	C. d. C.	2694	1483
2	C. d. C.	850	3549
3	C. d. C.	2219	3185

REAZIONI DEGLI APPOGGI (Kg)

		R1	R2	R3
0	C. d. C.	1075	3739	1277
1	C. d. C.	2049	5036	1166
2	C. d. C.	905	5241	2344
3	C. d. C.	1879	6538	2233

FRECCE MASSIME IN CAMPATA (mm)

		F1-2	F2-3
0	C. d. C.	2.21	4.72
1	C. d. C.	5.89	2.9
2	C. d. C.	0.18	10
3	C. d. C.	3.86	8.26

TITOLO: Relazione di Calcolo

CALCOLO ARMATURE METALLICHE FASCE PIENE E ABBASSAMENTI MASSIMI

Le verifiche sono riferite ad un singolo travetto

CAMP. Lx/Tip	B x H (cm)	Sez- ione	M (Kgm)	T (Kg)	Afs (cmq)	Afi (cmq)	S-c (Kg/cmq)	S-f (Kg/cmq)	tau	A. N. (cm)	F. P.	Abb. (mm)
1-2	60	28 SIN	-303	2049	1	0.78	11	1208	1.37	3.3	15	----
	25	28 F. sx	-42	1944	1	0.78	2	170	3.18	4.79	15	----
720 cm	60	28 CAM	2694		0	4.31	61	2599		6.77	--	5.89
	25	28 F. dx	-3607	-2858	8.15	4.95	83	1919	5.06	10.25		
											44	----
1/T	60	28 DES	-4932	-3166	8.15	4.95	72	2570	2.25	7.75	44	----
Travetto Rompitratte: b= 19 cm; h= 28 cm; Aft= 4 fi 10 - Staffe fi 8 / 15 cm												
2-3	60	28 SIN	-4932	3372	8.15	4.84	73	2571	2.4	7.76	48	----
	25	28 F. sx	-3394	3036	8.15	4.84	78	1808	5.38	10.28		
											48	----
800 cm	60	28 CAM	3549		0.29	5.73	73	2595		7.72	--	10.08
	25	28 F. dx	-47	-2240	1	0.9	2	189	3.66	4.76	15	----
1/T	60	28 DES	-374	-2345	1	0.9	14	1491	1.56	3.29	15	----
Travetto Rompitratte: b= 20 cm; h= 28 cm; Aft= 4 fi 10 - Staffe fi 8 / 15 cm												

ARMATURA DI RIPARTIZIONE: 6 fi 8 al ml, perpendicolarmente ai travetti

VERIFICHE A PUNZONAMENTO: su un'impronta quadrata di lato 5 cm avremo:

$$\text{Campate: } T\text{-punz.} = 200 / [(5 * 4) * 4] = \text{Kg/cmq } 2.5$$

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== C A L C O L O S O L A I O ==

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TITOLO: SOLAIO COPERTURA tipo traliccio H=28+4cm

PREMESSA

La struttura in questione e' risolta con l'equazione dei tre momenti; le sollecitazioni risultanti dalle condizioni di carico previste, vengono involupate, ed il calcolo delle armature viene effettuato con riferimento alle massime sollecitazioni; le armature sono calcolate con il metodo delle tensioni ammissibili.

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1: (cm)	T	50	12	28	4	244 Kg/mq	76 Kg/mq
2: (cm)	T	33	8	23	5	234 Kg/mq	57 Kg/mq
3: (cm)	T	60	15	16	4	175 Kg/mq	37 Kg/mq
4: (cm)	R	100	100	15	15	375 Kg/mq	0 Kg/mq
5: (cm)	R	33	33	15	15	375 Kg/mq	0 Kg/mq
6: (cm)	T	50	10	23	5	215 Kg/mq	60 Kg/mq

CARICHI PERMANENTI PER METRO QUADRO (escluso p. p.):

Peso permanente (pavimento+malta) Kg/mq 150
 Intonaco Intradosso Kg/mq 30

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TOTALE Kg/mq 180

I tabulati riportano i valori riferiti all'interasse tra due travetti; le convenzioni sui segni sono le seguenti:

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 Frecce: [+] -> abbassamenti; [-] -> innalzamenti

TITOLO: Relazione di Calcolo

SCHEMA STRUTTURALE (luci in cm)

Q 1	Q 2
#####	
#	#
+ 720	+ 800
1	2
[1]	[1]

[n] --> n. Sezione del Travetto associato alla campata

TABELLA DELLE C. d. C. ACCIDENTALE (Kg/mq)

N.	Q 1	Q 2
0 C. d. C.	0	0
1 C. d. C.	500	0
2 C. d. C.	0	500
3 C. d. C.	500	500

CONDIZIONE DEI VINCOLI ESTREMI

Vincolo sinistro: Semi-incastro pari al 10% di un incastro perfetto

Vincolo destro: Semi-incastro pari al 10% di un incastro perfetto

FORZA CONCENTRATA DI PUNZONAMENTO: Campate= Kg 200 LATO IMPRONTA= cm 5

TITOLO: Relazione di Calcolo

MOMENTI NEGLI APPOGGI (Kgm)

		M1	M2	M3
0	C. d. C.	-108	-1759	-134
1	C. d. C.	-216	-2501	-134
2	C. d. C.	-108	-2776	-267
3	C. d. C.	-216	-3518	-267

MOMENTI MASSIMI IN CAMPATA (Kgm)

		M1-2	M2-3
0	C. d. C.	791	1136
1	C. d. C.	1982	857
2	C. d. C.	452	2576
3	C. d. C.	1583	2272

REAZIONI DEGLI APPOGGI (Kg)

		R1	R2	R3
0	C. d. C.	670	2331	796
1	C. d. C.	1482	3411	703
2	C. d. C.	528	3583	1685
3	C. d. C.	1340	4663	1593

FRECCE MASSIME IN CAMPATA (mm)

		F1-2	F2-3
0	C. d. C.	2.32	4.96
1	C. d. C.	7.48	2.4
2	C. d. C.	-0.52	12.4
3	C. d. C.	4.64	9.92

TITOLO: Relazione di Calcolo

CALCOLO ARMATURE METALLICHE FASCE PIENE E ABBASSAMENTI MASSIMI

Le verifiche sono riferite ad un singolo travetto

CAMP. Lx/Tip	B x H (cm)	Sez- ione	M (Kgm)	T (Kg)	Afs (cmq)	Afi (cmq)	S-c (Kg/cmq)	S-f (Kg/cmq)	tau (cm)	A. N. (cm)	F. P. (mm)	Abb.
1-2	50	28 SIN	-216	1482	0.84	0.57	10	1034	1.19	3.31	15	----
	12	28 F. sx	-32	1407	0.84	0.57	3	155	4.88	6.01	15	----
720 cm	50	28 CAM	1982		0	3.15	57	2598		6.44	--	7.48
	12	28 F. dx	-2573	-2039	5.77	1.09	128	2014	7.8	12.73		
											44	----
1/T	50	28 DES	-3518	-2259	5.77	1.09	73	2595	1.92	7.72	44	----
Travetto Rompitratte: b= 19 cm; h= 28 cm; Aft= 4 fi 10 - Staffe fi 8 / 15 cm												
2-3	50	28 SIN	-3518	2405	5.77	1.1	73	2595	2.05	7.71	48	----
	12	28 F. sx	-2421	2165	5.77	1.1	121	1895	8.29	12.72		
											48	----
800 cm	50	28 CAM	2576		0	4.12	68	2598		7.4	--	12.48
	12	28 F. dx	-34	-1611	0.84	0.64	3	164	5.59	5.96	15	----
1/T	50	28 DES	-267	-1686	0.84	0.64	12	1276	1.35	3.3	15	----
Travetto Rompitratte: b= 20 cm; h= 28 cm; Aft= 4 fi 10 - Staffe fi 8 / 15 cm												

ARMATURA DI RIPARTIZIONE: 5 fi 8 al ml, perpendicolarmente ai travetti

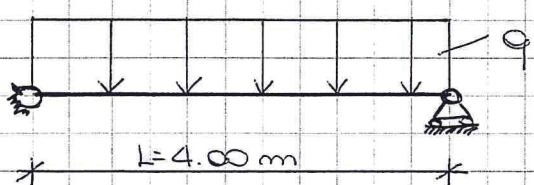
VERIFICHE A PUNZONAMENTO: su un'impronta quadrata di lato 5 cm avremo:

$$\text{Campate: } T\text{-punz.} = 200 / [(5 * 4) * 4] = \text{Kg/cmq } 2.5$$

SOLAI CON SCHEMA "CERNIERA-CARRELLO"

La struttura dell'accelerazione lineare essendo realizzata con setti in c.a. di un certo spessore, a causa del suo peso, può subire dei cedimenti; per tale motivo si è deciso di realizzare una porzione di solaio, con schema cerniera-carrello, che separa tale struttura dal resto del nuovo complesso.

Quindi lo schema considerato è:



$$M = \frac{q L^2}{8}$$

• PIANO TERRA

$$q = 1170 \text{ Kg/m}^2$$

$$M = \frac{q L^2}{8} = \frac{1170 \times 4.00^2}{8} = 2340 \text{ Kg m}$$

$$A_s = \frac{2340}{0.9 \cdot 26 \cdot 26} = 3.8 \text{ cm}^2 / \text{m}$$

In un pannello di solaio largo 1.80 m si dispongono inferiormente

$$T = \frac{q l}{2} = \frac{1170 \cdot 4}{2} = 2340 \text{ Kg}$$

$$\tau = \frac{2340 \cdot 1.8}{0.9 \cdot 50 \cdot 26} = 2.4 \text{ Kg/cm}^2 < \tau_0$$

①



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• COPERTURA

$$q = 1000 \text{ Kg/m}^2$$

$$M = \frac{q L^2}{8} = \frac{1000 \times 4.00^2}{8} = 2000 \text{ Kg/m}$$

$$A_s = \frac{M}{0.9 d \sigma_s} = \frac{2000}{0.9 \times 26 \times 26} = 3.3 \text{ cm}^2/\text{m}$$

$$T = \frac{q L}{2} = \frac{1000 \times 4}{2} = 2000 \text{ Kg}$$

$$\tau = \frac{T}{0.9 B h} = \frac{2000}{0.9 \times 24 \times 26} = 3.6 \text{ Kg/cm}^2 < \tau_{co}$$

2



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VERIFICA SBALZI

Sbalzo piano rialzato L=2.05 m

Caratteristiche sbalzo			Caratteristiche travetto		
Lunghezza sbalzo	l =	2.05 (m)	Larghezza	b =	25.00 (cm)
Carico permanente	p =	670.00 (kg/mq)	Altezza utile	h =	25.00 (cm)
Carico accidentale	a =	500.00 (kg/mq)	Copriferro	c =	3.00 (cm)
Carico in punta	f =	50.00 (kg)	Interasse	i =	0.60 (m)
Momento in punta	m =	0.00 (kgm/m)			
Coeff. sismici e omog.			Armature		
Coeff. riduzione accidentale	s =	1.00	(disposte in ogni travetto)		
Coeff. protezione sismica	l =	1.40	Armatura superiore	Af =	5.08 (cmq)
Coeff. sismico verticale	kv =	0.40	Armatura inferiore	Af' =	2.54 (cmq)
coefficiente di omogeneizz.	n =	15.00			
Sollecitazioni sbalzo			Risultati verifica flessione		
Momento flettente	M =	2561.0 (kgm/m)	Posizione asse neutro	y =	8.94 (cm)
Incremento sismico momento	ΔM =	1434.1 (kgm/m)	Momento inerzia sez. reagente	Jn =	26952 (cm4)
Momento flettente totale	Mt =	3995.1 (kgm/m)	Sollecitazioni calcestruzzo	σc =	79.5 (kg/cmq)
Taglio	T =	2448.5 (kg/m)	Sollecitazioni acciaio comp.	σf =	791.8 (kg/cmq)
Incremento sismico taglio	ΔT =	1371.2 (kg/m)	Sollecitazioni acciaio teso	σf =	2143.1 (kg/cmq)
Taglio totale	Tt =	3819.7 (kg/m)			
			Risultati verifica taglio		
			Sollecitazioni calcestruzzo	τ =	4.1 (kg/cmq)

Sbalzo copertura L=2.05 m

Caratteristiche sbalzo			Caratteristiche travetto		
Lunghezza sbalzo	l =	2.05 (m)	Larghezza	b =	12.00 (cm)
Carico permanente	p =	500.00 (kg/mq)	Altezza utile	h =	28.00 (cm)
Carico accidentale	a =	500.00 (kg/mq)	Copriferro	c =	4.00 (cm)
Carico in punta	f =	50.00 (kg)	Interasse	i =	0.50 (m)
Momento in punta	m =	0.00 (kgm/m)			
Coeff. sismici e omog.			Armature		
Coeff. riduzione accidentale	s =	1.00	(disposte in ogni travetto)		
Coeff. protezione sismica	l =	1.40	Armatura superiore	Af =	3.08 (cmq)
Coeff. sismico verticale	kv =	0.40	Armatura inferiore	Af' =	1.54 (cmq)
coefficiente di omogeneizz.	n =	15.00			
Sollecitazioni sbalzo			Risultati verifica flessione		
Momento flettente	M =	2203.8 (kgm/m)	Posizione asse neutro	y =	10.48 (cm)
Incremento sismico momento	ΔM =	1234.1 (kgm/m)	Momento inerzia sez. reagente	Jn =	19755 (cm4)
Momento flettente totale	Mt =	3437.9 (kgm/m)	Sollecitazioni calcestruzzo	σc =	91.2 (kg/cmq)
Taglio	T =	2100.0 (kg/m)	Sollecitazioni acciaio comp.	σf =	846.3 (kg/cmq)
Incremento sismico taglio	ΔT =	1176.0 (kg/m)	Sollecitazioni acciaio teso	σf =	2286.2 (kg/cmq)
Taglio totale	Tt =	3276.0 (kg/m)			
			Risultati verifica taglio		
			Sollecitazioni calcestruzzo	τ =	5.4 (kg/cmq)

VERIFICA SBALZI					
Sbalzo l=1.50 Marciapiede					
Caratteristiche sbalzo			Caratteristiche travetto		
Lunghezza sbalzo	l =	1.50 (m)	Larghezza	b =	50.00 (cm)
Carico permanente	p =	500.00 (kg/mq)	Altezza utile	h =	13.00 (cm)
Carico accidentale	a =	500.00 (kg/mq)	Copriferro	c =	2.00 (cm)
Carico in punta	f =	50.00 (kg)	Interasse	i =	0.50 (m)
Momento in punta	m =	0.00 (kgm/m)			
Coeff. sismici e omog.			Armature		
Coeff. riduzione accidentale	s =	1.00	(disposte in ogni travetto)		
Coeff. protezione sismica	l =	1.40	Armatura superiore	Af =	3.85 (cmq)
Coeff. sismico verticale	kv =	0.40	Armatura inferiore	Af' =	3.85 (cmq)
coefficiente di omogeneizz.	n =	15.00			
Sollecitazioni sbalzo			Risultati verifica flessione		
Momento flettente	M =	1200.0 (kgm/m)	Posizione asse neutro	y =	4.01 (cm)
Incremento sismico momento	ΔM =	672.0 (kgm/m)	Momento inerzia sez. reagente	Jn =	5975 (cm ⁴)
Momento flettente totale	Mt =	1872.0 (kgm/m)	Sollecitazioni calcestruzzo	σc =	62.9 (kg/cm ²)
Taglio	T =	1550.0 (kg/m)	Sollecitazioni acciaio comp.	σ'f =	473.1 (kg/cm ²)
Incremento sismico taglio	ΔT =	868.0 (kg/m)	Sollecitazioni acciaio teso	σf =	2111.5 (kg/cm ²)
Taglio totale	Tt =	2418.0 (kg/m)	Risultati verifica taglio		
			Sollecitazioni calcestruzzo	τ =	2.1 (kg/cm ²)

- Armatura solai Gamma Concreto 1

Si determinano il carico massimo del modellino sul soletto. Da indicazioni tecniche si ha che il peso di 2000 kg ha una base di appoggio di $1,5 \times 1,50$ m.

Considerando la diffusione operata dal soletto sul soletto fresco si ha:

$$q = \frac{2000}{(1,50 + 0,12 + 0,12) \cdot (1,50 + 0,12 + 0,12)} = 660 \text{ kg/m}^2$$

A fronte di questa si dimensiona tutta la campata per questo carico accidentale che comunque superi di poco quello già considerato per il restante soletto.

$$M_{\text{campata}} \approx \frac{1320 \cdot 8^2}{12} = 7040 \text{ kg m/m}$$

$$A_s = \frac{7040}{0,9 \cdot 26 \cdot 26} = 11,6 \text{ cm}^2/\text{m}$$

Per un pannello si ha $11,6 \cdot 1,2 = 13,9 \text{ cm}^2$

Si dispongono $2\phi 20 + 4\phi 16$ ($14,32 \text{ cm}^2$)

$$T_{\text{max}} = \frac{1320 \cdot 8}{2} = 5280 \text{ kg}$$

$$\tau = \frac{5280 \cdot 1,2}{50 \cdot 26 \cdot 0,9} = 5,4 \text{ kg/cm}^2 < 7,0$$



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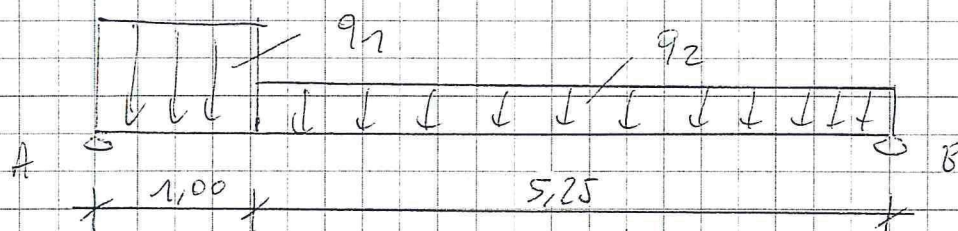
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- Armatura solara simulatore

la zona in cui viene installato il macchinario del simulatore viene realizzata con una soletta in c.c. da 24 cm.

Il macchinario più pesante ha un carico di 2000 kg su una superficie di appoggio di $1,20 \times 0,80$ (circa 1 mq).

A scopo di sicurezza la soletta viene armata con la seguente armatura:



$$q_1 = 525 + 2000 = 2525 \text{ kg/m}$$

$$q_2 = 525 + 300 + 500 = 1325 \text{ kg/m}$$

$$R_g = (1325 \cdot 5,25 \cdot 3/6 + 2525 \cdot 1 \cdot 3/5) / 7 = 3788 \text{ kg}$$

$$A_d = (1325 \cdot 5,25 + 2525 \cdot 1) - 3788 = 5693 \text{ kg}$$

Portando dall'appoggio B il momento massimo si ha:

$$x = 3788 / 1325 = 2,86 \text{ m}$$

$$M_{max} = 3788 \cdot 2,86 - 1325 \cdot \frac{2,86^2}{2} = 5415 \text{ kg m}$$

$$A_s = 5415 / 0,8 \cdot 16 \cdot 26 = 14,5 \text{ cm}^2$$



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Si dispone in campo $1\phi 18/40'' + 1\phi 16/20''$ ($16,40 \text{ cm}^2$)

Superiore e si dispone $1\phi 14/20''$ ($7,70 \text{ cm}^2$)

Dalla verifica a flessione delle travi si
determina che:

$$\begin{cases} f_c = - 97 \text{ kg/cm}^2 \\ f_s = 2268 \text{ kg/cm}^2 \end{cases}$$

Verifica a taglio

$$T_{max} = R_A = 5693 \text{ kg}$$

$$\tau = \frac{5693}{0,8 \cdot 100 \cdot 16} = 4,0 \text{ kg/cm}^2 < \tau_{co}$$



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- Solette acceleratore lineare

Anche in questo ambiente si applicano modulatori particolari, su una base di impronta di $1,60 \text{ m} \times 3,40 \text{ m}$ si ha un carico totale di

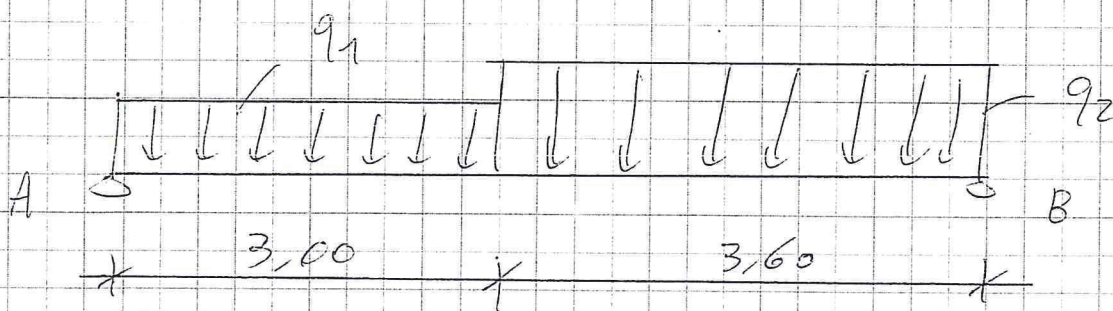
$$P = 1200 + 7730 + 531 = 9521 \text{ kg}$$

È presente mediante un carico distribuito per area:

$$q = 9521 / 1,6 \times 3,4 = 1750 \text{ kg/mq.}$$

Per creare le solette si utilizzano 2 sistemi limite, uno che considera le sole strisce secondo x e l'altro secondo y, si riporta il calcolo di entrambe e poi si dispongono le armature andando a coprire almeno il 60% delle sollecitazioni per ogni direzione.

- Strisce secondo x (longitudinali)



$$q_1 = 750 + 300 + 500 = 1550 \text{ kg/mq}$$

$$q_2 = 750 + 1750 = 2500 \text{ kg/mq}$$



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$$R_A = (1850 \cdot 3 \cdot 5,1 + 2500 \cdot 3,6 \cdot 1,8) / 6,6 = 6047 \text{ kg}$$

$$R_B = (1850 \cdot 3 + 2500 \cdot 3,6) - 6047 = 7603 \text{ kg}$$

A portine da 8 ai he :

$$x = \frac{7603}{2500} = 3,04 \text{ m}$$

$$M_{max} = 7603 \cdot 3,04 - 2500 \cdot \frac{3,04^2}{2} = 11561 \text{ kg m}$$

Si cerca la striscia per un momento pari a

$$M = 11561 \cdot 0,6 = 6936 \text{ kg m}$$

$$A_s = \frac{6936}{0,8 \cdot 25 \cdot 26} = 11,8 \text{ cm}^2/\text{m}$$

Si dispone 1ϕ 18/20" in f. (12,70 cm²/m) ed 1ϕ 14/20" sup. (7,70 cm²/m). Dalle verifiche si ottiene:

$$\sigma_c = -67 \text{ kg/cm}^2$$

$$\sigma_s = 2414 \text{ kg/cm}^2$$

$$T_{max} = 7603 \text{ kg}$$

$$\tau = \frac{7603 \cdot 0,6}{100 \cdot 0,8 \cdot 25} = 2,0 \text{ kg/cm}^2 < \tau_{co}$$



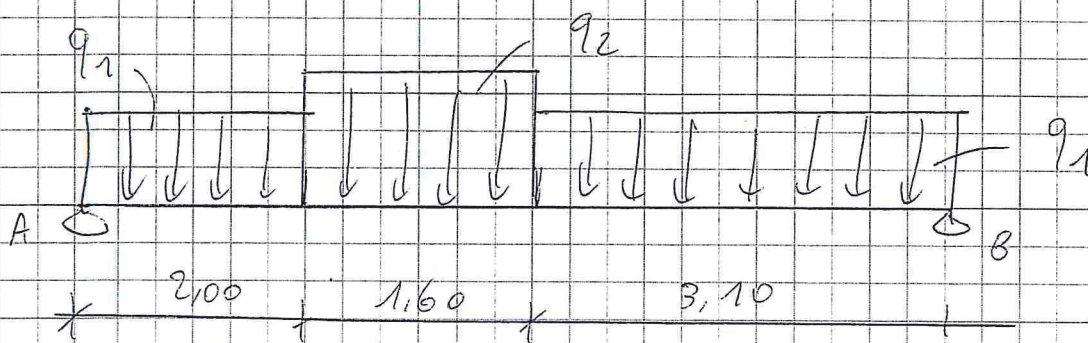
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- Strada secondo y (transversali)



$$R_B = (1550 \cdot 2 \cdot 1 + 2500 \cdot 1,6 \cdot 2,8 + 1550 \cdot 3,1 \cdot 5,15) / 6,7 = 5827 \text{ kg}$$

$$R_A = (1550 \cdot 2 + 2500 \cdot 1,6 + 1550 \cdot 3,1) - 5827 = 6078 \text{ kg}$$

A partire da A si verifica che:

$$x = [(6078 - 1550 \cdot 2) / 2500] + 2 = 3,15 \text{ m}$$

$$M_{max} = 6078 \cdot 3,15 - 1550 \cdot 2 \cdot 2,15 - 2500 \cdot \frac{1,15^2}{2} = 10830 \text{ kgm}$$

Si assume la strada per un momento pari a:

$$M = 0,6 \cdot 10830 = 6498 \text{ kgm}$$

Si dispone la stessa armatura disposta nell'altra direzione, si ottiene dalle verifiche:

$$\begin{cases} f_c = -63 \text{ kg/cm}^2 \\ f_s = 2262 \text{ kg/cm}^2 \end{cases}$$

$$T_{max} = 6078 \text{ kg}$$

$$\tau = \frac{6078 \cdot 0,6}{0,5 \cdot 100 \cdot 25} = 1,6 \text{ kg/cm}^2 < \tau_{co}$$



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- Armature solai Gamme Comra 2.

Questo ambiente viene ricondotto nella parte di struttura esistente; si considera di omolare e rinforzare la parte di solai interessate con l'inservire di corololi e

Per il carico si fa riferimento a quello considerato per la Gamme Comra 1.

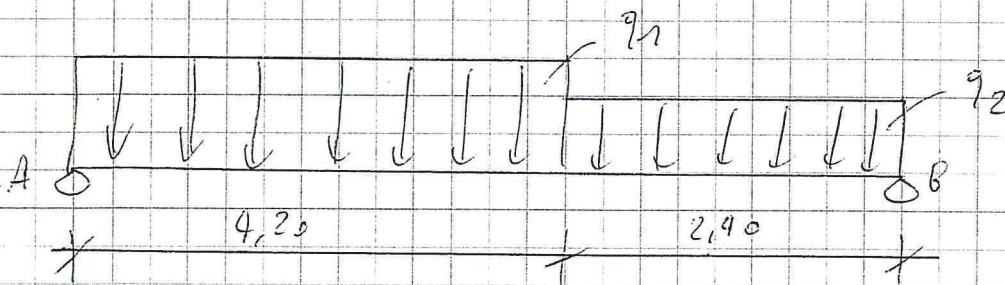
Solai esistente $h = 22,5 + 5 \text{ cm}$

P.P. 320 kg/mq

fissi 280 kg/mq

ecc. 500 kg/mq

Totale 1100 kg/mq



$$q_1 = 320 + 280 + 650 = 1250 \text{ kg/mq} \quad (\text{Gamme Comra})$$

$$q_2 = 320 + 280 + 500 = 1100 \text{ kg/mq} \quad (\text{Solai esistente})$$

$$R_A = (1250 \cdot 4,2 \cdot 4,50 + 1100 \cdot 2,4 \cdot 1,2) / 6,6 = 4060 \text{ kg}$$

$$R_B = (1250 \cdot 4,2 + 1100 \cdot 2,4) - 4060 = 3830 \text{ kg}$$



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Il punto di momento massimo è la c.

$$x = \frac{4060}{1250} = 3,25 \text{ m}$$

$$M_{\max} = 4060 \cdot 3,25 - 1250 \cdot \frac{3,25^2}{2} = 6593 \text{ kgm}$$

Si considerano contemporaneamente le quote parte di momento che è in grado di assorbire il solaio esistente con le armature in campo ($2\phi 12/40''$)

$$M \cong \frac{2,26}{0,40} \cdot 1600 \cdot 25 \cdot 0,8 \cong 2030 \text{ kgm}$$

I nuovi cordoli vengono dimensionati per il deficit di momento:

$$\Delta M = 6593 - 2030 = 4563 \text{ kgm}$$

$$A_s = \frac{4563 \cdot 0,8}{0,8 \cdot 25 \cdot 26} = 6,2 \text{ cm}^2$$

Si realizza un cordolo 30×27 parti opp. 80 cm armati con $3\phi 18$ inf., $3\phi 14$ sup., st. $\phi 8/15''$.

La ripartizione è esecrata da due compattezza posat.

Dalle verifiche delle armature del cordolo a la

$$\begin{cases} \sigma_c = -85 \text{ kg/cm}^2 \\ \sigma_s = 2156 \text{ kg/cm}^2 \end{cases}$$

Verifica e toplo del cordolo

$$\tau = \frac{4060 \cdot 0,8}{0,8 \cdot 30 \cdot 25} = 4,8 \text{ kg/cm}^2 < \tau_{0.} =$$



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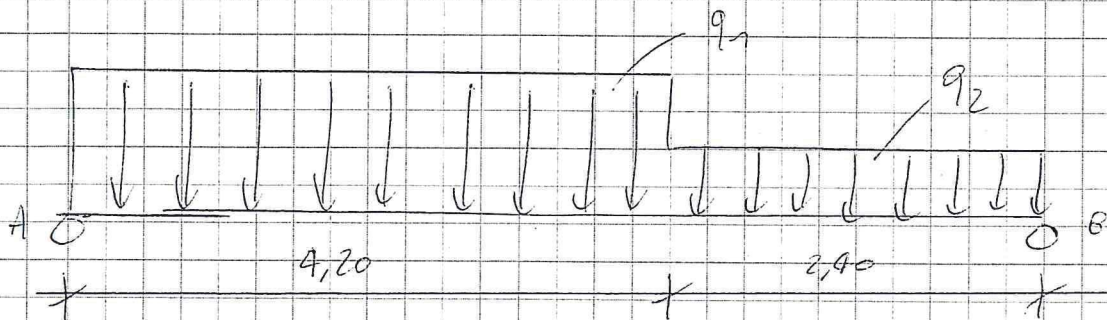
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- Armature uniformi solois locale come colata.

Si determina il carico massimo del macchinario sul solois; da indagini tecniche si può considerare un peso di 2800 kg su una base di appoggio di $1,50 \times 1,50$ m.

$$q = \frac{2800}{(1,50 + 0,12 + 0,12) \cdot (1,50 + 0,12 + 0,12)} \approx 900 \text{ kg/m}^2$$

Si considera a favore di sicurezza questo carico per tutta l'orbitante come colata.



$$q_1 = 320 + 280 + 900 = 1500 \text{ kg/m} \quad (\text{come colata})$$

$$q_2 = 320 + 280 + 500 = 1100 \text{ kg/m} \quad (\text{solois esistente})$$

$$R_A = (1500 \cdot 4,2 \cdot 4,5 + 1100 \cdot 2,4 \cdot 1,2) / 6,6 = 4775 \text{ kg}$$

$$R_B = (1500 \cdot 4,2 + 1100 \cdot 2,4) - 4775 = 4165 \text{ kg}$$

$$x = 4775 / 1500 = 3,18 \text{ m}$$

$$M_{max} = 4775 \cdot 3,18 - 1500 \cdot \frac{3,18^2}{2} = 7600 \text{ kgm}$$

Si considera sempre la q.m.a. parte di momento per il solois esistente pari a 2030 kgm

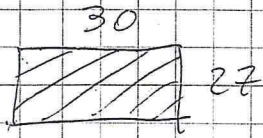


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$$OM = 7600 - 2030 = 5570 \text{ kg m}$$

I cordoli vengono dimensionati al momento morto
 $e \quad 5570 \cdot 0,8 = 4456 \text{ kg m}$



$$A_s = 4\phi 18$$

$$A'_s = 3\phi 16$$

$$\sigma_c = -95 \text{ kg/cm}^2$$

$$\sigma_s = 2485 \text{ kg/cm}^2$$

$$\sigma = \frac{4725 \cdot 0,8}{30 \cdot 25 \cdot 0,8} = 5,6 \text{ kg/cm}^2$$



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SCALE ESTERNE

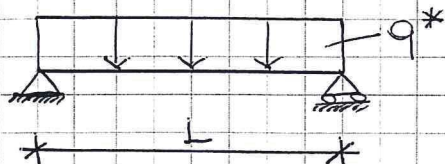
$L = 4.00 \text{ m} \Rightarrow$ lunghezza scala

$b = 1.30 \text{ m} \Rightarrow$ larghezza scala

$q = 1000 \text{ Kg/m}^2 \Rightarrow$ carico

$q^* = q \times b = 1000 \times 1.30 = 1300 \text{ Kg/m}$

Lo schema statico considerato è il seguente:



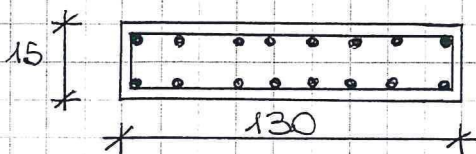
$$M = \frac{q L^2}{10} = \frac{1300 \times 4.00^2}{10} \approx 2080 \text{ Kgcm}$$

$$M \text{ incrementato} = M \times K_v \times I = 2080 \times 1.2 \times 1.4 = 3495 \text{ Kgcm}$$

$\downarrow \qquad \qquad \downarrow$
coeff. sismico coeff. di
verticale protezione

VERIFICA A FLESSIONE RETTA DI SEZ. RETTANG.

- * Coeff. di omogeneizzazione $\Rightarrow 15$
- * Coprifemo $\Rightarrow 2 \text{ cm}$
- * Base sezione $\Rightarrow 130 \text{ cm}$
- * Altezza sezione $\Rightarrow 15 \text{ cm}$
- * Momento flettente $\Rightarrow 3495 \text{ Kgcm}$
- * Armatura sinistra $\Rightarrow 12.32 \text{ cm}^2$
- * Armatura destra $\Rightarrow 6.28 \text{ cm}^2$



$$\begin{aligned} 10 \phi 14/15^{\text{a}} \text{ inf.} &\Rightarrow \sigma_c = 88,3 \text{ Kg/cm}^2 \\ 8 \phi 10/15^{\text{a}} \text{ sup.} &\Rightarrow \sigma_f = 2484,6 \text{ "} \end{aligned}$$

①



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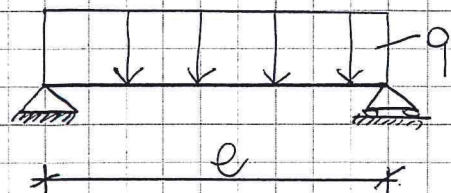
• CORDOLI SCALE ESTERNE

$l = 1.30 \text{ m} \Rightarrow$ lunghezza cordolo

$L = 4.00 \text{ m} \Rightarrow$ lunghezza scala

$q = 1000 \text{ kg/m}^2 \Rightarrow$ carico scala

Lo schema statico considerato è il seguente:

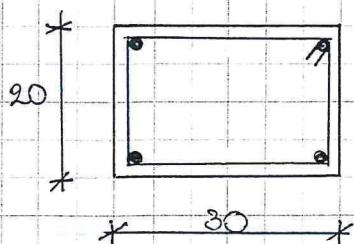


$$M = \frac{(q \times L/2) \times l^2}{8} = \frac{(1000 \times 4.00/2) \times 1.30^2}{8} \approx 423 \text{ kgm}$$

$$M \text{ incrementato} = M \times \underset{\substack{\downarrow \\ \text{coeff. di} \\ \text{protezione}}}{I} = 423 \times 1.4 \approx 593 \text{ kgm}$$

VERIFICA A FLESSIONE RETTA DI SEZ. RETTANG.

- * Coeff. di omogeneizzazione $\Rightarrow 15$
- * Copri ferro $\Rightarrow 2 \text{ cm}$
- * Base sezione $\Rightarrow 30 \text{ cm}$
- * Altezza sezione $\Rightarrow 16 \text{ cm}$
- * Momento flessionale $\Rightarrow 593 \text{ kgm}$
- * Armatura sinistra $\Rightarrow 3.08 \text{ cm}$
- * Armatura destra $\Rightarrow 3.08 \text{ cm}$



$2 + 2 \phi 14$
st. $\phi 8/15$

$$\sigma_c = 50.7 \text{ kg/cm}^2$$

$$\sigma_f = 1560.0$$

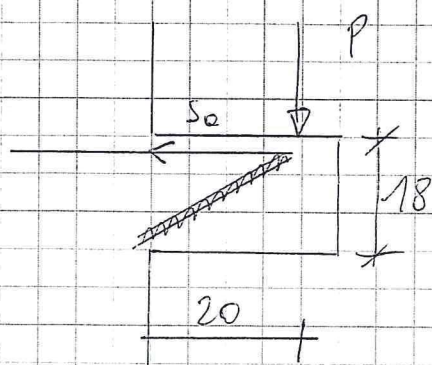
②



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- Verifica mensola per appoggio soletto.



$$P = 2340 \text{ kg/m}$$

$$S_e = P \cdot \frac{e}{z}$$

$$e = 20 \text{ cm}$$

$$z = 15 \text{ cm}$$

$$S_e = 2340 \cdot \frac{20}{15} = 3120 \text{ kg/m}$$

Considerandola come struttura a sbalzo si applicano
ovvero il coefficiente K_v ed il coefficiente I , si
ottiene:

$$S_d = 3120 \cdot 1,4 \cdot 1,4 = 6115 \text{ kg}$$

$$A_s = \frac{6115}{2600} = 2,35 \text{ cm}^2/\text{m}$$

Si dispongono staffe $\phi 12/20''$ ($5,65 \text{ cm}^2/\text{m}$)

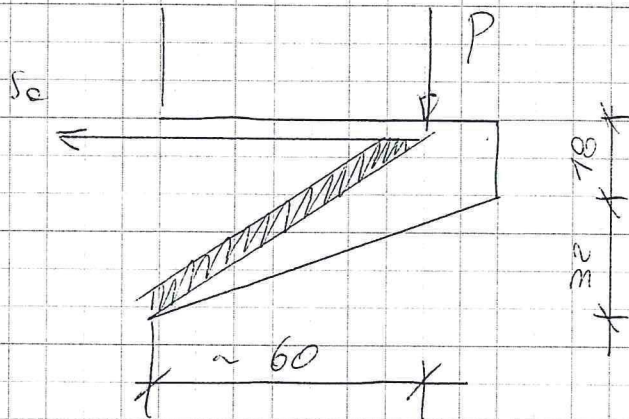


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- Verificare mensola per appoggio porte scorrevoli di carico al locale oculatore dinuore.

Si considerano contemporaneamente in corso delle porte di 2000 kg/ml di ri somma e quello del soloio.



$$P \cong 2000 + 2340 = 4340 \text{ kg} \quad a = 60 \text{ cm} \quad z = 48 \text{ cm}$$

$$S_e = 4340 \cdot \frac{60}{48} \cdot \underbrace{1,4}_{K_v} \cdot \underbrace{1,4}_I = 10633 \text{ kg}$$

$$A_s = \frac{10633}{2600} = 4,1 \text{ cm}^2/\text{m}$$

Si dispongono armature $1\phi 12/20''$ ($5,65 \text{ cm}^2/\text{m}$).



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- **Valutazioni sul ritiro del calcestruzzo per il locale acceleratore lineare**

Si riportano le caratteristiche del calcestruzzo previste in capitolato per realizzare questo particolare ambiente; con queste caratteristiche si ottiene un prodotto che minimizza il ritiro. Data la particolarità dell'opera il calcestruzzo indurito dovrà avere proprietà durevoli e di resistenza ai solfati atti a rendere la struttura in c.a. radioprotetta; inoltre il ritiro plastico dovrà essere contrastato onde evitare fessurazioni alle strutture.

- Rapporto a/c max pari a 0.42
- Utilizzo di cementi ad altissima resistenza ai solfati "AARS" di tipo pozzolanico IV/B di classe 32,5 R
- Dosaggio di cemento non superiore a 320 kg/mc
- Utilizzo di additivi superfluidificanti dosati non più dell'1,2% sul peso del legante
- Utilizzo di agenti espansivi per ridurre l'effetto di ritiro plastico del cls
- Diametro massimo dell'aggregato pari a 25 mm
- Calcestruzzo minimo C25 N/mm² con consistenza S4
- Eventuale aggiunta di silica fume nell'impasto in quantità di 50 kg/mc

Oltre a queste prescrizioni si è fatta una valutazione sull'eventuale fessurazione della soletta di copertura della struttura e si è visto che rimanendo il calcestruzzo abbondantemente in un campo di trazione molto basso e pienamente accettabile non si verifica la formazione di fessure. Sono state riportate infine le percentuali di armature disposte nella struttura.

COMBINAZIONI DI CARICO

• FREQUENTI

$$F_d = G_k + \psi_{1k} Q_{1k} + \sum_i \psi_{2i} Q_{2i}$$

$$- F_d = 4700 + 0,2 \cdot 150 = 4730 \text{ kg/mp} \quad (\text{PERM} + \text{NEVE})$$

• QUASI PERMANENTE

$$F_d = G_k + \sum_i \psi_{2i} Q_{2i}$$

$$- F_d = 4700 + 0 = 4700 \text{ kg/mp} \quad (\text{PERM} + \text{NEVE})$$

• RARA

$$F_d = G_k + Q_{1k} + \sum_i \psi_{0i} Q_{2i} \quad (\text{PERM} + \text{NEVE})$$

$$- F_d = 4700 + 150 = 4850 \text{ kg/mp}$$

TIPO DI ARMATURA POCO SENSIBILE ALLA CORROSIONE

$$W_1 = 0,1 \text{ mm}$$

$$W_2 = 0,2 \text{ mm}$$



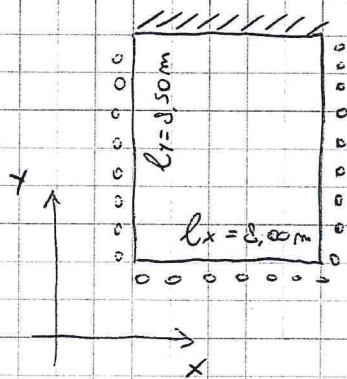
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CALCOLO DELLA SOLETTA DI COPERTURA

CONSIDERO LO SCHEMA STRUTTURALE A PIASTRA



////// INCASTRO
 00000 SEMINCASTRO

$$K = 2$$

$$q = F_d = 1.850 \text{ kg/m}^2 \quad \text{COMBINAZIONE RAS}$$

$$q_x = q \cdot \frac{l_y^4}{K l_x^4 + l_y^4} = q \cdot 0.305$$

$$q_y = q - q_x = 0.695 \cdot q$$

$$M_{max} = 0.695 \cdot q \cdot \frac{l_y^2}{12} = 17.977; 33 \text{ kgm}$$



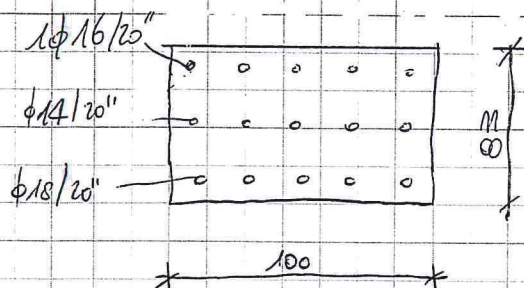
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VERIFICA SOLETTA DI COPERTURA

SEZIONE 100 x 83



$$W = \frac{1}{6} b h^2 = \frac{1}{6} \cdot 100 \cdot 83^2 = 114817 \text{ cm}^3$$

$$M = 17'977,33 \text{ kgm}$$

$$f_{cr} = \frac{M}{W} = 15,7 \text{ kg/cm}^2$$

$$f_{ctm} = 0,29 \sqrt[3]{f_{ck}} = 2,607 \text{ N/mm}^2 \quad \text{PER } f_{ck} = 30$$

$$f_{ctm} = 1,2 f_{ctm} = 3,128 \text{ N/mm}^2 \quad \text{RESISTENZA A TRAZIONE PER FLESSIONE DEL CLS}$$

RISULTANDO LA TENSIONE DI TRAZIONE SUL CLS INFERIORE ALLA RESISTENZA CARATTERISTICA E - SCONGIUNTA LA FORMAZIONE DELLE FESSURE

L'ARMATURA DELLA SOLETTA RISULTA PARI A:

$$\frac{A_s}{A_c} = \frac{10,05 + 7,7 + 12,7}{100 \times 83} \rightarrow A_s = 0,37 \% A_c$$

L'ARMATURA DELLE PARETI RISULTA PARI A:

$$\frac{A_s}{A_c} = \frac{10,05 \times 4}{100 \times 164} \rightarrow A_s = 0,25 \% A_c$$

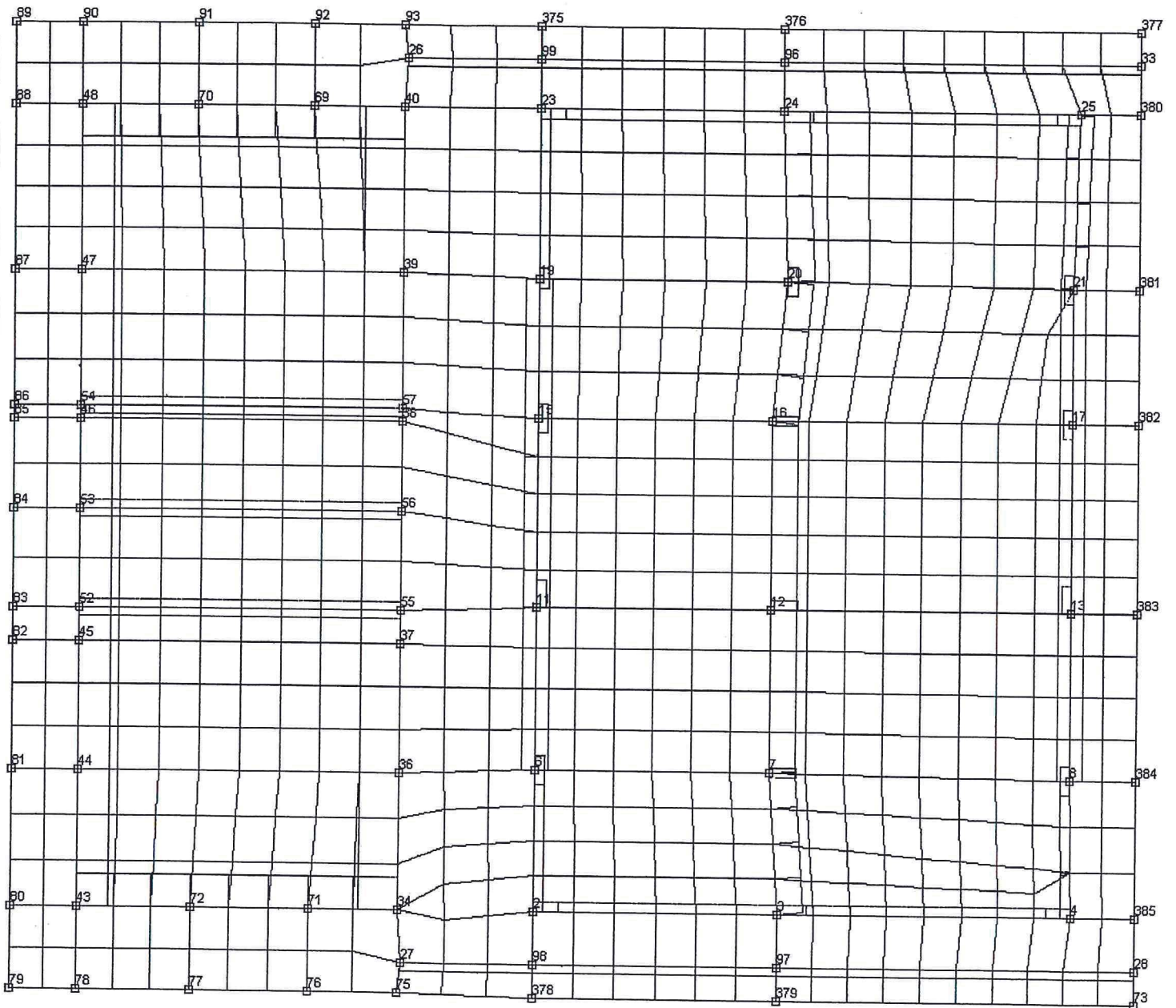


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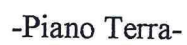
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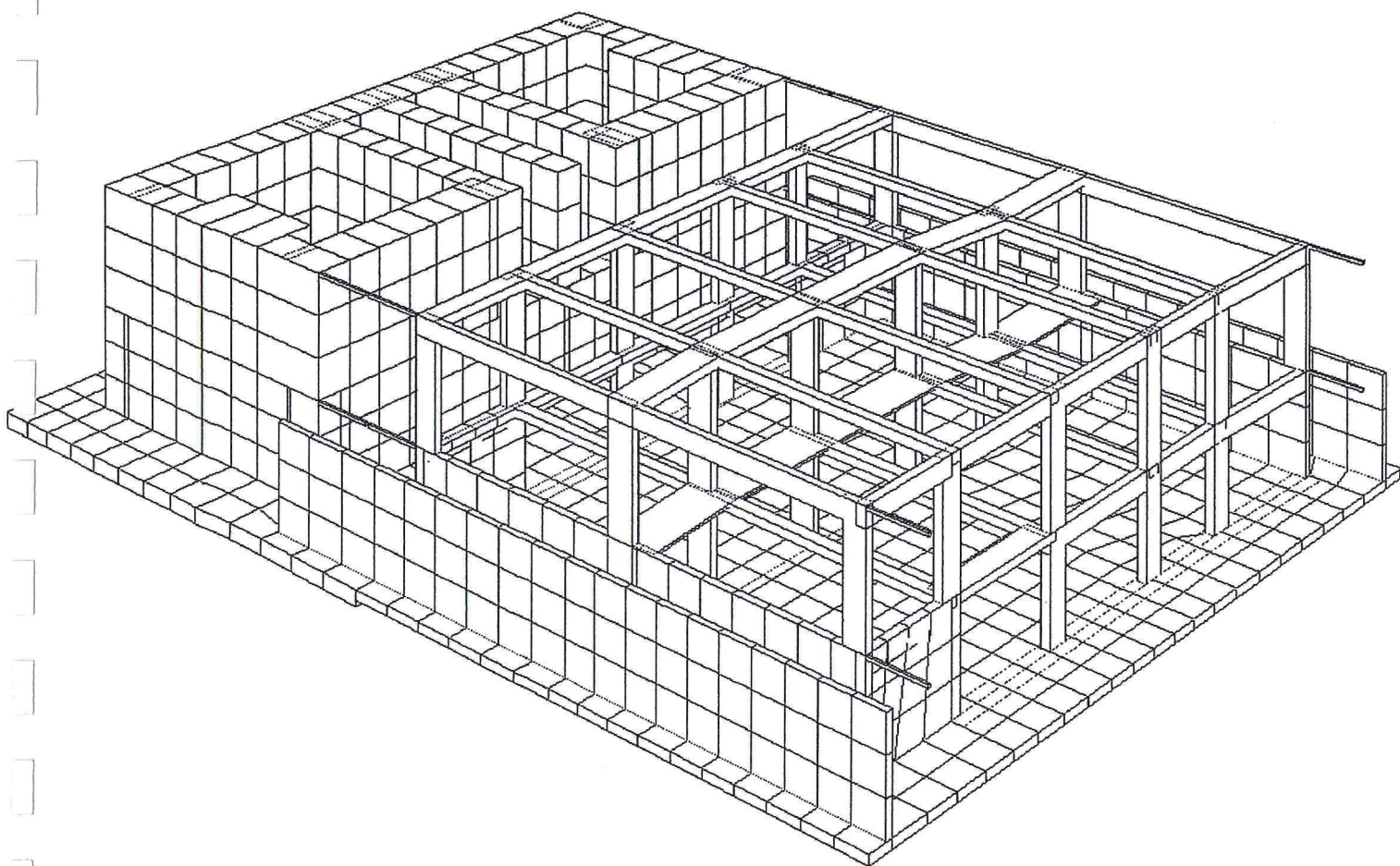
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IMPALCATI EDIFICIO



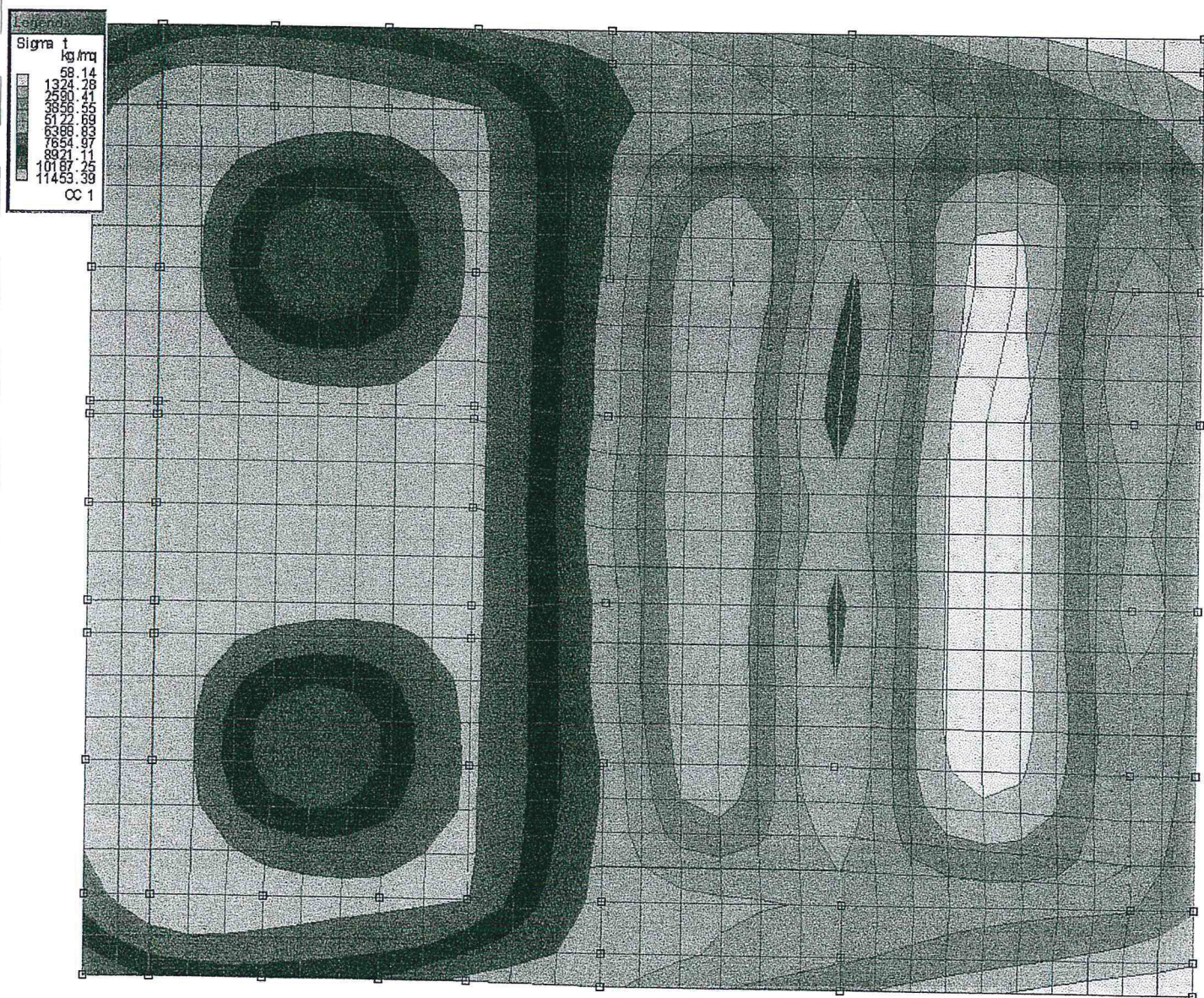
-Fondazioni-



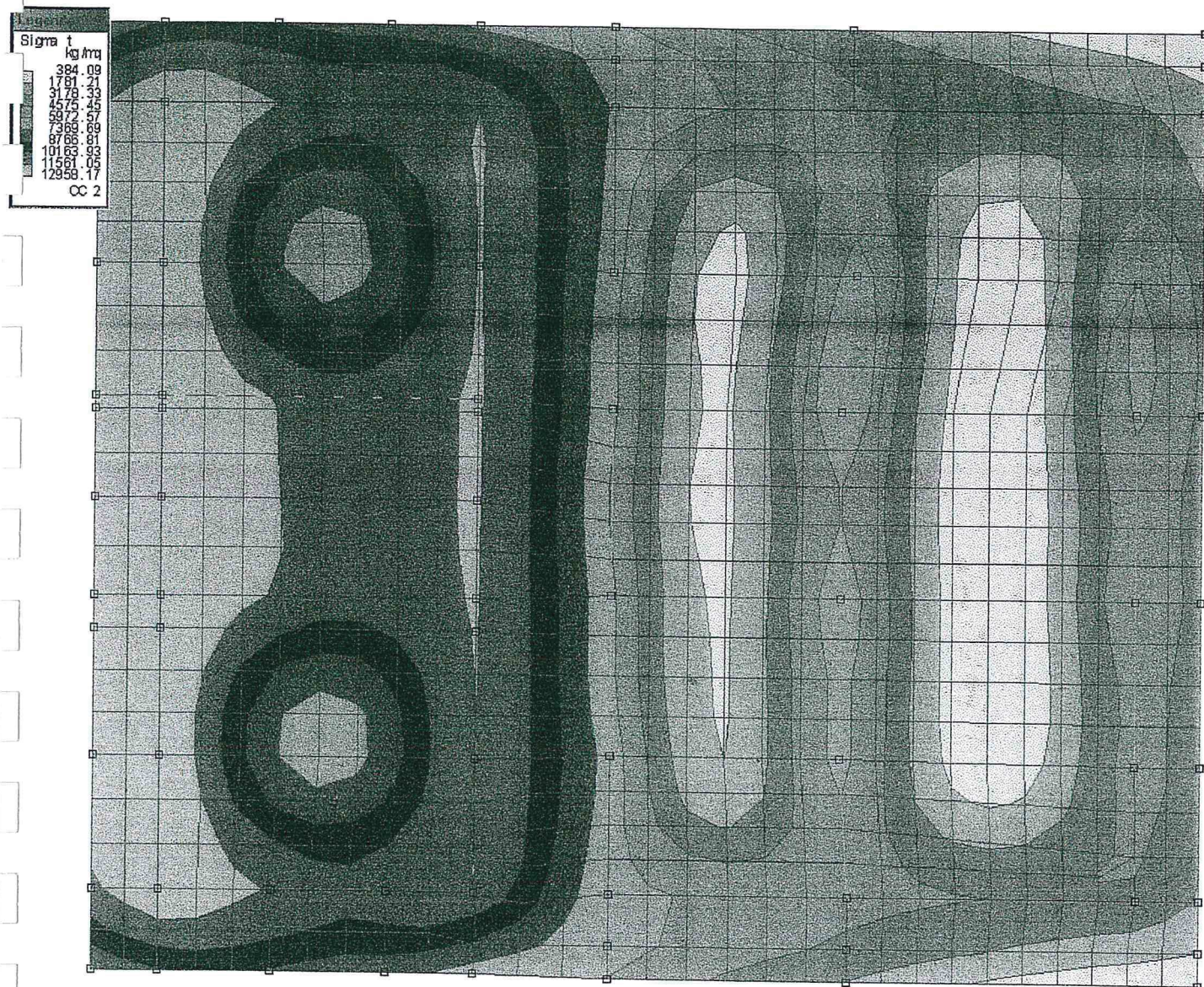


-Intera struttura-

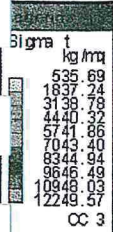
TENSIONI SUL TERRENO



-Tensioni sul terreno 1^a comb. carico-

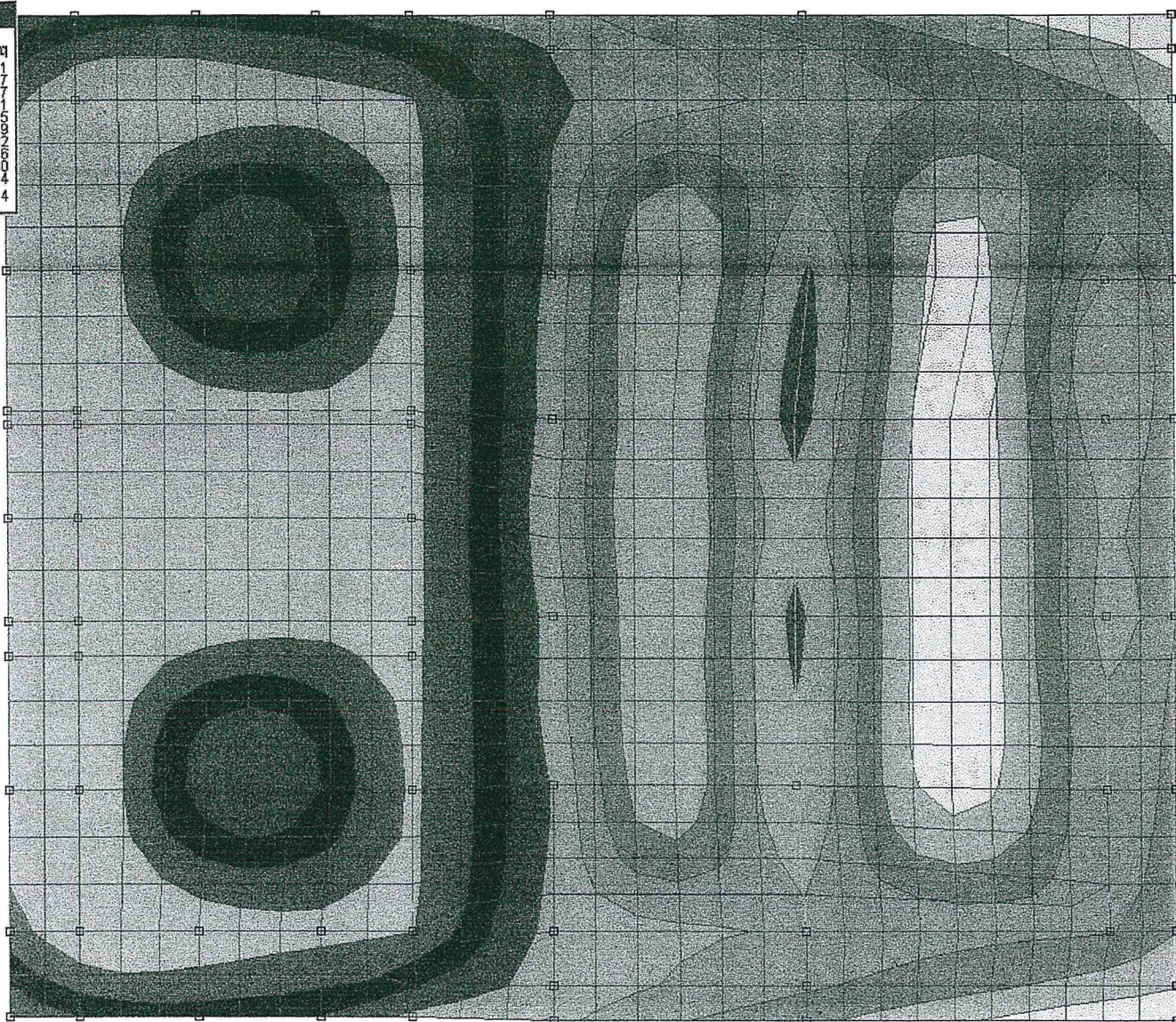


-Tensioni sul terreno 2^a comb. carico-



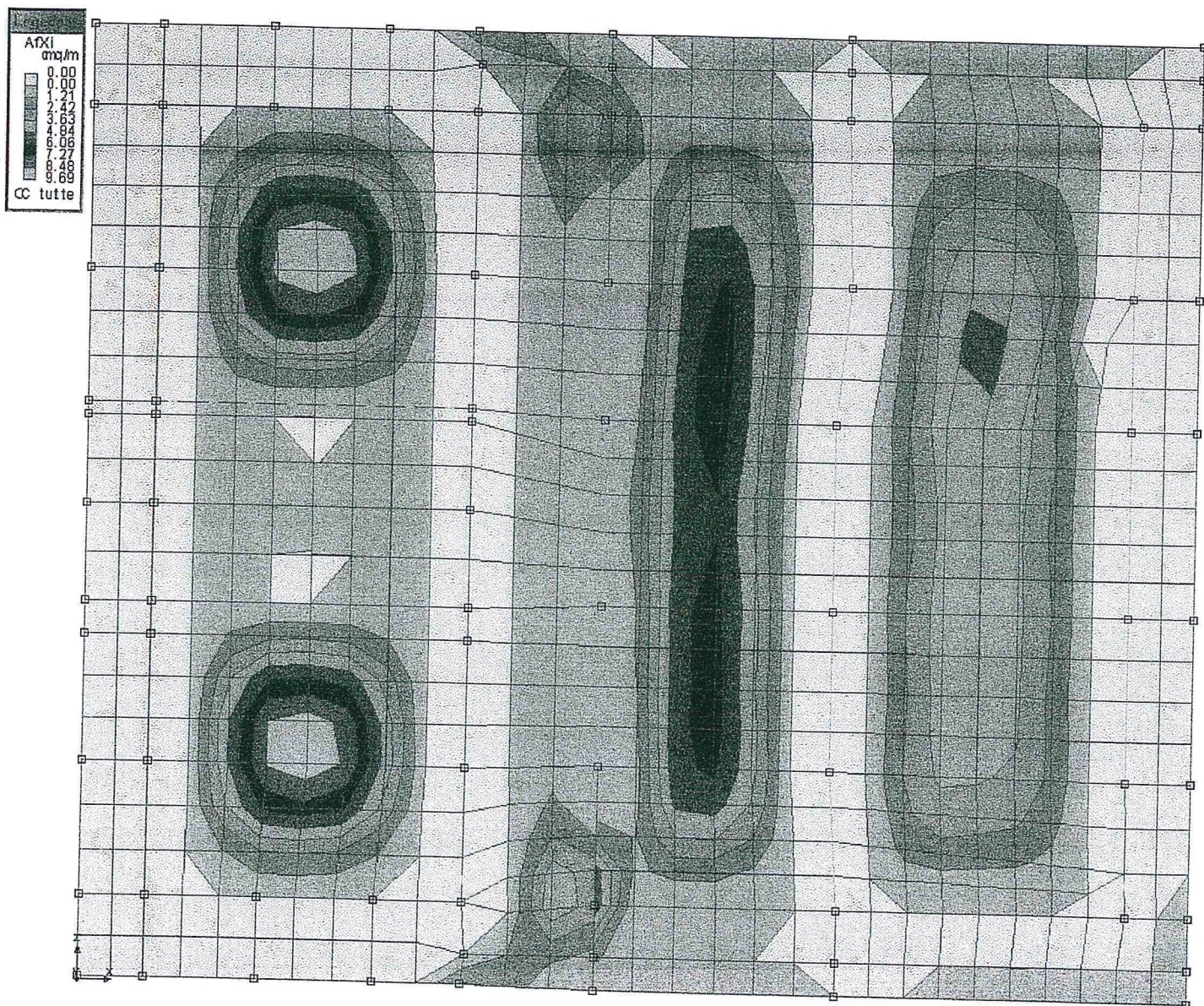
-Tensioni sul terreno 3^a comb. carico-

Sigma t
 kg/mq
 -2141.81
 -875.67
 390.47
 1656.61
 2922.75
 4188.89
 5455.02
 6721.16
 7987.30
 9253.44
 CC 4

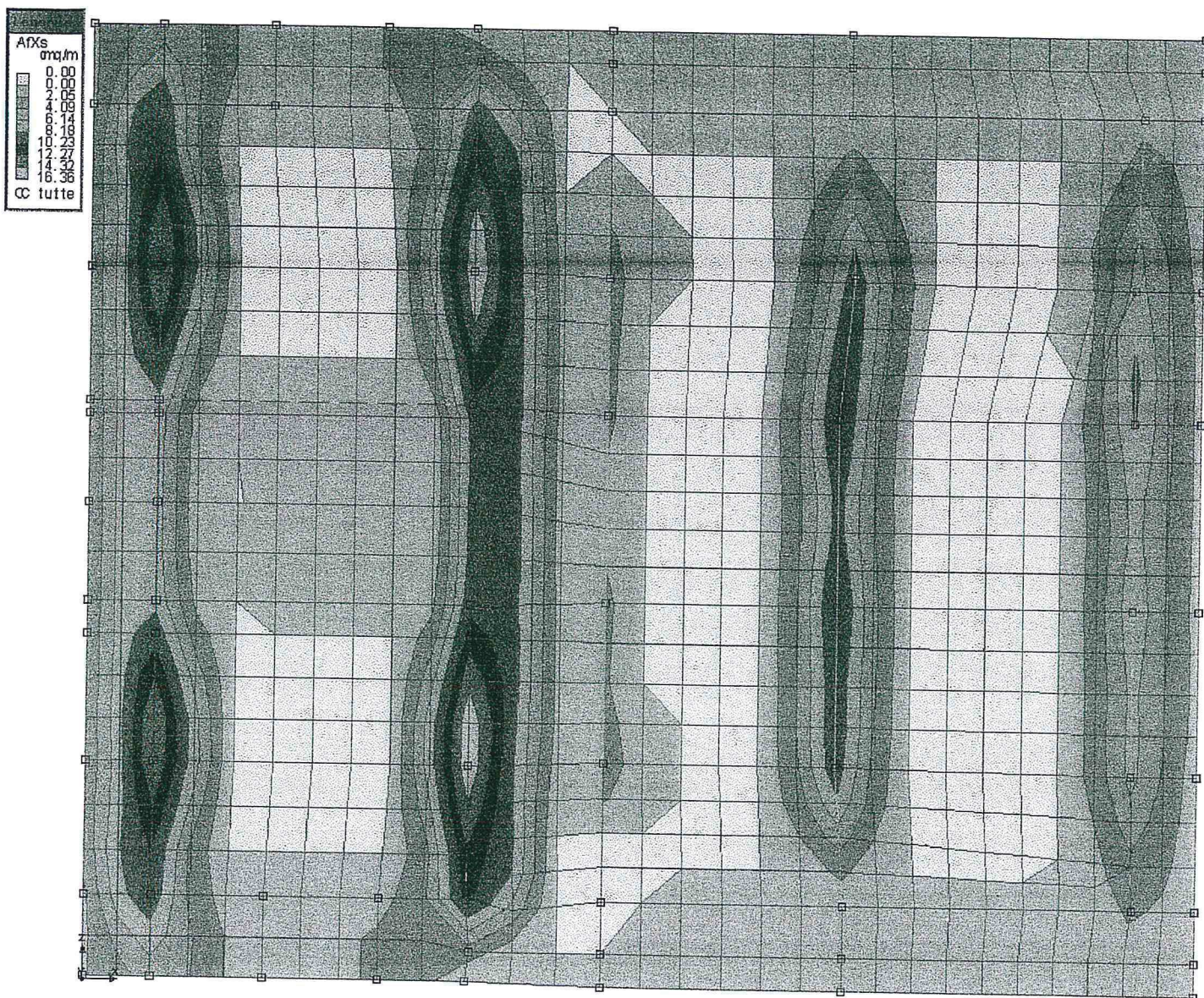


-Tensioni sul terreno 4^a comb. carico-

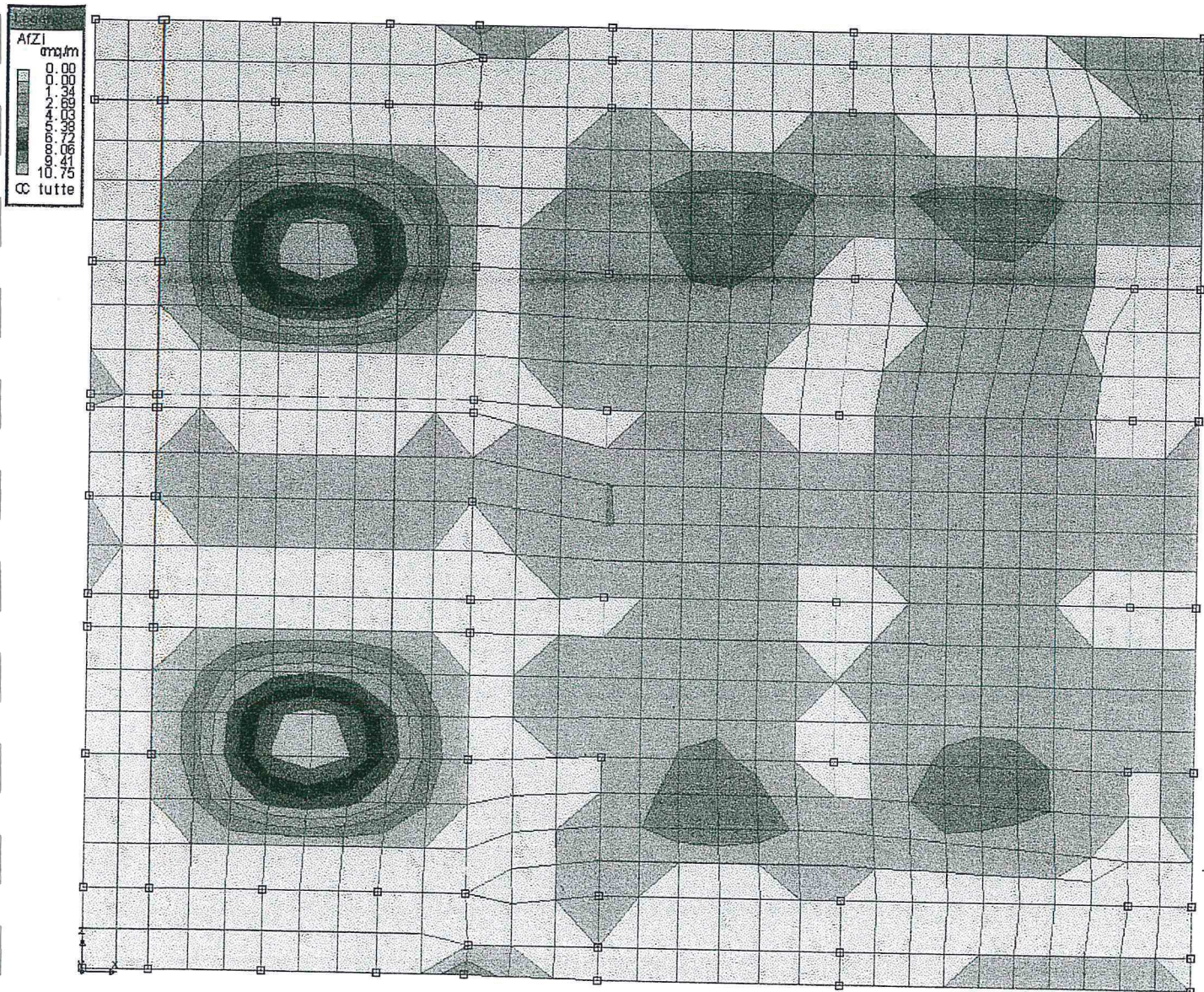
ARMATURA PLATEA

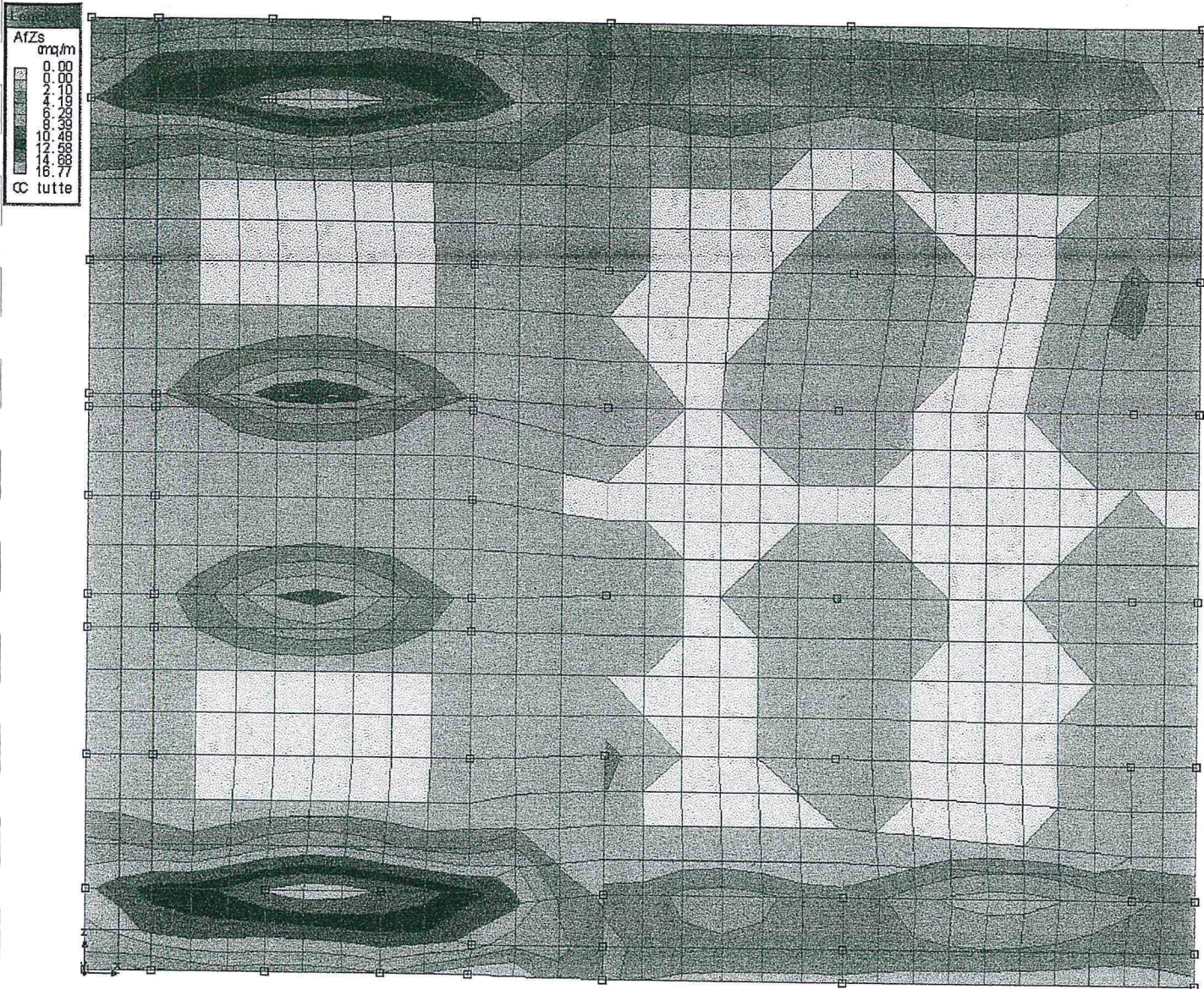


-Armatura superiore in direzione X-



-Armatura inferiore in direzione X-





-Armatura inferiore in direzione Z-

SISTEMI DI RIFERIMENTO

Le coordinate, i carichi concentrati, i cedimenti, le reazioni vincolari e gli spostamenti dei NODI sono riferiti ad una terna destra cartesiana globale con l'asse Z verticale rivolto verso l'alto.

- I carichi in coordinate locali e le sollecitazioni delle ASTE sono riferite ad una terna destra cartesiana locale così definita:
- origine nel nodo iniziale dell'asta;
 - asse X coincidente con l'asse dell'asta e con verso dal nodo iniziale al nodo finale;
 - immaginando la trave a sezione rettangolare l'asse Y è parallelo alla base e l'asse Z è parallelo all'altezza. La rotazione dell'asta comporta quindi una rotazione di tutta la terna locale.

Si può immaginare la terna locale di un'asta comunque disposta nello spazio come derivante da quella globale dopo una serie di trasformazioni:

- una rotazione intorno all'asse Z che porti l'asse X a coincidere con la proiezione dell'asta sul piano orizzontale;
- una traslazione lungo il nuovo asse X così definito in modo da portare l'origine a coincidere con la proiezione del nodo iniziale dell'asta sul piano orizzontale;
- una traslazione lungo l'asse Z che porti l'origine a coincidere con il nodo iniziale dell'asta;
- una rotazione intorno all'asse Y così definito che porti l'asse X a coincidere con l'asse dell'asta;
- una rotazione intorno all'asse X così definito pari alla rotazione dell'asta.

In pratica le travi prive di rotazione avranno sempre l'asse Z rivolto verso l'alto e l'asse Y nel piano del solaio, mentre i pilastri privi di rotazione avranno l'asse Y parallelo all'asse Y globale e l'asse Z parallelo ma controverso all'asse X globale. Da notare quindi che per i pilastri la "base" è il lato parallelo a Y.

Le sollecitazioni ed i carichi in coordinate locali negli ELEMENTI BIDIMENSIONALI e nei MUPI sono riferiti ad una terna destra cartesiana locale così definita:

- origine nel primo nodo dell'elemento;
- asse X coincidente con la congiungente il primo ed il secondo nodo dell'elemento;
- asse Y definito come prodotto vettoriale fra il versore dell'asse X e il versore della congiungente il primo e il quarto nodo. Asse Z a formare con gli altri due una terna destrorsa.

Praticamente un elemento verticale con l'asse X locale coincidente con l'asse X globale ha anche gli altri assi locali coincidenti con quelli globali.

ROTAZIONI E MOMENTI

Seguendo il principio adottato per tutti i carichi che sono positivi se CONTRAPPOSI agli assi, anche i momenti concentrati e le rotazioni impresse in coordinate globali risultano positivi se CONTRAPPOSI al segno positivo delle rotazioni. Il segno positivo dei momenti è quello orario per l'osservatore posto nell'origine: X ruota su Y, Y ruota su Z, Z ruota su X. In pratica è sufficiente adottare la regola della mano destra: col pollice rivolto nella direzione dell'asse, la rotazione che porta a chiudere il palmo della mano corrisponde al segno positivo.

UNITA' DI MISURA

Le unità di misura adottate sono le seguenti:

- lunghezza : m
- forza : kg
- massa : kg massa
- temperatura : gradi centigradi
- angoli : gradi sessadecimali o radianti

NORMATIVA DI RIFERIMENTO

La normativa di riferimento è la seguente:

- Legge n. 54 del 2/2/1974 - Provvedimenti per le costruzioni con particolari prescrizioni per le zone sismiche.
- D.M. del 24/1/1986 - Norme tecniche relative alle costruzioni sismiche.
- Legge n. 1066 del 5/11/1971 - Norme per la disciplina delle opere di conglomerato cementizio armato, normale e precompresso ed a struttura metallica.
- D.M. del 14/2/1992 - Norme tecniche per l'esecuzione delle opere in c.a. normale e precompresso e per le strutture metalliche.
- D.M. del 9/1/1996 - Norme tecniche per l'esecuzione delle opere in c.a. normale e precompresso e per le strutture metalliche.
- D.M. del 16/1/1996 - Norme tecniche per le costruzioni in zone sismiche.
- Circolare n. 21745 del 30/7/1981 - Legge n. 219 del 14/5/1981 - Art. 10 - Istruzioni relative al

rafforzamento degli edifici in muratura danneggiati dal sisma.

- Regione Autonoma Friuli Venezia Giulia - Legge Regionale n. 30 del 20/6/1977 - Documentazione tecnica per la progettazione e direzione delle opere di riparazione degli edifici - Documento Tecnico n. 2 - Raccomandazioni per la riparazione strutturale degli edifici in muratura.
- Norme Tecniche C.N.R. n. 10011-85 del 18/4/1985 - Costruzioni di acciaio - Istruzioni per il calcolo, l'esecuzione, il collaudo e la manutenzione.
- Norme Tecniche C.N.R. n. 10025-84 del 14/12/1984 - Istruzioni per il progetto, l'esecuzione ed il controllo delle strutture prefabbricate in conglomerato cementizio e per le strutture costruite con sistemi industrializzati di acciaio - Istruzioni per il calcolo, l'esecuzione, il collaudo e la manutenzione.
- Circolare n. 55 del 10/4/1997 - Istruzioni per l'applicazione delle "Norme tecniche per le costruzioni in zone sismiche" di cui al D.M. del 16/1/1996.

ELENCO VINCOLI NODI

Simbologia

Vn	Numero del vincolo nodo
Cnm	Completamento in dir. X (l-libera, B-bloccato)
Sx	Spostamento in dir. X (l-libera, B-bloccato)
Sy	Spostamento in dir. Y (l-libera, B-bloccato)
Sz	Spostamento in dir. Z (l-libera, B-bloccato)
Px	Potenzione intorno all'asse X (l-libera, B-bloccato)
Py	Potenzione intorno all'asse Y (l-libera, B-bloccato)
Pz	Potenzione intorno all'asse Z (l-libera, B-bloccato)
PL	Potenzione libera
Ly	lunghezza (dir. Y locale)
Lz	lunghezza (dir. Z locale)
Kt	Coeff. di sottrazione su suolo elastico alla Winkler

Vn	Cnm	Sx	Sy	Sz	Px	Py	Pz	PL	Ly	Lz	Kt
1 LIBERO	L	L	L	L	L	L	L	L	L	L	L
2 INCASTRO	B	B	B	B	B	B	B	B	B	B	B
3 EL. SEN. 110001	B	B	L	L	L	L	L	B	L	L	B
4 vin-y-z-rz	B	B	L	L	L	L	L	B	L	L	B
5 vincolo in y-nodi 1-4	B	B	L	L	L	L	L	B	L	L	B
6	L	L	L	L	L	L	L	L	L	L	L
7	L	L	L	L	L	L	L	L	L	L	L
8 vin ty	B	B	B	B	L	L	L	B	L	L	B
9 1	B	B	B	B	L	L	L	B	L	L	B
10 4	L	L	L	L	L	L	L	L	L	L	L
11 n-di	L	L	L	L	L	L	L	L	L	L	L

ELENCO NODI

Simbologia

Nodo	Numero del nodo
X	Coordinata X del nodo
Y	Coordinata Y del nodo
Z	Coordinata Z del nodo
Imp.	Impalcato
Vn	Numero del vincolo nodo

Nodo	X	Y	Z	Imp.	Vn	Nodo	X	Y	Z	Imp.	Vn
-1285	20.31	4.55	2.23	0	1	-1284	20.32	4.45	1.12	0	1
-1282	20.33	3.19	1.12	0	1	-1281	20.34	2.51	2.23	0	1
-1279	20.30	5.70	2.23	0	1	-1278	20.30	5.70	1.12	0	1
-1275	20.32	3.55	3.35	1	1	-1274	20.34	2.43	3.35	1	1
-1273	8.44	10.60	4.67	0	1	-1272	7.24	10.60	5.98	0	1
-1270	-5.03	10.60	5.98	0	1	-1269	-5.03	10.60	4.67	0	1
-1267	-4.83	10.60	4.67	0	1	-1266	-3.62	10.60	5.98	0	1
-1264	-2.41	10.60	5.98	0	1	-1263	-2.41	10.60	4.67	0	1
-1261	-1.21	10.60	4.67	0	1	-1260	-4.44	10.60	7.30	6	1
-1258	-5.03	10.60	7.30	5	1	-1257	-4.83	10.60	7.30	5	1
-1255	-2.41	10.60	7.30	5	1	-1254	-1.21	10.60	7.30	5	1
-1252	-8.44	10.60	1.12	0	1	-1251	-7.24	10.60	2.23	0	1
-1249	-5.03	10.60	2.23	0	1	-1248	-5.03	10.60	1.12	0	1
-1246	-3.62	10.60	1.12	0	1	-1244	-3.62	10.60	2.23	0	1
-1243	-2.41	10.60	2.23	0	1	-1242	-2.41	10.60	1.12	0	1
-1283	20.33	3.42	2.23	0	1	-1280	20.34	2.40	1.12	0	1
-1277	20.31	4.47	3.35	1	1	-1274	20.34	4.67	3.35	1	1
-1271	7.24	10.60	4.67	0	1	-1268	-4.83	10.60	5.98	0	1
-1265	-3.62	10.60	4.67	0	1	-1262	-1.21	10.60	5.98	0	1
-1256	-3.62	10.60	7.30	6	1	-1253	-8.44	10.60	2.23	0	1
-1250	-7.24	10.60	1.12	0	1	-1247	-4.83	10.60	2.23	0	1
-1244	-3.62	10.60	2.23	0	1	-1241	-1.21	10.60	2.23	0	1

-778	-6.52	25.75	7.30	6	1	-777	19.21	25.75	2.23	0	1	-776	19.21	25.75	1.12	0	1	-775	19.21	25.75	1.12	0	1	-774	19.21	25.75	1.12	0	1	-773	19.21	25.75	1.12	0	1	-772	19.21	25.75	1.12	0	1	-771	19.21	25.75	1.12	0	1	-770	19.21	25.75	1.12	0	1	-769	19.21	25.75	1.12	0	1	-768	19.21	25.75	1.12	0	1	-767	19.21	25.75	1.12	0	1	-766	19.21	25.75	1.12	0	1	-765	19.21	25.75	1.12	0	1	-764	19.21	25.75	1.12	0	1	-763	19.21	25.75	1.12	0	1	-762	19.21	25.75	1.12	0	1	-761	19.21	25.75	1.12	0	1	-760	19.21	25.75	1.12	0	1	-759	19.21	25.75	1.12	0	1	-758	19.21	25.75	1.12	0	1	-757	19.21	25.75	1.12	0	1	-756	19.21	25.75	1.12	0	1	-755	19.21	25.75	1.12	0	1	-754	19.21	25.75	1.12	0	1	-753	19.21	25.75	1.12	0	1	-752	19.21	25.75	1.12	0	1	-751	19.21	25.75	1.12	0	1	-750	19.21	25.75	1.12	0	1	-749	19.21	25.75	1.12	0	1	-748	19.21	25.75	1.12	0	1	-747	19.21	25.75	1.12	0	1	-746	19.21	25.75	1.12	0	1	-745	19.21	25.75	1.12	0	1	-744	19.21	25.75	1.12	0	1	-743	19.21	25.75	1.12	0	1	-742	19.21	25.75	1.12	0	1	-741	19.21	25.75	1.12	0	1	-740	19.21	25.75	1.12	0	1	-739	19.21	25.75	1.12	0	1	-738	19.21	25.75	1.12	0	1	-737	19.21	25.75	1.12	0	1	-736	19.21	25.75	1.12	0	1	-735	19.21	25.75	1.12	0	1	-734	19.21	25.75	1.12	0	1	-733	19.21	25.75	1.12	0	1	-732	19.21	25.75	1.12	0	1	-731	19.21	25.75	1.12	0	1	-730	19.21	25.75	1.12	0	1	-729	19.21	25.75	1.12	0	1	-728	19.21	25.75	1.12	0	1	-727	19.21	25.75	1.12	0	1	-726	19.21	25.75	1.12	0	1	-725	19.21	25.75	1.12	0	1	-724	19.21	25.75	1.12	0	1	-723	19.21	25.75	1.12	0	1	-722	19.21	25.75	1.12	0	1	-721	19.21	25.75	1.12	0	1	-720	19.21	25.75	1.12	0	1	-719	19.21	25.75	1.12	0	1	-718	19.21	25.75	1.12	0	1	-717	19.21	25.75	1.12	0	1	-716	19.21	25.75	1.12	0	1	-715	19.21	25.75	1.12	0	1	-714	19.21	25.75	1.12	0	1	-713	19.21	25.75	1.12	0	1	-712	19.21	25.75	1.12	0	1	-711	19.21	25.75	1.12	0	1	-710	19.21	25.75	1.12	0	1	-709	19.21	25.75	1.12	0	1	-708	19.21	25.75	1.12	0	1	-707	19.21	25.75	1.12	0	1	-706	19.21	25.75	1.12	0	1	-705	19.21	25.75	1.12	0	1	-704	19.21	25.75	1.12	0	1	-703	19.21	25.75	1.12	0	1	-702	19.21	25.75	1.12	0	1	-701	19.21	25.75	1.12	0	1	-700	19.21	25.75	1.12	0	1	-699	19.21	25.75	1.12	0	1	-698	19.21	25.75	1.12	0	1	-697	19.21	25.75	1.12	0	1	-696	19.21	25.75	1.12	0	1	-695	19.21	25.75	1.12	0	1	-694	19.21	25.75	1.12	0	1	-693	19.21	25.75	1.12	0	1	-692	19.21	25.75	1.12	0	1	-691	19.21	25.75	1.12	0	1	-690	19.21	25.75	1.12	0	1	-689	19.21	25.75	1.12	0	1	-688	19.21	25.75	1.12	0	1	-687	19.21	25.75	1.12	0	1	-686	19.21	25.75	1.12	0	1	-685	19.21	25.75	1.12	0	1	-684	19.21	25.75	1.12	0	1	-683	19.21	25.75	1.12	0	1	-682	19.21	25.75	1.12	0	1	-681	19.21	25.75	1.12	0	1	-680	19.21	25.75	1.12	0	1	-679	19.21	25.75	1.12	0	1	-678	19.21	25.75	1.12	0	1	-677	19.21	25.75	1.12	0	1	-676	19.21	25.75	1.12	0	1	-675	19.21	25.75	1.12	0	1	-674	19.21	25.75	1.12	0	1	-673	19.21	25.75	1.12	0	1	-672	19.21	25.75	1.12	0	1	-671	19.21	25.75	1.12	0	1	-670	19.21	25.75	1.12	0	1	-669	19.21	25.75	1.12	0	1	-668	19.21	25.75	1.12	0	1	-667	19.21	25.75	1.12	0	1	-666	19.21	25.75	1.12	0	1	-665	19.21	25.75	1.12	0	1	-664	19.21	25.75	1.12	0	1	-663	19.21	25.75	1.12	0	1	-662	19.21	25.75	1.12	0	1	-661	19.21	25.75	1.12	0	1	-660	19.21	25.75	1.12	0	1	-659	19.21	25.75	1.12	0	1	-658	19.21	25.75	1.12	0	1	-657	19.21	25.75	1.12	0	1	-656	19.21	25.75	1.12	0	1	-655	19.21	25.75	1.12	0	1	-654	19.21	25.75	1.12	0	1	-653	19.21	25.75	1.12	0	1	-652	19.21	25.75	1.12	0	1	-651	19.21	25.75	1.12	0	1	-650	19.21	25.75	1.12	0	1	-649	19.21	25.75	1.12	0	1	-648	19.21	25.75	1.12	0	1	-647	19.21	25.75	1.12	0	1	-646	19.21	25.75	1.12	0	1	-645	19.21	25.75	1.12	0	1	-644	19.21	25.75	1.12	0	1	-643	19.21	25.75	1.12	0	1	-642	19.21	25.75	1.12	0	1	-641	19.21	25.75	1.12	0	1	-640	19.21	25.75	1.12	0	1	-639	19.21	25.75	1.12	0	1	-638	19.21	25.75	1.12	0	1	-637	19.21	25.75	1.12	0	1	-636	19.21	25.75	1.12	0	1	-635	19.21	25.75	1.12	0	1	-634	19.21	25.75	1.12	0	1	-633	19.21	25.75	1.12	0	1	-632	19.21	25.75	1.12	0	1	-631	19.21	25.75	1.12	0	1	-630	19.21	25.75	1.12	0	1	-629	19.21	25.75	1.12	0	1	-628	19.21	25.75	1.12	0	1	-627	19.21	25.75	1.12	0	1	-626	19.21	25.75	1.12	0	1	-625	19.21	25.75	1.12	0	1	-624	19.21	25.75	1.12	0	1	-623	19.21	25.75	1.12	0	1	-622	19.21	25.75	1.12	0	1	-621	19.21	25.75	1.12	0	1	-620	19.21	25.75	1.12	0	1	-619	19.21	25.75	1.12	0	1	-618	19.21	25.75	1.12	0	1	-617	19.21	25.75	1.12	0	1	-616	19.21	25.75	1.12	0	1	-615	19.21	25.75	1.12	0	1	-614	19.21	25.75	1.12	0	1	-613	19.21	25.75	1.12	0	1	-612	19.21	25.75	1.12	0	1	-611	19.21	25.75	1.12	0	1	-610	19.21	25.75	1.12	0	1	-609	19.21	25.75	1.12	0	1	-608	19.21	25.75	1.12	0	1	-607	19.21	25.75	1.12	0	1	-606	19.21	25.75	1.12	0	1	-605	19.21	25.75	1.12	0	1	-604	19.21	25.75	1.12	0	1	-603	19.21	25.75	1.12	0	1	-602	19.21	25.75	1.12	0	1	-601	19.21	25.75	1.12	0	1	-600	19.21	25.75	1.12	0	1	-599	19.21	25.75	1.12	0	1	-598	19.21	25.75	1.12	0	1	-597	19.21	25.75	1.12	0	1	-596	19.21	25.75	1.12	0	1	-595	19.21	25.75	1.12	0	1	-594	19.21	25.75	1.12	0	1	-593	19.21	25.75	1.12	0	1	-592	19.21	25.75	1.12	0	1	-591	19.21	25.75	1.12	0	1	-590	19.21	25.75	1.12	0	1	-589	19.21	25.75	1.12	0	1	-588	19.21	25.75	1.12	0	1	-587	19.21	25.75	1.12	0	1	-586	19.21	25.75	1.12	0	1	-585	19.21	25.75	1.12	0	1	-584	19.21	25.75	1.12	0	1	-583	19.21	25.75	1.12	0	1	-582	19.21	25.75	1.12	0	1	-581	19.21	25.75	1.12	0	1	-580	19.21	25.75	1.12	0	1	-579	19.21	25.75	1.12	0	1	-578	19.21	25.75	1.12	0	1	-577	19.21	25.75	1.12	0	1	-576	19.21	25.75	1.12	0	1	-575	19.21	25.75	1.12	0	1	-574	19.21	25.75	1.12	0	1	-573	19.21	25.75	1.12	0	1	-572	19.21	25.75	1.12	0	1	-571	19.21	25.75	1.12	0	1	-570	19.21	25.75	1.12	0	1	-569	19.21	25.75	1.12	0	1	-568	19.21	25.75	1.12	0	1	-567	19.21	25.75	1.12	0	1	-566	19.21	25.75	1.12	0	1	-565	19.21	25.75	1.12	0	1	-564	19.21	25.75	1.12	0	1	-563	19.21	25.75	1.12	0	1	-562	19.21	25.75	1.12	0	1	-561	19.21	25.75	1.12	0	1	-560	19.21	25.75	1.12	0	1	-559	19.21	25.75	1.12	0	1	-558	19.21	25.75	1.12	0	1	-557	19.21	25.75	1.12	0	1	-556	19.21	25.75	1.12	0	1	-555	19.21	25.75	1.12	0	1	-554	19.21	25.75	1.12	0	1	-553	19.21	25.75	1.12	0	1	-552	19.21	25.75	1.12	0	1	-551	19.21	25.75	1.12	0	1	-550	19.21	25.75	1.12	0	1	-549	19.21	25.75	1.12	0	1	-548	19.21	25.75	1.12	0	1	-547	19.21	25.75	1.12	0	1	-546	19.21	25.75	1.12	0	1	-545	19.21	25.75	1.12	0	1	-544	19.21	25.75	1.12	0	1	-543	19.21	25.75	1.12	0	1	-542	19.21	25.75	1.12	0	1	-541	19.21	25.75	1.12	0	1	-540	19.21	25.75	1.12	0	1	-539	19.21	25.75	1.12	0	1	-538	19.21	25.75	1.12	0	1	-537	19.21	25.75	1.12	0	1	-536	19.21	25.75	1.12	0	1	-535	19.21	25.75	1.12	0	1	-534	19.21	25.75	1.12	0	1	-533	19.21	25.75	1.12	0	1	-532	19.21	25.75	1.12	0	1	-531	19.21	25.75	1.12	0	1	-530	19.21	25.75	1.12	0	1	-529	19.21	25.75	1.12	0	1	-528	19.21	25.75	1.12	0	1	-527	19.21	25.75	1.12	0	1	-526	19.21	25.75	1.1
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-310	17.03	20.54	0.00	0	3	-309	15.59	20.56	0.00	0	3	-308	15.36	20.59	0.00	0	3	-78	0.00	18.07	0.00	0	3	-77	-9.65	19.43	0.00	0	3	-76	0.00	19.43	0.00	0	3
-307	14.12	20.51	0.00	0	3	-306	12.89	20.53	0.00	0	3	-305	21.40	25.75	0.00	0	3	-75	-2.41	16.70	0.00	0	3	-74	-2.41	16.70	0.00	0	3	-73	-3.62	16.70	0.00	0	3
-304	19.21	25.75	0.00	0	3	-303	12.89	25.75	0.00	0	3	-302	16.64	25.75	0.00	0	3	-72	-6.03	16.70	0.00	0	3	-71	-6.03	16.70	0.00	0	3	-70	-7.24	16.70	0.00	0	3
-301	15.36	25.75	0.00	0	3	-300	14.07	25.75	0.00	0	3	-299	12.79	25.75	0.00	0	3	-69	-8.43	16.70	0.00	0	3	-68	-1.38	27.00	0.00	0	3	-67	-1.38	28.25	0.00	0	3
-298	21.10	27.25	0.00	0	3	-297	14.07	27.25	0.00	0	3	-296	13.90	27.25	0.00	0	3	-65	-10.55	23.27	0.00	0	3	-64	-10.55	23.27	0.00	0	3	-63	-10.55	24.51	0.00	0	3
-295	19.90	28.25	0.00	0	3	-294	18.70	27.25	0.00	0	3	-293	18.70	28.25	0.00	0	3	-62	-11.55	23.27	0.00	0	3	-61	-11.55	23.27	0.00	0	3	-60	-11.55	24.51	0.00	0	3
-292	19.90	27.25	0.00	0	3	-291	17.50	27.25	0.00	0	3	-290	15.30	27.25	0.00	0	3	-59	-10.55	20.80	0.00	0	3	-58	-10.55	27.00	0.00	0	3	-57	-11.55	27.00	0.00	0	3
-289	16.30	28.25	0.00	0	3	-288	15.10	27.25	0.00	0	3	-287	13.10	28.25	0.00	0	3	-56	-10.55	28.25	0.00	0	3	-55	-10.55	28.25	0.00	0	3	-54	-7.39	27.00	0.00	0	3
-286	16.30	27.25	0.00	0	3	-285	13.10	28.25	0.00	0	3	-284	12.70	27.25	0.00	0	3	-53	-8.52	27.00	0.00	0	3	-52	-9.65	27.00	0.00	0	3	-51	-7.39	28.25	0.00	0	3
-283	12.70	28.25	0.00	0	3	-282	10.36	27.25	0.00	0	3	-281	10.53	28.25	0.00	0	3	-50	-8.52	28.25	0.00	0	3	-49	-3.93	27.00	0.00	0	3	-48	-5.09	27.00	0.00	0	3
-280	10.30	24.48	0.00	0	3	-279	9.11	27.25	0.00	0	3	-278	7.84	23.20	0.00	0	3	-47	-6.28	28.25	0.00	0	3	-46	-2.75	27.00	0.00	0	3	-45	-3.93	28.25	0.00	0	3
-277	9.05	24.48	0.00	0	3	-276	7.85	27.25	0.00	0	3	-275	9.08	23.20	0.00	0	3	-44	-5.09	28.25	0.00	0	3	-43	-1.25	22.04	0.00	0	3	-42	-1.25	23.27	0.00	0	3
-274	7.82	24.48	0.00	0	3	-273	6.60	27.25	0.00	0	3	-272	5.59	23.20	0.00	0	3	-41	-1.34	24.51	0.00	0	3	-40	-2.50	22.04	0.00	0	3	-39	-3.70	23.27	0.00	0	3
-271	5.58	24.48	0.00	0	3	-270	5.35	27.25	0.00	0	3	-269	5.35	23.20	0.00	0	3	-38	-2.67	24.51	0.00	0	3	-37	-3.70	22.04	0.00	0	3	-36	-3.70	23.27	0.00	0	3
-268	5.34	24.48	0.00	0	3	-267	4.11	27.25	0.00	0	3	-266	4.11	23.20	0.00	0	3	-35	-3.85	24.51	0.00	0	3	-34	-4.89	22.04	0.00	0	3	-33	-6.15	23.27	0.00	0	3
-265	11.54	20.45	0.00	0	3	-264	4.02	20.45	0.00	0	3	-263	3.13	23.20	0.00	0	3	-32	-5.03	24.51	0.00	0	3	-31	-6.09	22.04	0.00	0	3	-30	-6.15	23.27	0.00	0	3
-262	7.88	20.45	0.00	0	3	-261	6.62	20.45	0.00	0	3	-260	5.35	20.45	0.00	0	3	-29	-6.20	24.51	0.00	0	3	-28	-7.28	22.04	0.00	0	3	-27	-7.31	23.27	0.00	0	3
-259	7.73	21.95	0.00	0	3	-258	7.73	23.25	0.00	0	3	-257	5.35	20.45	0.00	0	3	-26	-7.35	24.51	0.00	0	3	-25	-8.46	22.04	0.00	0	3	-24	-8.46	23.27	0.00	0	3
-256	7.73	22.00	0.00	0	3	-255	4.10	23.25	0.00	0	3	-254	1.37	24.50	0.00	0	3	-23	-8.50	24.51	0.00	0	3	-22	-9.65	22.04	0.00	0	3	-21	-9.65	23.27	0.00	0	3
-253	4.10	21.95	0.00	0	3	-252	4.10	23.25	0.00	0	3	-251	1.37	24.50	0.00	0	3	-22	-9.65	23.27	0.00	0	3	-21	-9.65	22.04	0.00	0	3	-20	-9.65	23.27	0.00	0	3
-250	4.10	20.70	0.00	0	3	-249	1.37	23.25	0.00	0	3	-248	1.37	24.50	0.00	0	3	-20	-9.65	24.51	0.00	0	3	-19	-1.21	20.80	0.00	0	3	-18	-9.65	24.51	0.00	0	3
-247	9.03	25.75	0.00	0	3	-246	7.80	27.25	0.00	0	3	-245	10.27	28.25	0.00	0	3	-17	-2.41	20.80	0.00	0	3	-16	-3.62	20.80	0.00	0	3	-15	-3.62	21.05	0.00	0	3
-244	9.03	25.75	0.00	0	3	-243	10.27	27.25	0.00	0	3	-242	10.27	28.25	0.00	0	3	-16	-3.62	20.80	0.00	0	3	-15	-3.62	20.80	0.00	0	3	-14	-3.62	21.05	0.00	0	3
-241	9.03	27.25	0.00	0	3	-240	9.03	26.25	0.00	0	3	-239	7.80	27.25	0.00	0	3	-14	-3.62	20.80	0.00	0	3	-13	-3.62	20.80	0.00	0	3	-12	-3.62	21.05	0.00	0	3
-238	7.80	28.25	0.00	0	3	-237	5.57	27.25	0.00	0	3	-236	7.80	28.25	0.00	0	3	-13	-3.62	20.80	0.00	0	3	-12	-3.62	20.80	0.00	0	3	-11	-3.62	21.05	0.00	0	3
-235	5.33	27.25	0.00	0	3	-234	5.33	26.25	0.00	0	3	-233	5.33	27.25	0.00	0	3	-12	-3.62	20.80	0.00	0	3	-11	-3.62	20.80	0.00	0	3	-10	-3.62	21.05	0.00	0	3
-232	5.33	27.25	0.00	0	3	-231	2.77	27.25	0.00	0	3	-230	2.77	26.25	0.00	0	3	-11	-3.62	20.80	0.00	0	3	-10	-3.62	20.80	0.00	0	3	-9	-3.62	21.05	0.00	0	3
-229	1.43	27.25	0.00	0	3	-228	1.43	26.25	0.00	0	3	-227	-10.55	-0.90	0.00	0	3	-10	-3.62	20.80	0.00	0	3	-9	-3.62	20.80	0.00	0	3	-8	-3.62	21.05	0.00	0	3
-226	-11.55	0.35	0.00	0	3	-225	-10.55	-0.90	0.00	0	3	-224	-10.55	-0.90	0.00	0	3	-9	-3.62	20.80	0.00	0	3	-8	-3.62	20.80	0.00	0	3	-7	-3.62	21.05	0.00	0	3
-223	-8.52	0.35	0.00	0	3	-222	-9.65	0.35	0.00	0	3	-221	-7.40	0.35	0.00	0	3	-8	-3.62	20.80	0.00	0	3	-7	-3.62	20.80	0.00	0	3	-6	-3.62	21.05	0.00	0	3
-220	-8.52	0.35	0.00	0	3	-219	-3.90	0.35	0.00	0	3	-218	-3.90	0.35	0.00	0	3	-7	-3.62	20.80	0.00	0	3	-6	-3.62	20.80	0.00	0	3	-5	-3.62	21.05	0.00	0	3
-217	-5.27	0.35	0.00	0	3	-216	-3.90	0.35	0.00	0	3	-215	-3.90	0.35	0.00	0	3	-6	-3.62	20.80	0.00	0	3	-5	-3.62	20.80	0.00	0	3	-4	-3.62	21.05	0.00	0	3
-214	-1.36	0.35	0.00	0	3	-213	-1.36	0.35	0.00	0	3	-212	-1.36	0.35	0.00	0	3	-5	-3.62	20.80	0.00	0	3	-4	-3.62	20.80	0.00	0	3	-3	-3.62	21.05	0.00	0	3
-211	-1.36	0.35	0.00	0	3	-210	-1.36	0.35	0.00	0	3	-209	-1.36	0.35	0.00	0	3	-4	-3.62	20.80	0.00	0	3	-3	-3.62	20.80	0.00	0	3	-2	-3.62	21.05	0.00	0	3
-208	-1.36	0.35	0.00	0	3	-207	-1.36	0.35	0.00	0	3	-206	-1.36	0.35	0.00	0	3	-3	-3.62	20.80	0.00	0	3	-2	-3.62	20.80	0.00	0	3	-1	-3.62	21.05	0.00	0	3
-205	-1.36	0.35	0.00	0	3	-204	-1.36	0.35	0.00	0	3	-203	-1.36	0.35	0.00	0	3	-2	-3.62	20.80	0.00	0	3	-1	-3.62	20.80	0.00	0	3	0	-3.62	21.05	0.00	0	3
-202	-1.36	0.35	0.00	0	3	-201	-1.36	0.35	0.00	0	3	-200	-1.36	0.35	0.00	0	3	-1	-3.62	20.80	0.00	0	3	0	-3.62	20.80	0.00	0	3	0	-3.62	21.05	0.00	0	3
-199	-6.50	2.97	0.00	0	3	-198	-6.50	2.97	0.00	0	3	-197	-6.47	4.33	0.00	0	3	0	-3.62	20.80	0.00	0	3	0	-3.62	20.80	0.00	0	3	0	-3.62	21.05	0.00	0	3
-196	-6.50	2.97	0.00	0	3	-195	-6.50	2.97	0.00	0	3	-194	-6.47	4.33	0.00	0	3	0	-3.62	20.80	0.00	0	3	0	-3.62	20.80	0.00	0	3	0	-3.62	21.05	0.00	0	3
-193	-5.09	2.97	0.00	0	3	-192	-5.09	2.97	0.00	0	3	-191	-7.40	1.60	0.00	0	3	0	-3.62	20.80	0.00	0	3	0	-3.62	20.80	0.00	0	3	0	-3.62	21.05	0.00	0	3
-190	-10.55	2.97	0.00	0	3	-189	-10.55	4.33	0.00	0	3	-188	-10.55	4.33	0.00	0	3	0	-3.62	20.80	0.00	0	3	0	-3.62	20.80	0.00	0	3	0	-3.62	21.05	0.00	0	3
-187	-10.55	2.97	0.00	0	3	-186	-10.55	4.33	0.00	0	3	-185	-10.55	4.33	0.00	0	3	0	-3.62	20.80	0.00	0	3	0	-3.62	20.80	0.00	0	3	0	-3.62	21.05	0.00	0	3
-184	-10.55	2.97	0.00	0	3	-183	-10.55	4.33	0.00	0	3	-182	-10.55	4.33	0.00	0	3	0	-3.62	20.80	0.00	0	3	0	-3.62										

247	-9.65	20.80	7.30	6	1	248	-9.65	25.75	7.30	6	1	252	-9.65	10.60	7.30	6	1
253	-9.65	13.60	7.30	6	1	254	-9.65	16.70	7.30	6	1	255	0.00	10.60	7.30	6	1
256	0.00	13.60	7.30	0	1	257	0.00	16.70	7.30	6	1	269	-2.76	25.75	7.30	6	1
270	-6.25	25.75	7.30	6	1	271	-2.72	1.60	7.30	6	1	272	-6.27	1.60	7.30	6	1
273	0.00	1.60	7.30	6	1	274	2.00	1.60	3.35	6	1	275	2.10	25.75	3.35	6	1
276	2.10	1.60	3.35	6	1	277	2.00	1.60	7.30	6	1	278	2.00	1.60	7.30	6	1
279	4.10	28.25	0.00	0	3	280	11.50	28.25	0.00	0	3	374	22.30	28.25	0.00	0	3
375	4.10	-1.00	0.00	0	3	376	11.50	-1.00	0.00	0	3	377	22.30	28.25	0.00	0	3
378	4.10	-1.00	0.00	0	3	379	11.50	-1.00	0.00	0	3	380	22.30	28.25	0.00	0	3
381	22.30	20.50	0.00	0	3	382	22.30	16.45	0.00	0	3	383	22.30	10.75	0.00	0	3
384	22.30	5.70	0.00	0	3	385	22.30	1.60	0.00	0	3	386	22.30	10.75	0.00	0	3

ELENCO MATERIALI

Simbologia

Mat.	Numero del materiale
Com.	Commento
F	Peso specifico
E	Modulo elastico
G	Modulo elastico tangenziale
nu	Coeff. di Poisson
Alfa	Coeff. di dilatazione termica

Mat.	Com.	P	E	G	nu	Alfa
		<kg/mc>	<kg/mq>	<kg/mq>		
1	CALCESTRUZZO	300	2500	00 3000000000	00 1300000000	00 0.10 1.00E-005
2	ACCIAIO	7850	00 2100000000	00 8000000000	00 0.30 1.00E-005	
3	MURAT FORATI	1500	00 1584000000	00 2540000000	00 0.20 1.00E-005	
4	MURAT HATTI	1800	00 7920000000	00 1320000000	00 0.20 1.00E-005	
5	LEGNO	500	00 1100000000	00 5000000000	00 0.10 5.00E-005	
6	CALCESTRUZZO	350	2500	00 3570000000	00 1300000000	00 0.10 1.00E-005

ELENCO SEZIONI ASTE

Simbologia

Sec. Numero della sezione

Com.	Commento
Tipo	Tipologia
2C	= Doppia C lato labbr
2Cdx	= Doppia C lato costola
2I	= Doppia I
2L	= Doppia L lato labbr
2Ldx	= Doppia L lato costola
C	= C
Cdx	= C destra
Circ	= Circolare
Circ. cava	= Circolare cava
I	= I
L	= L
Ldx	= L destra
Om	= Omega
FG	= FG
Pr	= Poligono regolare
PrC	= Poligono regolare cavo
Qc	= Per coordinata
Q	= Inerzie assegnate
R	= Rettangolare
Rc	= Rettangolare cava
T	= T
U	= U
Uc	= U tovescia
Vr	= V
VrC	= V tovescia
Z	= Z
Zdx	= Z destra
TS	= T stondata
LS	= L stondata
IS	= I stondata
Dis	= Disegnata

Mem. Membratura

G. Genetica

T. Trave

P. Pilastro

Ver. Verifica prevista

II = Nessuna	
C = Cemento armato	
A = Acciaio	
B/Hv/Area Base superiore / Numero di vertici / Area	
H/R/Jx	Altezza parte sup. / Raggio / Mom. d'inerzia intorno all'asse X
B/y/Jy	Base inferiore / Spessore ala / Mom. d'inerzia intorno all'asse Y
N/a/Jz	Altezza parte inf. / Spessore anima / Mom. d'inerzia intorno all'asse Z
D/C	Distanza / Ala
Mat.	Numero del materiale
Crit.	Criterio di progetto

Sec.	Com.	Tipo	Mem.	Ver.	B/Hv/Area	H/R/Jx	B/y/Jy	H/a/Jz	D/C	Mat.	Crit.
1	trave15x24	R	T	C	0.15	0.24	0.15	0.24	0.15	0.24	1
2	trave25x24	R	T	C	0.25	0.24	0.25	0.24	0.25	0.24	1
3	trave30x24	R	T	C	0.30	0.24	0.30	0.24	0.30	0.24	1
4	trave40x24	R	T	C	0.40	0.24	0.40	0.24	0.40	0.24	1
5	trave50x24	R	T	C	0.50	0.24	0.50	0.24	0.50	0.24	1
6	trave60x24	R	T	C	0.60	0.24	0.60	0.24	0.60	0.24	1
7	trave70x24	R	T	C	0.70	0.24	0.70	0.24	0.70	0.24	1
8	trave80x24	R	T	C	0.80	0.24	0.80	0.24	0.80	0.24	1
9	trave90x24	R	T	C	0.90	0.24	0.90	0.24	0.90	0.24	1
10	trave100x24	R	T	C	1.00	0.24	1.00	0.24	1.00	0.24	1
11	trave110x24	R	T	C	1.10	0.24	1.10	0.24	1.10	0.24	1
12	trave120x24	R	T	C	1.20	0.24	1.20	0.24	1.20	0.24	1
13	trave130x24	R	T	C	0.35	0.24	0.35	0.24	0.35	0.24	1
14	trave140x24	R	T	C	0.45	0.24	0.45	0.24	0.45	0.24	1
15	trave150x24	R	T	C	0.55	0.24	0.55	0.24	0.55	0.24	1
16	trave160x24	R	T	C	0.65	0.24	0.65	0.24	0.65	0.24	1
17	trave170x24	R	T	C	0.75	0.24	0.75	0.24	0.75	0.24	1
18	trave180x24	R	T	C	0.85	0.24	0.85	0.24	0.85	0.24	1
19	trave190x24	R	T	C	0.95	0.24	0.95	0.24	0.95	0.24	1
20	trave200x24	R	T	C	1.05	0.24	1.05	0.24	1.05	0.24	1
21	trave L25x24x13x36	Ldx	T	C	0.25	0.24	0.25	0.24	0.13	0.35	1
22	trave L25x24x13x36	Ldx	T	C	0.25	0.24	0.25	0.24	0.13	0.35	1
23	trave25x30	P	T	C	0.25	0.30	0.25	0.30	0.25	0.30	1
24	trave25x35	P	T	C	0.25	0.35	0.25	0.35	0.25	0.35	1
25	trave25x40	P	T	C	0.25	0.40	0.25	0.40	0.25	0.40	1
26	trave25x45	P	T	C	0.25	0.45	0.25	0.45	0.25	0.45	1
27	trave25x50	P	T	C	0.25	0.50	0.25	0.50	0.25	0.50	1
28	trave25x55	P	T	C	0.25	0.55	0.25	0.55	0.25	0.55	1
29	trave25x60	P	T	C	0.25	0.60	0.25	0.60	0.25	0.60	1
30	trave25x65	P	T	C	0.25	0.65	0.25	0.65	0.25	0.65	1
31	trave25x70	P	T	C	0.25	0.70	0.25	0.70	0.25	0.70	1
32	trave25x75	P	T	C	0.25	0.75	0.25	0.75	0.25	0.75	1
33	trave25x80	P	T	C	0.25	0.80	0.25	0.80	0.25	0.80	1
34	trave25x85	P	T	C	0.25	0.85	0.25	0.85	0.25	0.85	1
35	trave25x90	P	T	C	0.25	0.90	0.25	0.90	0.25	0.90	1
36	trave25x95	P	T	C	0.25	0.95	0.25	0.95	0.25	0.95	1
37	trave25x100	P	T	C	0.25	1.00	0.25	1.00	0.25	1.00	1
38	trave25x105	P	T	C	0.25	1.05	0.25	1.05	0.25	1.05	1
39	trave25x110	P	T	C	0.25	1.10	0.25	1.10	0.25	1.10	1
40	trave25x115	P	T	C	0.25	1.15	0.25	1.15	0.25	1.15	1
41	trave25x120	P	T	C	0.25	1.20	0.25	1.20	0.25	1.20	1
42	trave25x125	P	T	C	0.25	1.25	0.25	1.25	0.25	1.25	1
43	trave25x130	P	T	C	0.25	1.30	0.25	1.30	0.25	1.30	1
44	trave25x135	P	T	C	0.25	1.35	0.25	1.35	0.25	1.35	1
45	trave25x140	P	T	C	0.25	1.40	0.25	1.40	0.25	1.40	1
46	trave25x145	P	T	C	0.25	1.45	0.25	1.45	0.25	1.45	1
47	trave25x150	P	T	C	0.25	1.50	0.25	1.50	0.25	1.50	1
48	trave25x155	P	T	C	0.25	1.55	0.25	1.55	0.25	1.55	1
49	trave25x160	P	T	C	0.25	1.60	0.25	1.60	0.25	1.60	1
50	trave25x165	P	T	C	0.25	1.65	0.25	1.65	0.25	1.65	1
51	trave25x170	P	T	C	0.25	1.70	0.25	1.70	0.25	1.70	1
52	trave25x175	P	T	C	0.25	1.75	0.25	1.75	0.25	1.75	1
53	trave25x180	P	T	C	0.25	1.80	0.25	1.80	0.25	1.80	1
54	travefn25x24	R	T	C	0.25	0.24	0.25	0.24	0.25	0.24	1
55	travefn30x24	R	T	C	0.30	0.24	0.30	0.24	0.30	0.24	1
56	travefn40x24	R	T	C	0.40	0.24	0.40	0.24	0.40	0.24	1
57	trave-fn25x25	R	T	C	0.25	0.25	0.25	0.25	0.25	0.25	1
58	trave-fn25x30	R	T	C	0.25	0.30	0.25	0.30	0.25	0.30	1
59	trave-fn25x35	R	T	C	0.25	0.35	0.25	0.35	0.25	0.35	1
60	trave-fn25x40	R	T	C	0.25	0.40	0.25	0.40	0.25	0.40	1
61	trave-fn25x45	R	T	C	0.25	0.45	0.25	0.45	0.25	0.45	1
62	trave-fn25x50	R	T	C	0.25	0.50	0.25	0.50	0.25	0.50	1
63	trave-fn25x55	R	T	C	0.25	0.55	0.25	0.55	0.25	0.55	1
64	trave-fn30x50	R	T	C	0.30	0.50	0.30	0.50	0.30	0.50	1

12	112	212	112	157	1
13	113	213	113	156	1
14	114	214	114	155	1
15	115	215	115	154	1
16	116	216	116	153	1
17	117	217	117	152	1
18	118	218	118	151	1
19	119	219	119	150	1
20	120	220	120	149	1
21	121	221	121	148	1
22	122	222	122	147	1
23	123	223	123	146	1
24	124	224	124	145	1
25	125	225	125	144	1
26	126	226	126	143	1
27	127	227	127	142	1
28	128	228	128	141	1
29	129	229	129	140	1
30	130	230	130	139	1
31	131	231	131	138	1
32	132	232	132	137	1
33	133	233	133	136	1
34	134	234	134	135	1
35	135	235	135	134	1
36	136	236	136	133	1
37	137	237	137	132	1
38	138	238	138	131	1
39	139	239	139	130	1
40	140	240	140	129	1
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42	142	242	142	127	1
43	143	243	143	126	1
44	144	244	144	125	1
45	145	245	145	124	1
46	146	246	146	123	1
47	147	247	147	122	1
48	148	248	148	121	1
49	149	249	149	120	1
50	150	250	150	119	1
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52	152	252	152	117	1
53	153	253	153	116	1
54	154	254	154	115	1
55	155	255	155	114	1
56	156	256	156	113	1
57	157	257	157	112	1
58	158	258	158	111	1
59	159	259	159	110	1
60	160	260	160	109	1
61	161	261	161	108	1
62	162	262	162	107	1
63	163	263	163	106	1
64	164	264	164	105	1
65	165	265	165	104	1
66	166	266	166	103	1
67	167	267	167	102	1
68	168	268	168	101	1
69	169	269	169	100	1
70	170	270	170	99	1
71	171	271	171	98	1
72	172	272	172	97	1
73	173	273	173	96	1
74	174	274	174	95	1
75	175	275	175	94	1
76	176	276	176	93	1
77	177	277	177	92	1
78	178	278	178	91	1
79	179	279	179	90	1
80	180	280	180	89	1
81	181	281	181	88	1
82	182	282	182	87	1
83	183	283	183	86	1
84	184	284	184	85	1
85	185	285	185	84	1
86	186	286	186	83	1
87	187	287	187	82	1
88	188	288	188	81	1
89	189	289	189	80	1
90	190	290	190	79	1
91	191	291	191	78	1
92	192	292	192	77	1
93	193	293	193	76	1
94	194	294	194	75	1
95	195	295	195	74	1

[illegible]

21

0 13	-197	-199	-200	-198 33 0.00 0.00	0 18	-153	-154	-199	-197 33 0.00 0.00	-351	-350	0 18	-341	15	-350	-358 33 0.00 0.00	
0 13	-186	-198	-190	43 33 0.00 0.00	0 18	-184	-197	-198	-186 33 0.00 0.00	-351	-350	0 18	-341	15	-350	-358 33 0.00 0.00	
0 13	-189	-185	43	-183 33 0.00 0.00	0 18	-184	-189	-185	-183 33 0.00 0.00	-351	-350	0 18	-341	15	-350	-358 33 0.00 0.00	
0 13	-178	44	-188 33 0.00 0.00	0 18	-187	-189	-183	80 33 0.00 0.00	0 5	-362	-363	0 5	-362	-363	-369	-388 33 0.00 0.00	
0 13	-185	-188	-187 33 0.00 0.00	0 18	-182	-163	44	-178 33 0.00 0.00	0 5	-352	-350	0 5	-350	-388	-389	-351 33 0.00 0.00	
0 13	-181	-161	-163	-182 33 0.00 0.00	0 18	-145	45	-161	-181 33 0.00 0.00	0 5	-376	0 5	-376	-378	-366	-365 33 0.00 0.00	
0 5	-234	-235	-232 33 0.00 0.00	0 18	-231	99	23	-233 33 0.00 0.00	0 5	-263	-264	0 5	-263	-275	-376	-376 33 0.00 0.00	
0 13	-229	-231	-235 33 0.00 0.00	0 18	-230	375	99	-231 33 0.00 0.00	0 5	-343	-343	0 5	-343	-370	-362	-371 33 0.00 0.00	
0 13	-228	-230	-229 33 0.00 0.00	0 18	-227	-222	78	-225 33 0.00 0.00	0 18	-360	-362	0 5	-426	-430	-370	-362 15 33 0.00 0.00	
0 13	-183	43	-222	-227 33 0.00 0.00	0 18	-225	-227	-225	79 33 0.00 0.00	0 5	-407	0 5	-400	-404	-401	-427 33 0.00 0.00	
0 5	-405	-385	-405 33 0.00 0.00	0 5	-365	15	-384	-404 33 0.00 0.00	0 5	-364	-365	0 5	-391	-395	-401	-401 33 0.00 0.00	
0 5	-402	-405	-407 33 0.00 0.00	0 18	71	-194	-214	-213 33 0.00 0.00	0 5	-452	-424	0 5	-159	36	-380	-379 33 0.00 0.00	
0 13	57	-340	-354	38 33 0.00 0.00	0 18	-294	-296	232	304 33 0.00 0.00	0 5	-530	0 5	-235	-237	-245	-244 33 0.00 0.00	
0 5	-292	-294	-303	303 33 0.00 0.00	0 18	-256	-259	235	-404 33 0.00 0.00	0 5	5	0 5	25	-305	-337	-312 33 0.00 0.00	
0 13	93	-228	-229	25 33 0.00 0.00	0 5	-290	-292	-303	-173 33 0.00 0.00	0 5	19	0 5	-260	-260	-369	-342 33 0.00 0.00	
0 5	-286	-290	-302	-301 33 0.00 0.00	0 18	39	-249	-344	-76 33 0.00 0.00	0 5	-265	0 5	-265	-315	-316	-266 33 0.00 0.00	
0 5	13	-362	-368	-350 33 0.00 0.00	0 5	-286	-288	-301	-300 33 0.00 0.00	0 5	-298	0 5	-298	33	380	-305 33 0.00 0.00	
0 5	-284	-286	-300	-299 33 0.00 0.00	0 5	21	-333	-474	-455 33 0.00 0.00	0 5	-17	0 5	-254	-255	-360	-357 33 0.00 0.00	
0 13	40	-232	-234	-17 33 0.00 0.00	0 5	-297	377	33	-298 33 0.00 0.00	0 5	-356	0 5	-356	-360	-361	-357 33 0.00 0.00	
0 5	-295	-298	-295	-295 33 0.00 0.00	0 5	-295	-295	-295	-294 33 0.00 0.00	0 5	98	0 5	98	-515	-516	-378 33 0.00 0.00	
0 5	-292	-305	-361	-361 33 0.00 0.00	0 5	-295	-295	-295	-364 33 0.00 0.00	0 5	-82	0 5	-82	-83	-83	-81 33 0.00 0.00	
0 13	-180	-184	-178	-231 33 0.00 0.00	0 5	-289	-291	-292	-265 33 0.00 0.00	0 5	-13	0 5	-13	-139	-140	-131	-130 33 0.00 0.00
0 13	-340	-342	-349	-349 33 0.00 0.00	0 18	-179	-181	-182	-180 33 0.00 0.00	0 5	3	0 5	3	-496	-517	-514 33 0.00 0.00	
0 13	-177	-165	35	-189 33 0.00 0.00	0 18	-175	-150	-152	-177 33 0.00 0.00	0 7	34	0 7	34	-11	-86	-84 33 0.00 0.00	
0 13	-178	-178	-178	-178 33 0.00 0.00	0 18	-175	-177	-159	-178 33 0.00 0.00	0 5	2	0 5	2	-35	-36	-33 33 0.00 0.00	
0 13	-152	37	-150	37 33 0.00 0.00	0 18	-175	-177	-159	-158 33 0.00 0.00	0 5	4	0 5	4	-82	-84	-85	-83 33 0.00 0.00
0 5	-339	-361	-361	-361 33 0.00 0.00	0 5	-338	-335	-336	-339 33 0.00 0.00	0 18	-14	0 18	-14	-82	-84	-85	-83 33 0.00 0.00
0 13	-174	-175	-177	-175 33 0.00 0.00	0 18	-151	-152	-176	-174 33 0.00 0.00	0 18	-11	0 18	-11	-88	-90	-91	-89 33 0.00 0.00
0 5	-337	-334	-335	-338 33 0.00 0.00	0 5	-305	380	-334	-337 33 0.00 0.00	0 18	-13	0 18	-13	-87	-88	-87	-87 33 0.00 0.00
0 5	20	-306	-357	-357 33 0.00 0.00	0 5	13	-476	-606	-578 33 0.00 0.00	0 18	-87	0 18	-87	-86	-88	-87	-87 33 0.00 0.00
0 5	-314	-339	-333	-21 33 0.00 0.00	0 18	-191	-172	-217	-224 33 0.00 0.00	0 18	-79	0 18	-79	-66	93	26	-68 33 0.00 0.00
0 13	-223	-224	-221	-220 33 0.00 0.00	0 18	-190	-191	-224	-223 33 0.00 0.00	0 4	-1282	0 4	-1282	-1280	-1280	-1280	-1280 33 0.00 0.00
0 13	-222	-223	-220	78 33 0.00 0.00	0 18	-219	-213	76	-215 33 0.00 0.00	0 5	-368	0 5	-367	-457	-458	-368 33 0.00 0.00	
0 13	-193	71	-213	-219 33 0.00 0.00	0 18	-219	-213	-216	-215 33 0.00 0.00	0 5	-457	0 5	-457	-459	-459	-457 33 0.00 0.00	
0 13	-192	-193	-217	-218 33 0.00 0.00	0 18	-217	-218	-215	-217 33 0.00 0.00	0 5	-459	0 5	-459	-461	-462	-460 33 0.00 0.00	
0 13	-194	34	27	-214 33 0.00 0.00	0 18	-214	27	75	-211 33 0.00 0.00	0 5	-460	0 5	-460	-463	-463	-460 33 0.00 0.00	
0 5	-396	-402	-403	-399 33 0.00 0.00	0 5	-397	-401	-402	-398 33 0.00 0.00	0 5	-461	0 5	-462	-464	-464	-462 33 0.00 0.00	
0 5	-387	-389	-390	-388 33 0.00 0.00	0 5	-285	-287	-288	-286 33 0.00 0.00	0 5	-463	0 5	-463	-466	-466	-464 33 0.00 0.00	
0 5	-383	-385	-385	-384 33 0.00 0.00	0 5	-282	-287	20	-264 33 0.00 0.00	0 5	-464	0 5	-464	-467	-467	-465 33 0.00 0.00	
0 5	-381	-385	-387	-382 33 0.00 0.00	0 5	-280	-285	-286	-281 33 0.00 0.00	0 5	-465	0 5	-465	-468	-468	-466 33 0.00 0.00	
0 5	-376	-384	-385	-380 33 0.00 0.00	0 5	-279	-282	-284	-283 33 0.00 0.00	0 5	-466	0 5	-466	-469	-470	-468 33 0.00 0.00	
0 5	-375	-378	-379	-378 33 0.00 0.00	0 5	-277	-280	-281	-278 33 0.00 0.00	0 5	-469	0 5	-469	-470	-470	-468 33 0.00 0.00	
0 5	-375	-378	-379	-378 33 0.00 0.00	0 5	-276	-279	-283	-282 33 0.00 0.00	0 5	-470	0 5	-470	-471	-471	-469 33 0.00 0.00	
0 5	-375	-378	-379	-378 33 0.00 0.00	0 5	-274	-277	-278	-275 33 0.00 0.00	0 5	-474	0 5	-474	-475	-475	-473 33 0.00 0.00	
0 5	-372	-375	-376	-373 33 0.00 0.00	0 5	-273	-276	-282	-281 33 0.00 0.00	0 5	-474	0 5	-474	-475	-475	-473 33 0.00 0.00	
0 5	-372	-375	-376	-373 33 0.00 0.00	0 5	-273	-276	-282	-281 33 0.00 0.00	0 5	-474	0 5	-474	-475	-475	-473 33 0.00 0.00	
0 5	-372	-375	-376	-373 33 0.00 0.00	0 5	-273	-276	-282	-281 33 0.00 0.00	0 5	-474	0 5	-474	-475	-475	-473 33 0.00 0.00	
0 5	-372	-375	-376	-373 33 0.00 0.00	0 5	-273	-276	-282	-281 33 0.00 0.00	0 5	-474	0 5	-474	-475	-475	-473 33 0.00 0.00	
0 5	-372	-375	-376	-373 33 0.00 0.00	0 5	-273	-276	-282	-281 33 0.00 0.00	0 5	-474	0 5	-474	-475	-475	-473 33 0.00 0.00	
0 5	-372	-375	-376	-373 33 0.00 0.00	0 5	-273	-276	-282	-281 33 0.00 0.00	0 5	-474	0 5	-474	-475	-475	-473 33 0.00 0.00	
0 5	-372	-375	-376	-373 33 0.00 0.00	0 5	-273	-276	-282	-281 33 0.00 0.00	0 5	-474	0 5	-474	-475	-475	-473 33 0.00 0.00	
0 5	-372	-375	-376	-373 33 0.00 0.00	0 5	-273	-276	-282	-281 33 0.00 0.00	0 5	-474	0 5	-474	-475	-475	-473 33 0.00 0.00	
0 5	-372	-375	-376	-373 33 0.00 0.00	0 5	-273	-276	-282	-281 33 0.00 0.00	0 5	-474	0 5	-474	-475	-475	-473 33 0.00 0.00	
0 5	-372	-375	-376	-373 33 0.00 0.00	0 5	-273	-276	-282	-281 33 0.00 0.00	0 5	-474	0 5	-474	-475	-475	-473 33 0.00 0.00	
0 5	-372	-375	-376	-373 33 0.00 0.00	0 5	-273	-276	-282	-281 33 0.00 0.00	0 5	-474	0 5	-474	-475	-475	-473 33 0.00 0.00	
0 5	-372	-375	-376	-373 33 0.00 0.00	0 5	-273	-276	-282	-281 33 0.00 0.00	0 5	-474	0 5	-474	-475	-475	-473 33 0.00 0.00	
0 5	-372	-375	-376	-373 33 0.00 0.00	0 5	-273	-276	-282	-281 33 0.00 0.00	0 5	-474	0 5	-474	-475	-475	-473 33 0.00 0.00	
0 5	-372	-375	-376	-373 33 0.00 0.00	0 5	-273	-276	-282	-281 33 0.00 0.00	0 5	-474	0 5	-474	-475	-475	-473 33 0.00 0.00	
0 5	-372	-375	-376	-373 33 0.00 0.00	0 5	-273	-276	-282	-281 33 0.00 0.00	0 5	-474	0 5	-474	-475	-475	-473 33 0.00 0.00	
0 5	-372	-375	-376	-373 33 0.00 0.00	0 5	-273	-276	-282	-281 33 0.00 0.00	0 5	-474	0 5	-474	-475	-475	-473 33 0.00 0.00	
0 5	-372	-375	-376	-373 33 0.00 0.00	0 5	-273	-276	-282	-281 33 0.00 0.00	0 5	-474	0 5	-474	-475	-475	-473 33 0.00 0.00	
0 5	-372	-375	-376	-373 33 0.00 0.00	0 5	-273	-276	-282	-281 33 0.00 0.00	0 5	-474	0 5	-474	-475	-475	-473 33 0.00 0.00	
0 5	-372	-375	-376	-373 33 0.00 0.00	0 5	-273	-276	-282	-281 33 0.00 0.00	0 5	-474	0 5	-474	-475	-475	-473 33 0.00 0.00	
0 5	-372	-375	-376	-373 33 0.00 0.00	0 5	-273	-276	-282	-281 33 0.00 0.00	0 5	-474	0 5	-474	-475	-475	-473 33 0.00 0.00	
0 5	-372	-375	-376	-373 33 0.00 0.00	0 5	-273	-276	-282	-281 33 0.00 0.00	0 5	-474	0 5	-474	-475	-475	-473 33 0.00 0.00	
0 5	-372	-375	-376	-373 33 0.00 0.00	0 5	-273	-276	-282	-281 33 0.00 0.00	0 5	-474	0 5	-474	-475	-475	-473 33 0.00 0.00	
0 5	-372	-375	-376	-373 33 0.00 0.00	0 5	-273	-276	-282	-281 33 0.00 0.00	0 5	-474	0 5	-474	-475	-475	-473 33 0.00 0.00	
0 5	-372	-375	-376	-373 33 0.00 0.00	0 5	-273	-276	-282	-281 33 0.00 0.00	0 5	-474	0 5	-474	-475	-475	-473 33 0.00 0.00	
0 5	-372	-375	-376	-373 33 0.00 0.00	0 5	-273	-276	-282	-28								

28

[illegible]

Cappa Spessore cappa
Crit. Criticità di progetto

Tg	C=mm	Qp	Qa	Alt. Cappa	Crit.
<kg/mq>		<kg/mq>		s	<m>
1	scalo H=20+4 cm qp=200	500.00	200.00	0.33	0.00
2	scalo pte+presso H=20+4 cm	510.00	200.00	0.33	0.00
3	scalo normale H=24+4 cm	530.00	200.00	0.33	0.00
4	scalo predalle H=24+4 cm	570.00	200.00	0.33	0.00
5	scalo predalle e tavelloni	590.00	130.00	0.33	0.00
6	scalo balcone	400.00	400.00	0.33	0.00
7	scalo	400.00	400.00	1.00	0.00
8	scalo sottotetto non praticabile qp=100	450.00	100.00	0.33	0.00
9	scalo di copertura	450.00	130.00	0.33	0.00
10	umidità grondaia cm	570.00	500.00	1.00	0.00
11	scalo predalle H=28+4 cm P.T.	570.00	500.00	1.00	0.00
12	scalo H=28+4 cm	570.00	500.00	1.00	0.00
13	scalo predalle H=24+4 cm P.T.	570.00	500.00	0.50	0.00
14	scalo predalle H=24+4 cm P.T.	570.00	500.00	0.50	0.00
15	scalo 180	1050.00	500.00	0.50	1.82
16	scalo 182	4700.00	150.00	0.50	1.82
17	scalo SIMULATORE	825.00	500.00	1.00	0.00
18	scalo GRNIA CINEPAL	570.00	550.00	1.00	0.00

ELENTO SOLAI

Simbologia

SOL. Numero del solaio

Tg Numero del tipo solaio

Ord. Orditura

Modi Modi del solaio

Ord.

SOL. Tg <grad>

0 11	0.00 104 130 129 125 121 117 113 108	-1277	-1276	-1275	-1274	-1273	-1272
0 11	0.00 216 102 -801 -802 -803 106 111 -2 115 -3	119	-814	-815	-816	-817	-818
0 11	0.00 179 102 -801 -802 -803 106 111 -2 115 -3	119	-814	-815	-816	-817	-818
0 11	0.00 121 125 -763 -762 -761 -760 -759 123 120	120	-759	-758	-757	-756	-755
0 11	0.00 103 -888 -889 -890 -891 -892 -893 -894 104	-1275	-1276	-1277	-1278	-1279	-1280
0 15	0.00 143 -825 -826 172 -835 -836 171 -843 134	-1061	-1062	-1063	-1064	-1065	-1066
0 15	155 -1233 1234 -1235 -1236 -1237	-1238	-1239	-1240	-1241	-1242	-1243
0 16	0.00 243 -863 -864 272 -855 -856 271 -848 273	-1141	-1142	-1143	-1144	-1145	-1146
0 16	295 -1254 -1255 -1256 -1257 -1258	-1259	-1260	-1261	-1262	-1263	-1264
0 16	0.00 245 254 -1174 -1173 -1172 -1171	-1170	-1169	-1168	-1167	-1166	-1165
0 11	-1212 -1213 -1214 -1215 -1216 253 -1036	-1036	-1037	-1038	-1039	-1040	-1041
0 12	0.00 201 -871 -872 -873 -874 -875 103 107	106	-803	-802	-801	-800	-799
0 15	0.00 202 206 211 215 219 223 222 218 214	209	205	-788	-789	-790	-791
0 15	0.00 247 -1014 -1015 -1016 238 -778 -779 270	-788	-789	-790	-791	-792	-793
	-1109 -1108 239 -1120 -1119 257 -1158 -1159	-1170	-1171	-1172	-1173	-1174	-1175
0 15	0.00 253 -1025 -1026	-1214	-1213	-1212	-1211	-1210	-1209
0 15	0.00 254 -1216 -1215	-1214	-1213	-1212	-1211	-1210	-1209
0 15	0.00 255 -1258 -1259	-1260	-1259	-1258	-1257	-1256	-1255
0 15	0.00 145 156 -1193 -1192 -1191 -1190	-1189	-1188	-1187	-1186	-1185	-1184
0 11	0.00 140 235 274 132 -1065 -1064 -1063 -1062 -1061	-1060	-1059	-1058	-1057	-1056	-1055
0 11	0.00 157 1091 1092 139 -1098 -1097 -1096 -1095 -1094	-1093	-1092	-1091	-1090	-1089	-1088
0 15	0.00 153 -1195 -1194	-1193	-1192	-1191	-1190	-1189	-1188
	-1235 -1236 -1237 -1238	-1239	-1240	-1241	-1242	-1243	-1244
0 15	0.00 147 -1005 -1006	-1007	-1006	-1005	-1004	-1003	-1002
	-1100 -1099 139 -1092 -1091 157 -1147	-1148	-1149	-1150	-1151	-1152	-1153
	154 -997 -998	-1154	-1155	-1156	-1157	-1158	-1159
100 12	0.00 240 335 374 273	-1141	-1142	-1143	-1134	-1134	-1134
	-1120 239 -1108	-1109	-1110	-1111	-1112	-1113	-1114
104 11	0.00 108 113 112 107	-1115	-1116	-1117	-1118	-1119	-1120
105 11	0.00 106 107 112 -1	-2	-1	-2	-1	-2	-1
106 11	0.00 112 113 117 116 -1	-115	-116	-117	-118	-119	-120
107 17	0.00 -2 -1 115 -4 -3 115	-115	-116	-117	-118	-119	-120
108 18	0.00 116 117 121 120 -4	-115	-116	-117	-118	-119	-120
109 11	0.00 -4 120 119 -3	-115	-116	-117	-118	-119	-120
201 12	0.00 204 230 229 225 221 217 213 208	-211	-210	-209	-208	-207	-206
202 12	0.00 219 220 224 223	-224	-223	-222	-221	-220	-219
204 12	0.00 221 225 224 220	-224	-223	-222	-221	-220	-219

205 12	0.00	216	217	221	220
206 12	0.00	215	216	220	219
207 12	0.00	208	213	212	207
208 12	0.00	212	213	217	216
209 12	0.00	211	212	216	215
210 12	0.00	205	207	212	211
212 12	0.00	202	203	207	206
213 12	0.00	203	204	208	207

ELENCO CARICHI ASTE

ELENCO CARICHI DISTRIBUITI SULLE ASTE:

Asta = numero dell'asta
 H1, H2 = nodo iniziale e finale dell'asta
 F/S = PP se il carico è dovuto al peso proprio dell'asta altrimenti rappresenta il numero del tipo di
 solai di provenienza
 T = se il carico è proveniente da un solaio rappresenta il tipo di carichi: permanente (P) o accidentale
 (A)
 DC = direzione del carico:
 XL, YL, ZL secondo gli assi X, Y, Z locali
 XG, YG, ZG secondo gli assi X, Y, Z globali
 X1, Xf = ascissa iniziale e finale del carico (m)
 Q1, Qf = valore del carico in Xi e Xf (kg/m)

ELENCO CARICHI CONCENTRATI SULLE ASTE:

Asta = numero dell'asta
 H1, H2 = nodo iniziale e finale dell'asta
 P = direzione locale (L) o globale (G)
 L = ascissa del carico (m)
 EX, FY, FZ = componenti X, Y, Z della forza applicata (kg)
 EX, HY, HE = componenti X, Y, Z del momento applicato (kgm)

ELENCO CARICHI TERMICI SULLE ASTE:

Asta = numero dell'asta
 H1, H2 = nodo iniziale e finale dell'asta
 DT = dilatazione termica uniforme (gradi)
 GT, GZ = gradienti di temperatura (gradi/m)

CONDIZIONE DI CARICO I: P, F, *Permanenti (1.00)

CARICHI DISTRIBUITI

Asta	H1	H2	P/S	T	DC	X1	Q1	Xf	Qf	P/S	T	DC	X1	Q1	Xf	Qf
0	240	335	PP	ZG	0.00	25	2.00	25	2.00	PP	ZG	0.00	25	2.00	25	2.00
0	134	274	PP	ZG	0.00	25	2.00	25	2.00	PP	ZG	0.00	25	2.00	25	2.00
0	140	235	PP	ZG	0.00	25	2.00	25	2.00	PP	ZG	0.00	25	2.00	25	2.00
0	243	-1055	15	P	ZG	0.00	22578	1.37	22578	15	P	ZG	0.00	22578	1.37	22578
0	-1055	-1055	15	P	ZG	0.00	22578	1.37	22578	15	P	ZG	0.00	22578	1.37	22578
0	-1055	244	15	P	ZG	0.00	22578	1.37	22578	15	P	ZG	0.00	22578	1.37	22578
0	244	-1047	15	P	ZG	0.00	22578	1.37	22578	15	P	ZG	0.00	22578	1.37	22578
0	-1047	-1048	15	P	ZG	0.00	22578	1.37	22578	15	P	ZG	0.00	22578	1.37	22578
0	-1048	245	15	P	ZG	0.00	22578	1.37	22578	15	P	ZG	0.00	22578	1.37	22578
0	245	232	15	P	ZG	0.00	22578	1.37	22578	15	P	ZG	0.00	22578	1.37	22578
0	-1040	-233	15	P	ZG	0.00	22578	1.37	22578	15	P	ZG	0.00	22578	1.37	22578
0	-232	-1055	15	P	ZG	0.00	22578	1.37	22578	15	P	ZG	0.00	22578	1.37	22578
0	-1055	244	15	P	ZG	0.00	22578	1.37	22578	15	P	ZG	0.00	22578	1.37	22578
0	244	-1055	15	P	ZG	0.00	22578	1.37	22578	15	P	ZG	0.00	22578	1.37	22578
0	-1055	-1055	15	P	ZG	0.00	22578	1.37	22578	15	P	ZG	0.00	22578	1.37	22578
0	-1055	247	15	P	ZG	0.00	22578	1.37	22578	15	P	ZG	0.00	22578	1.37	22578
0	247	-1044	15	P	ZG	0.00	22578	1.37	22578	15	P	ZG	0.00	22578	1.37	22578
0	-1044	-1043	15	P	ZG	0.00	22578	1.37	22578	15	P	ZG	0.00	22578	1.37	22578
0	-1043	-1043	15	P	ZG	0.00	22578	1.37	22578	15	P	ZG	0.00	22578	1.37	22578
0	-1043	248	15	P	ZG	0.00	22578	1.37	22578	15	P	ZG	0.00	22578	1.37	22578
0	248	-1051	15	P	ZG	0.00	22578	1.37	22578	15	P	ZG	0.00	22578	1.37	22578
0	-1051	-1052	15	P	ZG	0.00	22578	1.37	22578	15	P	ZG	0.00	22578	1.37	22578
0	-1052	135	15	P	ZG	0.00	22578	1.37	22578	15	P	ZG	0.00	22578	1.37	22578
0	135	-1052	15	P	ZG	0.00	22578	1.37	22578	15	P	ZG	0.00	22578	1.37	22578
0	-1052	-1070	15	P	ZG	0.00	22578	1.37	22578	15	P	ZG	0.00	22578	1.37	22578
0	-1070	137	15	P	ZG	0.00	22578	1.37	22578	15	P	ZG	0.00	22578	1.37	22578
0	137	-1070	15	P	ZG	0.00	22578	1.37	22578	15	P	ZG	0.00	22578	1.37	22578
0	-1070	-1070	15	P	ZG	0.00	22578	1.37	22578	15	P	ZG	0.00	22578	1.37	22578
0	-1070	135	15	P	ZG	0.00	22578	1.37	22578	15	P	ZG	0.00	22578	1.37	22578
0	135	-1070	15	P	ZG	0.00	22578	1.37	22578	15	P	ZG	0.00	22578	1.37	22578
0	-1070	-1070	15	P	ZG	0.00	22578	1.37	22578	15	P	ZG	0.00	22578	1.37	22578
0	-1070	135	15	P	ZG	0.00	22578	1.37	22578	15	P	ZG	0.00	22578	1.37	22578
0	135	-1084	15	P	ZG	0.00	22578	1.37	22578	15	P	ZG	0.00	22578	1.37	22578

3334

Asta	Int	N2	E/S T DC				Qf	E/S T DC				Qf
			Xi	Qi	Xf	Qf						
0	243	-1055	15 A 2G	0.00	724	1.37	724	11 A 2G	0.00	1000	1.37	1000
0	-1055	-1055	15 A 2G	0.00	724	1.37	724	11 A 2G	0.00	1000	1.37	1000
0	-1055	244	15 A 2G	0.00	724	1.37	724	11 A 2G	0.00	1000	1.37	1000
0	244	-1047	15 A 2G	0.00	724	1.37	724	11 A 2G	0.00	1000	1.37	1000
0	-1047	-1047	15 A 2G	0.00	724	1.37	724	11 A 2G	0.00	1000	1.37	1000
0	-1048	245	15 A 2G	0.00	724	1.37	724	11 A 2G	0.00	1000	1.37	1000
0	245	252	15 A 2G	0.00	724	1.37	724	11 A 2G	0.00	1000	1.37	1000
0	252	-1040	15 A 2G	0.00	724	1.37	724	11 A 2G	0.00	1000	1.37	1000
0	-1040	253	15 A 2G	0.00	724	1.37	724	11 A 2G	0.00	1000	1.37	1000
0	253	-1035	15 A 2G	0.00	724	1.37	724	11 A 2G	0.00	1000	1.37	1000
0	-1035	246	15 A 2G	0.00	724	1.37	724	11 A 2G	0.00	1000	1.37	1000
0	246	254	15 A 2G	0.00	724	1.37	724	11 A 2G	0.00	1000	1.37	1000
0	254	-1025	15 A 2G	0.00	724	1.37	724	11 A 2G	0.00	1000	1.37	1000
0	-1025	-1025	15 A 2G	0.00	724	1.37	724	11 A 2G	0.00	1000	1.37	1000
0	-1025	247	15 A 2G	0.00	724	1.37	724	11 A 2G	0.00	1000	1.37	1000
0	247	-1014	15 A 2G	0.00	724	1.37	724	11 A 2G	0.00	1000	1.37	1000
0	-1014	-1015	15 A 2G	0.00	724	1.37	724	11 A 2G	0.00	1000	1.37	1000
0	-1015	-1015	15 A 2G	0.00	724	1.37	724	11 A 2G	0.00	1000	1.37	1000
0	-1015	248	15 A 2G	0.00	724	1.37	724	11 A 2G	0.00	1000	1.37	1000
0	248	-1061	15 A 2G	0.00	2413	1.37	2413	11 A 2G	0.00	1000	1.37	1000
0	-1061	-1062	15 A 2G	0.00	2413	1.37	2413	11 A 2G	0.00	1000	1.37	1000
0	-1062	136	15 A 2G	0.00	2413	1.37	2413	11 A 2G	0.00	1000	1.37	1000
0	136	-1049	15 A 2G	0.00	2413	1.37	2413	11 A 2G	0.00	1000	1.37	1000
0	-1049	-1070	15 A 2G	0.00	2413	1.37	2413	11 A 2G	0.00	1000	1.37	1000
0	-1070	137	15 A 2G	0.00	2413	1.37	2413	11 A 2G	0.00	1000	1.37	1000
0	137	-1055	15 A 2G	0.00	2413	1.37	2413	11 A 2G	0.00	1000	1.37	1000
0	-1055	-1079	15 A 2G	0.00	2413	1.37	2413	11 A 2G	0.00	1000	1.37	1000
0	-1079	156	15 A 2G	0.00	2413	1.37	2413	11 A 2G	0.00	1000	1.37	1000
0	156	-1084	15 A 2G	0.00	2413	1.37	2413	11 A 2G	0.00	1000	1.37	1000
0	-1084	138	15 A 2G	0.00	2413	1.37	2413	11 A 2G	0.00	1000	1.37	1000
0	138	157	15 A 2G	0.00	2413	1.37	2413	11 A 2G	0.00	1000	1.37	1000

ELENCO CARICHI ASTE

CONDIZIONE DI CARICO 2: Accidentali (1.00)

CARICHI DISTRIBUITI

ELENCO CARICHI TERNICI SUGLI ELEMENTI BIDIMENSIONALI:
 Bid. = numero dell'elemento bidimensionale
 H1,H2,H3,H4 = nodi che individuano l'elemento
 DT = dilatazione termica uniforme (gradi)
 GT = gradiente di temperatura (gradi/m)
 CONDIZIONE DI CARICO 1: P.P. Permanenti (1.00)
 CARICHI UNIFORMI

Bid.	H1	H2	H3	H4	TC	GT	QF
0	-91	-93	-74	-75	PP	0	0
0	24	-299	-744	-755	PP	0	0
0	157	-1091	-1121	-1123	PP	0	0
0	90	-50	-52	-53	PP	0	0
0	91	-44	-47	-48	PP	0	0
0	88	-54	-60	-63	PP	0	0
0	92	-56	-45	-68	PP	0	0
0	57	-75	-1089	-1154	PP	0	0
0	48	-2	-18	-23	PP	0	0
0	47	-2	-77	-80	PP	0	0
0	87	-56	-102	-104	PP	0	0
0	137	155	-1130	-1129	PP	0	0
0	134	-1069	-1135	-1137	PP	0	0
0	134	-1069	-849	-1143	PP	0	0
0	156	-1180	-1217	-1219	PP	0	0
0	155	-1233	-1129	-1161	PP	0	0
0	157	-1147	-1121	-1175	PP	0	0
0	138	157	-1127	-1121	PP	0	0
0	138	-1099	-1111	-1113	PP	0	0
0	171	-843	-850	-853	PP	0	0
0	143	-825	-855	-857	PP	0	0
0	172	-835	-857	-859	PP	0	0
0	170	-724	-780	-792	PP	0	0
0	169	-734	-790	-799	PP	0	0
0	148	-714	-761	-784	PP	0	0
0	71	-194	-837	-846	PP	0	0
0	72	-192	-827	-839	PP	0	0
0	69	-15	-728	-737	PP	0	0
0	70	-10	-718	-730	PP	0	0
0	147	-1005	-1017	-1019	PP	0	0
0	154	-997	-1027	-1029	PP	0	0
0	146	154	-1033	-1027	PP	0	0
0	153	-990	-1036	-1038	PP	0	0
0	152	-985	-1041	-1043	PP	0	0
0	145	152	-1045	-1041	PP	0	0
0	144	-975	-1049	-1051	PP	0	0
0	143	-967	-865	-1057	PP	0	0
0	82	-145	-179	-181	PP	0	0
0	52	-125	45	-146	PP	0	0
0	83	-142	82	-145	PP	0	0
0	53	-111	-134	-135	PP	0	0
0	84	-107	-143	-144	PP	0	0
0	54	-69	46	-94	PP	0	0
0	85	-106	-109	-110	PP	0	0
0	85	-101	85	-106	PP	0	0
0	45	-145	-151	-154	PP	0	0
0	81	-178	-185	-188	PP	0	0
0	44	-153	-184	-197	PP	0	0
0	80	-183	-225	-227	PP	0	0
0	43	-190	-222	-223	PP	0	0
0	-18	-23	-20	-24	PP	0	0
0	-22	-25	47	-6	PP	0	0
0	-342	-369	-343	-370	PP	0	0
0	-361	-353	-349	-371	PP	0	0
0	-260	-261	-369	-371	PP	0	0
0	-370	-372	-362	-363	PP	0	0
0	-371	-373	-372	-374	PP	0	0
0	-262	-263	-373	-375	PP	0	0
0	-374	-375	-364	-365	PP	0	0
0	-375	-377	-376	-378	PP	0	0
0	-264	20	-377	-357	PP	0	0
0	-378	-368	-365	16	PP	0	0
0	-351	-389	-352	-390	PP	0	0
0	-353	-391	11	-379	PP	0	0
0	-388	-392	-389	-393	PP	0	0

Asta	H1	H2	P/S	T	DC	X1	Q1	Xf	Qf
0	123	-739	2G	0.00	800	1.23	800	1.23	800
0	-739	-740	2G	0.00	800	1.23	800	1.23	800
0	-740	-741	2G	0.00	800	1.23	800	1.23	800
0	-741	-742	2G	0.00	800	1.23	800	1.23	800
0	-742	-743	2G	0.00	800	1.23	800	1.23	800
0	-743	124	2G	0.00	800	1.23	800	1.23	800
0	124	-758	2G	0.00	800	1.23	800	1.23	800
0	-758	-759	2G	0.00	800	1.23	800	1.23	800
0	-759	-760	2G	0.00	800	1.23	800	1.23	800
0	-760	-761	2G	0.00	800	1.23	800	1.23	800
0	-761	-762	2G	0.00	800	1.23	800	1.23	800
0	-762	-763	2G	0.00	800	1.23	800	1.23	800
0	-763	125	2G	0.00	800	1.23	800	1.23	800
0	102	-871	2G	0.00	800	1.23	800	1.23	800
0	-871	-872	2G	0.00	800	1.23	800	1.23	800
0	-872	-873	2G	0.00	800	1.23	800	1.23	800
0	-873	-874	2G	0.00	800	1.23	800	1.23	800
0	-874	-875	2G	0.00	800	1.23	800	1.23	800
0	-875	103	2G	0.00	800	1.23	800	1.23	800
0	103	-888	2G	0.00	800	1.11	800	1.11	800
0	-888	-889	2G	0.00	800	1.11	800	1.11	800
0	-889	-890	2G	0.00	800	1.11	800	1.11	800
0	-890	-891	2G	0.00	800	1.11	800	1.11	800
0	-891	-892	2G	0.00	800	1.11	800	1.11	800
0	-892	-893	2G	0.00	800	1.11	800	1.11	800
0	-893	-894	2G	0.00	800	1.11	800	1.11	800
0	-894	104	2G	0.00	800	1.11	800	1.11	800

ELENCO CARICHI ELEMENTI BIDIMENSIONALI

ELENCO CARICHI DISTRIBUITI SUGLI ELEMENTI BIDIMENSIONALI:

Bid. = numero dell'elemento bidimensionale
 H1,H2,H3,H4 = nodi che individuano l'elemento
 TC = PP carico dovuto al peso proprio dell'elemento
 UL,UG carico uniformemente distribuito in direzione locale o globale
 QX,QY,QZ = componenti X,Y,Z del carico uniformemente distribuito sull'elemento (kg/mq)

ELENCO CARICHI IDROSTATICI SUGLI ELEMENTI BIDIMENSIONALI:

Bid. = numero dell'elemento bidimensionale
 H1,H2,H3,H4 = nodi che individuano l'elemento
 Z1,Z2 = coordinate Z globali di inizio e fine carico (m)
 QX1,QX2 = componenti iniziale e finale del carico in direzione X locale dell'elemento bidimensionale (kg/mq)

ELENCO CARICHI ASTE

CONDIZIONE DI CARICO 3: Temp. esterno (1.00)

CARICHI DISTRIBUITI

0 -390 -394 -391 -395 PP 0 0 750
0 -393 -394 -392 -396 PP 0 0 750
0 -395 -399 -380 -381 PP 0 0 750
0 -394 -398 -395 -399 PP 0 0 750
0 -395 -400 -397 -401 PP 0 0 750
0 -396 -395 -400 -404 PP 0 0 750
0 -399 -403 -381 -382 PP 0 0 750
0 -401 -405 -402 -406 PP 0 0 750
0 -403 -407 -382 -383 PP 0 0 750
0 -404 -384 -405 -385 PP 0 0 750
0 -405 -385 -407 -387 PP 0 0 750
0 -384 -426 -385 -427 PP 0 0 750
0 -394 -428 -387 -429 PP 0 0 750
0 -406 -410 -426 -430 PP 0 0 750
0 -427 -431 -428 -432 PP 0 0 750
0 -429 -433 -409 -412 PP 0 0 750
0 -430 -434 -431 -435 PP 0 0 750
0 -45 -68 69 -15 PP 0 0 1250
0 -55 -26 68 -27 PP 0 0 1250
0 -63 -26 68 -27 PP 0 0 1250
0 -63 -18 64 -20 PP 0 0 1250
0 -56 48 63 -18 PP 0 0 1250
0 -62 -65 67 -59 PP 0 0 1250
0 -61 -64 62 -65 PP 0 0 1250
0 -60 -63 61 -64 PP 0 0 1250
0 -56 -52 56 -54 PP 0 0 1250
0 -55 90 56 -52 PP 0 0 1250
0 -57 -58 88 -56 PP 0 0 1250
0 -54 -47 -7 70 PP 0 0 1250
0 -51 91 54 -47 PP 0 0 1250
0 -53 -54 -5 -7 PP 0 0 1250
0 -50 -51 53 -54 PP 0 0 1250
0 -49 -46 -12 59 PP 0 0 1250
0 -45 92 49 -46 PP 0 0 1250
0 -44 -49 -10 -12 PP 0 0 1250
0 -44 -45 -48 -49 PP 0 0 1250
0 -47 -48 70 -10 PP 0 0 1250
0 -43 -21 -16 39 PP 0 0 1250
0 -42 -19 -43 -21 PP 0 0 1250
0 -41 -17 -42 -19 PP 0 0 1250
0 -15 40 -41 -17 PP 0 0 1250
0 -40 -43 -14 -16 PP 0 0 525
0 98 -515 -913 -928 PP 0 0 525
0 -33 -36 -34 -37 PP 0 0 1250
0 -7 70 -26 -29 PP 0 0 1250
0 -26 -29 -27 -30 PP 0 0 1250
0 17 -471 -422 -481 PP 0 0 750
0 11 -379 -487 -555 PP 0 0 750
0 95 -264 -478 -700 PP 0 0 525
0 97 -645 -926 -949 PP 0 0 525
0 375 -234 99 -235 PP 0 0 750
0 3 -516 -876 -897 PP 0 0 750
0 2 -525 -605 -878 PP 0 0 750
0 -61 -63 -69 -70 PP 0 0 1250
0 -8 -9 -82 -84 PP 0 0 1250
0 2 -502 -805 -808 PP 0 0 750
0 -39 -42 -40 -43 PP 0 0 1250
0 -38 -41 -39 -42 PP 0 0 1250
0 69 -15 -38 -41 PP 0 0 1250
0 -37 -40 -13 -14 PP 0 0 1250
0 -36 -39 -37 -40 PP 0 0 1250
0 -35 -38 -36 -39 PP 0 0 1250
0 -12 69 -35 -38 PP 0 0 1250
0 96 -284 24 -299 PP 0 0 750
0 97 -645 379 -554 PP 0 0 750
0 -120 -121 -112 -113 PP 0 0 750
0 3 -616 97 -645 PP 0 0 750
0 -95 -96 -120 -121 PP 0 0 1250
0 -98 -99 -123 -124 PP 0 0 1250
0 -122 -123 -114 -115 PP 0 0 1250
0 -123 -124 -115 -116 PP 0 0 1250
0 -97 -98 -122 -123 PP 0 0 1250
0 -99 -100 -124 -125 PP 0 0 1250
0 -124 -125 -116 -117 PP 0 0 1250
0 -112 -113 -136 -137 PP 0 0 1250
0 -111 -112 -135 -136 PP 0 0 1250

0 -112 -114 -434 -438 PP 0 0 750
0 -133 -437 -411 -413 PP 0 0 750
0 -435 -439 -435 -440 PP 0 0 750
0 -434 -438 -435 -439 PP 0 0 750
0 -438 -442 -438 -442 PP 0 0 750
0 -414 -415 -438 -442 PP 0 0 750
0 -437 -441 -413 -415 PP 0 0 750
0 -436 -440 -437 -441 PP 0 0 750
0 -440 -444 -441 -445 PP 0 0 750
0 -439 -443 -440 -445 PP 0 0 750
0 -416 -418 -442 -444 PP 0 0 750
0 -441 -445 -415 -417 PP 0 0 750
0 -443 -447 -444 -448 PP 0 0 750
0 -442 -445 -443 -447 PP 0 0 750
0 -445 -449 -417 -419 PP 0 0 750
0 -444 -448 -445 -449 PP 0 0 750
0 -445 -450 -447 -451 PP 0 0 750
0 -418 -420 -446 -450 PP 0 0 750
0 -448 -452 -449 -453 PP 0 0 750
0 -447 -451 -448 -452 PP 0 0 750
0 -420 17 -450 -422 PP 0 0 750
0 -449 -453 -419 -421 PP 0 0 750
0 -451 -423 -452 -424 PP 0 0 750
0 -450 -422 -451 -423 PP 0 0 750
0 -453 -425 -421 13 PP 0 0 750
0 -410 -412 -430 -434 PP 0 0 750
0 -428 -432 -429 -433 PP 0 0 750
0 21 -495 75 -513 PP 0 0 750
0 -172 -174 -173 -175 PP 0 0 750
0 -150 -151 -172 -174 PP 0 0 750
0 -171 -173 -155 -157 PP 0 0 750
0 -170 -172 -171 -173 PP 0 0 750
0 -149 -150 -170 -172 PP 0 0 750
0 -169 -171 -155 -156 PP 0 0 750
0 -168 -170 -169 -171 PP 0 0 750
0 -148 -149 -168 -170 PP 0 0 750
0 -167 -169 -154 -155 PP 0 0 750
0 -165 -168 -157 -159 PP 0 0 750
0 -147 -148 -165 -168 PP 0 0 750
0 -155 -167 -153 -154 PP 0 0 750
0 -164 -166 -165 -167 PP 0 0 750
0 -145 -147 -164 -166 PP 0 0 750
0 -163 -165 44 -163 PP 0 0 750
0 -161 -164 -163 -165 PP 0 0 750
0 -208 -210 71 -194 PP 0 0 750
0 -207 -209 -208 -210 PP 0 0 750
0 -158 -159 -207 -209 PP 0 0 750
0 -205 -208 -193 71 PP 0 0 750
0 -205 -207 -205 -208 PP 0 0 750
0 -157 -158 -205 -207 PP 0 0 750
0 -204 -205 -192 -193 PP 0 0 750
0 -203 -205 -204 -206 PP 0 0 750
0 -156 -157 -203 -205 PP 0 0 750
0 -202 -204 72 -192 PP 0 0 750
0 -202 -203 -202 -204 PP 0 0 750
0 -155 -156 -201 -203 PP 0 0 750
0 -200 -202 -191 72 PP 0 0 750
0 -199 -201 -201 -202 PP 0 0 750
0 -238 -241 -245 -247 PP 0 0 750
0 -238 -240 -239 -241 PP 0 0 750
0 -236 -238 -237 -239 PP 0 0 750
0 -243 96 -246 24 PP 0 0 750
0 -242 375 -243 94 PP 0 0 750
0 -240 -242 -241 -243 PP 0 0 750
0 -241 -243 -241 -244 PP 0 0 750
0 -237 -239 -245 -246 PP 0 0 750
0 -287 -429 12 -409 PP 0 0 750
0 -385 -427 -385 -428 PP 0 0 750
0 -132 55 -152 37 PP 0 0 750
0 -131 -132 -151 -152 PP 0 0 750
0 -130 -131 -150 -151 PP 0 0 750
0 -129 -130 -149 -150 PP 0 0 750
0 -128 -129 -148 -149 PP 0 0 750
0 -127 -128 -147 -148 PP 0 0 750
0 -125 -127 -145 -147 PP 0 0 750
0 -142 52 -145 45 PP 0 0 750
0 -144 -134 -142 52 PP 0 0 750

0 -107 53 -144 -131 PP 0 0 1250
0 -143 -144 63 -142 PP 0 0 1250
0 -141 -133 -132 55 PP 0 0 1250
0 -507 -508 31 31 PP 0 0 1250
0 99 -235 23 -244 PP 0 0 750
0 375 -283 96 -284 PP 0 0 1250
0 55 -348 37 -490 PP 0 0 1250
0 72 152 -217 -218 PP 0 0 1250
0 -154 155 -199 -201 PP 0 0 1250
0 -198 -200 -190 -191 PP 0 0 1250
0 -197 -192 -198 -200 PP 0 0 1250
0 -153 154 -197 -199 PP 0 0 1250
0 -185 -188 43 -190 PP 0 0 1250
0 -184 -197 -186 -198 PP 0 0 1250
0 -189 -185 -183 43 PP 0 0 1250
0 -188 -194 -189 -185 PP 0 0 1250
0 -178 44 -188 -184 PP 0 0 1250
0 -187 -189 80 -183 PP 0 0 1250
0 -185 -188 -187 -189 PP 0 0 1250
0 -182 -183 -178 44 PP 0 0 1250
0 -181 -151 -182 -153 PP 0 0 1250
0 -145 45 -181 -151 PP 0 0 1250
0 -234 -235 -235 -237 PP 0 0 750
0 -231 99 -233 23 PP 0 0 1250
0 -229 -231 -232 -233 PP 0 0 1250
0 -230 375 -231 99 PP 0 0 1250
0 -228 -230 -229 -231 PP 0 0 1250
0 -227 -222 -225 78 PP 0 0 1250
0 -183 43 -227 -222 PP 0 0 1250
0 -405 -385 -405 -385 PP 0 0 750
0 -385 15 -404 -384 PP 0 0 750
0 -402 -405 -403 -407 PP 0 0 750
0 71 194 -213 -214 PP 0 0 1250
0 -340 34 -354 PP 0 0 750
0 -294 -295 -304 23 PP 0 0 750
0 -292 -294 -303 -304 PP 0 0 750
0 25 -229 40 -232 PP 0 0 1250
0 93 -228 25 -229 PP 0 0 1250
0 -290 -292 -302 -303 PP 0 0 1250
0 -288 -290 -301 -302 PP 0 0 750
0 39 -249 76 -344 PP 0 0 1250
0 15 -362 -360 -368 PP 0 0 750
0 -286 -288 -300 -301 PP 0 0 750
0 -284 -285 -299 -300 PP 0 0 750
0 21 -353 -455 -474 PP 0 0 750
0 40 -232 -17 -254 PP 0 0 1250
0 -297 377 -298 33 PP 0 0 750
0 -295 -297 -295 -298 PP 0 0 750
0 15 -408 -364 -425 PP 0 0 750
0 12 -409 -583 -581 PP 0 0 750
0 -293 -295 -294 -295 PP 0 0 750
0 -291 -293 -292 -294 PP 0 0 750
0 24 -299 -265 -315 PP 0 0 750
0 23 -244 -251 -268 PP 0 0 750
0 -289 -291 -290 -292 PP 0 0 750
0 -180 -182 81 -178 PP 0 0 1250
0 -179 -181 -180 -182 PP 0 0 1250
0 -344 -345 -345 -347 PP 0 0 1250
0 -249 -250 -344 -345 PP 0 0 1250
0 -177 -162 -159 35 PP 0 0 1250
0 -175 -160 -177 -162 PP 0 0 1250
0 -78 -345 57 -340 PP 0 0 1250
0 -75 -344 -78 -345 PP 0 0 1250
0 -152 37 -176 -160 PP 0 0 1250
0 -175 -177 -158 -159 PP 0 0 1250
0 -339 -335 -353 51 PP 0 0 750
0 -338 -335 -352 -353 PP 0 0 1250
0 -174 175 -175 -177 PP 0 0 1250
0 -151 152 -174 -176 PP 0 0 1250
0 -334 -334 -356 39 PP 0 0 750
0 -305 360 -337 -334 PP 0 0 750
0 20 -302 -357 -457 PP 0 0 750
0 11 475 -516 -506 PP 0 0 750
0 -314 -339 21 -333 PP 0 0 1250
0 -191 72 -224 -221 PP 0 0 1250
0 -423 -224 -220 -221 PP 0 0 1250

0	-367	-457	-356	-458	PP	0	0	750	0	-530	-531	-538	-541	PP	0	750	0																	
0	-366	-456	-355	-457	-458	PP	0	0	750	0	-538	-541	-539	-542	PP	0	750																	
0	-365	-455	-354	-456	-457	-458	PP	0	0	750	0	-539	-542	-540	-543	PP	0																	
0	-364	-454	-353	-455	-456	-457	-458	PP	0	0	750	0	-540	-543	-545	-546	PP	0																
0	-363	-453	-352	-454	-455	-456	-457	-458	PP	0	0	750	0	-541	-544	-547	-548	PP	0															
0	-362	-452	-351	-453	-454	-455	-456	-457	-458	PP	0	0	750	0	-542	-545	-548	-549	PP	0														
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0	-1241	-1243	-1233	-1234	PP	0	0	1250	0	86	-101	85	-105	UG	0	0	-2200
0	-131	-130	-1242	-1244	PP	0	0	1250	0	45	-146	-161	-164	UG	0	0	-2200
0	-1242	-1244	-1243	-1245	PP	0	0	1250	0	81	-178	-185	-188	UG	0	0	-2200
0	-1243	-1245	-1234	-1235	PP	0	0	1250	0	44	-153	-184	-197	UG	0	0	-2200
0	-130	-129	-1244	-1246	PP	0	0	1250	0	80	-183	-225	-227	UG	0	0	-2200
0	-1244	-1246	-1245	-1247	PP	0	0	1250	0	43	-190	-222	-223	UG	0	0	-2200
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0	-1246	-1248	-1247	-1249	PP	0	0	1250	0	22	-25	47	-5	UG	0	0	-2200
0	-1247	-1249	-1236	-1237	PP	0	0	1250	0	342	-569	-343	-370	UG	0	0	-2200
0	-128	-127	-1248	-1250	PP	0	0	1250	0	351	-569	-349	11	UG	0	0	-2200
0	-1246	-1250	-1249	-1251	PP	0	0	1250	0	250	-561	-569	-371	UG	0	0	-2200
0	-1249	-1251	-1237	-1238	PP	0	0	1250	0	370	-372	-362	-353	UG	0	0	-2200
0	-127	-125	-1250	-1252	PP	0	0	1250	0	311	-373	-372	-374	UG	0	0	-2200
0	-1250	-1252	-1251	-1253	PP	0	0	1250	0	352	-353	-373	-375	UG	0	0	-2200
0	-1251	-1253	-1238	-1239	PP	0	0	1250	0	374	-375	-364	-353	UG	0	0	-2200
0	-1252	-983	-1253	-984	PP	0	0	1250	0	375	-377	-375	-378	UG	0	0	-2200
0	-1253	-984	-1239	152	PP	0	0	1250	0	234	20	-377	-357	UG	0	0	-2200
0	-1129	-1261	-1131	-1262	PP	0	0	3050	0	318	-368	-366	15	UG	0	0	-2200
0	-1131	-1262	255	-1264	PP	0	0	3050	0	353	-369	-352	-390	UG	0	0	-2200
0	-1233	-1234	-1261	-1263	PP	0	0	3050	0	353	-369	-352	-390	UG	0	0	-2200
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0	-1262	-1264	-1254	-1255	PP	0	0	3050	0	390	-374	-391	-393	UG	0	0	-2200
0	-1234	-1235	-1263	-1265	PP	0	0	3050	0	353	-364	-392	-395	UG	0	0	-2200
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0	-1266	-1268	-1256	-1257	PP	0	0	3050	0	396	-400	-397	-401	UG	0	0	-2200
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0	-1269	-1271	-1270	-1272	PP	0	0	3050	0	401	-405	-402	-405	UG	0	0	-2200
0	-1270	-1272	-1268	-1269	PP	0	0	3050	0	403	-407	-382	-383	UG	0	0	-2200
0	-1271	-1273	-1271	-1273	PP	0	0	3050	0	404	-384	-405	-387	UG	0	0	-2200
0	-1272	-1274	-1259	-1260	PP	0	0	3050	0	384	-426	-385	-427	UG	0	0	-2200
0	-1273	-1041	-1274	-1042	PP	0	0	3050	0	385	-426	-385	-427	UG	0	0	-2200
0	-1274	-1042	-1260	252	PP	0	0	3050	0	409	-430	-426	-430	UG	0	0	-2200
0	-895	-1280	-895	-1281	PP	0	0	3050	0	420	-431	-426	-430	UG	0	0	-2200
0	-896	-1281	104	-1275	PP	0	0	750	0	430	-431	-426	-430	UG	0	0	-2200
0	-897	-1282	-895	-1283	PP	0	0	750	0	44	-68	69	-15	UG	0	0	-2200
0	-1280	-1282	-1281	-1283	PP	0	0	750	0	65	-22	-59	47	UG	0	0	-2200
0	-1281	-1283	-1275	-1276	PP	0	0	750	0	64	-20	-65	-22	UG	0	0	-2200
0	-513	-611	-1282	-1284	PP	0	0	750	0	63	-18	-64	-20	UG	0	0	-2200
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0	-1283	-1285	-1276	-1277	PP	0	0	750	0	62	-65	87	-59	UG	0	0	-2200
0	-511	8	-1284	-1278	PP	0	0	750	0	61	-64	-62	-65	UG	0	0	-2200
0	-1284	-1278	-1285	-1279	PP	0	0	750	0	60	-63	-61	-64	UG	0	0	-2200
0	-1285	-1279	-1277	108	PP	0	0	750	0	58	-52	-56	48	UG	0	0	-2200
0	-1286	-1280	-1279	108	PP	0	0	750	0	57	-58	88	-56	UG	0	0	-2200
0	-1287	-1281	-1279	108	PP	0	0	750	0	54	-47	-7	70	UG	0	0	-2200
0	-1288	-1285	-1279	108	PP	0	0	750	0	51	91	54	-47	UG	0	0	-2200
0	-1289	-1286	-1279	108	PP	0	0	750	0	50	-54	-5	-7	UG	0	0	-2200
0	-1290	-1287	-1279	108	PP	0	0	750	0	50	-51	-53	-54	UG	0	0	-2200
0	-1291	-1288	-1279	108	PP	0	0	750	0	52	-53	48	-5	UG	0	0	-2200
0	-1292	-1289	-1279	108	PP	0	0	750	0	49	-45	-12	59	UG	0	0	-2200
0	-1293	-1290	-1279	108	PP	0	0	750	0	45	92	-49	-46	UG	0	0	-2200
0	-1294	-1291	-1279	108	PP	0	0	750	0	48	-49	-10	-12	UG	0	0	-2200
0	-1295	-1292	-1279	108	PP	0	0	750	0	44	-45	-48	-49	UG	0	0	-2200
0	-1296	-1293	-1279	108	PP	0	0	750	0	47	-48	70	-10	UG	0	0	-2200
0	-1297	-1294	-1279	108	PP	0	0	750	0	43	-21	-16	39	UG	0	0	-2200
0	-1298	-1295	-1279	108	PP	0	0	750	0	42	-19	-43	-21	UG	0	0	-2200
0	-1299	-1296	-1279	108	PP	0	0	750	0	41	-17	-42	-19	UG	0	0	-2200
0	-1300	-1297	-1279	108	PP	0	0	750	0	15	40	-41	-17	UG	0	0	-2200
0	-1301	-1298	-1279	108	PP	0	0	750	0	40	-43	-14	-16	UG	0	0	-2200
0	-1302	-1299	-1279	108	PP	0	0	750	0	33	-35	-34	-37	UG	0	0	-2200

ELENCO CARICHI ELEMENTI BIDIMENSIONALI

CONDIZIONE DI CARICO 4: Sottospinta acqua (1.00)

CARICHI UNIFORMI

Bid	N1	N2	N3	N4	TC	QX	QY	QZ
0	91	-93	-74	-75	UG	0	0	-2200
0	90	-50	-52	-53	UG	0	0	-2200
0	91	-44	-47	-48	UG	0	0	-2200

0 -129 -130 -149 -150 UG 0 -2200 0 -305 380 -337 -334 UG 0 -2200
0 -128 -129 -148 -149 UG 0 -2200 0 20 -306 -367 -457 UG 0 -2200
0 -127 -128 -147 -148 UG 0 -2200 0 13 -476 -578 -606 UG 0 -2200
0 -125 -127 -146 -147 UG 0 -2200 0 -314 -339 21 -333 UG 0 -2200
0 -142 52 -145 45 UG 0 -2200 0 -191 72 -224 -217 UG 0 -2200
0 -144 -134 -142 52 UG 0 -2200 0 -223 -224 -220 -221 UG 0 -2200
0 -107 53 -144 -134 UG 0 -2200 0 -190 -191 -223 -224 UG 0 -2200
0 -143 -144 63 -142 UG 0 -2200 0 -222 -223 78 -220 UG 0 -2200
0 -141 -133 -132 55 UG 0 -2200 0 -219 -213 -216 75 UG 0 -2200
0 -507 -508 34 34 UG 0 -2200 0 -193 71 -219 -213 UG 0 -2200
0 99 -235 23 -244 UG 0 -2200 0 -218 -219 -215 -216 UG 0 -2200
0 375 -283 95 -284 UG 0 -2200 0 -192 -193 -218 -219 UG 0 -2200
0 55 -348 37 -490 UG 0 -2200 0 -217 -218 77 -215 UG 0 -2200
0 72 -192 -217 -218 UG 0 -2200 0 -194 34 -214 27 UG 0 -2200
0 -154 -155 -199 -201 UG 0 -2200 0 -214 27 -211 75 UG 0 -2200
0 -198 -200 -190 -191 UG 0 -2200 0 -398 -402 -399 -403 UG 0 -2200
0 -197 -199 -198 -200 UG 0 -2200 0 -397 -401 -398 -402 UG 0 -2200
0 -153 -154 -197 -199 UG 0 -2200 0 -285 -287 -286 -288 UG 0 -2200
0 -165 -198 43 -190 UG 0 -2200 0 -283 -285 -284 -286 UG 0 -2200
0 -184 -197 -185 -198 UG 0 -2200 0 -282 -287 -284 -286 UG 0 -2200
0 -189 -185 -183 43 UG 0 -2200 0 -281 -256 -282 -267 UG 0 -2200
0 -186 -184 -169 -186 UG 0 -2200 0 -280 -255 -281 -256 UG 0 -2200
0 -187 -189 60 -183 UG 0 -2200 0 -248 24 -280 -255 UG 0 -2200
0 -185 -188 -187 -189 UG 0 -2200 0 -279 -282 -279 -282 UG 0 -2200
0 -182 -163 -178 44 UG 0 -2200 0 -278 -281 -279 -282 UG 0 -2200
0 -181 -161 -182 -163 UG 0 -2200 0 -247 -248 -277 -280 UG 0 -2200
0 -145 45 -161 -161 UG 0 -2200 0 -275 -278 -275 -279 UG 0 -2200
0 -234 -236 -235 -237 UG 0 -2200 0 -274 -277 -275 -278 UG 0 -2200
0 -231 99 -233 23 UG 0 -2200 0 -245 -247 -274 -277 UG 0 -2200
0 -229 -231 -232 -233 UG 0 -2200 0 -272 -275 -273 -275 UG 0 -2200
0 -230 375 -231 99 UG 0 -2200 0 -271 -276 -271 -276 UG 0 -2200
0 -228 -230 -229 -231 UG 0 -2200 0 -270 -271 -271 -271 UG 0 -2200
0 -227 -222 -225 78 UG 0 -2200 0 -270 -271 -271 -271 UG 0 -2200
0 -183 43 -227 -222 UG 0 -2200 0 -270 -271 -271 -271 UG 0 -2200
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0 -405 -385 -405 -386 UG 0 -2200 0 -270 -271 -271 -271 UG 0 -2200
0 -365 16 -404 -384 UG 0 -2200 0 -270 -271 -271 -271 UG 0 -2200
0 -402 -406 -403 -407 UG 0 -2200 0 -270 -271 -271 -271 UG 0 -2200
0 71 -194 -213 -214 UG 0 -2200 0 -270 -271 -271 -271 UG 0 -2200
0 57 -340 38 -354 UG 0 -2200 0 -270 -271 -271 -271 UG 0 -2200
0 -294 -295 -304 25 UG 0 -2200 0 -270 -271 -271 -271 UG 0 -2200
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0 25 -229 40 -232 UG 0 -2200 0 -270 -271 -271 -271 UG 0 -2200
0 93 -226 25 -229 UG 0 -2200 0 -270 -271 -271 -271 UG 0 -2200
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0 39 -249 -76 -344 UG 0 -2200 0 -270 -271 -271 -271 UG 0 -2200
0 15 -362 -350 -388 UG 0 -2200 0 -270 -271 -271 -271 UG 0 -2200
0 -285 -288 -300 -301 UG 0 -2200 0 -270 -271 -271 -271 UG 0 -2200
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0 21 -333 -455 -474 UG 0 -2200 0 -270 -271 -271 -271 UG 0 -2200
0 40 -232 -17 -254 UG 0 -2200 0 -270 -271 -271 -271 UG 0 -2200
0 -297 377 -298 33 UG 0 -2200 0 -270 -271 -271 -271 UG 0 -2200
0 -295 -297 -296 -298 UG 0 -2200 0 -270 -271 -271 -271 UG 0 -2200
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0 -293 -295 -294 -296 UG 0 -2200 0 -270 -271 -271 -271 UG 0 -2200
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0 24 -299 -265 -315 UG 0 -2200 0 -270 -271 -271 -271 UG 0 -2200
0 23 -244 -251 -268 UG 0 -2200 0 -270 -271 -271 -271 UG 0 -2200
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0 -180 -182 81 -178 UG 0 -2200 0 -270 -271 -271 -271 UG 0 -2200
0 -179 -181 -180 -182 UG 0 -2200 0 -270 -271 -271 -271 UG 0 -2200
0 -344 -346 -345 -347 UG 0 -2200 0 -270 -271 -271 -271 UG 0 -2200
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0 -177 -162 -159 36 UG 0 -2200 0 -270 -271 -271 -271 UG 0 -2200
0 -176 -160 -177 -162 UG 0 -2200 0 -270 -271 -271 -271 UG 0 -2200
0 -78 -345 57 -340 UG 0 -2200 0 -270 -271 -271 -271 UG 0 -2200
0 -76 -344 -78 -345 UG 0 -2200 0 -270 -271 -271 -271 UG 0 -2200
0 -152 37 -176 -160 UG 0 -2200 0 -270 -271 -271 -271 UG 0 -2200
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0 -339 -336 -333 381 UG 0 -2200 0 -270 -271 -271 -271 UG 0 -2200
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0 -174 -176 -175 -177 UG 0 -2200 0 -270 -271 -271 -271 UG 0 -2200
0 -151 -152 -174 -176 UG 0 -2200 0 -270 -271 -271 -271 UG 0 -2200
0 -337 -334 -338 -335 UG 0 -2200 0 -270 -271 -271 -271 UG 0 -2200

0	-321	-324	-322	-325	UG	0	-2200	0	-565	93	-68	26	UG	0	-2200
0	-301	-302	-321	-324	UG	0	-2200	0	-367	-457	-358	-458	UG	0	-2200
0	-320	-323	-307	-308	UG	0	-2200	0	-358	-458	15	-408	UG	0	-2200
0	-319	-322	-320	-323	UG	0	-2200	0	-306	-307	-457	-459	UG	0	-2200
0	-318	-321	-319	-322	UG	0	-2200	0	-457	-459	-458	-460	UG	0	-2200
0	-300	-301	-318	-321	UG	0	-2200	0	-458	-460	-408	-410	UG	0	-2200
0	-317	-320	-306	-307	UG	0	-2200	0	-307	-308	-459	-461	UG	0	-2200
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0	-299	-300	-315	-316	UG	0	-2200	0	-308	-309	-461	-463	UG	0	-2200
0	-267	-317	20	-305	UG	0	-2200	0	-461	-463	-462	-464	UG	0	-2200
0	-265	-316	267	-317	UG	0	-2200	0	-462	-464	-412	-414	UG	0	-2200
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0	-355	-359	-356	-360	UG	0	-2200	0	-465	-467	-465	-468	UG	0	-2200
0	-358	-350	-359	-361	UG	0	-2200	0	-466	-468	-416	-418	UG	0	-2200
0	-341	15	-358	-360	UG	0	-2200	0	-467	-469	-458	-460	UG	0	-2200
0	-354	-358	-365	-369	UG	0	-2200	0	-468	-470	-458	-460	UG	0	-2200
0	-357	-361	-368	-374	UG	0	-2200	0	-469	-471	-459	-461	UG	0	-2200
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0	-372	-374	-363	-364	UG	0	-2200	0	-478	-480	-478	-480	UG	0	-2200
0	-261	-262	-371	-373	UG	0	-2200	0	-479	-481	-479	-481	UG	0	-2200
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0	-452	-424	-453	-425	UG	0	-2200	0	-488	-490	-488	-490	UG	0	-2200
0	-159	36	-209	-195	UG	0	-2200	0	-489	-491	-489	-491	UG	0	-2200
0	-224	-217	-221	-221	UG	0	-2200	0	-490	-492	-490	-492	UG	0	-2200
0	-235	-237	-244	-245	UG	0	-2200	0	-491	-493	-491	-493	UG	0	-2200
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0	25	-305	-312	-337	UG	0	-2200	0	-493	-495	-493	-495	UG	0	-2200
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0	-347	-343	-341	15	UG	0	-2200	0	-500	-502	-500	-502	UG	0	-2200
0	-17	-254	-19	-255	UG	0	-2200	0	-501	-503	-501	-503	UG	0	-2200
0	-296	-298	25	-305	UG	0	-2200	0	-502	-504	-502	-504	UG	0	-2200
0	-356	-360	-357	-361	UG	0	-2200	0	-503	-505	-503	-505	UG	0	-2200
0	-359	-361	-360	-362	UG	0	-2200	0	-504	-506	-504	-506	UG	0	-2200
0	98	-515	378	-516	UG	0	-2200	0	-505	-507	-505	-507	UG	0	-2200
0	-34	-37	-11	-13	UG	0	-2200	0	-506	-508	-506	-508	UG	0	-2200
0	-60	-82	-61	-63	UG	0	-2200	0	-507	-509	-507	-509	UG	0	-2200
0	-100	38	-125	-118	UG	0	-2200	0	-508	-510	-508	-510	UG	0	-2200
0	-139	-140	-130	-131	UG	0	-2200	0	-509	-511	-509	-511	UG	0	-2200
0	-63	-85	-70	-71	UG	0	-2200	0	-510	-512	-510	-512	UG	0	-2200
0	-6	-8	-60	-62	UG	0	-2200	0	-511	-513	-511	-513	UG	0	-2200
0	-9	-11	-84	-86	UG	0	-2200	0	-512	-514	-512	-514	UG	0	-2200
0	-24	-27	-25	-26	UG	0	-2200	0	-513	-515	-513	-515	UG	0	-2200
0	-32	-35	-33	-36	UG	0	-2200	0	-514	-516	-514	-516	UG	0	-2200
0	-32	-35	-33	-36	UG	0	-2200	0	-515	-517	-515	-517	UG	0	-2200
0	-5	-7	-23	-26	UG	0	-2200	0	-516	-518	-516	-518	UG	0	-2200
0	-82	-84	-63	-65	UG	0	-2200	0	-517	-519	-517	-519	UG	0	-2200
0	-14	-16	-90	-92	UG	0	-2200	0	-518	-520	-518	-520	UG	0	-2200
0	-69	-71	-73	-74	UG	0	-2200	0	-519	-521	-519	-521	UG	0	-2200
0	-11	-13	-66	-68	UG	0	-2200	0	-520	-522	-520	-522	UG	0	-2200
0	-66	-69	-89	-91	UG	0	-2200	0	-521	-523	-521	-523	UG	0	-2200
0	-13	-14	-88	-90	UG	0	-2200	0	-522	-524	-522	-524	UG	0	-2200
0	-65	-67	-71	-72	UG	0	-2200	0	-523	-525	-523	-525	UG	0	-2200
0	-87	-89	-72	-73	UG	0	-2200	0	-524	-526	-524	-526	UG	0	-2200
0	-86	-88	-67	-69	UG	0	-2200	0	-525	-527	-525	-527	UG	0	-2200
0	-79	-81	54	-69	UG	0	-2200	0	-526	-528	-526	-528	UG	0	-2200
0	-79	-81	54	-69	UG	0	-2200	0	-527	-529	-527	-529	UG	0	-2200
0	-79	-81	54	-69	UG	0	-2200	0	-528	-530	-528	-530	UG	0	-2200
0	-79	-81	54	-69	UG	0	-2200	0	-529	-531	-529	-531	UG	0	-2200
0	-79	-81	54	-69	UG	0	-2200	0	-530	-532	-530	-532	UG	0	-2200
0	-79	-81	54	-69	UG	0	-2200	0	-531	-533	-531	-533	UG	0	-2200
0	-79	-81	54	-69	UG	0	-2200	0	-532	-534	-532	-534	UG	0	-2200
0	-79	-81	54	-69	UG	0	-2200	0	-533	-535	-533	-535	UG	0	-2200
0	-79	-81	54	-69	UG	0	-2200	0	-534	-536	-534	-536	UG	0	-2200
0	-79	-81	54	-69	UG	0	-2200	0	-535	-537	-535	-537	UG	0	-2200
0	-79	-81	54	-69	UG	0	-2200	0	-536	-538	-536	-538	UG	0	-2200
0	-79	-81	54	-69	UG	0	-2200	0	-537	-539	-537	-539	UG	0	-2200
0	-79	-81	54	-69	UG	0	-2200	0	-538	-540	-538	-540	UG	0	-2200
0	-79	-81	54	-69	UG	0	-2200	0	-539	-541	-539	-541	UG	0	-2200
0	-79	-81	54	-69	UG	0	-2200	0	-540	-542	-540	-542	UG	0	-2200
0	-79	-81	54	-69	UG	0	-2200	0	-541	-543	-541	-543	UG	0	-2200
0	-79	-81	54	-69	UG	0	-2200	0	-542	-544	-542	-544	UG	0	-2200
0	-79	-81	54	-69	UG	0	-2200	0	-543	-545	-543	-545	UG	0	-2200
0	-79	-81	54	-69	UG	0	-2200	0	-544	-546	-544	-546	UG	0	-2200
0	-79	-81	54	-69	UG	0	-2200	0	-545	-547	-545	-547	UG	0	-2200
0	-79	-81	54	-69	UG	0	-2200	0	-546	-548	-546	-548	UG	0	-2200
0	-79	-81	54	-69	UG	0	-2200	0	-547	-549	-547	-549	UG	0	-2200
0	-79	-81	54	-69	UG	0	-2200	0	-548	-550	-548	-550	UG	0	-2200
0	-79	-81	54	-69	UG	0	-2200	0	-549	-551	-549	-551	UG	0	-2200
0	-79	-81	54	-69	UG	0	-2200	0	-550	-552	-550	-552	UG	0	-2200
0	-79	-81	54	-69	UG	0	-2200	0	-551	-553	-551	-553	UG	0	-2200
0	-79														

I calcoli sono stati eseguiti con il metodo delle tensioni ammissibili.

I valori dei coefficienti sismici utilizzati sono i seguenti:

- Grado di sismicità : 9
- Coeff. di protezione : 1.4
- Coeff. di fondazione : 1
- Coeff. di struttura : 1

Gli angoli di ingresso del sisma considerati sono: 0 e 90.

La quota di riferimento per il calcolo delle forze sismiche è: 0.00 m.

E' stato considerato lo spettro di risposta previsto dal regolamento Italiano.

Nell'analisi dinamica sono state considerate le seguenti masse (x,y,z in m, Massa in kg massa, Jpolare in kg massa * m):

	x	y	z	x	y	z
Imp. 1	12.125	13.700	3.350	74283	74283	---
Imp. 2	12.132	13.655	7.300	50038	50038	4933165
Imp. 3	11.200	27.250	3.350	9776	9776	510454
Imp. 4	11.200	0.000	3.350	9698	9698	510454
Imp. 5	-4.380	13.674	3.350	123153	123153	510454
Imp. 6	-4.732	13.683	7.300	230638	230638	6489247
						15762570

Sono risultati i seguenti nodi di vibrare e masse partecipanti:

Nodo	Periodo	ΔHx	ΔHy	ΔHx	ΔHy	ΔJFx	ΔJFy	ΔJFz
1)	0.3005	10.12	0.29	0.00	0.00	0.00	0.00	0.04
2)	0.2828	0.10	3.84	0.00	0.00	0.00	0.00	0.04
3)	0.2751	0.01	0.87	0.00	0.00	0.00	0.00	0.00
4)	0.2709	0.05	17.11	0.00	0.00	0.00	0.00	0.08
5)	0.1982	63.04	0.00	0.00	0.00	0.00	0.00	0.17
6)	0.1972	0.40	0.51	0.00	0.00	0.00	0.00	14.55
7)	0.1041	0.01	67.23	0.00	0.00	0.00	0.00	0.03
8)	0.0836	0.13	3.33	0.00	0.00	0.00	0.00	0.02
9)	0.0455	23.42	0.21	0.00	0.00	0.00	0.00	0.16
10)	0.0319	0.00	0.03	0.00	0.00	0.00	0.00	50.58
11)	0.0275	0.05	0.41	0.00	0.00	0.00	0.00	16.28
12)	0.0223	-0.41	-0.00	0.00	0.00	0.00	0.00	-0.57
13)	0.0217	-0.03	-0.01	0.00	0.00	0.00	0.00	-0.57
14)	0.0119	3.11	0.00	0.00	0.00	0.00	0.00	0.48
15)	0.0107	0.00	6.00	0.00	0.00	0.00	0.00	0.48
16)	0.0078	0.00	0.18	0.00	0.00	0.00	0.00	3.38

Nodo C. Risp. C. Risp. C. Risp. C. Risp. C. Part. C. Part.

	x	y	z	α	α+90	z
1)	1.0000	1.0000	1.0000	226.45	-38.05	0.00
2)	1.0000	1.0000	1.0000	22.77	139.46	0.00
3)	1.0000	1.0000	1.0000	7.13	56.19	0.00
4)	1.0000	1.0000	1.0000	15.35	294.21	0.00
5)	1.0000	1.0000	1.0000	555.64	3.14	0.00
6)	1.0000	1.0000	1.0000	-44.79	51.01	0.00
7)	1.0000	1.0000	1.0000	-6.00	583.86	0.00
8)	1.0000	1.0000	1.0000	301.05	28.75	0.00
9)	1.0000	1.0000	1.0000	-3.73	-11.46	0.00
10)	1.0000	1.0000	1.0000	-15.18	44.91	0.00
11)	1.0000	1.0000	1.0000	96.10	-4.35	0.00
12)	1.0000	1.0000	1.0000	22.59	10.76	0.00
13)	1.0000	1.0000	1.0000	178.44	1.47	0.00
14)	1.0000	1.0000	1.0000	-1.47	177.31	0.00
15)	1.0000	1.0000	1.0000	0.04	-30.22	0.00
16)	1.0000	1.0000	1.0000	0.04	-30.22	0.00

Sono stati considerati i seguenti nodi:

1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16
La percentuale totale di massa movimentata risultante:
Direzione X: 100.00 %
Direzione Y: 100.00 %

I carichi variabili sulle aste sono stati resi uniformi considerando il valore massimo del carico.

E' stato assunto come minimo carico da considerare 0 kg/m

I carichi sono stati arrotondati a multipli di 1 kg/m

Sono state considerate infinitamente rigide le zone di connessione fra travi, pilastri ed elementi bidimensionali con una riduzione del 20% ad esclusione delle aste per le quali è stato diversamente specificato nei parametri aggiuntivi.

E' stato considerato il dissame fra le posizioni dei nodi e gli assi baricentrici delle aste solo per le aste per le quali è stato così specificato nei parametri aggiuntivi.

Il calcolo della struttura è stato effettuato con l'ipotesi di impalcati rigidi.

Gli impalcati rigidi sono stati schematizzati con il metodo Master-Slave.

La massa media riferibile ad un impalcato sono state trasferite all'impalcato più vicino senza modificare le coordinate del baricentro.

Per gli elementi bidimensionali è stato utilizzato l'elemento di tipo 'IsoShell'.

Nel calcolo è stata considerata l'interazione snello-struttura.

Le condizioni di carico elementari (CCE) presenti nella struttura sono le seguenti:

- 1) P.F. Paramenti - Coeff. riduzione 1.000
- 2) Accidentali - Coeff. riduzione 1.000
- 3) Temp. esterno - Coeff. riduzione 1.000
- 4) Sottopinta acqua - Coeff. riduzione 1.000
- 5) Sis. Din. α
- 6) Sis. Din. α+90

Sono state definite le seguenti combinazioni delle CCE:

CCE	1	2	3	4	± 5	± 6
CC 1)	1.00	1.00	1.00	0.00	0.00	0.00
CC 2)	1.00	1.00	0.00	1.00	0.00	0.00
CC 3)	1.00	1.00	0.00	0.00	1.00	0.00
CC 4)	1.00	1.00	1.00	0.00	0.00	0.00

SPOSTAMENTI MODALI

Nodo	CC	SX	SY	SZ	RX	RY	RZ
		ΔSXd	ΔSYd	ΔSZd	ΔRXd	ΔRYd	ΔRZd
102	1	7.189E-06	1.485E-05	-1.628E-05	-2.275E-05	-2.156E-07	4.259E-07
	2	7.189E-06	1.485E-05	-1.628E-05	-2.275E-05	-2.156E-07	4.259E-07
	3	7.189E-06	1.485E-05	-1.628E-05	-2.275E-05	-2.156E-07	4.259E-07
	4	7.189E-06	1.485E-05	-1.628E-05	-2.275E-05	-2.156E-07	4.259E-07
	5	7.189E-06	1.485E-05	-1.628E-05	-2.275E-05	-2.156E-07	4.259E-07
	6	7.189E-06	1.485E-05	-1.628E-05	-2.275E-05	-2.156E-07	4.259E-07
103	1	1.117E-05	1.020E-04	7.212E-06	7.610E-05	9.908E-08	1.024E-06
	2	1.117E-05	1.020E-04	7.212E-06	7.610E-05	9.908E-08	1.024E-06
	3	1.117E-05	1.020E-04	7.212E-06	7.610E-05	9.908E-08	1.024E-06
	4	1.117E-05	1.020E-04	7.212E-06	7.610E-05	9.908E-08	1.024E-06
	5	1.117E-05	1.020E-04	7.212E-06	7.610E-05	9.908E-08	1.024E-06
	6	1.117E-05	1.020E-04	7.212E-06	7.610E-05	9.908E-08	1.024E-06
104	1	7.189E-06	2.377E-05	-1.458E-05	8.327E-05	1.109E-07	1.024E-06
	2	7.189E-06	2.377E-05	-1.458E-05	8.327E-05	1.109E-07	1.024E-06
	3	7.189E-06	2.377E-05	-1.458E-05	8.327E-05	1.109E-07	1.024E-06
	4	7.189E-06	2.377E-05	-1.458E-05	8.327E-05	1.109E-07	1.024E-06
	5	7.189E-06	2.377E-05	-1.458E-05	8.327E-05	1.109E-07	1.024E-06
	6	7.189E-06	2.377E-05	-1.458E-05	8.327E-05	1.109E-07	1.024E-06
105	1	1.117E-05	1.164E-04	9.042E-05	9.575E-05	1.278E-07	1.024E-06
	2	1.117E-05	1.164E-04	9.042E-05	9.575E-05	1.278E-07	1.024E-06
	3	1.117E-05	1.164E-04	9.042E-05	9.575E-05	1.278E-07	1.024E-06
	4	1.117E-05	1.164E-04	9.042E-05	9.575E-05	1.278E-07	1.024E-06
	5	1.117E-05	1.164E-04	9.042E-05	9.575E-05	1.278E-07	1.024E-06
	6	1.117E-05	1.164E-04	9.042E-05	9.575E-05	1.278E-07	1.024E-06
107	1	3.808E-05	1.867E-05	-2.127E-04	-1.768E-04	3.497E-05	4.259E-07
	2	3.808E-05	1.867E-05	-2.127E-04	-1.768E-04	3.497E-05	4.259E-07
	3	3.808E-05	1.867E-05	-2.127E-04	-1.768E-04	3.497E-05	4.259E-07
	4	3.808E-05	1.867E-05	-2.127E-04	-1.768E-04	3.497E-05	4.259E-07
	5	3.808E-05	1.867E-05	-2.127E-04	-1.768E-04	3.497E-05	4.259E-07
	6	3.808E-05	1.867E-05	-2.127E-04	-1.768E-04	3.497E-05	4.259E-07
108	1	5.443E-05	2.375E-05	-1.370E-04	2.939E-05	2.575E-05	1.024E-06
	2	5.443E-05	2.375E-05	-1.370E-04	2.939E-05	2.575E-05	1.024E-06
	3	5.443E-05	2.375E-05	-1.370E-04	2.939E-05	2.575E-05	1.024E-06
	4	5.443E-05	2.375E-05	-1.370E-04	2.939E-05	2.575E-05	1.024E-06
	5	5.443E-05	2.375E-05	-1.370E-04	2.939E-05	2.575E-05	1.024E-06
	6	5.443E-05	2.375E-05	-1.370E-04	2.939E-05	2.575E-05	1.024E-06
111	1	3.232E-05	1.638E-05	-2.817E-04	-7.771E-05	2.520E-05	4.259E-07
	2	3.232E-05	1.638E-05	-2.817E-04	-7.771E-05	2.520E-05	4.259E-07
	3	3.232E-05	1.638E-05	-2.817E-04	-7.771E-05	2.520E-05	4.259E-07
	4	3.232E-05	1.638E-05	-2.817E-04	-7.771E-05	2.520E-05	4.259E-07
	5	3.232E-05	1.638E-05	-2.817E-04	-7.771E-05	2.520E-05	4.259E-07
	6	3.232E-05	1.638E-05	-2.817E-04	-7.771E-05	2.520E-05	4.259E-07
112	1	3.232E-05	1.638E-05	-2.817E-04	-7.771E-05	2.520E-05	4.259E-07
	2	3.232E-05	1.638E-05	-2.817E-04	-7.771E-05	2.520E-05	4.259E-07
	3	3.232E-05	1.638E-05	-2.817E-04	-7.771E-05	2.520E-05	4.259E-07
	4	3.232E-05	1.638E-05	-2.817E-04	-7.771E-05	2.520E-05	4.259E-07
	5	3.232E-05	1.638E-05	-2.817E-04	-7.771E-05	2.520E-05	4.259E-07
	6	3.232E-05	1.638E-05	-2.817E-04	-7.771E-05	2.520E-05	4.259E-07

85

70

72

[illegible]

0	3036	4934	524	0	0	0	3036	1607	1	0	0	0	0	-2483	-16505	125	0	0	0	-432	-14843	1.14	0	0			
0	5595	-1743	2940	0	0	0	7575	-8987	1	1.10	0	0	0	-2483	-16505	125	0	0	0	0	148	405	1	0	0		
0	8	-580	11 0.43	0	0	0	-12372	2087	1	1.25	0	0	0	0	148	287	16	0	0	0	0	-432	-14843	1.14	0	0	
0	-13876	-8905	1609	0	0	0	-12372	2087	1	1.25	0	0	0	0	-2483	-16505	125	0	0	0	0	300	977	1	0	0	
0	-13878	-8905	1609	0	0	0	0	1177	1328	1	0	0	0	0	300	1218	104	0	0	0	0	0	0	0	0	0	
0	1177	841	208	0	0	0	-12372	2087	1	1.25	0	0	0	0	-2483	-16505	125	0	0	0	-432	-14843	1.14	0	0	0	
0	-13778	-8905	1609	0	0	0	0	5045	8170	1	0	0	0	0	-423	-422	11 0.00	0	0	0	10250	-14976	1.14	0	0	0	
0	5045	3968	56	0	0	0	-12372	2087	1	1.25	0	0	0	0	8199	-4450	-50	0	0	0	0	10250	-14976	1.14	0	0	
0	-13876	-8905	1609	0	0	0	-12372	2087	1	1.25	0	0	0	0	8199	-4450	-50	0	0	0	0	221	255	1	0	0	
0	-580	-579	11 0.00	0	0	0	-355	-11521	1	1.25	0	0	0	0	221	323	80	0	0	0	0	10250	-14976	1.14	0	0	
0	-2626	-13403	1052	0	0	0	-355	-11521	1	1.25	0	0	0	0	8199	-4450	-50	0	0	0	0	0	0	0	0	0	
0	-2626	-13403	1052	0	0	0	0	443	894	1	0	0	0	0	450	1837	84	0	0	0	0	450	1344	1	0	0	
0	443	1003	123	0	0	0	-355	-11521	1	1.25	0	0	0	0	8199	-4450	-50	0	0	0	0	10250	-14976	1.14	0	0	
0	-2626	-13403	1052	0	0	0	0	2340	3354	1	0	0	0	0	-422	17	11 0.00	0	0	0	27848	-4171	0.72	0	0	0	
0	2340	632	174	0	0	0	-355	-11521	1	1.25	0	0	0	0	2651	1903	-479	0	0	0	0	27848	-4171	0.72	0	0	
0	-2626	-13403	1052	0	0	0	0	9847	-11564	1	1.25	0	0	0	456	652	190	0	0	0	0	456	355	1	0	0	
0	0	-579	-578	11 0.00	0	0	0	9847	-11564	1	1.25	0	0	0	2651	1903	-479	0	0	0	0	27848	-4171	0.72	0	0	
0	7575	-664	570	0	0	0	0	9847	-11564	1	1.25	0	0	0	2651	1903	-479	0	0	0	0	1203	1872	1	0	0	
0	7575	-664	570	0	0	0	0	246	1004	1	0	0	0	0	1203	2729	83	0	0	0	0	27848	-4171	0.72	0	0	
0	246	947	123	0	0	0	0	9847	-11564	1	1.25	0	0	0	2651	1903	-479	0	0	0	0	-18911	23984	1.35	0	0	
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0	-3722	-2174	-370	31	0.00	0	0	0	0	3953	391	0	5311	0	0	0	0	0	0	0	0	-15802	-10605	-15	0	0	1180	2904	430	0	0	0	
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0	-3722	-2174	-370	41	0.00	0	0	0	0	18448	-13074	2.67	7618	5.05	0	0	0	0	0	0	0	-15802	-10605	-15	0	0	1180	2904	430	0	0	0	
103	108	113	11	0.43	0	0	0	0	0	18448	-13074	2.67	7618	5.05	0	0	0	0	0	0	0	-15802	-10605	-15	0	0	1180	2904	430	0	0	0	
0	-19584	-15703	-37	21	0.43	0	0	0	0	18448	-13074	2.67	7618	5.05	0	0	0	0	0	0	0	-15802	-10605	-15	0	0	1180	2904	430	0	0	0	
0	-19584	-15703	-37	21	0.43	0	0	0	0	95	2071	0	91	0	0	0	0	0	0	0	0	-15802	-10605	-15	0	0	1180	2904	430	0	0	0	
0	95	2351	85	31	0.43	0	0	0	0	18448	-13074	2.67	7618	5.05	0	0	0	0	0	0	0	-15802	-10605	-15	0	0	1180	2904	430	0	0	0	

105	112	113	11	0.85	0	0	0	1409	-1804	4.88	1034	8.80	0	0	0	0	289	555	3	0.43	0	0	0	12908	-8501	2.54	5133	4.90	0	0		
0	-1373	-1660	137	21	0.85	0	0	1409	-1804	4.88	1034	8.80	0	0	0	0	0	-14134	-11917	4	37	0	0	0	1372	3042	144	0	0	0		
0	-1373	-1660	137	4	0.85	0	0	109	433	7	7	0	0	0	0	0	0	1372	3097	4	54	0	0	0	12908	-8501	2.54	5133	4.90	0	0	
0	109	435	13	3	0.85	0	0	1409	-1804	4.88	1034	8.80	0	0	0	0	0	0	-14434	-11917	4	37	0	0	0	12908	-8501	2.54	5133	4.90	0	0
0	-1373	-1660	137	3	0.85	0	0	1409	-1804	4.88	1034	8.80	0	0	0	0	0	0	201	211	215	1	0.85	0	0	12871	-7689	2.96	5869	5.28	0	0
0	-1373	-1660	137	3	0.85	0	0	19	77	7	7	0	0	0	0	0	0	0	-14155	-10552	2	8	0	0	12871	-7689	2.96	5869	5.28	0	0	
0	19	77	22	4	0.85	0	0	1409	-1804	4.88	1034	8.80	0	0	0	0	0	0	-14155	-10552	2	8	0	0	12871	-7689	2.96	5869	5.28	0	0	
0	-1373	-1660	137	4	0.85	0	0	1409	-1804	4.88	1034	8.80	0	0	0	0	0	0	0	-14155	-10552	2	8	0	0	12871	-7689	2.96	5869	5.28	0	0
107	-3	-4	1	0.00	0	0	0	808	-940	3.83	609	7.31	0	0	0	0	0	283	534	3	60	0	0	12871	-7689	2.96	5869	5.28	0	0		
0	-735	-670	1	1	0.00	0	0	808	-940	3.83	609	7.31	0	0	0	0	0	0	-14165	-10552	2	8	0	0	12871	-7689	2.96	5869	5.28	0	0	
0	-735	-670	1	1	0.00	0	0	51	183	17	17	0	0	0	0	0	0	0	-14165	-10552	2	8	0	0	12871	-7689	2.96	5869	5.28	0	0	
0	51	194	4	4	0.00	0	0	808	-940	3.83	609	7.31	0	0	0	0	0	0	1367	3071	4	57	0	0	12871	-7689	2.96	5869	5.28	0	0	
0	-735	-670	1	1	0.00	0	0	808	-940	3.83	609	7.31	0	0	0	0	0	0	0	-14165	-10552	2	8	0	0	12871	-7689	2.96	5869	5.28	0	0
0	9	34	5	5	0.00	0	0	9	34	5	5	0	0	0	0	0	0	201	215	219	1	0.42	0	0	9983	-4991	2.00	2877	3.90	0	0	
0	-735	-670	1	1	0.00	0	0	808	-940	3.83	609	7.31	0	0	0	0	0	0	-12027	-8542	2	34	0	0	9983	-4991	2.00	2877	3.90	0	0	
0	108	116	117	1	0.80	0	0	1431	-1875	4.89	1051	8.80	0	0	0	0	0	0	-12027	-8542	2	34	0	0	9983	-4991	2.00	2877	3.90	0	0	
0	-1359	-1629	168	21	0.80	0	0	1431	-1875	4.89	1051	8.80	0	0	0	0	0	0	0	-12027	-8542	2	34	0	0	9983	-4991	2.00	2877	3.90	0	0
0	-1359	-1629	168	21	0.80	0	0	1431	-1875	4.89	1051	8.80	0	0	0	0	0	0	0	-12027	-8542	2	34	0	0	9983	-4991	2.00	2877	3.90	0	0
0	113	452	9	9	0.80	0	0	113	449	12	12	0	0	0	0	0	0	1896	3178	4	56	0	0	9983	-4991	2.00	2877	3.90	0	0		
0	-1359	-1629	168	21	0.80	0	0	1431	-1875	4.89	1051	8.80	0	0	0	0	0	0	0	-12027	-8542	2	34	0	0	9983	-4991	2.00	2877	3.90	0	0
0	21	84	17	17	0.80	0	0	21	84	2	2	0	0	0	0	0	0	201	219	223	1	0.30	0	0	15024	-12198	2.83	8071	4.80	0	0	
0	-1359	-1629	168	21	0.80	0	0	1431	-1875	4.89	1051	8.80	0	0	0	0	0	0	-12479	-4221	4	192	0	0	15024	-12198	2.83	8071	4.80	0	0	
102	119	120	1	0.30	0	0	0	1291	-1457	3.99	913	7.55	0	0	0	0	0	0	147	315	3	35	0	0	147	347	26	0	0	0	0	
0	-1247	-1307	94	21	0.30	0	0	1291	-1457	3.99	913	7.55	0	0	0	0	0	0	0	-12479	-4221	4	192	0	0	15024	-12198	2.83	8071	4.80	0	0
0	-1247	-1307	94	21	0.30	0	0	98	335	37	37	0	0	0	0	0	0	605	1328	4	39	0	0	605	1393	138	0	0	0	0		
0	98	379	8	8	0.30	0	0	1291	-1457	3.99	913	7.55	0	0	0	0	0	0	-12479	-4221	4	192	0	0	15024	-12198	2.83	8071	4.80	0	0	
0	-1247	-1307	94	21	0.30	0	0	20	77	8	8	0	0	0	0	0	0	202	203	207	1	0.30	0	0	14783	-4424	1.94	7683	4.05	-0	0	
0	20	77	45	45	0.30	0	0	1291	-1457	3.99	913	7.55	0	0	0	0	0	0	-19074	-12475	4	45	0	0	14783	-4424	1.94	7683	4.05	-0	0	
109	120	121	1	0.31	0	0	0	2240	-3152	4.49	1528	8.34	0	0	0	0	0	0	0	-19074	-12475	4	45	0	0	14783	-4424	1.94	7683	4.05	-0	0
0	-2068	-2451	5	5	0.31	0	0	2240	-3152	4.49	1528	8.34	0	0	0	0	0	0	191	364	3	74	0	0	191	352	44	0	0	0	0	
0	-2068	-2451	5	5	0.31	0	0	2240	-3152	4.49	1528	8.34	0	0	0	0	0	0	0	-19074	-12475	4	45	0	0	14783	-4424	1.94	7683	4.05	-0	0
0	105	424	8	8	0.31	0	0	105	414	22	22	0	0	0	0	0	0	861	1451	4	78	0	0	861	1778	368	0	0	0	0		
0	-2068	-2451	5	5	0.31	0	0	2240	-3152	4.49	1528	8.34	0	0	0	0	0	0	-19074	-12475	4	45	0	0	14783	-4424	1.94	7683	4.05	-0	0	
0	20	80	15	15	0.31	0	0	2240	-3152	4.49	1528	8.34	0	0	0	0	0	0	202	207	212	1	0.15	0	0	19889	-14341	2.38	7881	4.90	0	0
0	-2068	-2451	5	5	0.31	0	0	2240	-3152	4.49	1528	8.34	0	0	0	0	0	0	0	-22387	-20274	4	90	0	0	19889	-14341	2.38	7881	4.90	0	0
201	202	205	1	0.30	0	0	0	9006	-1345	1.74	5133	3.82	0	0	0	0	0	0	55	145	1	103	0	0	55	118	20	0	0	0	0	
0	-13060	-8491	72	72	0.30	0	0	9006	-1345	1.74	5133	3.82	0	0	0	0	0	0	0	-22387	-20274	4	90	0	0	19889	-14341	2.38	7881	4.90	0	0
0	-13060	-8491	72	72	0.30	0	0	9006	-1345	1.74	5133	3.82	0	0	0	0	0	0	0	-22387	-20274	4	90	0	0	19889	-14341	2.38	7881	4.90	0	0
0	-13060	-8491	72	72	0.30	0	0	277	405	7	7	0	0	0	0	0	0	501	1263	4	93	0	0	501	1118	27	0	0	0	0		
0	277	573	95	95	0.30	0	0	9006	-1345	1.74	5133	3.82	0	0	0	0	0	0	-22387	-20274	4	90	0	0	19889	-14341	2.38	7881	4.90	0	0	
0	-13060	-8491	72	72	0.30	0	0	1125	1552	34	34	0	0	0	0	0	0	202	212	216	1	0.30	0	0	23215	-18167	2.91	12112	5.55	0	0	
0	1125	2313	44	44	0.30	0	0	9006	-1345	1.74	5133	3.82	0	0	0	0	0	0	0	-23508	-18934	4	36	0	0	23215	-18167	2.91	12112	5.55	0	0
0	-13060	-8491																														

0	-23508	-18934	36	41	0.30	0	0	0	23215	-18157	2.91	12112	5.55	0	0	0	0	-14375	-3974	122	0	0	0	428	12121	1741	0	0			
202	216	220	11	0.23	-0	0	0	0	16978	-12224	2.11	3568	3.80	-0	0	0	0	0	428	7121	52	-0	0	0	16850	-9567	2.85	10912	4.93		
0	-16368	-93551	-393	21	0.23	-0	0	0	16978	-12224	2.11	3568	3.80	-0	0	0	0	0	-14375	-3974	122	0	0	0	11335	3175	4181	0	0		
0	-16368	-93551	-393	41	0.23	0	0	0	0	162	2781	711	0	0	0	0	0	0	11335	1933	32	-0	0	0	16850	-9567	2.85	10912	4.93		
0	-16368	-93551	-393	31	0.23	-0	0	0	0	16978	-12224	2.11	3568	3.80	-0	0	0	0	0	-14375	-3974	122	0	0	0	1187	-5181	3.39	1046	7.40	
0	-16368	-93551	-393	41	0.23	0	0	0	0	1334	18781	5201	0	0	0	0	0	0	-1806	-25771	21	0.75	0	0	0	1187	-5181	3.39	1046	7.40	
0	-16368	-93551	-393	120	0.23	-0	0	0	0	16978	-12224	2.11	3568	3.80	-0	0	0	0	0	-1806	-25771	21	0.75	0	0	0	1811	5854	10821	0	0
202	220	224	11	0.42	0	0	0	0	21239	-14220	2.77	10548	4.78	0	0	0	0	0	1811	6184	12	0.75	0	0	0	1187	-5181	3.39	1046	7.40	
0	-16224	-76511	-137	21	0.42	0	0	0	21239	-14220	2.77	10548	4.78	0	0	0	0	0	0	-1806	-25771	21	0.75	0	0	0	1187	-5181	3.39	1046	7.40
0	-16224	-76511	-137	41	0.42	0	0	0	0	225	5671	401	0	0	0	0	0	0	-1806	-25771	21	0.75	0	0	0	399	1289	2381	0	0	
0	225	416	149	31	0.42	0	0	0	21239	-14220	2.77	10548	4.78	0	0	0	0	0	0	399	13621	25	0	0	0	1187	-5181	3.39	1046	7.40	
0	-16224	-76511	-137	41	0.42	0	0	0	0	1074	2509	961	0	0	0	0	0	204	203	204	11	0.90	0	0	0	1559	-17771	4.59	1281	8.10	
0	1074	20621	98	41	0.42	0	0	0	21239	-14220	2.77	10548	4.78	0	0	0	0	0	0	-1581	-14961	291	0.90	0	0	0	1559	-17771	4.59	1281	8.10
0	-16224	-76511	-137	208	0.31	-0	0	0	8891	5631	1.58	6313	3.58	-0	0	0	0	0	0	1512	5815	20	0.90	0	0	0	1512	57921	1521	0	0
203	204	208	11	0.31	-0	0	0	0	8891	5631	1.58	6313	3.58	-0	0	0	0	0	0	-1581	-14961	291	0.90	0	0	0	1559	-17771	4.59	1281	8.10
0	-14653	-90351	-244	21	0.31	-0	0	0	8891	5631	1.58	6313	3.58	-0	0	0	0	0	0	-1581	-14961	291	0.90	0	0	0	1559	-17771	4.59	1281	8.10
0	-14653	-90351	-244	41	0.31	0	0	0	0	345	3781	641	0	0	0	0	0	0	350	12651	69	0	0	0	350	12581	341	0	0		
0	345	7831	64	31	0.31	-0	0	0	8891	5631	1.58	6313	3.58	-0	0	0	0	0	0	-1581	-14961	291	0.90	0	0	0	1559	-17771	4.59	1281	8.10
0	-14653	-90351	-244	41	0.31	0	0	0	0	1291	15111	1651	0	0	0	0	0	205	206	207	11	0.90	0	0	0	1087	-12041	3.70	6411	7.10	
0	1251	28411	44	0.31	-0	0	0	0	8891	5631	1.58	6313	3.58	-0	0	0	0	0	0	-1089	-12131	28	0.30	0	0	0	1087	-12041	3.70	6411	7.10
0	-14653	-90351	-244	41	0.31	0	0	0	0	15551	-11120	2.65	6153	5.05	0	0	0	0	0	-1089	-12131	28	0.30	0	0	0	1087	-12041	3.70	6411	7.10
203	208	213	11	0.43	0	0	0	0	15551	-11120	2.65	6153	5.05	0	0	0	0	0	0	409	14541	29	0.90	0	0	0	409	13301	611	0	0
0	-15624	-140661	64	21	0.43	0	0	0	15551	-11120	2.65	6153	5.05	0	0	0	0	0	0	-1089	-12131	28	0.30	0	0	0	1087	-12041	3.70	6411	7.10
0	-16824	-140661	64	41	0.43	0	0	0	0	480	11321	561	0	0	0	0	0	0	81	2691	119	0	0	0	81	2651	121	0	0		
0	480	10901	41	0.43	0	0	0	0	15551	-11120	2.65	6153	5.05	0	0	0	0	0	0	-1089	-12131	28	0.30	0	0	0	1087	-12041	3.70	6411	7.10
0	-16824	-140661	64	31	0.43	0	0	0	0	2165	50741	2641	0	0	0	0	0	205	207	208	11	0.85	0	0	0	1838	-21831	4.78	14281	8.79	
0	2165	49391	33	0.43	0	0	0	0	15551	-11120	2.65	6153	5.05	0	0	0	0	0	0	-1878	-23421	7	0.85	0	0	0	1838	-21831	4.78	14281	8.79
0	-16824	-140661	64	41	0.43	0	0	0	14608	-79971	2.94	72471	5.28	0	0	0	0	0	0	321	12601	25	0.85	0	0	0	321	12921	301	0	0
203	213	217	11	0.85	0	0	0	0	14608	-79971	2.94	72471	5.28	0	0	0	0	0	0	321	12601	25	0.85	0	0	0	1838	-21831	4.78	14281	8.79
0	-16367	-118861	1	0.85	0	0	0	0	14608	-79971	2.94	72471	5.28	0	0	0	0	0	0	-1878	-23421	7	0.85	0	0	0	1838	-21831	4.78	14281	8.79
0	-16367	-118861	1	0.85	0	0	0	0	0	515	11381	671	0	0	0	0	0	0	54	2571	61	0	0	0	54	2571	61	0	0	0	
0	515	11421	43	0.85	0	0	0	0	14608	-79971	2.94	72471	5.28	0	0	0	0	0	0	-1878	-23421	7	0.85	0	0	0	1838	-21831	4.78	14281	8.79
0	-16367	-118861	1	0.85	0	0	0	0	0	1882	40671	1471	0	0	0	0	0	205	211	212	11	0.30	0	0	0	1136	-13421	3.85	6741	7.10	
0	1882	42611	39	0.85	0	0	0	0	14608	-79971	2.94	72471	5.28	0	0	0	0	0	0	-1040	-10141	133	0.30	0	0	0	1136	-13421	3.85	6741	7.10
0	-16367	-118861	1	0.85	0	0	0	0	9374	-44031	1.84	25621	3.63	0	0	0	0	0	0	419	14941	26	0.30	0	0	0	419	13541	1331	0	0
203	217	221	11	0.42	0	0	0	0	9374	-44031	1.84	25621	3.63	0	0	0	0	0	0	419	14941	26	0.30	0	0	0	1136	-13421	3.85	6741	7.10
0	-12525	-86441	-15	0.42	0	0	0	0	9374	-44031	1.84	25621	3.63	0	0	0	0	0	0	-1040	-10141	133	0.30	0	0	0	1136	-13421	3.85	6741	7.10
0	-12525	-86441	-15	0.42	0	0	0	0	0	894	14311	1721	0	0	0	0	0	0	76	2481	241	0	0	0	76	2481	241	0	0	0	
0	894	14311	55	0.42	0	0	0	0	9374	-44031	1.84	25621	3.63	0	0	0	0	0	0	-1040	-10141	133	0.30	0	0	0	1136	-13421	3.85	6741	7.10
0	-12525	-86441	-15	0.42	0	0	0	0	3052	47871	4811	0	0	0	0	0	0	206	212	213	11	0.85	0	0	0	1275	-15601	4.83	9791	8.80	
0	5052	49811	38	0.42	0	0	0	0	9374	-44031	1.84	25621	3.63	0	0	0	0	0	0	-1259	-15381	110	0.85	0	0	0	1275	-15601	4.83	9791	8.80
0	-12525	-86441	-15	0.42	0	0	0	0	16860	-95671	2.85	10912	4.93	-0	0	0	0	0	0	324	12651	17	0.85	0	0	0	324	13131	221	0	0
203	221	225	11	0.42	-0	0	0	0	16860	-95671	2.85	10912	4.93	-0	0	0	0	0	0	-1259	-15381	110	0.85	0	0	0	1275	-15601	4.83	9791	8.80
0	-14375	-39741	21	0.42	-0	0	0	0	16860	-95671	2.85	10912	4.93	-0	0	0	0	0	0	-1259	-15381	110	0.85	0	0	0	1275	-15601	4.83	9791	8.80

CRITERI DI PROGETTO									
FILASTRI III C. A.									
Generali									
-lunghezza imposta come multiplo del diametro									
70.0									
Se Tau > Tau0									
Cambiare le staffe nei nodi appartenenti all'impalcato 0									
Specifici									
Rbt calcestruzzo <kg/cm²>									
Sigma amm. calcestruzzo <kg/cm²>									
Resistenza teorica a trazione <kg/cm²>									
Tau0 <kg/cm²>									
Taucl <kg/cm²>									
Coeff. di omogeneizzazione									
Tipo di acciaio (Fe B 22-44 k)									
Sigma amm. acciaio <kg/cm²>									
Sigma amm. reti e tralicci <kg/cm²>									
Strategia di progetto									
Coproferro reale al bordo staffa <cm>									
Diametro staffa teorica <mm>									
Continuità dei ferri nei nodi									
Appartenenti all'impalcato 0									
Coeff. Beta in direzione 2 locale									
Coeff. Beta in direzione 1 locale									
Armatura secondo Cir. 65 del 10/04/97									
Staffatura incarna al nodo									
Rafforzamento staffa in testa									
e al piede del pilastro									
Verifica a pressoflessione deviata									
Elenco diametri ferri longitudinali 1 <mm>									
Elenco diametri ferri longitudinali 2 <mm>									
Elenco diametri ferri longitudinali 3 <mm>									
Elenco diametri ferri longitudinali 4 <mm>									
Elenco diametri ferri longitudinali 5 <mm>									
Elenco diametri ferri longitudinali 6 <mm>									
Elenco diametri ferri longitudinali 7 <mm>									
Max distanza fra i ferri su un lato <mm>									
Min. interferro ammissibile <mm>									
Distanza fra i ferri di epigolo <mm>									
Min. numero ferri per pilastri circolari									
Registrazione aggiuntiva sezioni non rettangolari									
Fattore di riduzione Tau0 per ancoraggio ferri									
Elenco diametri staffa 1 <mm>									
Elenco diametri staffa 2 <mm>									
Elenco diametri staffa 3 <mm>									
Elenco diametri staffa 4 <mm>									

Elenco diametri staffe 5 <mm>
Elenco diametri staffe 6 <mm>
Elenco diametri staffe 7 <mm>
Passi staffe
-Minimo <mm>
-Massimo <mm>
-Incremento <mm>

5.0 5.0
30.0 30.0
5.0 5.0

Tipi di minimizzazione staffatura
-Minimizza il numero delle staffe
-Minimizza il peso delle staffe

15.0 15.0
2 2
No No

Max distanza fra ferri non collegati <mm>
Collegamento ferri con staffe anziché con spilli
Ferri orizzontali parati realizzati con staffe

3.00 3.00
4.00 4.00
0.00 0.00
0.00 0.00
0.00 0.00
0.00 0.00
0.00 0.00
0.00 0.00

Quota di alleggerimento n. 1 <mm>
Quota di alleggerimento n. 2 <mm>
Quota di alleggerimento n. 3 <mm>
Quota di alleggerimento n. 4 <mm>
Quota di alleggerimento n. 5 <mm>
Quota di alleggerimento n. 6 <mm>
Quota di alleggerimento n. 7 <mm>

1.5 1.5
No No

Distanza fra ferri su più strati <mm>
Integrare lo scorrimento lungo il tratto
-Lunghezza del tratto

1 1
No No

Gruppo di esigenza
-Ambiente poco aggressivo
-Ambiente moderatamente aggressivo
-Ambiente molto aggressivo

30.0 30.0

Usa dominio H-M per flessioni rette
-Ricerca della sicurezza
con sforzo normale costante
-Ricerca della sicurezza
con eccentricità costante

30.0 30.0

Controllo rapporto X/b
Barre da considerare tese per verifiche A taglio
-Solo le barre con deformazione percentuale rispetto
alla barra più tesa non inferiore al <A>
-Tutte le barre in trazione

TEAVI III C. A.

Generali

EFB ARE UFS URG

EF1

Riduzione ancoraggi

specificati nei criteri generali di disegno

Min. percentuale di regolamento

Min. di armatura a taglio

-Diametro
-Automatico
-Parl a <mm>
-Hibim <mm>
Registrazione inferiori
-Numero

103

Campitura sezioni
Rada

Campitura travi in falso
Fitta

Campitura muri
Rada

Specifici

Rib calcestruzzo <kg/cm²>
Sigma amm. calcestruzzo <kg/cm²>
Resistenza teorica a trazione <kg/cm²>

Tauco <kg/cm²>
Tauf <kg/cm²>
Coeff. di omogeneizzazione

Tipi di acciaio (Fe B 22-44 k)
Sigma amm. acciai <kg/cm²>
Sigma amm. reti e tralicci <kg/cm²>
Progetto a pressoflessione

-Per tutte le travi
-Solo per travi inclinate
-Min. angolo per pressoflessione <grad>

-Sigma max amm. senza progetto a pressoflessione <A>
Progetto a torsione
-Tau max amm. senza progetto a torsione <A>

Armatura secondo Cir. 65 del 10/04/97
Capifessio teorico superiore <mm>
Capifessio teorico inferiore <mm>
Min. momento fittizio agli appoggi

-Denominatore
Min. momento fittizio in campata
-Denominatore

Incremento percentuale momento in campata <A>
Fattore di copertura appoggi (0-1)
Tipo di progetto in doppia armatura

-Tensione pari ai valori amm.
-Tensione pari ai valori amm. con
AtComp/AtTesa minore o pari a

-Tensione pari ai valori amm. con
AtComp/AtTesa pari a

Fattore di riduzione Tauco
Per ancoraggio ferri

Bianco diametri ferri longitudinali 1 <mm>
Bianco diametri ferri longitudinali 2 <mm>
Bianco diametri ferri longitudinali 3 <mm>

Bianco diametri ferri longitudinali 4 <mm>
Bianco diametri ferri longitudinali 5 <mm>
Bianco diametri ferri longitudinali 6 <mm>

Bianco diametri ferri longitudinali 7 <mm>
Max differenza fra diametri nella trave
Max differenza fra diametri ferri accoppiati

-Numero
-Parl a
-Max mutua distanza <mm>

-Diametro
-Automatico
-Parl a <mm>
-Hibim <mm>
Registrazione inferiori
-Numero

104

-Pari a																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																					</
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1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41	42	43	44	45	46	47	48	49	50	51	52	53	54	55	56	57	58	59	60	61	62	63	64	65	66	67	68	69	70	71	72	73	74	75	76	77	78	79	80	81	82	83	84	85	86	87	88	89	90	91	92	93	94	95	96	97	98	99	100

Staffe, sagomati e ferri di parete - Armatura teorica										Scorrim.	
X0	X1	Lung.	CC	Cmq/m	Af		Scorrim.	Asorbito max	Agente	Scorrim.	
					cmq	Sagom.					Parete
0.30	3.68	3.38	---	2.52	8.50	0.00	0.00	---	4.98	Mln. Reg.	
4.53	5.02	0.50	3	20.11	9.98	3.38	0.00	---	73325.3	10.49	73325.3
5.02	5.52	0.50	3	20.11	9.98	0.65	38-06	---	28323.3	8.22	28323.3
5.52	6.02	2.50	---	---	8.00	20.01	0.00	---	---	---	---
8.02	8.40	0.38	3	20.11	7.58	0.21	38-05	---	5.95	Mln. Reg.	
8.52	8.40	0.38	3	20.11	7.58	0.00	---	---	20688.0	7.68	20688.0
8.40	8.77	0.38	3	20.11	7.58	1.68	0.00	---	25880.1	9.40	25880.1
8.77	9.15	0.38	3	20.11	7.58	3.38	0.00	---	31072.1	11.12	31072.1
10.00	10.39	0.39	3	12.88	5.01	0.00	0.00	---	13018.1	12.15	13018.1
10.39	10.78	0.39	3	10.50	4.08	0.00	0.00	---	10608.7	10.08	10608.7
10.78	11.17	0.39	3	8.12	3.15	0.00	0.00	---	8199.4	8.01	8199.4
11.17	13.00	1.83	---	---	3.00	5.49	0.00	---	---	---	---
13.00	13.47	0.48	3	8.39	4.00	0.00	0.00	---	5.95	Mln. Reg.	
13.47	13.95	0.48	3	11.31	5.39	0.00	0.00	---	10387.6	8.48	10387.6
13.95	14.43	0.48	3	14.23	6.78	0.00	0.00	---	14009.8	11.01	14009.8
15.28	15.65	0.38	3	9.67	3.64	0.00	0.00	---	17632.1	13.55	17632.1
15.65	15.03	0.38	3	7.19	2.71	0.00	0.00	---	9473.6	9.40	9473.6
15.03	16.41	0.38	---	---	2.58	0.97	0.00	---	7039.5	7.25	7039.5
15.41	17.35	0.94	---	---	2.71	2.82	0.00	---	---	---	---
17.35	17.72	0.38	3	7.49	2.55	0.00	0.00	---	5.10	Mln. Reg.	
17.72	18.10	0.38	3	9.98	3.76	0.00	0.00	---	7337.3	7.51	7337.3
18.10	18.48	0.38	3	12.45	4.69	0.00	0.00	---	9771.5	9.47	9771.5
18.33	19.70	0.38	3	12.53	4.72	0.00	0.00	---	12205.5	11.82	12205.5
19.70	20.08	0.38	3	10.24	3.86	0.00	0.00	---	12271.6	11.19	12271.6
20.08	20.46	0.38	3	7.94	2.99	0.00	0.00	---	10024.2	9.81	10024.2
20.46	22.41	1.96	---	---	3.00	5.88	0.00	---	7776.8	7.62	7776.8
22.41	22.69	0.48	3	8.39	4.01	0.00	0.00	---	---	---	---
22.69	23.87	0.48	3	11.30	5.41	0.00	0.00	---	10436.3	8.47	10436.3
23.37	23.85	0.48	3	14.20	5.80	0.00	0.00	---	14065.3	11.00	14065.3
23.85	23.85	0.48	3	14.20	5.80	0.00	0.00	---	17673.0	13.43	17673.0

Travata n.	104	105	107	108
Perri longitudinali - Amatura testica				
Affeo Testale				
Xg	El	Xl	Saz	CC
0.91	1	0.91	152	1
3.70	1	3.70	152	1
7.10	1	7.10	152	1
7.95	2	0.95	152	1
1.92	2	4.92	152	1
5.89	2	8.79	152	1
Affeo Parz.				
Sup	Inf	Sup	Inf	Sup
4.56	0.00	4.56	0.00	4.56
1138.18	1138.18	1138.18	1138.18	1138.18
847.94	847.94	847.94	847.94	847.94
131.15	131.15	131.15	131.15	131.15
1138.20	1138.20	1138.20	1138.20	1138.20
2575.78	2575.78	2575.78	2575.78	2575.78
2057.43	2057.43	2057.43	2057.43	2057.43
2143.99	2143.99	2143.99	2143.99	2143.99
1564.05	1564.05	1564.05	1564.05	1564.05
23.38	23.38	23.38	23.38	23.38
2711.50	2711.50	2711.50	2711.50	2711.50
2104.20	2104.20	2104.20	2104.20	2104.20
3035.69	3035.69	3035.69	3035.69	3035.69
2017.64	2017.64	2017.64	2017.64	2017.64
Aff				
Sup	Inf	Sup	Inf	Sup
4.56	0.00	4.56	0.00	4.56
1074.4	1074.4	1074.4	1074.4	1074.4
753.6	753.6	753.6	753.6	753.6
1282.1	1282.1	1282.1	1282.1	1282.1
2384.3	2384.3	2384.3	2384.3	2384.3
2533.5	2533.5	2533.5	2533.5	2533.5
470.4	470.4	470.4	470.4	470.4
1482.9	1482.9	1482.9	1482.9	1482.9
694.2	694.2	694.2	694.2	694.2
461.6	461.6	461.6	461.6	461.6
2532.3	2532.3	2532.3	2532.3	2532.3
442.6	442.6	442.6	442.6	442.6

Staffe, sagomati e ferri di Parete						Armatura teorica Af Staffe Af		Scorim Assorbito max Agente		Scorim	
X0	XI	Lung.	CC	cmg/m	cmq	Sagom.	Parete	Parete			
0.31	0.81	0.50	---	0.94	0.47	0.00	0.00	---	1.13 Min.	Reg.	---
0.81	5.60	5.79	---	0.86	4.99	0.00	0.00	---	1.03 Min.	Reg.	---
5.60	7.10	0.50	---	0.59	0.50	0.00	0.00	---	1.19 Min.	Reg.	---
7.95	8.45	0.50	---	1.59	0.79	0.00	0.00	---	1.90 Min.	Reg.	---
8.45	15.39	6.94	---	1.43	9.92	0.00	0.00	---	1.71 Min.	Reg.	---
15.39	15.89	0.50	---	1.62	0.81	0.00	0.00	---	1.94 Min.	Reg.	---

[illegible][illegible]

kg	El	X1	Sez	CC	Sup	Inf	Sup	Inf	Sup	Inf	Sup	Inf	cc
4.30	1	0.30	148	1	5.86	5.86 <i>W</i> ₁ ²	-679.63	5.86	5.86	220.3	-52.9	-4.7	
						<i>T</i> ₂ ²	2937.32			501.2			
4.44	2	0.41	148	1	5.86	5.14 <i>W</i> ₁ ²	388.59	5.86	5.86	-31.8	126.9	-2.7	
						<i>T</i> ₂ ²	723.38		0.28	2600.0			
3.59	4	0.50	148	1	5.86	5.86 <i>W</i> ₁ ²	-2175.11	5.86	5.86	705.1	-169.3	-15.1	
						<i>T</i> ₂ ²	-3722.23		0.00	635.1			
4.53	5	0.43	150	3	23.89	20.78 <i>W</i> ₁ ²	-14204.94	23.89	20.78	2600.0	-1300.0	-97.5	
						<i>T</i> ₂ ²	18952.4		0.00	912.7			
5.55	5	2.48	150	1	7.29	13.83 <i>W</i> ₁ ²	8219.82	7.29	13.24	-799.7	2577.6	-81.1	
						<i>T</i> ₂ ²	1544.87		0.59	2600.0			
5.15	5	5.05	150	3	7.29	17.33 <i>W</i> ₁ ²	10722.15	7.29	17.33	-1006.7	2599.3	-97.2	
						<i>T</i> ₂ ²	-16952.80		29.15	2528.5	-1302.7	-97.5	
0.00	5	0.65	148	1	7.11	6.49 <i>W</i> ₁ ²	-9497.75	7.11	5.86	2553.5	-710.5	-61.6	
						<i>T</i> ₂ ²	16881.06		0.63	2600.0			
4.97	5	2.62	148	1	3.10	7.16 <i>W</i> ₁ ²	-13375.70	10.19	5.86	2544.8	-926.3	-76.9	
						<i>T</i> ₂ ²	18611.29		1.30	2600.0			
4.43	5	5.28	148	1	5.86	5.99 <i>W</i> ₁ ²	8812.76	5.86	6.64	-599.8	2647.7	-58.8	
						<i>T</i> ₂ ²	925.06		0.36	2600.0			
5.88	7	2.03	148	3	5.86	7.33 <i>W</i> ₁ ²	9683.71	5.86	7.33	-752.0	2645.3	-62.5	
						<i>T</i> ₂ ²	-14230.01		10.88	2543.3	-971.5	-80.1	
5.28	7	0.42	148	1	3.13	6.65 <i>W</i> ₁ ²	-18007.30	13.67	5.86	2588.4	-1169.5	-94.4	
						<i>T</i> ₂ ²	19015.93		1.45	2600.0			
						<i>T</i> ₂ ²	-17289.72		0.79	2600.0			
5.88	7	2.03	148	3	6.23	5.86 <i>W</i> ₁ ²	-6375.18	5.86	5.86	1524.7	-366.2	-32.7	
						<i>T</i> ₂ ²	12114.37		0.00	2067.1			
						<i>T</i> ₂ ²	1432.34		6.23	2556.8	-643.8	-56.9	
5.88	7	2.03	148	1	5.86	6.57 <i>W</i> ₁ ²	-1844.06	5.86	5.86	-315.4	1259.8	-26.9	
						<i>T</i> ₂ ²	1844.06		0.71	2600.0			
4.46	7	3.63	148	1	7.98	6.08 <i>W</i> ₁ ²	-10605.30	7.98	5.86	2550.6	-774.2	-66.1	
						<i>T</i> ₂ ²	15802.48		0.22	2600.0			
3.32	6	0.42	148	1	3.10	5.86 <i>W</i> ₁ ²	-14351.97	10.98	5.86	2543.1	-977.9	-80.5	
						<i>T</i> ₂ ²	13484.50		0.00	2300.9			
3.32	6	0.42	148	1	5.86	6.50 <i>W</i> ₁ ²	-7786.47	5.86	5.86	2524.2	-606.2	-54.1	
						<i>T</i> ₂ ²	16895.36		0.64	2600.0			
5.88	7	2.03	148	3	8.05	6.95 <i>W</i> ₁ ²	-10594.61	8.05	5.86	2550.4	-779.2	-66.5	
						<i>T</i> ₂ ²	18075.36		1.09	2600.0			

Travata n. 105 Hodi : -2 -1														
Ferri longitudinali - Armatura teorica														
Xg	El	Xl	Sez	CC	Sup	Inf	Af	Staffe	CC	Sup	Inf	Af	Staffe	CC
0.80	1	0.80	152	1	4.56	4.56	4.56	4.56	4.56	4.56	4.56	4.56	4.56	4.56
Travata n. 106 Hodi : -2 -1														
Ferri longitudinali - Armatura teorica														
Xg	El	Xl	Sez	CC	Sup	Inf	Af	Staffe	CC	Sup	Inf	Af	Staffe	CC
4.56	1	4.56	153	1	2.73	2.73	2.73	2.73	2.73	2.73	2.73	2.73	2.73	2.73
Travata n. 107 Hodi : -3 -4														
Ferri longitudinali - Armatura teorica														
Xg	El	Xl	Sez	CC	Sup	Inf	Af	Staffe	CC	Sup	Inf	Af	Staffe	CC
7.31	1	7.31	153	1	2.73	2.73	2.73	2.73	2.73	2.73	2.73	2.73	2.73	2.73

Travata n. 106 Hodi : 112 113														
Ferri longitudinali - Armatura teorica														
Xg	El	Xl	Sez	CC	Sup	Inf	Af	Staffe	CC	Sup	Inf	Af	Staffe	CC
0.85	1	0.85	152	1	4.56	4.56	4.56	4.56	4.56	4.56	4.56	4.56	4.56	4.56
Travata n. 107 Hodi : -3 -4														
Ferri longitudinali - Armatura teorica														
Xg	El	Xl	Sez	CC	Sup	Inf	Af	Staffe	CC	Sup	Inf	Af	Staffe	CC
8.80	1	8.80	152	1	4.56	4.56	4.56	4.56	4.56	4.56	4.56	4.56	4.56	4.56

Travata n. 105 Hodi : -2 -1														
Ferri longitudinali - Armatura teorica														
Xg	El	Xl	Sez	CC	Sup	Inf	Af	Staffe	CC	Sup	Inf	Af	Staffe	CC
4.56	1	4.56	153	1	2.73	2.73	2.73	2.73	2.73	2.73	2.73	2.73	2.73	2.73
Travata n. 106 Hodi : 112 113														
Ferri longitudinali - Armatura teorica														
Xg	El	Xl	Sez	CC	Sup	Inf	Af	Staffe	CC	Sup	Inf	Af	Staffe	CC
0.85	1	0.85	152	1	4.56	4.56	4.56	4.56	4.56	4.56	4.56	4.56	4.56	4.56
Travata n. 107 Hodi : -3 -4														
Ferri longitudinali - Armatura teorica														
Xg	El	Xl	Sez	CC	Sup	Inf	Af	Staffe	CC	Sup	Inf	Af	Staffe	CC
7.31	1	7.31	153	1	2.73	2.73	2.73	2.73	2.73	2.73	2.73	2.73	2.73	2.73

Travata n. 105 Hodi : -2 -1														
Ferri longitudinali - Armatura teorica														
Xg	El	Xl	Sez	CC	Sup	Inf	Af	Staffe	CC	Sup	Inf	Af	Staffe	CC
4.56	1	4.56	153	1	2.73	2.73	2.73	2.73	2.73	2.73	2.73	2.73	2.73	2.73
Travata n. 106 Hodi : 112 113														
Ferri longitudinali - Armatura teorica														
Xg	El	Xl	Sez	CC	Sup	Inf	Af	Staffe	CC	Sup	Inf	Af	Staffe	CC
0.85	1	0.85	152	1	4.56	4.56	4.56	4.56	4.56	4.56	4.56	4.56	4.56	4.56
Travata n. 107 Hodi : -3 -4														
Ferri longitudinali - Armatura teorica														
Xg	El	Xl	Sez	CC	Sup	Inf	Af	Staffe	CC	Sup	Inf	Af	Staffe	CC
7.31	1	7.31	153	1	2.73	2.73	2.73	2.73	2.73	2.73	2.73	2.73	2.73	2.73

Staffe, sagomati e ferri di parete - Armatura teorica											
X0	X1	Lung.	CC	cmq	Staffe	Af	Sagom.	Parete	Af	Scarrim.	Scarrim.
										Assorbito	max
10.00	3	0.85	160	1	11.48	7.29	13062.57	11.48	7.29	2584.4	552.6
							T2=-1588.96				-712.2
							T2=12871.44				-77.5
							T2=-10557.91				-96.1
							T2=14238.73				-1954.0
11.97	3	2.82	160	1	7.29	9.95	6389.70	7.29	9.95	-683.0	-69.6
							T2=855.10				2579.4
							T2=7292.73				2600.0
							T2=1232.92				700.2
14.43	3	5.28	160	3	20.54	18.28	13624.52	20.54	18.28	-744.4	-75.7
							T2=-1978.06				-97.5
							T2=-14738.06				2600.0
15.28	4	0.42	160	1	7.30	7.29	14991.04	7.30	7.29	-472.9	-59.6
							T2=9983.45				1368.9
							T2=-8400.71				-82.1
							T2=11879.26				1628.9
16.75	4	1.91	160	1	7.29	7.50	3138.16	7.29	7.50	-384.1	-37.9
							T2=550.33				2600.0
							T2=-10131.37				955.6
18.75	4	3.90	160	3	17.67	10.60	11720.24	17.67	10.60	-881.4	-85.8
							T2=-13590.67				2573.6
							T2=16528.59				-86.6
19.35	5	0.30	160	3	20.49	18.15	13590.67	20.49	18.15	-891.6	-80.4
							T2=8875.43				2197.7
							T2=-8955.39				2583.2
21.85	5	2.80	160	1	7.29	13.68	8875.43	7.29	13.68	-891.6	-80.4
							T2=109.03				2600.0
							T2=793.62				955.6
23.85	5	4.80	160	1	7.29	7.29	14991.04	7.29	7.29	-472.9	-59.6
							T2=-4231.33				1368.9
							T2=-12478.94				-82.1
25.83	5	4.80	160	1	12.00	7.29	14991.04	12.00	7.29	-472.9	-59.6
							T2=-8016.46				1368.9
							T2=-12478.94				-82.1
27.83	5	4.80	160	1	12.00	7.29	14991.04	12.00	7.29	-472.9	-59.6
							T2=-8016.46				1368.9
							T2=-12478.94				-82.1
29.83	5	4.80	160	1	12.00	7.29	14991.04	12.00	7.29	-472.9	-59.6
							T2=-8016.46				1368.9
							T2=-12478.94				-82.1
31.83	5	4.80	160	1	12.00	7.29	14991.04	12.00	7.29	-472.9	-59.6
							T2=-8016.46				1368.9
							T2=-12478.94				-82.1
33.83	5	4.80	160	1	12.00	7.29	14991.04	12.00	7.29	-472.9	-59.6
							T2=-8016.46				1368.9
							T2=-12478.94				-82.1
35.83	5	4.80	160	1	12.00	7.29	14991.04	12.00	7.29	-472.9	-59.6
							T2=-8016.46				1368.9
							T2=-12478.94				-82.1
37.83	5	4.80	160	1	12.00	7.29	14991.04	12.00	7.29	-472.9	-59.6
							T2=-8016.46				1368.9
							T2=-12478.94				-82.1
39.83	5	4.80	160	1	12.00	7.29	14991.04	12.00	7.29	-472.9	-59.6
							T2=-8016.46				1368.9
							T2=-12478.94				-82.1
41.83	5	4.80	160	1	12.00	7.29	14991.04	12.00	7.29	-472.9	-59.6
							T2=-8016.46				1368.9
							T2=-12478.94				-82.1
43.83	5	4.80	160	1	12.00	7.29	14991.04	12.00	7.29	-472.9	-59.6
							T2=-8016.46				1368.9
							T2=-12478.94				-82.1
45.83	5	4.80	160	1	12.00	7.29	14991.04	12.00	7.29	-472.9	-59.6
							T2=-8016.46				1368.9
							T2=-12478.94				-82.1
47.83	5	4.80	160	1	12.00	7.29	14991.04	12.00	7.29	-472.9	-59.6
							T2=-8016.46				1368.9
							T2=-12478.94				-82.1
49.83	5	4.80	160	1	12.00	7.29	14991.04	12.00	7.29	-472.9	-59.6
							T2=-8016.46				1368.9
							T2=-12478.94				-82.1
51.83	5	4.80	160	1	12.00	7.29	14991.04	12.00	7.29	-472.9	-59.6
							T2=-8016.46				1368.9
							T2=-12478.94				-82.1
53.83	5	4.80	160	1	12.00	7.29	14991.04	12.00	7.29	-472.9	-59.6
							T2=-8016.46				1368.9
							T2=-12478.94				-82.1
55.83	5	4.80	160	1	12.00	7.29	14991.04	12.00	7.29	-472.9	-59.6
							T2=-8016.46				1368.9
							T2=-12478.94				-82.1
57.83	5	4.80	160	1	12.00	7.29	14991.04	12.00	7.29	-472.9	-59.6
							T2=-8016.46				1368.9
							T2=-12478.94				-82.1
59.83	5	4.80	160	1	12.00	7.29	14991.04	12.00	7.29	-472.9	-59.6
							T2=-8016.46				1368.9
							T2=-12478.94				-82.1
61.83	5	4.80	160	1	12.00	7.29	14991.04	12.00	7.29	-472.9	-59.6
							T2=-8016.46				1368.9
							T2=-12478.94				-82.1
63.83	5	4.80	160	1	12.00	7.29	14991.04	12.00	7.29	-472.9	-59.6
							T2=-8016.46				1368.9
							T2=-12478.94				-82.1
65.83	5	4.80	160	1	12.00	7.29	14991.04	12.00	7.29	-472.9	-59.6
							T2=-8016.46				1368.9
							T2=-12478.94				-82.1
67.83	5	4.80	160	1	12.00	7.29	14991.04	12.00	7.29	-472.9	-59.6
							T2=-8016.46				1368.9
							T2=-12478.94				-82.1
69.83	5	4.80	160	1	12.00	7.29	14991.04	12.00	7.29	-472.9	-59.6
							T2=-8016.46				1368.9
							T2=-12478.94				-82.1
71.83	5	4.80	160	1	12.00	7.29	14991.04	12.00	7.29	-472.9	-59.6
							T2=-8016.46				1368.9
							T2=-12478.94				-82.1
73.83	5	4.80	160	1	12.00	7.29	14991.04	12.00	7.29	-472.9	-59.6
							T2=-8016.46				1368.9
							T2=-12478.94				-82.1
75.83	5	4.80	160	1	12.00	7.29	14991.04	12.00	7.29	-472.9	-59.6
							T2=-8016.46				1368.9
							T2=-12478.94				-82.1
77.83	5	4.80	160	1	12.00	7.29	14991.04	12.00	7.29	-472.9	-59.6
							T2=-8016.46				1368.9
							T2=-12478.94				-82.1
79.83	5	4.80	160	1	12.00	7.29	14991.04	12.00	7.29	-472.9	-59.6
							T2=-8016.46				1368.9
							T2=-12478.94				-82.1
81.83	5	4.80	160	1	12.00	7.29	14991.04	12.00	7.29	-472.9	-59.6
							T2=-8016.46				1368.9
							T2=-12478.94				-82.1
83.83	5	4.80	160	1	12.00	7.29	14991.04	12.00	7.29	-472.9	-59.6
							T2=-8016.46				1368.9
							T2=-12478.94				-82.1
85.83	5	4.80	160	1	12.00	7.29	14991.04	12.00	7.29	-472.9	-59.6
							T2=-8016.46				1368.9
							T2=-12478.94				-82.1
87.83	5	4.80	160	1	12.00	7.29	14991.04	12.00	7.29	-472.9	-59.6
							T2=-8016.46				1368.9
							T2=-12478.94				-82.1
89.83	5	4.80	160	1	12.00	7.29	14991.04	12.00	7.29	-472.9	-59.6
							T2=-8016.46				1368.9
							T2=-12478.94				-82.1
91.83	5	4.80	160	1	12.00	7.29	14991.04	12.00	7.29	-472.9	-59.6
							T2=-8016.46				1368.9
							T2=-12478.94				-82.1
93.83	5	4.80	160	1	12.00	7.29	14991.04	12.00	7.29	-472.9	-59.6
							T2=-8016.46				1368.9
							T2=-12478.94				-82.1
95.83	5	4.80	160	1	12.00	7.29	14991.04	12.00	7.29	-472.9	-59.6
							T2=-8016.46				1368.9
							T2=-12478.94				-82.1
97.83	5	4.80	160	1	12.00	7.29	14991.04	12.00	7.29	-472.9	-59.6
							T2=-8016.46				1368.9
							T2=-12478.94				-82.1
99.83	5	4.80	160	1	12.00	7.29	14991.04	12.00	7.29	-472.9	-59.6
							T2=-8016.46				1368.9
							T2=-12478.94				-82.1
101.83	5	4.80	160	1	12.00	7.29	14991.04	12.00	7.29	-472.9	-59.6
							T2=-8016.46				1368.9

Staffe, sagomati e ferri di parete - Armatura teorica									
X0	X1	Lung.	CC	Af Staffe	Af	Scorrim	Scorrim	Scorrim	
			cmq/m	cmq	Sagom	Parete	Assorbico	max	Agente
0.50	0.59	0.29	3	21.56	6.14	0.00	0.00	15973.7	6.06
0.59	0.87	0.29	---	6.48	2.42	0.00	0.00	---	5.05 Min. Reg.
0.87	3.53	2.56	---	9.95	25.46	0.00	0.00	---	5.93 Min. Reg.
3.53	3.81	0.29	3	24.95	7.11	0.00	0.00	18491.2	6.94
3.81	4.10	0.29	3	28.79	8.20	0.00	0.00	21331.4	7.86
4.10	4.59	0.29	3	28.67	8.17	0.00	0.00	21246.7	7.91
4.59	4.97	0.29	3	24.87	7.09	0.00	0.00	18428.3	6.93
4.97	6.31	3.34	---	10.00	33.38	0.00	0.00	---	5.97 Min. Reg.
6.31	8.73	0.42	3	20.11	8.47	1.72	25.05	28352.6	7.43
8.73	9.15	0.42	3	20.11	8.47	3.40	5E-05	34509.3	8.89
9.15	9.45	0.45	3	20.11	9.24	3.96	0.00	38582.3	9.16
9.45	9.91	10.37	0.46	3	20.11	9.24	1.96	31249.5	7.56
10.37	13.75	3.38	---	10.00	33.78	0.00	0.00	---	5.97 Min. Reg.
13.75	14.22	0.48	3	20.11	9.57	2.07	0.00	32502.7	7.62
14.22	14.70	0.48	3	20.11	9.57	4.21	0.00	40369.4	9.27
15.00	15.29	0.29	3	26.70	7.61	0.00	0.00	19788.3	7.27
15.29	15.57	0.29	3	22.88	6.52	0.00	0.00	16952.6	6.37
15.57	18.06	2.48	---	9.01	22.40	0.00	0.00	---	5.39 Min. Reg.
18.06	18.34	0.29	---	9.14	2.60	0.00	0.00	---	5.45 Min. Reg.
18.34	18.63	0.29	3	23.15	6.60	0.00	0.00	17163.0	6.46
19.48	19.86	0.38	3	20.11	7.67	1.90	0.00	30605.5	8.66
19.86	20.24	0.38	3	20.11	7.67	2.50	0.00	25460.1	7.31
20.24	22.28	3.04	---	10.00	30.42	0.00	0.00	---	5.96 Min. Reg.
22.28	23.57	0.29	3	23.49	6.69	0.00	0.00	17403.6	6.57
23.57	23.85	0.29	3	21.33	7.79	0.00	0.00	20251.8	7.52
Staffe, sagomati e ferri di parete - Armatura teorica									
X0	X1	Lung.	CC	Af Staffe	Af	Scorrim	Scorrim	Scorrim	
			cmq/m	cmq	Sagom	Parete	Assorbico	max	Agente
0.50	0.59	0.29	3	21.56	6.14	0.00	0.00	15973.7	6.06
0.59	0.87	0.29	---	6.48	2.42	0.00	0.00	---	5.05 Min. Reg.
0.87	3.53	2.56	---	9.95	25.46	0.00	0.00	---	5.93 Min. Reg.
3.53	3.81	0.29	3	24.95	7.11	0.00	0.00	18491.2	6.94
3.81	4.10	0.29	3	28.79	8.20	0.00	0.00	21331.4	7.86
4.10	4.59	0.29	3	28.67	8.17	0.00	0.00	21246.7	7.91
4.59	4.97	0.29	3	24.87	7.09	0.00	0.00	18428.3	6.93
4.97	6.31	3.34	---	10.00	33.38	0.00	0.00	---	5.97 Min. Reg.
6.31	8.73	0.42	3	20.11	8.47	1.72	25.05	28352.6	7.43
8.73	9.15	0.42	3	20.11	8.47	3.40	5E-05	34509.3	8.89
9.15	9.45	0.45	3	20.11	9.24	3.96	0.00	38582.3	9.16
9.45	9.91	10.37	0.46	3	20.11	9.24	1.96	31249.5	7.56
10.37	13.75	3.38	---	10.00	33.78	0.00	0.00	---	5.97 Min. Reg.
13.75	14.22	0.48	3	20.11	9.57	2.07	0.00	32502.7	7.62
14.22	14.70	0.48	3	20.11	9.57	4.21	0.00	40369.4	9.27
15.00	15.29	0.29	3	26.70	7.61	0.00	0.00	19788.3	7.27
15.29	15.57	0.29	3	22.88	6.52	0.00	0.00	16952.6	6.37
15.57	18.06	2.48	---	9.01	22.40	0.00	0.00	---	5.39 Min. Reg.
18.06	18.34	0.29	---	9.14	2.60	0.00	0.00	---	5.45 Min. Reg.
18.34	18.63	0.29	3	23.15	6.60	0.00	0.00	17163.0	6.46
19.48	19.86	0.38	3	20.11	7.67	1.90	0.00	30605.5	8.66
19.86	20.24	0.38	3	20.11	7.67	2.50	0.00	25460.1	7.31
20.24	22.28	3.04	---	10.00	30.42	0.00	0.00	---	5.96 Min. Reg.
22.28	23.57	0.29	3	23.49	6.69	0.00	0.00	17403.6	6.57
23.57	23.85	0.29	3	21.33	7.79	0.00	0.00	20251.8	7.52
Staffe, sagomati e ferri di parete - Armatura teorica									
X0	X1	Lung.	CC	Af Staffe	Af	Scorrim	Scorrim	Scorrim	
			cmq/m	cmq	Sagom	Parete	Assorbico	max	Agente
0.50	0.59	0.29	3	21.56	6.14	0.00	0.00	15973.7	6.06
0.59	0.87	0.29	---	6.48	2.42	0.00	0.00	---	5.05 Min. Reg.
0.87	3.53	2.56	---	9.95	25.46	0.00	0.00	---	5.93 Min. Reg.
3.53	3.81	0.29	3	24.95	7.11	0.00	0.00	18491.2	6.94
3.81	4.10	0.29	3	28.79	8.20	0.00	0.00	21331.4	7.86
4.10	4.59	0.29	3	28.67	8.17	0.00	0.00	21246.7	7.91
4.59	4.97	0.29	3	24.87	7.09	0.00	0.00	18428.3	6.93
4.97	6.31	3.34	---	10.00	33.38	0.00	0.00	---	5.97 Min. Reg.
6.31	8.73	0.42	3	20.11	8.47	1.72	25.05	28352.6	7.43
8.73	9.15	0.42	3	20.11	8.47	3.40	5E-05	34509.3	8.89
9.15	9.45	0.45	3	20.11	9.24	3.96	0.00	38582.3	9.16
9.45	9.91	10.37	0.46	3	20.11	9.24	1.96	31249.5	7.56
10.37	13.75	3.38	---	10.00	33.78	0.00	0.00	---	5.97 Min. Reg.
13.75	14.22	0.48	3	20.11	9.57	2.07	0.00	32502.7	7.62
14.22	14.70	0.48	3	20.11	9.57	4.21	0.00	40369.4	9.27
15.00	15.29	0.29	3	26.70	7.61	0.00	0.00	19788.3	7.27
15.29	15.57	0.29	3	22.88	6.52	0.00	0.00	16952.6	6.37
15.57	18.06	2.48	---	9.01	22.40	0.00	0.00	---	5.39 Min. Reg.
18.06	18.34	0.29	---	9.14	2.60	0.00	0.00	---	5.45 Min. Reg.
18.34	18.63	0.29	3	23.15	6.60	0.00	0.00	17163.0	6.46
19.48	19.86	0.38	3	20.11	7.67	1.90	0.00	30605.5	8.66
19.86	20.24	0.38	3	20.11	7.67	2.50	0.00	25460.1	7.31
20.24	22.28	3.04	---	10.00	30.42	0.00	0.00	---	5.96 Min. Reg.
22.28	23.57	0.29	3	23.49	6.69	0.00	0.00	17403.6	6.57
23.57	23.85	0.29	3	21.33	7.79	0.00	0.00	20251.8	7.52
Staffe, sagomati e ferri di parete - Armatura teorica									
X0	X1	Lung.	CC	Af Staffe	Af	Scorrim	Scorrim	Scorrim	
			cmq/m	cmq	Sagom	Parete	Assorbico	max	Agente
0.50	0.59	0.29	3	21.56	6.14	0.00	0.00	15973.7	6.06
0.59	0.87	0.29	---	6.48	2.42	0.00	0.00	---	5.05 Min. Reg.
0.87	3.53	2.56	---	9.95	25.46	0.00	0.00	---	5.93 Min. Reg.
3.53	3.81	0.29	3	24.95	7.11	0.00	0.00	18491.2	6.94
3.81	4.10	0.29	3	28.79	8.20	0.00	0.00	21331.4	7.86
4.10	4.59	0.29	3	28.67	8.17	0.00	0.00	21246.7	7.91
4.59	4.97	0.29	3	24.87	7.09	0.00	0.00	18428.3	6.93
4.97	6.31	3.34	---	10.00	33.38	0.00	0.00	---	5.97 Min. Reg.
6.31	8.73	0.42	3	20.11	8.47	1.72	25.05	28352.6	7.43
8.73	9.15	0.42	3	20.11	8.47	3.40	5E-05	34509.3	8.89
9.15	9.45	0.45	3	20.11	9.24	3.96	0.00	38582.3	9.16
9.45	9.91	10.37	0.46	3	20.11	9.24	1.96	31249.5	7.56
10.37	13.75	3.38	---	10.00	33.78	0.00	0.00	---	5.97 Min. Reg.
13.75	14.22	0.48	3	20.11	9.57	2.07	0.00	32502.7	7.62
14.22	14.70	0.48	3	20.11	9.57	4.21	0.00	40369.4	9.27
15.00	15.29	0.29	3	26.70	7.61	0.00	0.00	19788.3	7.27
15.29	15.57	0.29	3	22.88	6.52	0.00	0.00	16952.6	6.37
15.57	18.06	2.48	---	9.01	22.40	0.00	0.00	---	5.39 Min. Reg.
18.06	18.34	0.29	---	9.14	2.60	0.00	0.00	---	5.45 Min. Reg.
18.34	18.63	0.29	3	23.15	6.60	0.00	0.00	17163.0	6.46
19.48	19.86	0.38	3	20.11	7.67	1.90	0.00	30605.5	8.66
19.86	20.24	0.38	3	20.11	7.67	2.50	0.00	25460.1	7.31
20.24	22.28	3.04	---	10.00	30.42	0.00	0.00	---	5.96 Min. Reg.
22.28	23.57	0.29	3	23.49	6.69	0.00	0.00	17403.6	6.57
23.57	23.85	0.29	3	21.33	7.79	0.00	0.00	20251.8	7.52
Staffe, sagomati e ferri di parete - Armatura teorica									
X0	X1	Lung.	CC	Af Staffe	Af	Scorrim	Scorrim	Scorrim	
			cmq/m	cmq	Sagom	Parete	Assorbico	max	Agente
0.50	0.59	0.29	3	21.56	6.14	0.00	0.00	15973.7	6.06
0.59	0.87	0.29	---	6.48	2.42	0.00	0.00	---	5.05 Min. Reg.
0.87	3.53	2.56	---	9.95	25.46	0.00	0.00	---	5.93 Min. Reg.
3.53	3.81	0.29	3	24.95	7.11	0.00	0.00	18491.2	6.94
3.81	4.10	0.29	3	28.79	8.20	0.00	0.00	21331.4	7.86
4.10	4.59	0.29	3	28.67	8.17	0.00	0.00	21246.7	7.91
4.59	4.97	0.29	3	24.87	7.09	0.00	0.00	18428.3	6.93
4.97	6.31	3.34	---	10.00	33.38	0.00	0.00	---	5.97 Min. Reg.
6.31	8.73	0.42	3	20.11	8.47	1.72	25.05	28352.6	7.43
8.73	9.15	0.42	3	20.11	8.47	3.40	5E-05	34509.3	8.89
9.15	9.45	0.45	3	20.11	9.24	3.96	0.00	38582.3	9.16
9.45	9.91	10.37	0.46	3	20.11	9.24	1.96	31249.5	7.56
10.37	13.75	3.38	---	10.00	33.78	0.00	0.00	---	5.97 Min. Reg.
13.75	14.22	0.48	3	20.11	9.57	2.07	0.00	32502.7	7.62
14.22	14.70	0.48	3	20.11	9.57	4.21	0.00	40369.4	9.27
15.00	15.29	0.29	3	26.70	7.61	0.00	0.00	19788.3	7.27
15.29	15.57	0.29	3	22.88	6.52	0.00	0.00	16952.6	6.37
15.57	18.06	2.48	---	9.01	22.40	0.00	0.00	---	5.39 Min. Reg.
18.06	18.34	0.29	---	9.14	2.60	0.00	0.00	---	5.45 Min. Reg.
18.34	18.63	0.29	3	23.15	6.60	0.00	0.00	17163.0	6.46
19.48	19.86	0.38	3	20.11	7.67	1.90	0.00	30605.5	8.66
19.86	20.24	0.38	3	20.11	7.67	2.50	0.00	25460.1	7.3

Travata n. 204 Hsdi : 202 203 204																								
Ferti longitudinali - Amatura teorica																								
Af Staffe Af Staff																								

Travata n. 206 Hodi : 211 212 213													
Ferri longitudinali - Armatura teorica													
Afteo Totale													
Xg	El	Xl	Sez	CC	Sup	Inf	Afteo Parz.	Sup	Inf	of	Sup	Inf	sc
0.31	1	0.30	161	1	4.17	4.17	1222.6	-222.5	-28.1				
0.88	5.53	5.65			0.97	0.55	0.00	0.00	0.00	1.45 Min. Reg.			
5.53	7.10	0.57			0.85	4.83	0.00	0.00	0.00	1.28 Min. Reg.			
7.95	6.52	0.57			0.97	0.55	0.00	0.00	0.00	1.45 Min. Reg.			
8.52	15.32	6.80			1.40	0.80	0.00	0.00	0.00	2.10 Min. Reg.			
15.32	15.32	0.57			1.26	8.54	0.00	0.00	0.00	1.88 Min. Reg.			
					1.43	0.81	0.00	0.00	0.00	2.14 Min. Reg.			

Travata n. 207 Hodi : 215 216 217													
Ferri longitudinali - Armatura teorica													
Afteo Totale													
Xg	El	Xl	Sez	CC	Sup	Inf	Afteo Parz.	Sup	Inf	of	Sup	Inf	sc
0.30	1	0.30	161	1	4.17	4.17	1250.8	-227.7	-28.7				
0.87	5.53	5.66			1.01	0.58	0.00	0.00	0.00	1.51 Min. Reg.			
5.53	7.10	0.57			0.89	5.05	0.00	0.00	0.00	1.33 Min. Reg.			
7.95	6.52	0.57			0.95	0.54	0.00	0.00	0.00	1.42 Min. Reg.			
8.52	15.33	6.81			1.04	0.59	0.00	0.00	0.00	1.55 Min. Reg.			
15.33	15.30	0.57			0.92	6.27	0.00	0.00	0.00	1.38 Min. Reg.			

Travata n. 208 Hodi : 219 220 221													
Ferri longitudinali - Armatura teorica													
Afteo Totale													
Xg	El	Xl	Sez	CC	Sup	Inf	Afteo Parz.	Sup	Inf	of	Sup	Inf	sc
0.30	1	0.30	161	1	4.17	4.17	1450.1	-263.9	-33.3				
0.87	5.53	5.66			1.02	0.58	0.00	0.00	0.00	1.52 Min. Reg.			
5.53	7.10	0.57			0.90	5.08	0.00	0.00	0.00	1.34 Min. Reg.			
7.90	6.47	0.57			1.04	0.50	0.00	0.00	0.00	1.41 Min. Reg.			
8.47	15.33	6.86			1.04	0.50	0.00	0.00	0.00	1.56 Min. Reg.			
15.33	15.30	0.57			1.04	0.59	0.00	0.00	0.00	1.39 Min. Reg.			

Travata n. 209 Hodi : 223 224 225													
Ferri longitudinali - Armatura teorica													
Afteo Totale													
Xg	El	Xl	Sez	CC	Sup	Inf	Afteo Parz.	Sup	Inf	of	Sup	Inf	sc
0.75	1	0.75	148	1	5.86	5.86	1092.03	-240.55	-18.7				
7.40	1	0.00	148	1	5.86	5.86	1092.03	-240.55	-18.7				
8.30	2	8.10	148	1	5.86	5.86	1092.03	-240.55	-18.7				
15.45	2	0.75	148	1	5.86	5.86	1092.03	-240.55	-18.7				

Travata n. 206 Hodi : 211 212 213													
Ferri longitudinali - Armatura teorica													
Afteo Totale													
Xg	El	Xl	Sez	CC	Sup	Inf	Afteo Parz.	Sup	Inf	of	Sup	Inf	sc
0.31	1	0.31	161	1	4.17	4.17	1222.6	-222.5	-28.1				
0.88	5.53	5.65			0.97	0.55	0.00	0.00	0.00	1.45 Min. Reg.			
5.53	7.10	0.57			0.85	4.83	0.00	0.00	0.00	1.28 Min. Reg.			
7.95	6.52	0.57			0.97	0.55	0.00	0.00	0.00	1.45 Min. Reg.			
8.52	15.32	6.80			1.40	0.80	0.00	0.00	0.00	2.10 Min. Reg.			
15.32	15.32	0.57			1.26	8.54	0.00	0.00	0.00	1.88 Min. Reg.			

Travata n. 207 Hodi : 215 216 217													
Ferri longitudinali - Armatura teorica													
Afteo Totale													
Xg	El	Xl	Sez	CC	Sup	Inf	Afteo Parz.	Sup	Inf	of	Sup	Inf	sc
0.30	1	0.30	161	1	4.17	4.17	1250.8	-227.7	-28.7				
0.87	5.53	5.66			1.01	0.58	0.00	0.00	0.00	1.51 Min. Reg.			
5.53	7.10	0.57			0.89	5.05	0.00	0.00	0.00	1.33 Min. Reg.			
7.95	6.52	0.57			0.95	0.54	0.00	0.00	0.00	1.42 Min. Reg.			
8.52	15.33	6.81			1.04	0.59	0.00	0.00	0.00	1.55 Min. Reg.			
15.33	15.30	0.57			0.92	6.27	0.00	0.00	0.00	1.38 Min. Reg.			

Travata n. 208 Hodi : 219 220 221													
Ferri longitudinali - Armatura teorica													
Afteo Totale													
Xg	El	Xl	Sez	CC	Sup	Inf	Afteo Parz.	Sup	Inf	of	Sup	Inf	sc
0.30	1	0.30	161	1	4.17	4.17	1450.1	-263.9	-33.3				
0.87	5.53	5.66			1.02	0.58	0.00	0.00	0.00	1.52 Min. Reg.			
5.53	7.10	0.57			0.90	5.08	0.00	0.00	0.00	1.34 Min. Reg.			
7.90	6.47	0.57			1.04	0.50	0.00	0.00	0.00	1.41 Min. Reg.			
8.47	15.33	6.86			1.04	0.50	0.00	0.00	0.00	1.56 Min. Reg.			
15.33	15.30	0.57			1.04	0.59	0.00	0.00	0.00	1.39 Min. Reg.			

Travata n. 209 Hodi : 223 224 225													
Ferri longitudinali - Armatura teorica													
Afteo Totale													
Xg	El	Xl	Sez	CC	Sup	Inf	Afteo Parz.	Sup	Inf	of	Sup	Inf	sc
0.75	1	0.75	148	1	5.86	5.86	1092.03	-240.55	-18.7				
7.40	1	0.00	148	1	5.86	5.86	1092.03	-240.55	-18.7				
8.30	2	8.10	148	1	5.86	5.86	1092.03	-240.55	-18.7				
15.45	2	0.75	148	1	5.86	5.86	1092.03	-240.55	-18.7				

Travata n. 206 Hodi : 211 212 213													
Ferri longitudinali - Armatura teorica													
Afteo Totale													
Xg	El	Xl	Sez	CC	Sup	Inf	Afteo Parz.	Sup	Inf	of	Sup	Inf	sc
0.31	1	0.31	161	1	4.17	4.17	1222.6	-222.5	-28.1				
0.88	5.53	5.65			0.97	0.55	0.00	0.00	0.00	1.45 Min. Reg.			
5.53	7.10	0.57			0.85	4.83	0.00	0.00	0.00	1.28 Min. Reg.			
7.95	6.52	0.57			0.97	0.55	0.00	0.00	0.00	1.45 Min. Reg.			
8.52	15.32	6.80			1.40	0.80	0.00	0.00	0.00	2.10 Min. Reg.			
15.32	15.32	0.57			1.26	8.54	0.00	0.00	0.00	1.88 Min. Reg.			

Staffe, sagomati e ferri di parete - Armatura teorica													
X0	X1	Lung.	CC	Af Staffe	Af	Scorrim	Scorrim						
				cmq	Sagom.	Parete	Assorbito max	Agente					
4.90	1	4.90	101	3	0.00	19.04	Hy-	39037.63	0.00	19.04	0.0	2600.0	-57.7
5.75	2	0.85	101	3	0.00	5.14	Hy-	10963.56	0.00	5.14	0.0	2600.0	-28.0
7.72	2	0.82	101	2	15.89	0.00	Hy-	-33871.49	15.89	0.00	2600.0	0.0	-28.4
10.16	2	0.58	101	3	0.00	12.43	Hy-	23854.30	0.00	12.43	0.0	2600.0	-45.3
11.03	3	0.42	101	2	0.00	8.63	Hy-	18162.18	0.00	8.63	0.0	2600.0	-37.0
12.51	3	1.51	101	3	8.89	0.00	Hy-	-19164.67	8.89	0.00	2600.0	0.0	-20.9
14.50	3	3.90	101	3	0.00	22.37	Hy-	45564.40	0.00	22.37	0.0	2600.0	-63.2

Staffe, sagomati e ferri di parete - Armatura teorica

X0	X1	Lung.	CC	Af Staffe	cmq	Sagom.	Parate	Assorbito	max	Scorrim	Agente
0.43	0.94	0.51	3	26.12	13.37	0.00	0.00	34756.5	5.54	34756.5	
0.94	1.45	0.51	3	19.52	9.99	0.00	0.00	25979.5	7.36	25979.5	
1.45	4.04	2.59	3	8.00	20.73	0.00	0.00	5.26 Min. Reg.			
4.04	4.90	0.86	3	19.89	17.11	0.00	0.00	44476.0	7.72	44476.0	
5.75	5.51	0.86	3	14.64	12.59	0.00	0.00	32795.7	5.00	32795.7	
5.51	9.31	2.70	3	6.90	18.57	0.00	0.00	4.54 Min. Reg.			
9.31	10.18	0.86	3	18.29	15.73	0.00	0.00	40885.4	7.32	40885.4	
11.03	11.89	0.86	3	14.29	12.29	0.00	0.00	31956.3	6.02	31956.3	
11.89	13.64	1.75	3	7.54	13.22	0.00	0.00	4.95 Min. Reg.			
13.64	14.50	0.86	3	21.28	18.30	0.00	0.00	47582.4	8.83	47582.4	

Staffatura ala, ferri di suola, ferri di fianco - Armatura teorica

Aftao Staffe Aftao Fianco

X0	X1	Lung.	CC	Af Staffe	cmq	Suola	Fianco
0.43	0.94	0.51	1	12.00	6.14	0.00	0.00
			2	13.12	6.72	0.00	0.00
			2	10.87	5.57	0.00	0.00
			2	13.12	6.72	0.00	0.00
			2	10.87	5.57	0.00	0.00
			3	13.12	6.72	0.00	0.00
			3	10.87	5.57	0.00	0.00
			3	13.12	6.72	0.00	0.00
			3	10.87	5.57	0.00	0.00
0.94	1.45	0.51	1	12.00	6.14	0.00	0.00
			2	13.12	6.72	0.00	0.00
			2	10.87	5.57	0.00	0.00
			2	13.12	6.72	0.00	0.00
			2	10.87	5.57	0.00	0.00
			3	13.12	6.72	0.00	0.00
			3	10.87	5.57	0.00	0.00
			3	13.12	6.72	0.00	0.00
			3	10.87	5.57	0.00	0.00

1.45 4.04 2.59

Ferri longitudinali - Armatura teorica

Xg	El	Xl	Sez	CC	Sup	Inf	Aftao Totale
0.30	1	0.90	101	1a	0.00	4.54	Hy- 9712.08
							0.00 4.54
1.70	1	1.71	101	3	17.87	0.00	Hy- -8989.00
							0.00 17.87
4.10	1	4.11	101	3	0.00	19.45	Hy- -37986.90
							0.00 19.45
4.40	2	0.15	101	3	0.00	20.49	Hy- -39855.13
							0.00 20.49
5.78	2	2.53	101	3	9.94	0.00	Hy- -41888.52
							0.00 9.94
9.15	2	4.90	101	3	0.00	27.93	Hy- -21383.40
							0.00 27.93
9.45	3	0.30	101	3	0.00	19.05	Hy- -56336.01
							0.00 19.05
11.84	3	2.69	101	2	17.24	0.00	Hy- -39047.54
							0.00 17.24
14.70	3	5.55	101	3	0.00	22.31	Hy- -35678.37
							0.00 22.31
15.00	4	0.15	101	3	0.00	22.46	Hy- -45447.25
							0.00 22.46
17.11	4	2.27	101	1c	3.86	0.00	Hy- -45730.98
							0.00 3.86
							Hy- -8423.45
							0.00 2.18
							Hy- -4719.45
							0.00 23.35
							Hy- -47463.54
							0.00 21.69
							Hy- -44233.05
							22.05 0.00
							Hy- -46603.82
							0.00 6.02
							Hy- -12786.16
							7.28 0.00
							Hy- -15740.72

Staffe, sagomati e ferri di parete - Armatura teorica

Af Staffe Af

X0	X1	Lung.	CC	cmq	Sagom.	Parate	Assorbito	max	Scorrim	Agente
0.30	1.16	0.86	3	13.03	11.21	0.00	0.00	29140.2	6.09	29140.2
1.16	3.10	1.94	3	8.00	15.55	0.00	0.00	5.26 Min. Reg.		
3.10	3.60	0.50	3	19.29	9.61	0.00	0.00	24985.2	7.17	24985.2
3.60	4.10	0.50	3	25.14	12.52	0.00	0.00	32559.1	8.98	32559.1
4.40	5.26	0.86	3	20.63	17.74	0.00	0.00	46127.0	8.27	46127.0
5.26	8.02	2.76	3	8.00	22.09	0.00	0.00	5.26 Min. Reg.		

X0	X1	Lung.	CC	Af Staffe	cmq	Sagom.	Parate	Assorbito	max	Scorrim	Agente
10.52	28.45	0.00	0.00								
9.31	10.18	0.86	1	11.03	11.89	0.86					
10.42	8.95	0.00	0.00								
9.48	8.15	0.00	0.00								
10.42	8.15	0.00	0.00								
9.48	8.15	0.00	0.00								
10.52	9.05	0.00	0.00								
9.39	8.08	0.00	0.00								
10.52	9.05	0.00	0.00								
9.39	8.08	0.00	0.00								
13.04	11.21	0.00	0.00								
14.13	12.15	0.00	0.00								
11.95	10.28	0.00	0.00								
14.13	12.15	0.00	0.00								
11.95	10.28	0.00	0.00								
14.15	12.17	0.00	0.00								
11.93	10.26	0.00	0.00								
14.15	12.17	0.00	0.00								
11.93	10.26	0.00	0.00								
13.04	11.21	0.00	0.00								
14.13	12.15	0.00	0.00								
11.95	10.28	0.00	0.00								
14.13	12.15	0.00	0.00								
11.95	10.28	0.00	0.00								
14.13	12.15	0.00	0.00								
11.95	10.28	0.00	0.00								
14.13	12.15	0.00	0.00								
11.95	10.28	0.00	0.00								
14.13	12.15	0.00	0.00								
11.95	10.28	0.00	0.00								
14.13	12.15	0.00	0.00								
11.95	10.28	0.00	0.00								
14.13	12.15	0.00	0.00								
11.95	10.28	0.00	0.00								
14.13	12.15	0.00	0.00								
11.95	10.28	0.00	0.00								
14.13	12.15	0.00	0.00								
11.95	10.28	0.00	0.00								
14.13	12.15	0.00	0.00								
11.95	10.28	0.00	0.00								
14.13	12.15	0.00	0.00								
11.95	10.28	0.00	0.00								
14.13	12.15	0.00	0.00								
11.95	10.28	0.00	0.00								
14.13	12.15	0.00	0.00								
11.95	10.28	0.00	0.00								
14.13	12.15	0.00	0.00								
11.95	10.28	0.00	0.00								
14.13	12.15	0.00	0.00								
11.95	10.28	0.00	0.00								
14.13	12.15	0.00	0.00								
11.95	10.28	0.00	0.00								
14.13	12.15	0.00	0.00								
11.95	10.28	0.00	0.00								
14.13	12.15	0.00	0.00								
11.95	10.28	0.00	0.00								
14.13	12.15	0.00	0.00								
11.95	10.28	0.00	0.00								
14.13	12.15	0.00	0.00								
11.95	10.28	0.00	0.00								
14.13	12.15	0.00	0.00								
11.95	10.28	0.00	0.00								
14.13	12.15	0.00	0.00								
11.95	10.28	0.00	0.00								
14.13	12.15	0.00	0.00								
11.95	10.28	0.00	0.00								
14.13	12.15	0.00	0.00								
11.95	10.28	0.00	0.00								
14.13	12.15	0.00	0.00								
11.95	10.28	0.00	0.00								
14.13	12.15	0.00	0.00								
11.95	10.28	0.00	0.00								
14.13	12.15	0.00	0.00								

17.75	18.53	0.85	1	12.07	10.38	0.00	0.00	0.00	0.00	5.90	5.75	0.85	3	15.25	13.98	0.00	0.00	36339.7	6.68	36339.7	Reg.
			2	12.09	10.38	0.00	0.00	0.00	0.00	6.75	5.45	2.70	---	7.51	20.30	0.00	0.00	---	4.94	Min.	Reg.
			3	12.03	10.38	0.00	0.00	0.00	0.00	9.45	10.33	0.85	3	13.59	15.93	0.00	0.00	44025.9	7.81	44025.9	Reg.
			4	12.13	10.38	0.00	0.00	0.00	0.00	11.18	12.04	0.85	3	12.45	10.72	0.00	0.00	27870.1	5.53	27870.1	Reg.
			5	12.03	10.38	0.00	0.00	0.00	0.00	12.04	13.51	1.48	---	4.60	6.81	0.00	0.00	---	3.01	Min.	Reg.
			6	12.03	10.38	0.00	0.00	0.00	0.00	13.51	14.38	0.86	3	14.03	12.07	0.00	0.00	31381.5	6.03	31381.5	Reg.
			7	12.03	10.38	0.00	0.00	0.00	0.00	15.23	15.76	0.53	3	24.10	12.89	0.00	0.00	33512.7	8.67	33512.7	Reg.
			8	12.03	10.38	0.00	0.00	0.00	0.00	15.76	15.29	0.53	3	18.85	10.08	0.00	0.00	26205.6	6.93	26205.6	Reg.
			9	12.03	10.38	0.00	0.00	0.00	0.00	15.29	16.68	2.39	---	8.00	19.08	0.00	0.00	---	5.27	Min.	Reg.
19.48	20.12	0.64	1	12.07	7.75	0.00	0.00	0.00	0.00	18.58	19.22	0.53	---	5.41	2.89	0.00	0.00	---	3.55	Min.	Reg.
			2	12.08	7.75	0.00	0.00	0.00	0.00	19.22	19.75	0.53	---	7.83	4.19	0.00	0.00	---	5.19	Min.	Reg.
			3	12.03	7.75	0.00	0.00	0.00	0.00												
			4	12.03	7.75	0.00	0.00	0.00	0.00												
			5	12.03	7.75	0.00	0.00	0.00	0.00												
			6	12.03	7.75	0.00	0.00	0.00	0.00												
			7	12.03	7.75	0.00	0.00	0.00	0.00												
			8	12.03	7.75	0.00	0.00	0.00	0.00												
			9	12.03	7.75	0.00	0.00	0.00	0.00												
			10	12.03	7.75	0.00	0.00	0.00	0.00												
			11	12.03	7.75	0.00	0.00	0.00	0.00												
			12	12.03	7.75	0.00	0.00	0.00	0.00												
			13	12.03	7.75	0.00	0.00	0.00	0.00												
			14	12.03	7.75	0.00	0.00	0.00	0.00												
			15	12.03	7.75	0.00	0.00	0.00	0.00												
			16	12.03	7.75	0.00	0.00	0.00	0.00												
			17	12.03	7.75	0.00	0.00	0.00	0.00												
			18	12.03	7.75	0.00	0.00	0.00	0.00												
			19	12.03	7.75	0.00	0.00	0.00	0.00												
			20	12.03	7.75	0.00	0.00	0.00	0.00												
			21	12.03	7.75	0.00	0.00	0.00	0.00												
			22	12.03	7.75	0.00	0.00	0.00	0.00												
			23	12.03	7.75	0.00	0.00	0.00	0.00												
			24	12.03	7.75	0.00	0.00	0.00	0.00												
			25	12.03	7.75	0.00	0.00	0.00	0.00												
			26	12.03	7.75	0.00	0.00	0.00	0.00												
			27	12.03	7.75	0.00	0.00	0.00	0.00												
			28	12.03	7.75	0.00	0.00	0.00	0.00												
			29	12.03	7.75	0.00	0.00	0.00	0.00												
			30	12.03	7.75	0.00	0.00	0.00	0.00												
			31	12.03	7.75	0.00	0.00	0.00	0.00												
			32	12.03	7.75	0.00	0.00	0.00	0.00												
			33	12.03	7.75	0.00	0.00	0.00	0.00												
			34	12.03	7.75	0.00	0.00	0.00	0.00												
			35	12.03	7.75	0.00	0.00	0.00	0.00												
			36	12.03	7.75	0.00	0.00	0.00	0.00												
			37	12.03	7.75	0.00	0.00	0.00	0.00												
			38	12.03	7.75	0.00	0.00	0.00	0.00												
			39	12.03	7.75	0.00	0.00	0.00	0.00												
			40	12.03	7.75	0.00	0.00	0.00	0.00												
			41	12.03	7.75	0.00	0.00	0.00	0.00												
			42	12.03	7.75	0.00	0.00	0.00	0.00												
			43	12.03	7.75	0.00	0.00	0.00	0.00												
			44	12.03	7.75	0.00	0.00	0.00	0.00												
			45	12.03	7.75	0.00	0.00	0.00	0.00												
			46	12.03	7.75	0.00	0.00	0.00	0.00												
			47	12.03	7.75	0.00	0.00	0.00	0.00												
			48	12.03	7.75	0.00	0.00	0.00	0.00												
			49	12.03	7.75	0.00	0.00	0.00	0.00												
			50	12.03	7.75	0.00	0.00	0.00	0.00												
			51	12.03	7.75	0.00	0.00	0.00	0.00												
			52	12.03	7.75	0.00	0.00	0.00	0.00												
			53	12.03	7.75	0.00	0.00	0.00	0.00												
			54	12.03	7.75	0.00	0.00	0.00	0.00												
			55	12.03	7.75	0.00	0.00	0.00	0.00												
			56	12.03	7.75	0.00	0.00	0.00	0.00												
			57	12.03	7.75	0.00	0.00	0.00	0.00												
			58	12.03	7.75	0.00	0.00	0.00	0.00												
			59	12.03	7.75	0.00	0.00	0.00	0.00												
			60	12.03	7.75	0.00	0.00	0.00	0.00												
			61	12.03	7.75	0.00	0.00	0.00	0.00												
			62	12.03	7.75	0.00	0.00	0.00	0.00												
			63	12.03	7.75	0.00	0.00	0.00	0.00												
			64	12.03	7.75	0.00	0.00	0.00	0.00												
			65	12.03	7.75	0.00	0.00	0.00	0.00												
			66	12.03	7.75	0.00	0.00	0.00	0.00												
			67	12.03	7.75	0.00	0.00	0.00	0.00												
			68	12.03	7.75	0.00	0.00	0.00	0.00												
			69	12.03	7.75	0.00	0.00	0.00	0.00												
			70	12.03	7.75	0.00	0.00	0.00	0.00												
			71	12.03	7.75	0.00	0.00	0.00	0.00												
			72	12.03	7.75	0.00	0.00	0.00	0.00												
			73	12.03	7.75	0.00	0.00	0.00	0.00												
			74	12.03	7.75	0.00	0.00	0.00	0.00												
			75	12.03	7.75	0.00	0.00	0.00	0.00												
			76	12.03	7.75	0.00	0.00	0.00	0.00												
			77	12.03	7.75	0.00	0.00	0.00	0.00												
			78	12.03	7.75	0.00	0.00	0.00	0.00												
			79	12.03	7.75	0.00	0.00	0.00	0.00												
			80	12.03	7.75	0.00	0.00	0.00	0.00												
			81	12.03	7.75	0.00	0.00	0.00	0.00												
			82	12.03	7.75	0.00	0.00	0.00	0.00												
			83	12.03	7.75	0.00	0.00														

2	10.27	5.49	0.00	0.00
2	9.88	5.28	0.00	0.00
3	10.30	5.51	0.00	0.00
3	9.83	5.26	0.00	0.00
3	10.30	5.51	0.00	0.00
3	9.83	5.26	0.00	0.00

FERPI LONGITUDINALI

$$b_2 =$$

VERIFICHE DI STABILITÀ

233 KLS

agente : scorrimento agente

Il numero della comunicazione delle cose per cui viene valutato il

Pilaster n. 2 *Hadi*: 2 -805 -807 702 202

Ferri longitudinali - Armatura teorica

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2 2X

[illegible][illegible][illegible]

Zg		El	El	CC	τ
2.23	2	1.12	149		
2.23	3	0.00	149		
2.75	3	0.52	149		
3.35	4	0.00	149		
5.70	4	3.35	149		
Filastro n. 3 Medi : 3 -876 -877 103 203					
Ferri longitudinali - Armatura teorica					
Zg	El	El	CC	τ	
0.00	1	0.00	164		
1.12	1	1.12	164		
1.12	2	0.00	164		
2.23	2	1.12	164		
2.23	3	0.00	164		
3.07	3	0.84	164		
3.35	4	0.00	164		
5.70	4	3.35	164		
Filastro n. 4 Medi : 4 -895 -896 104 204					
Ferri longitudinali - Armatura teorica					
Zg	El	El	CC	τ	
0.00	1	0.00	149		
1.12	1	1.12	149		
1.12	2	0.00	149		
2.23	2	1.12	149		
2.23	3	0.00	149		
2.75	3	0.52	149		
3.35	4	0.00	149		
5.70	4	3.35	149		

Tensioni tangenziali

Zg	El	El	CC	τ
0.00	1	0.00	2	
1.12	1	1.12	2	
1.12	2	0.00	2	
2.23	2	1.12	2	
2.23	3	0.00	2	
2.75	3	0.52	2	
3.35	4	0.00	2	
5.70	4	3.35	2	

Filastro n. 3 Medi : 3 -876 -877 103 203

Ferri longitudinali - Armatura teorica

Zg	El	El	CC	P.no	H	II	cf	cc	τ
0.00	1	0.00	164						
1.12	1	1.12	164						
1.12	2	0.00	164						
2.23	2	1.12	164						
2.23	3	0.00	164						
3.07	3	0.84	164						
3.35	4	0.00	164						
5.70	4	3.35	164						
Filastro n. 4 Medi : 4 -895 -896 104 204									
Ferri longitudinali - Armatura teorica									
Zg	El	El	CC	P.no	H	II	cf	cc	τ
0.00	1	0.00	156						
1.12	1	1.12	156						
1.12	2	0.00	156						
2.23	2	1.12	156						
2.23	3	0.00	156						
2.75	3	0.52	156						
3.35	4	0.00	156						
5.70	4	3.35	156						

Tensioni tangenziali

Zg	El	El	CC	τ
0.00	1	0.00	2	
1.12	1	1.12	2	
1.12	2	0.00	2	
2.23	2	1.12	2	
2.23	3	0.00	2	
3.07	3	0.84	2	
3.35	4	0.00	2	
5.70	4	3.35	2	

Tensioni tangenziali

Zg	El	El	CC	τ
0.00	1	0.00	2	
1.12	1	1.12	2	
1.12	2	0.00	2	
2.23	2	1.12	2	
2.23	3	0.00	2	
2.75	3	0.52	2	
3.35	4	0.00	2	
5.70	4	3.35	2	

3.35	4	0.00	156	0.00	3	XY	5737.83	-42965.67	0.0	0	-32.7	3	5.7
		0.00	2	XZ	3868.96	-34586.33	0.0	0	-71.1	2	2.7		
		2.22	3	XY	-13643.89	-34507.76	2598.0	-90.0	3	5.0			
6.98	4	3.63	156	0.00	2	XZ	-2457.23	-32273.11	0.0	0	-34.4	2	1.4
		0.00	3	XY	-5202.20	-32929.32	0.0	0	-27.4	3	3.2		

Staffe - Armatura teorica													
20	21	22	23	24	25	26	27	28	29	30	31	32	33
0.00	0.85	5.15	0.05	3	13623.0	2	115.4						
0.85	1.90	1.36	0.03	3	3715.3	2	92.3						
1.90	2.75	0.00	0.00	3	3083.6	2	154.3						
3.35	4.20	0.00	0.00	3	3857.1	2	1635.2						
4.20	5.13	0.00	0.00	3	7075.5	2	2691.0						
5.13	5.98	0.00	0.00	3	2365.2	2	923.5						

Tensioni tangenziali													
20	21	22	23	24	25	26	27	28	29	30	31	32	33
0.00	1	0.00	3	10.1									
1.12	1	1.12	3	8.2									
1.12	2	0.00	3	0.3									
2.23	2	1.12	3	0.3									
2.23	3	0.00	3	5.5									
2.75	3	0.52	3	5.7									
3.35	4	0.00	3	5.0									
5.98	4	3.63	3	3.2									

Pilastro n. 7 Hodi : 7 107 207

Ferri longitudinali - Armatura teorica													
Zg		El		Zl		Sec		Afteo		CC		P.no	
0.00		1		0.00		157		0.00		2		X3	
												4397.59	
												-101204.80	
												0.0	
												-51.9	
												2	
												3.0	
												0.6	
												0.6	
												0.6	
												0.6	
												0.6	
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Staffe - Armatura teorica													
20	21	22	23	24	25	26	27	28	29	30	31	32	33
0.00	0.85	0.00	0.00	3	65.8	2	574.5						
0.85	2.22	0.00	0.00	3	105.5	2	964.0						
2.22	3.07	0.00	0.00	3	67.0	2	622.7						
3.35	4.20	0.00	0.00	3	558.1	2	2271.6						
4.20	5.13	0.00	0.00	3	1150.5	2	4119.3						
5.13	5.98	0.00	0.00	3	543.1	2	1382.4						

Tensioni tangenziali													
20	21	22	23	24	25	26	27	28	29	30	31	32	33
0.00	1	0.00	2	3.0									
3.07	1	3.07	2	3.0									
3.35	2	0.00	2	5.2									
5.98	2	3.63	2	3.0									

Pilastro n. 8 Hodi : 8 -1278 -1279 108 208

Ferri longitudinali - Armatura teorica													
Zg	El	21	Ses	ArTeo	CC	Eno	M	II	ef	σc	CC	τ	
0.00	1	0.00	156	0.00	3	XZ	968.94	-34834.38	0.0	-21.3	2	0.2	1.4
						XY	15912.12	-19933.14	2597.7	-77.7	3	8.6	1.4
1.12	1	1.12	156	0.00	3	XZ	710.28	-34122.38	0.0	-19.0	2	0.2	5.6
													5.6
													9.5

Ferri longitudinali - Armatura teorica											
Zg	El	Zl	Sez	Aftco	CC	P.no	M	H	af	sc	CC
0.00	1	0.00	155	0.00	2	XZ	-4440.35	-74943.09	0.0	-64.8	2
0.00	1	0.00	155	0.00	3	XY	6098.83	-75534.31	0.0	-64.8	3
2.75	1	2.75	155	0.00	2	XZ	-4410.51	-73311.51	0.0	-38.6	2
0.00	2	0.00	155	0.00	3	XY	-4535.75	-73501.75	0.0	-41.5	3
3.35	2	0.00	155	0.00	2	XZ	3723.07	-32762.93	0.0	-70.7	2
0.00	3	0.00	155	0.00	3	XY	17487.79	-32622.13	2599.3	-92.7	3
6.98	2	3.63	155	0.00	2	XZ	-2692.11	-30450.70	0.0	-38.6	2
0.00	3	0.00	155	0.00	3	XY	-12849.51	-30309.90	2599.8	-84.4	3

Staffe - Armatura teorica											
Zg	El	Zl	Sez	Aftco	CC	P.no	M	H	af	sc	CC
0.00	0.85	0.00	0.00	0.00	3	XZ	345.7	2	454.2		
0.85	1.90	0.00	0.00	0.00	3	XY	424.5	2	518.1		
1.90	2.75	0.00	0.00	0.00	3	XZ	346.7	2	384.7		
3.35	4.20	0.00	0.00	0.00	3	XY	8234.4	2	1848.0		
4.20	5.13	3.00	0.60	0.60	3	XZ	15045.0	2	3015.6		
5.13	5.98	3.23	0.53	0.53	3	XY	7138.3	2	1174.4		

Tensioni tangenziali											
Zg	El	Zl	CC								
0.00	1	0.00	3	1.9							
2.75	1	2.75	3	1.9							
3.35	2	0.00	3	5.5							
6.98	2	3.63	3	7.1							

Pilastro n. 16 Mod: 16 115 215

Ferri longitudinali - Armatura teorica											
Zg	El	Zl	Sez	Aftco	CC	P.no	M	H	af	sc	CC
0.00	1	0.00	155	0.00	2	XZ	5671.64	-107665.90	0.0	-62.6	2
3.07	1	3.07	155	0.00	3	XY	2289.71	-108938.80	0.0	-64.5	3
0.00	2	0.00	155	0.00	2	XZ	-10606.94	-105823.50	0.0	-77.2	2
3.35	2	0.00	155	0.00	3	XY	-3794.89	-107096.50	0.0	-76.2	3
0.00	3	0.00	155	0.00	2	XZ	10773.71	-48762.07	0.0	-60.5	2
6.98	2	3.63	155	22.44	3	XY	7349.48	-47919.77	1135.5	-97.5	3
0.00	3	0.00	155	23.97	3	XZ	-5060.97	-46843.10	0.0	-35.3	2
0.00	3	0.00	155	23.97	3	XY	-7453.20	-45741.18	1190.5	-97.5	3

Staffe - Armatura teorica											
Zg	El	Zl	Sez	Aftco	CC	P.no	M	H	af	sc	CC
0.00	0.80	0.00	0.00	0.00	3	XZ	231.1	2	596.4		
0.80	2.27	0.00	0.00	0.00	3	XY	433.9	2	1128.2		
2.27	3.07	0.00	0.00	0.00	3	XZ	244.5	2	636.8		
3.35	4.15	0.00	0.00	0.00	3	XY	12945.0	2	1458.5		
4.15	5.18	0.00	0.00	0.00	3	XZ	22487.0	2	3086.8		
5.18	5.98	0.00	0.00	0.00	3	XY	13327.0	2	1017.2		

Tensioni tangenziali											
Zg	El	Zl	CC								
0.00	1	0.00	2	3.3							
3.07	1	3.07	2	3.3							
3.35	2	0.00	2	4.1							
6.98	2	3.63	3	2.9							

Pilastro n. 17 Mod: 17 117 217

Ferri longitudinali - Armatura teorica											
Zg	El	Zl	Sez	Aftco	CC	P.no	M	H	af	sc	CC
0.00	1	0.00	156	0.00	2	XZ	1720.88	-79059.38	0.0	-44.5	2
0.00	2	0.00	156	0.00	3	XY	4899.59	-79695.28	0.0	-44.8	3
2.75	1	2.75	156	0.00	2	XZ	1499.64	-77307.87	0.0	-42.1	2
0.00	3	0.00	156	0.00	3	XY	-6142.31	-77943.77	0.0	-47.6	3

Pilastro n. 15 Mod: 15 115 215

Ferri longitudinali - Armatura teorica											
Zg	El	Zl	Sez	Aftco	CC	P.no	M	H	af	sc	CC
0.00	1	0.00	3	1.2							
2.75	1	2.75	3	1.2							
3.35	2	0.00	3	8.0							
6.70	2	3.35	3	15.4							

3.35	2	0.00	156	0.00	2	XZ	-3689.05	-35424.51	0.0	-60.5	2	2.3
7.83	3	XY	18745.72	-34928.82	2595.4	-96.4	3	6.3				
6.70	2	XZ	2223.25	-34593.73	0.0	-31.6	2	1.3				
4.88	3	XY	-15472.22	-32794.94	2595.5	-90.4	3	7.3				

Staffe - Armatura teorica

20	51	Afteo y Afteo z	Scortim	Scortim
cmq/m	cmq/m	agents	agents	CC
0.00	0.85	0.00	0.00	3
0.85	1.90	0.00	0.00	3
1.90	2.75	0.00	0.00	3
3.35	4.20	4.57	0.64	3
4.20	5.85	3.79	0.48	3
3.35	5.70	4.27	0.38	3

Tensioni tangenziali

Zg	El	21	CC	τ
0.00	1	0.00	3	2.1
2.75	1	2.75	3	2.1
3.35	2	0.00	3	5.3
5.70	2	3.35	3	7.3

Pilastrino n. 19 Mod: 19 - 817 - 818 119 219

Ferri longitudinali - Armatura teorica

Zg	El	21	Sez	Afteo	CC	P.no	M	II	af	sc	CC	τ
0.00	1	0.00	145	0.95	3	XZ	-2000.35	-13671.36	2597.4	-71.5	2	0.5
				0.57	3	XY	-3794.04	-13671.36	2599.3	-64.9	3	6.3
1.12	1	1.12	145	0.00	3	XZ	-1750.10	-13168.36	0.0	-85.6	3	1.1
				0.00	3	XY	148.01	-25958.36	0.0	-15.2	3	3.0
1.12	2	0.00	145	0.00	2	XZ	-1389.25	-23890.54	0.0	-28.9	2	0.3
				0.00	3	XY	148.01	-25801.36	0.0	-15.2	3	0.3
2.23	2	1.12	145	0.00	2	XZ	-1135.08	-23368.54	0.0	-25.6	2	0.2
				0.00	3	XY	254.98	-25299.36	0.0	-15.5	3	0.3
2.23	3	0.00	145	0.00	2	XZ	-582.09	-32973.65	0.0	-24.8	2	0.7
				0.00	3	XY	254.98	-33240.05	0.0	-19.9	3	5.5
2.75	3	0.52	145	0.00	2	XZ	-980.00	-32741.55	0.0	-29.1	2	0.7
				0.00	3	XY	-3113.98	-33007.95	0.0	-35.6	3	5.5
3.35	4	0.00	145	0.00	2	XZ	-3317.79	-34447.04	0.0	-71.3	2	2.4
				0.00	3	XY	-6572.27	-33632.67	0.0	-71.3	2	6.8
5.96	4	3.43	145	0.00	2	XZ	-2311.33	-33738.02	0.0	-46.0	2	1.6
				3.44	3	XY	8725.00	-31998.48	1958.2	-97.4	3	5.1

Staffe - Armatura teorica

20	21	Afteo y Afteo z	CC	Scorrim y	Scorrim z
0.00	0.50	0.23	3	2569.9	361.3
0.50	2.15	0.00	3	1823.4	228.4
2.15	2.75	0.00	3	2551.1	81.9
3.35	3.95	1.60	3	2516.5	675.4
3.95	5.38	1.78	3	11224.0	2077.7
5.38	5.98	0.00	3	3458.2	481.8

Tensioni tangenziali

Zg	El	21	CC	τ
0.00	1	0.00	3	5.3
1.12	1	1.12	3	3.0
1.12	2	0.00	2	0.3
2.23	2	1.12	3	0.3
2.23	3	0.00	3	5.5
2.75	3	0.52	3	5.5
3.35	4	0.00	3	6.8
5.98	4	3.43	3	5.1

Pilastrino n. 20 Mod: 20 120 220

Ferri longitudinali - Armatura teorica

z _g	El	21	Sez	Afteo	CC	P.no	M	II	af	sc	CC	τ
0.00	1	0.00	156	0.00	2	XZ	1084.70	-107091.00	0.0	-50.5	2	0.4
				0.00	3	XY	12666.69	-107123.70	0.0	-77.1	3	3.1
3.07	1	3.07	156	0.00	2	XZ	1177.06	-105140.70	0.0	-50.5	2	0.4
				0.00	3	XY	-5103.60	-105147.40	0.0	-55.4	3	3.1
3.35	2	0.00	156	0.00	2	XZ	-2705.99	-50357.98	0.0	-41.0	2	0.7
				0.00	3	XY	-13547.13	-49751.04	0.0	-73.4	3	7.8
5.98	2	3.63	156	0.00	2	XZ	1588.39	-48045.75	0.0	-31.3	2	0.6
				0.00	3	XY	11753.10	-47448.80	0.0	-31.3	3	6.6

Staffe - Armatura teorica

Z	El	20	21	Affix y cmq/m	CC cmq/m	CC agents	Scotrim y agents	CC agents	Scotrim z agents
0.00	0.85	0.00	0.22	0.00	0.00	3	933.5	2	31.5
0.85	2.22	0.00	0.00	0.00	0.00	3	591.5	2	51.2
2.22	3.07	0.00	0.00	0.00	0.00	3	438.8	2	32.0
3.35	4.20	1.98	0.10	1.98	0.10	3	4385.0	2	221.3
4.20	5.13	1.56	0.10	1.56	0.10	3	7834.2	2	479.0
5.13	5.98	1.79	0.09	1.79	0.09	3	3893.5	2	200.7

Tensioni tangenziali

Zg	El	21	CC	τ
0.00	1	0.00	3	3.1
3.07	1	3.07	3	3.1
3.35	2	0.00	3	7.8
5.98	2	3.53	3	5.5

Pilastrino n. 21 Mod: 21 121 221

Ferri longitudinali - Armatura teorica

z _g	El	21	Sez	Afteo	CC	P.no	M	II	af	sc	CC	τ
0.00	1	0.00	156	0.00	2	XZ	1348.72	-84503.08	0.0	-43.7	2	0.4
0.00	3	XY	16890.69	-87076.85	0.0	-83.8	3	5.5				
2.75	1	2.75	156	0.00	2	XZ	1637.50	-82750.57	0.0	-45.2	3	0.4
0.00	3	XY	-4231.04	-85324.45	0.0	-45.2	3	4.2				
3.35	2	0.00	156	0.00	2	XZ	-3698.30	-39448.10	0.0	-55.0	2	1.9
0.00	3	XY	-12303.55	-37858.94	0.0	-84.1	3	10.6				
5.70	2	3.35	156	0.00	2	XZ	2180.71	-38021.78	0.0	-32.2	2	1.1
0.00	3	XY	8910.74	-35725.06	0.0	-45.2	3	6.0				

Staffe - Armatura teorica

Zg	El	21	Afteo	CC	Scortim	CC	Scortim	CC	Scortim
0.00	0.85	0.00	0.00	0.00	3	2055.9	2	37.4	
0.85	1.90	0.00	0.00	0.00	3	2225.1	2	46.6	
1.90	2.75	0.00	0.00	0.00	3	1548.3	2	38.1	
3.35	4.20	3.10	0.45	3	5854.2	2	1025.8		
4.20	5.85	2.29	0.37	3	9844.4	2	1589.9		
5.85	5.70	1.93	0.30	3	4255.6	2	672.7		

Tensioni tangenziali

Zg	El	21	CC	τ
0.00	1	0.00	3	5.5
2.75	1	2.75	3	4.2
3.35	2	0.00	3	10.6
5.70	2	3.35	3	5.0

Pilastrino n. 23 Mod: 23 -745 -747 123 223

Ferri longitudinali - Armatura teorica

Zg	El	21	Sez	Afteo	CC	P.no	M	II	af	sc	CC	τ
0.00	1	0.00	149	10.35	2	XZ	-5728.58	-3765.67	1707.8	-39.8	2	2.8

2.17	3.07	9.21	8.13	3	21559.0	2	19036.0
3.35	4.25	12.71	5.06	3	29743.0	2	11839.0
4.25	5.80	12.71	7.50	3	51234.0	2	30609.0
5.80	6.70	12.78	10.13	3	29912.0	2	23706.0

Tensioni tangenziali

Zg	El	El	CC	τ
0.00	1	0.00	2	3.8
1.12	1	1.12	2	1.4
1.12	2	0.00	2	0.4
2.23	2	1.12	2	0.4
2.23	3	0.00	2	10.9
3.07	3	0.84	2	11.0
3.35	4	0.00	2	4.4
6.70	4	3.35	2	17.4

Filastro n. 25 Hodi : 25 -764 -765 125 225

Ferri longitudinali - Armatura teorica

Zg	El	El	Ser	CC	P.no	M	II	sf	sc	CC	τ
0.00	1	0.00	149	0.52	2	X2	2141.42	-5044.96	2598.2	-33.7	2
				10.78	3	XY	3740.35	-8139.86	2407.1	-72.9	2
1.12	1	1.12	149	0.00	2	XY	3515.24	-5044.96	2598.5	-71.4	2
				5.65	3	X2	-215.88	-12619.84	0.0	-6.4	2
					3	XY	2304.74	-7512.26	2212.5	-56.0	2
1.12	2	0.00	149	0.00	2	XY	2184.91	-4417.36	2597.7	-55.5	2
					3	X2	-215.88	-17847.70	0.0	-8.7	2
2.23	2	1.12	149	0.00	2	XY	468.26	-17847.70	0.0	-12.1	3
					3	X2	-428.34	-17220.10	0.0	-9.2	2
2.23	3	0.00	149	0.00	2	XY	-571.88	-17220.10	0.0	-12.7	2
					3	X2	-428.34	-25359.92	0.0	-12.8	2
2.75	3	0.52	149	0.00	2	XY	-2749.73	-21238.00	0.0	-92.0	2
					3	XY	-804.96	-20947.93	0.0	-47.6	2
3.35	4	0.00	163	8.83	2	X2	-13119.74	-19583.54	2596.4	-80.9	2
				37.47	3	XY	9214.05	-22379.60	1761.3	-97.1	3
6.70	4	3.35	163	1.80	2	X2	6982.14	-19485.83	1833.6	-97.1	3
				27.99	3	XY	-8082.63	-20496.85	1982.3	-97.5	3
					3	XY	-8082.63	-17603.08	2086.9	-97.2	3

Staffe - Armatura teorica

Z0	Z1	Affres / m	Affres / m	CC	Sorrim	Sorrim	CC	agente	Sorrim
0.00	1	0.00	0.00	2	4523.3	2	1884.5		
0.75	2.00	0.00	0.00	2	2788.8	2	11303.0		
2.00	2.75	5.47	5.80	2	12518.0	2	6405.6		
3.35	4.10	0.00	0.00	3	18363.0	2	44777.0		
4.10	5.95	9.31	3.00	3	18142.0	2	5562.7		

Tensioni tangenziali

Zg	El	El	CC	τ
0.00	1	0.00	2	2.2
1.12	1	1.12	2	1.4
1.12	2	0.00	3	0.5
2.23	2	1.12	2	0.5
2.23	3	0.00	2	12.9
2.75	3	0.52	2	18.4
3.35	4	0.00	2	4.3
6.70	4	3.35	2	5.6

Staffe - Armatura teorica

30	31	Afteo y Afteo 2	Scorrim y	Scorrim 2
		cmq/m	agente	agente
		CC	CC	CC
0.00	0.90	0.00	2708.0	3321.4
0.90	2.17	0.00	575.2	570.5

2.17	3.07	9.21	8.13	3	21559.0	2	19036.0
3.35	4.25	12.71	5.06	3	29743.0	2	11839.0
4.25	5.80	12.71	7.50	3	51234.0	2	30609.0
5.80	6.70	12.78	10.13	3	29912.0	2	23706.0

Filastro n. 24 Hodi : 24 -744 -745 124 224

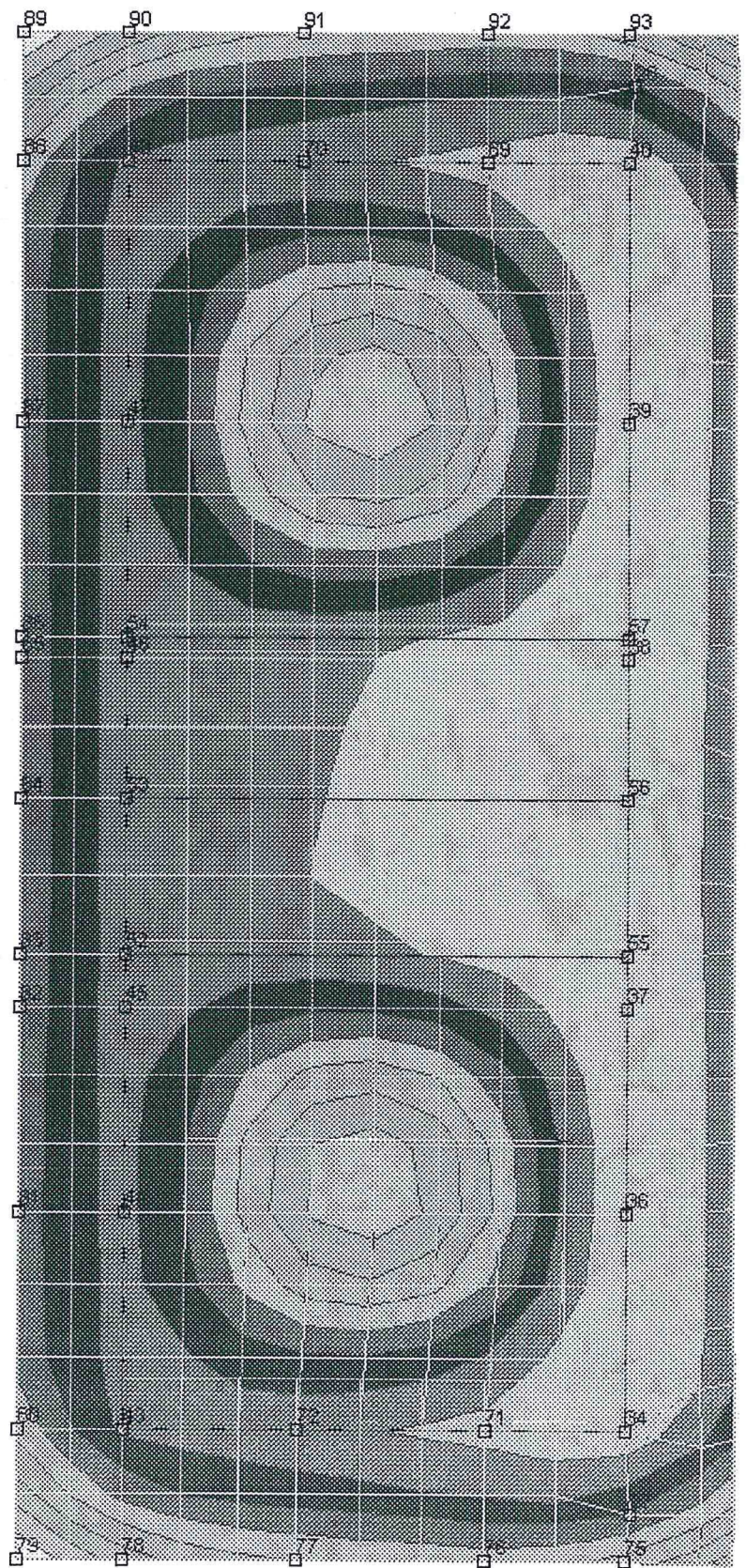
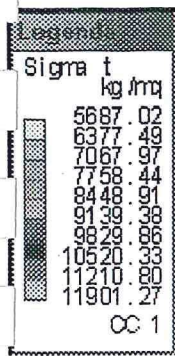
Ferri longitudinali - Armatura teorica

Zg	El	El	Ser	CC	P.no	M	II	sf	sc	CC	τ
0.00	1	0.00	164	0.00	2	X2	2810.81	-8404.22	0.0	-16.2	2
					3	XY	1889.17	-8242.46	2598.0	-50.2	3
1.12	1	1.12	164	0.00	2	XY	399.55	-8201.54	0.0	-4.0	2
					3	XY	1152.35	-7488.76	3592.2	-40.5	3
1.12	2	0.00	164	0.00	2	X2	399.55	-13425.99	0.0	-6.0	2
					3	XY	305.17	-13794.55	0.0	-7.4	3
2.23	2	1.12	164	0.00	2	X2	-397.90	-12672.18	0.0	-5.7	2
					3	XY	-526.47	-13040.95	0.0	-9.5	3
2.23	3	0.00	164	0.00	2	XY	-397.90	-24926.12	0.0	-10.2	2
					3	XY	-1151.85	-25681.95	0.0	-18.0	3
3.07	3	0.84	164	8.09	2	X2	-15744.14	-24206.19	2599.9	-79.0	2
					3	XY	7368.66	-23450.36	2200.4	-97.4	3
3.35	4	0.00	162	11.58	2	X2	-21513.43	-27611.80	2599.2	-86.5	2
					3	XY	11300.48	-28931.55	1586.7	-97.4	3
6.70	4	3.35	162	0.00	2	X2	11300.48	-26642.57	1731.6	-97.2	3
					3	XY	-9551.57	-25356.95	0.0	-77.3	2
					3	XY	-11917.51	-25356.95	0.0	-97.5	3
					3	XY	-11917.51	-24381.73	1687.3	-97.2	3

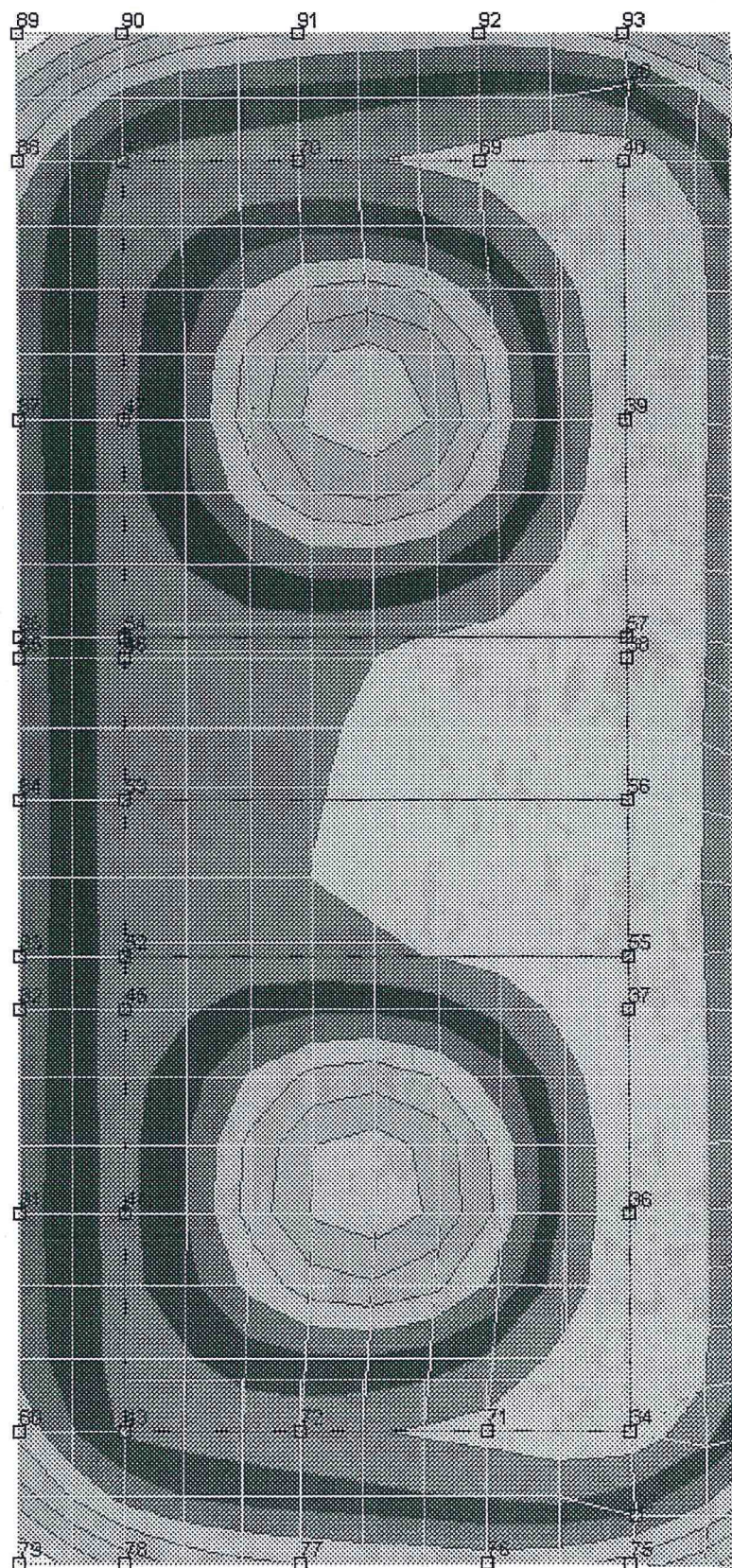
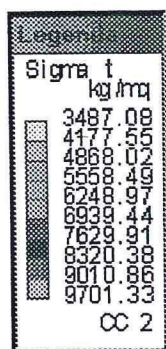
Staffe - Armatura teorica

Zg	El	El	Ser	CC	P.no	M	II	sf	sc	CC	τ
0.00	1	0.00	164	0.00	2	X2	2810.81	-8404.22	0.0	-16.2	2
					3	XY	1889.17	-8242.46	2598.0	-50.2	3
1.12	1	1.12	164	0.00	2	XY	399.55	-8201.54	0.0	-4.0	2
					3	XY	1152.35	-7488.76	3592.2	-40.5	3
1.12	2	0.00	164	0.00	2	X2	399.55	-13425.99	0.0	-6.0	2
					3	XY	305.17	-13794.55	0.0	-7.4	3
2.23	2	1.12	164	0.00	2	X2	-397.90	-12672.18	0.0	-5.7	2
					3	XY	-526.47	-13040.95	0.0	-9.5	3
2.23	3	0.00	164	0.00	2	XY	-397.90	-24926.12	0.0	-10.2	2
					3	XY	-1151.85	-25681.95	0.0	-18.0	3
3.07	3	0.84	164	8.09	2	X2	-15744.14	-24206.19	2599.9	-79.0	2
					3	XY	7368.66	-23450.36	2200.4	-97.4	3
3.35	4	0.00	162	11.58	2	X2	-21513.43	-27611.80	2599.2	-86.5	2
					3	XY	11300.48	-28931.55	1586.7	-97.4	3
6.70	4	3.35	162	0.00	2	X2	11300.48	-26642.57	1731.6	-97.2	3
					3	XY	-9551.57	-25356.95	0.0	-77.3	2
					3	XY	-11917.51	-25356.95	0.0	-97.5	3
					3	XY	-11917.51	-24381.73	1687.3	-97.2	3

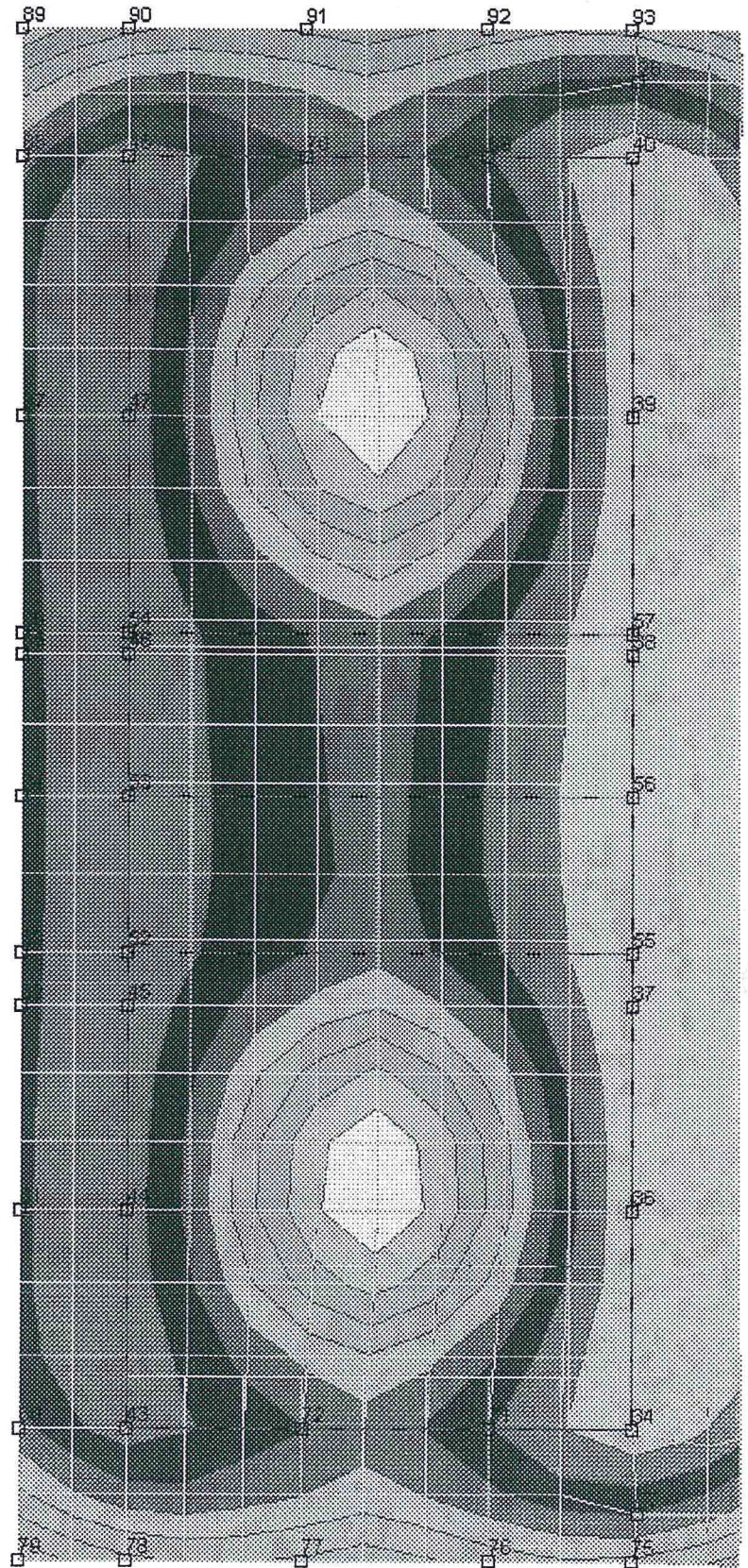
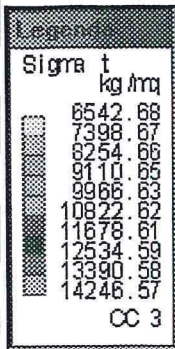
TENSIONI SUL TERRENO



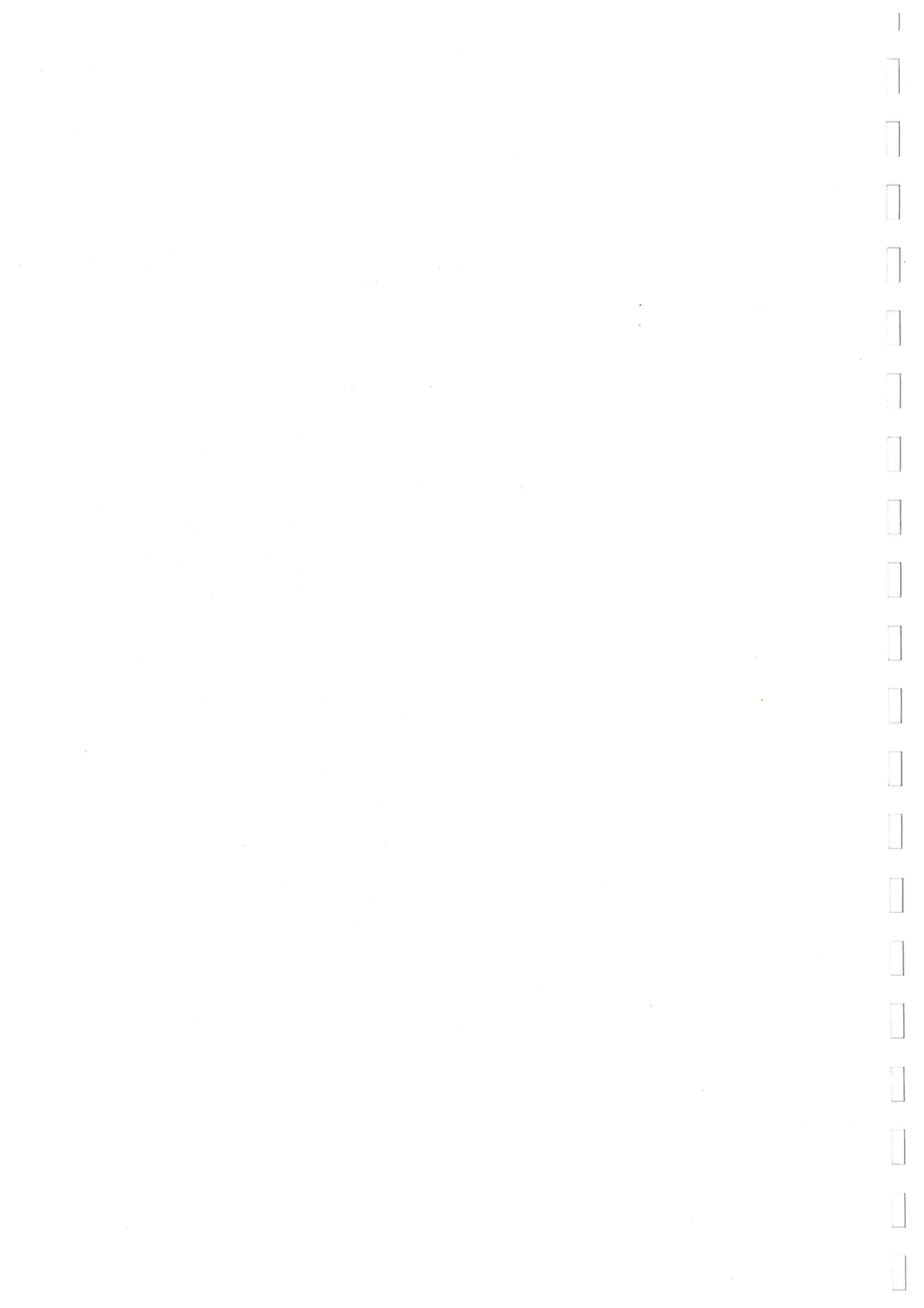
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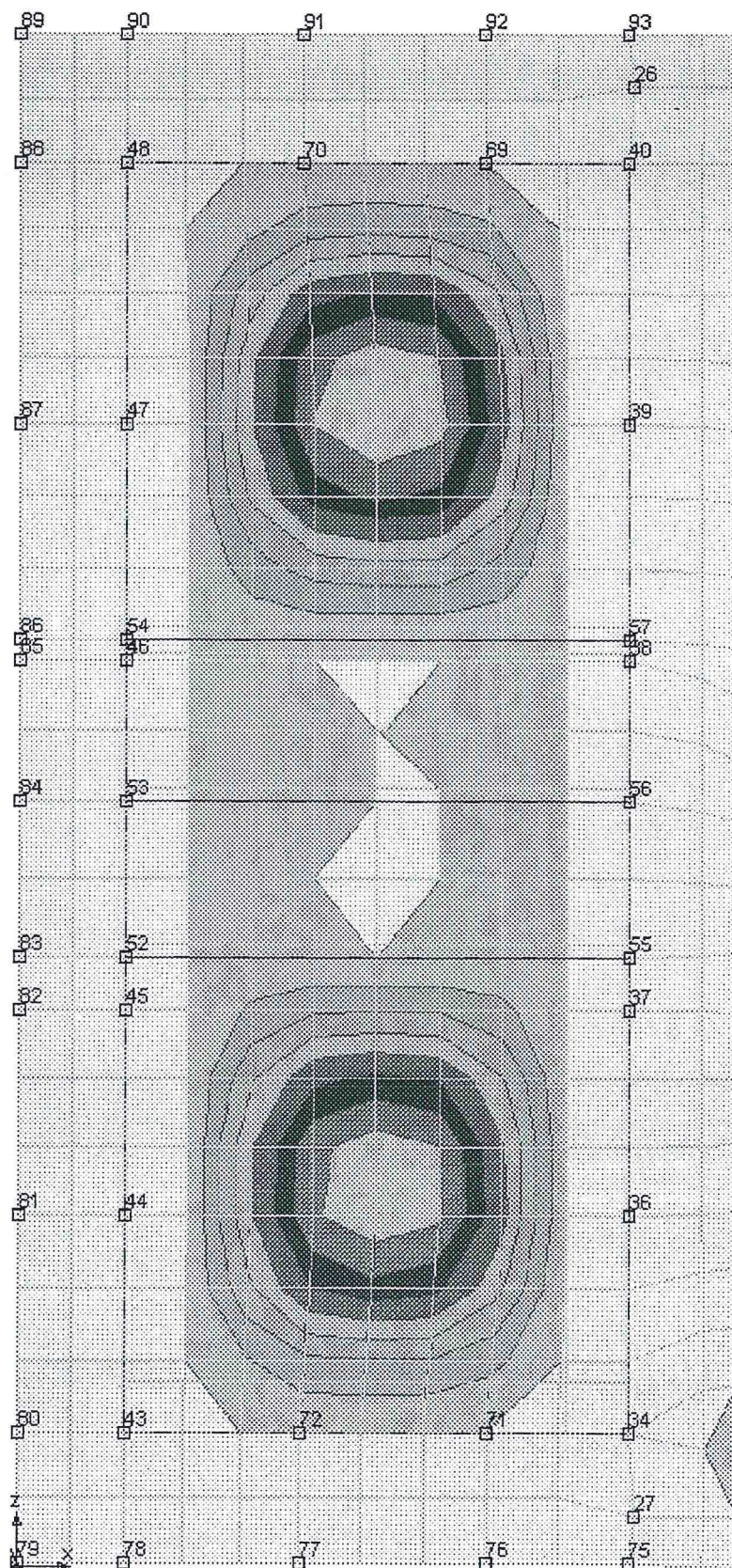
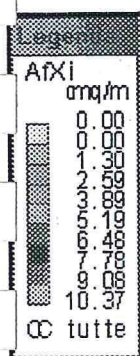
-Tensioni sul terreno 2^a comb. carico-



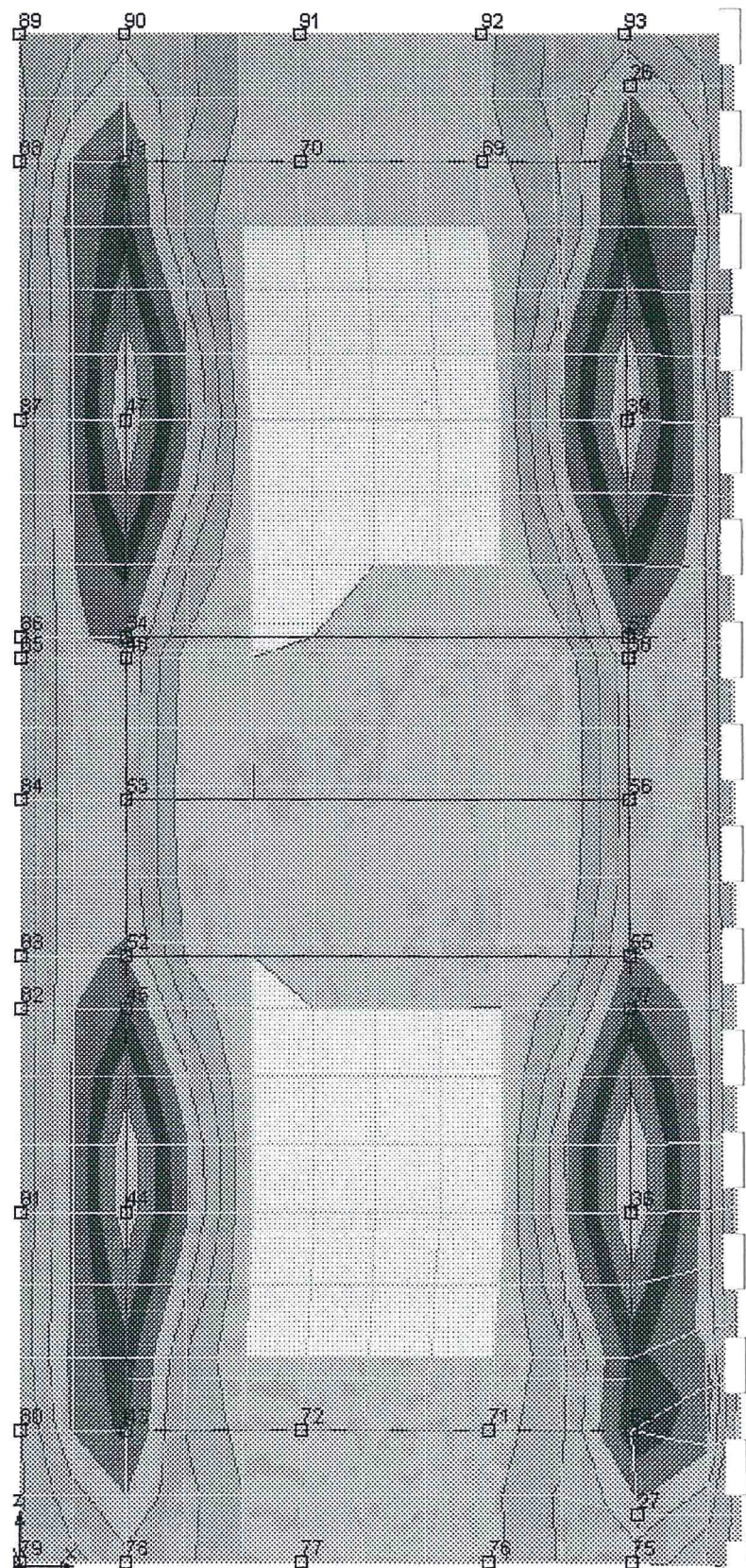
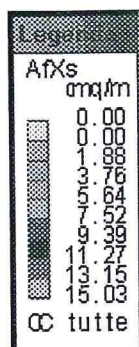
-Tensioni sul terreno 3^a comb. carico-



ARMATURA PLATEA



-Armatura superiore in direzione X-



-Armatura inferiore in direzione X-

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0 -127 -128 -147 -148 PP 0 0 1250
0 -126 -127 -146 -147 PP 0 0 1250
0 -142 -145 45 PP 0 0 1250
0 -144 -142 52 PP 0 0 1250
0 -107 53 -144 -134 PP 0 0 1250
0 -143 -144 83 -142 PP 0 0 1250
0 -141 -133 -132 55 PP 0 0 1250
0 -507 -508 34 -34 PP 0 0 1250
0 55 -348 37 -490 PP 0 0 1250
0 72 -192 -217 -218 PP 0 0 1250
0 -14 -155 -199 -201 PP 0 0 1250
0 -108 -200 -190 -191 PP 0 0 1250
0 -107 -199 -198 -200 PP 0 0 1250
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0 -155 -188 -187 -189 PP 0 0 1250
0 -162 -163 -178 44 PP 0 0 1250
0 -181 -161 -182 -163 PP 0 0 1250
0 -145 45 -181 -161 PP 0 0 1250
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0 -228 -230 -229 -231 PP 0 0 1250
0 -227 -222 -225 78 PP 0 0 1250
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0 71 -194 -213 -214 PP 0 0 1250
0 57 -340 38 -354 PP 0 0 1250
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0 -1128 -1122 238 257 PP 0 0 4100 0 -1206 -1208 -1207 -1209 PP 0 0 4100
0 -1130 -1129 -1132 -1131 PP 0 0 4100 0 -1207 -1209 -1194 -1195 PP 0 0 4100
0 -1132 -1131 237 265 PP 0 0 4100 0 -111 53 -1208 -986 PP 0 0 4100
0 -1135 -1137 -1136 -1138 PP 0 0 4100 0 -1208 -986 -1209 -987 PP 0 0 4100
0 -1136 -1138 236 -1133 PP 0 0 4100 0 -1209 -987 -1195 153 PP 0 0 4100
0 -1069 -1070 -1137 -1139 PP 0 0 4100 0 -1217 -1219 -1218 -1220 PP 0 0 4100
0 -1137 -1139 -1138 -1140 PP 0 0 4100 0 -1218 -1220 256 -1210 PP 0 0 4100
0 -1138 -1140 -1133 -1134 PP 0 0 4100 0 -1189 -1190 -1219 -1221 PP 0 0 4100
0 -1070 37 -1139 -1135 PP 0 0 4100 0 -1219 -1221 -1220 -1222 PP 0 0 4100
0 -1139 -1140 -1140 -1132 PP 0 0 4100 0 -1220 -1222 -1210 -1211 PP 0 0 4100
0 -1140 -1132 -1134 237 PP 0 0 4100 0 -1190 -1191 -1221 -1223 PP 0 0 4100
0 -849 -1143 -851 -1144 PP 0 0 4100 0 -1221 -1223 -1222 -1224 PP 0 0 4100

0 -1222	-1224	-1211	-1212	PP	0	0	2975	0	84	-107	-143	-144	UG	0	0	-2200
0 -1191	-1192	-1223	-1225	PP	0	0	2975	0	54	-69	46	-94	UG	0	0	-2200
0 -1223	-1225	-1224	-1226	PP	0	0	2975	0	85	-106	-109	-110	UG	0	0	-2200
0 -1224	-1226	-1212	-1213	PP	0	0	2975	0	86	-101	85	-105	UG	0	0	-2200
0 -1192	-1193	-1225	-1227	PP	0	0	2975	0	45	-146	-151	-154	UG	0	0	-2200
0 -1225	-1227	-1226	-1228	PP	0	0	2975	0	81	-178	-185	-188	UG	0	0	-2200
0 -1226	-1228	-1213	-1214	PP	0	0	2975	0	44	-153	-154	-157	UG	0	0	-2200
0 -1193	-1194	-1227	-1229	PP	0	0	2975	0	80	-183	-226	-227	UG	0	0	-2200
0 -1227	-1229	-1228	-1230	PP	0	0	2975	0	43	-190	-222	-223	UG	0	0	-2200
0 -1228	-1230	-1214	-1215	PP	0	0	2975	0	18	-23	-20	-24	UG	0	0	-2200
0 -1194	-1195	-1229	-1231	PP	0	0	2975	0	22	-25	47	-5	UG	0	0	-2200
0 -1229	-1231	-1230	-1232	PP	0	0	2975	0	45	-58	59	-15	UG	0	0	-2200
0 -1230	-1232	-1215	-1216	PP	0	0	2975	0	85	-22	-59	47	UG	0	0	-2200
0 -1195	-1196	-1231	-1036	PP	0	0	2975	0	84	-20	-55	-22	UG	0	0	-2200
0 -1231	-1036	-1232	-1037	PP	0	0	2975	0	63	-18	-64	-70	UG	0	0	-2200
0 -1232	-1037	-1216	253	PP	0	0	2975	0	56	48	-63	-18	UG	0	0	-2200
0 -1077	-1240	-1078	-1241	PP	0	0	1250	0	62	-65	87	-59	UG	0	0	-2200
0 -1078	-1241	155	-1233	PP	0	0	1250	0	61	-64	-62	-65	UG	0	0	-2200
0 -132	-131	-1240	-1242	PP	0	0	1250	0	60	-63	-61	-64	UG	0	0	-2200
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0 -1241	-1243	-1233	-1234	PP	0	0	1250	0	55	90	-58	-52	UG	0	0	-2200
0 -131	-130	-1242	-1244	PP	0	0	1250	0	57	-58	88	-55	UG	0	0	-2200
0 -1242	-1244	-1243	-1245	PP	0	0	1250	0	54	-47	-7	70	UG	0	0	-2200
0 -1243	-1245	-1234	-1235	PP	0	0	1250	0	51	91	-54	-47	UG	0	0	-2200
0 -130	-129	-1244	-1246	PP	0	0	1250	0	53	-54	-5	-7	UG	0	0	-2200
0 -1244	-1246	-1245	-1247	PP	0	0	1250	0	50	-51	-53	-54	UG	0	0	-2200
0 -1245	-1247	-1235	-1236	PP	0	0	1250	0	52	-53	48	-5	UG	0	0	-2200
0 -129	-128	-1246	-1248	PP	0	0	1250	0	49	-45	-12	59	UG	0	0	-2200
0 -1246	-1248	-1247	-1249	PP	0	0	1250	0	48	32	-49	-45	UG	0	0	-2200
0 -1247	-1249	-1236	-1237	PP	0	0	1250	0	48	42	-10	-12	UG	0	0	-2200
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0 -1249	-1251	-1237	-1238	PP	0	0	1250	0	43	-41	-43	-41	UG	0	0	-2200
0 -127	-125	-1250	-1252	PP	0	0	1250	0	41	-17	-42	-17	UG	0	0	-2200
0 -1250	-1252	-1251	-1253	PP	0	0	1250	0	15	40	-41	-17	UG	0	0	-2200
0 -1251	-1253	-1238	-1239	PP	0	0	1250	0	40	-43	-41	-15	UG	0	0	-2200
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0 -1252	-983	-1253	-984	PP	0	0	1250	0	37	70	-59	-43	UG	0	0	-2200
0 -1253	-984	-1239	152	PP	0	0	1250	0	26	-23	-27	-50	UG	0	0	-2200
0 -1129	-1261	-1131	-1262	PP	0	0	3050	0	61	-63	-63	-70	UG	0	0	-2200
0 -1131	-1262	255	-1254	PP	0	0	3050	0	39	-42	-40	-45	UG	0	0	-2200
0 -1233	-1234	-1261	-1263	PP	0	0	3050	0	37	-13	-38	-41	UG	0	0	-2200
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0 -1265	-1266	-1265	-1267	PP	0	0	3050	0	37	-13	-38	-41	UG	0	0	-2200
0 -1266	-1267	-1266	-1268	PP	0	0	3050	0	37	-13	-38	-41	UG	0	0	-2200
0 -1267	-1268	-1266	-1267	PP	0	0	3050	0	37	-13	-38	-41	UG	0	0	-2200
0 -1268	-1269	-1267	-1269	PP	0	0	3050	0	37	-13	-38	-41	UG	0	0	-2200
0 -1269	-1270	-1267	-1269	PP	0	0	3050	0	37	-13	-38	-41	UG	0	0	-2200
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0 -1273	-1274	-1273	-1041	PP	0	0	3050	0	97	-98	-122	-123	UG	0	0	-2200
0 -1274	-1041	-1274	-1042	PP	0	0	3050	0	99	-100	-124	-125	UG	0	0	-2200
0 -1274	-1042	-1260	252	PP	0	0	3050	0	112	-125	-124	-125	UG	0	0	-2200
0 -1274	-1042	-1260	252	PP	0	0	3050	0	111	-112	-113	-115	UG	0	0	-2200
0 -1274	-1042	-1260	252	PP	0	0	3050	0	135	-136	-136	-136	UG	0	0	-2200
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0 -1274	-1042	-1260	252	PP	0	0	3050	0	113	-114	-137	-138	UG	0	0	-2200
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0 -1274	-1042	-1260	252	PP	0	0	3050	0	138	-139	-129	-130	UG	0	0	-2200
0 -1274	-1042	-1260	252	PP	0	0	3050	0	117	56	-141	-133	UG	0	0	-2200
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0 -1274	-1042	-1260	252	PP	0	0	3050	0	116	-117	-140	-141	UG	0	0	-2200
0 -1274	-1042	-1260	252	PP	0	0	3050	0	89	-55	-57	-58	UG	0	0	-2200
0 -1274	-1042	-1260	252	PP	0	0	3050	0	90	-52	-91	-93	UG	0	0	-2200
0 -1274	-1042	-1260	252	PP	0	0	3050	0	84	-86	-85	-87	UG	0	0	-2200
0 -1274	-1042	-1260	252	PP	0	0	3050	0	121	-122	-113	-114	UG	0	0	-2200
0 -1274	-1042	-1260	252	PP	0	0	3050	0	96	-97	-121	-122	UG	0	0	-2200
0 -1274	-1042	-1260	252	PP	0	0	3050	0	119	-120	-111	-112	UG	0	0	-2200

ELENCO CARICHI ELEMENTI BIDIMENSIONALI
CONDIZIONE DI CARICO 3: Sottopinta acqua (1.00)

CARICHI UNIFORMI									
Bid.	M1	M2	M3	M4	TC	QX	QY	QZ	
0	-91	-93	-74	-75	UG	0	0	-2200	
0	90	-50	-52	-53	UG	0	0	-2200	
0	91	-44	-47	-48	UG	0	0	-2200	
0	88	-56	-60	-63	UG	0	0	-2200	
0	92	-66	-46	-68	UG	0	0	-2200	
0	48	-5	-16	-23	UG	0	0	-2200	
0	47	-6	-77	-80	UG	0	0	-2200	
0	87	-59	-102	-104	UG	0	0	-2200	
0	82	-145	-179	-181	UG	0	0	-2200	
0	52	-125	45	-145	UG	0	0	-2200	
0	63	-142	82	-145	UG	0	0	-2200	
0	53	-111	-134	-135	UG	0	0	-2200	

0	-94	-95	-119	-120	0	-2200	0	-507	-508	34	34	UG	0	0	-2200
0	-108	-119	53	-111	0	-2200	0	55	-348	37	-490	UG	0	0	-2200
0	-110	-108	-107	53	0	-2200	0	72	-192	-217	-218	UG	0	0	-2200
0	-106	46	-110	-108	0	-2200	0	-154	-155	-199	-201	UG	0	0	-2200
0	-109	-110	84	-107	0	-2200	0	-198	-200	-190	-191	UG	0	0	-2200
0	-101	54	-106	46	0	-2200	0	-197	-199	-198	-200	UG	0	0	-2200
0	-105	-79	-101	54	0	-2200	0	-153	-154	-197	-199	UG	0	0	-2200
0	-104	-77	-105	-79	0	-2200	0	-184	-198	43	-190	UG	0	0	-2200
0	-59	47	-104	-77	0	-2200	0	-184	-197	-184	-198	UG	0	0	-2200
0	-103	-105	86	-101	0	-2200	0	-189	-186	-183	43	UG	0	0	-2200
0	-102	-104	-103	-105	0	-2200	0	-178	-184	-188	-184	UG	0	0	-2200
0	-75	57	-100	38	0	-2200	0	-187	-189	80	-183	UG	0	0	-2200
0	-74	-75	-99	-100	0	-2200	0	-185	-188	-187	-189	UG	0	0	-2200
0	-73	-74	-98	-99	0	-2200	0	-182	-163	-178	44	UG	0	0	-2200
0	-72	-73	-97	-98	0	-2200	0	-181	-161	-182	-163	UG	0	0	-2200
0	-71	-72	-96	-97	0	-2200	0	-145	45	-181	-161	UG	0	0	-2200
0	-70	-71	-95	-96	0	-2200	0	-229	-231	-232	-233	UG	0	0	-2200
0	-59	-70	-94	-95	0	-2200	0	-228	-230	-228	-231	UG	0	0	-2200
0	-93	-78	-75	57	0	-2200	0	-227	-222	-225	78	UG	0	0	-2200
0	-92	-76	-93	-78	0	-2200	0	-263	-243	-270	-222	UG	0	0	-2200
0	-16	39	-92	-75	0	-2200	0	-245	-247	-254	-243	UG	0	0	-2200
0	-68	26	-15	40	0	-2200	0	57	-340	-38	-354	UG	0	0	-2200
0	-77	-80	-79	-81	0	-2200	0	57	-340	-38	-354	UG	0	0	-2200
0	46	-94	-108	-119	0	-2200	0	57	-340	-38	-354	UG	0	0	-2200
0	-25	-28	-6	-8	0	-2200	0	57	-340	-38	-354	UG	0	0	-2200
0	-30	-33	-31	-34	0	-2200	0	57	-340	-38	-354	UG	0	0	-2200
0	-29	-32	-30	-33	0	-2200	0	57	-340	-38	-354	UG	0	0	-2200
0	-10	-12	-32	-35	0	-2200	0	57	-340	-38	-354	UG	0	0	-2200
0	-31	-34	-9	-11	0	-2200	0	57	-340	-38	-354	UG	0	0	-2200
0	-28	-31	-8	-9	0	-2200	0	57	-340	-38	-354	UG	0	0	-2200
0	-70	-10	-29	-32	0	-2200	0	57	-340	-38	-354	UG	0	0	-2200
0	-27	-30	-28	-31	0	-2200	0	57	-340	-38	-354	UG	0	0	-2200
0	-23	-26	-24	-27	0	-2200	0	57	-340	-38	-354	UG	0	0	-2200
0	-20	-24	-22	-25	0	-2200	0	57	-340	-38	-354	UG	0	0	-2200
0	27	-495	75	-513	0	-2200	0	57	-340	-38	-354	UG	0	0	-2200
0	-172	-174	-173	-175	0	-2200	0	57	-340	-38	-354	UG	0	0	-2200
0	-150	-151	-172	-174	0	-2200	0	57	-340	-38	-354	UG	0	0	-2200
0	-171	-173	-156	-157	0	-2200	0	57	-340	-38	-354	UG	0	0	-2200
0	-170	-172	-171	-173	0	-2200	0	57	-340	-38	-354	UG	0	0	-2200
0	-149	-150	-170	-172	0	-2200	0	57	-340	-38	-354	UG	0	0	-2200
0	-169	-171	-155	-156	0	-2200	0	57	-340	-38	-354	UG	0	0	-2200
0	-168	-170	-169	-171	0	-2200	0	57	-340	-38	-354	UG	0	0	-2200
0	-148	-149	-168	-170	0	-2200	0	57	-340	-38	-354	UG	0	0	-2200
0	-167	-169	-154	-155	0	-2200	0	57	-340	-38	-354	UG	0	0	-2200
0	-166	-168	-167	-169	0	-2200	0	57	-340	-38	-354	UG	0	0	-2200
0	-147	-148	-166	-166	0	-2200	0	57	-340	-38	-354	UG	0	0	-2200
0	-165	-167	-153	-154	0	-2200	0	57	-340	-38	-354	UG	0	0	-2200
0	-164	-166	-165	-167	0	-2200	0	57	-340	-38	-354	UG	0	0	-2200
0	-146	-147	-164	-166	0	-2200	0	57	-340	-38	-354	UG	0	0	-2200
0	-163	-165	44	-163	0	-2200	0	57	-340	-38	-354	UG	0	0	-2200
0	-161	-164	-163	-165	0	-2200	0	57	-340	-38	-354	UG	0	0	-2200
0	-208	-210	71	-194	0	-2200	0	57	-340	-38	-354	UG	0	0	-2200
0	-207	-209	-208	-210	0	-2200	0	57	-340	-38	-354	UG	0	0	-2200
0	-156	-159	-207	-209	0	-2200	0	57	-340	-38	-354	UG	0	0	-2200
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0	-157	-158	-205	-207	0	-2200	0	57	-340	-38	-354	UG	0	0	-2200
0	-204	-206	-192	-193	0	-2200	0	57	-340	-38	-354	UG	0	0	-2200
0	-203	-205	-204	-206	0	-2200	0	57	-340	-38	-354	UG	0	0	-2200
0	-156	-157	-203	-205	0	-2200	0	57	-340	-38	-354	UG	0	0	-2200
0	-202	-204	72	-192	0	-2200	0	57	-340	-38	-354	UG	0	0	-2200
0	-201	-203	-202	-204	0	-2200	0	57	-340	-38	-354	UG	0	0	-2200
0	-155	-156	-201	-203	0	-2200	0	57	-340	-38	-354	UG	0	0	-2200
0	-200	-202	-191	72	0	-2200	0	57	-340	-38	-354	UG	0	0	-2200
0	-199	-201	-200	-202	0	-2200	0	57	-340	-38	-354	UG	0	0	-2200
0	-132	55	-152	37	0	-2200	0	57	-340	-38	-354	UG	0	0	-2200
0	-131	-132	-151	-152	0	-2200	0	57	-340	-38	-354	UG	0	0	-2200
0	-130	-131	-150	-151	0	-2200	0	57	-340	-38	-354	UG	0	0	-2200
0	-129	-130	-149	-150	0	-2200	0	57	-340	-38	-354	UG	0	0	-2200
0	-128	-129	-148	-149	0	-2200	0	57	-340	-38	-354	UG	0	0	-2200
0	-127	-128	-147	-148	0	-2200	0	57	-340	-38	-354	UG	0	0	-2200
0	-126	-127	-146	-147	0	-2200	0	57	-340	-38	-354	UG	0	0	-2200
0	-142	52	-145	45	0	-2200	0	57	-340	-38	-354	UG	0	0	-2200
0	-144	-134	-142	52	0	-2200	0	57	-340	-38	-354	UG	0	0	-2200
0	-107	53	-144	-134	0	-2200	0	57	-340	-38	-354	UG	0	0	-2200
0	-143	-144	83	-142	0	-2200	0	57	-340	-38	-354	UG	0	0	-2200
0	-141	-133	-132	55	0	-2200	0	57	-340	-38	-354	UG	0	0	-2200

Modo	Periodo	MX	MY	MZ	MPX	MPY	MPZ
1)	0.2193	90.70	0.00	0.00	0.00	0.00	0.00
2)	0.1101	0.00	90.64	0.00	0.00	0.00	0.01
3)	0.0320	0.00	0.05	0.00	0.00	0.00	94.18
4)	0.0123	9.30	0.00	0.00	0.00	0.00	0.00
5)	0.0108	0.00	9.00	0.00	0.00	0.00	0.78
6)	0.0089	0.00	0.30	0.00	0.00	0.00	5.03

Modo	C. Risp.	C. Risp.	C. Risp.	C. Part.	C. Part.	C. Part.
X	Y	Z	α	α+90	α+90	Z
1)	1.0000	1.0000	1.0000	563.72	0.29	0.00
2)	1.0000	1.0000	1.0000	-0.30	563.51	0.00
3)	1.0000	1.0000	1.0000	-0.10	-15.06	0.00
4)	1.0000	1.0000	1.0000	180.47	0.78	0.00
5)	1.0000	1.0000	1.0000	-0.74	177.42	0.00
6)	1.0000	1.0000	1.0000	0.15	-32.15	0.00

Sono stati considerati i seguenti modi:
1 2 3 4 5 6
Le percentuali totali di massa movimentata risultano:
Direzione X: 100.00 %
Direzione Y: 100.00 %
I carichi variabili sulle aste sono stati resi uniformi considerando il valore massimo del carico.
E' stato assunto come minimo carico da considerare 0 kg/m.
I carichi sono stati arrotondati a multipli di 1 kg/m.
Sono state considerate infinitamente rigide le zone di connessione fra travi, pilastri ed elementi bidimensionali con una riduzione del 20% ad esclusione delle aste per le quali è stato diversamente specificato nei parametri aggiuntivi.
E' stato considerato il disassamento fra le posizioni dei nodi e gli assi baricentrici delle aste solo per le aste per le quali è stato così specificato nei parametri aggiuntivi.
Il calcolo della struttura è stato effettuato con l'ipotesi di impalcati rigidi.
Gli impalcati rigidi sono stati schematizzati con il metodo Master-Slave.
Le masse non riferibili ad un impalcato sono state trasferite all'impalcato più vicino senza modificare le coordinate del baricentro.
Per gli elementi bidimensionali è stato utilizzato l'elemento di tipo 'Isoshell'.
Nel calcolo è stata considerata l'interazione suolo-struttura.

Le condizioni di carico elementari (CCE) presenti nella struttura sono le seguenti:
1) P.P. Permanenti - Coeff. riduzione 1.000
2) Accidentali - Coeff. riduzione 1.000
3) Sottopinta acqua - Coeff. riduzione 1.000
4) Sis. Din. α
5) Sis. Din. α+90
Sono state definite le seguenti combinazioni dalle CCE:

CCE	1	2	3	4	5
CC 1)	1.00	1.00	0.00	0.00	0.00
CC 2)	1.00	1.00	1.00	0.00	0.00
CC 3)	1.00	1.00	0.00	1.00	0.00
CC 4)	1.00	1.00	0.00	0.00	1.00

SPOSTAMENTI MODALI
Modo = numero del nodo
CC = numero della combinazione delle CCE
SM,SY,SZ = spostamenti dei nodi (m)
RM,RY,RZ = rotazioni dei nodi (radianti)
±SXd,±SYd,±SZd = componenti dinamiche o prive di segno degli spostamenti dei nodi (m)
±RXd,±RYd,±RZd = componenti dinamiche o prive di segno delle rotazioni dei nodi (radianti)

Modo	CC	SX	SY	SZ	RX	RY	RZ
		±SXd	±SYd	±SZd	±RXd	±RYd	±RZd
25	1	0.000E+00	0.000E+00	-4.992E-03	9.593E-04	-3.049E-04	0.000E+00
	2	0.000E+00	0.000E+00	-3.886E-03	9.593E-04	-3.049E-04	0.000E+00
	3	0.000E+00	0.000E+00	-4.992E-03	9.593E-04	-3.049E-04	0.000E+00
	4	0.000E+00	0.000E+00	9.961E-04	2.028E-04	1.257E-04	0.000E+00
	5	0.000E+00	0.000E+00	-4.992E-03	9.593E-04	-3.049E-04	0.000E+00
	6	0.000E+00	0.000E+00	6.395E-04	8.544E-05	4.887E-05	0.000E+00

0	-83	-65	-70	-71	UG	0	-2200
0	-5	-8	-80	-82	UG	0	-2200
0	-13	-11	-94	-86	UG	0	-2200
0	-24	-25	-28	-28	UG	0	-2200
0	-32	-35	-35	-35	UG	0	-2200
0	-5	-5	-23	-25	UG	0	-2200
0	-82	-84	-63	-65	UG	0	-2200
0	-14	-14	-90	-92	UG	0	-2200
0	-89	-89	-73	-74	UG	0	-2200
0	-11	-13	-62	-68	UG	0	-2200
0	-88	-90	-86	-91	UG	0	-2200
0	-13	-14	-88	-91	UG	0	-2200
0	-85	-87	-71	-72	UG	0	-2200
0	-87	-89	-71	-72	UG	0	-2200
0	-82	-86	-87	-83	UG	0	-2200
0	-78	-81	-54	-53	UG	0	-2200
0	-55	-93	-58	-25	UG	0	-2200
0	-37	-490	-150	-431	UG	0	-2200
0	-140	-491	-152	-432	UG	0	-2200
0	-142	-492	-156	-485	UG	0	-2200
0	-348	-342	-430	-433	UG	0	-2200
0	-490	-493	-491	-434	UG	0	-2200
0	-491	-493	-492	-482	UG	0	-2200
0	-492	-493	-485	-482	UG	0	-2200
0	-34	-485	-195	-505	UG	0	-2200
0	-195	-505	-196	-506	UG	0	-2200
0	-34	-508	27	-496	UG	0	-2200
0	-195	-504	34	-507	UG	0	-2200
0	-185	-486	-505	-509	UG	0	-2200
0	-505	-509	-505	-510	UG	0	-2200
0	-504	-510	-507	-511	UG	0	-2200
0	-507	-511	-508	-512	UG	0	-2200
0	-508	-512	-495	-497	UG	0	-2200
0	-495	-497	-513	-514	UG	0	-2200

FARENGUET DI CALCOLO
La modellazione della struttura e la rielaborazione dei risultati del calcolo sono stati effettuati con
Node8t - Modellaatore Strutturale
Tecnisoft s.a.s. - Prato

La struttura è stata calcolata utilizzando come solutore agli elementi finiti:
XFINES - Programma agli elementi finiti per l'analisi strutturale
C.A.S. s.r.l. - Milano
E' stata effettuata l'analisi sismica dinamica della struttura.
Per il calcolo degli autovalori è stato usato il metodo di iterazione nel sottospazio.
E' stata utilizzata una matrice di massa di tipo CONSISTENT.
E' stato effettuato il controllo della sequenza di STUDI sulla validità degli autovalori estratti.
I calcoli sono stati eseguiti con il metodo delle tensioni ammissibili.
I valori dei coefficienti sismici utilizzati sono i seguenti:
- Grado di sismicità : 9
- Coeff. di protezione : 1.4
- Coeff. di fondazione : 1
- Coeff. di struttura : 1.4

Gli angoli di ingresso del sisma considerati sono 0 e 90.
La quota di riferimento per il calcolo delle forze sismiche è 0.00 m.
E' stato considerato lo spettro di risposta previsto dal regolamento Italiano.
Nell'analisi dinamica sono state considerate le seguenti masse (x,y,z in m, Massa in kg massa, Upolare in kg massa "m):

	X	Y	Z	X	Y	Z
Imp. 1	-4.343	13.674	3.350	124649	124649	6780850
Imp. 2	-4.525	13.675	7.300	225701	225701	15756543

Sono risultati i seguenti modi di vibrare e masse partecipanti:

39

[illegible]

[illegible]

0	8	-113	-112	-1206	-1204	22	0	0	0	0	0	0	8	-1204	-1206	-1207	-1205	22	0	0	0	0	0	0
0	8	-1205	-1207	-1194	-1193	22	0	0	0	0	0	0	0	-1217	-1206	-1208	-1206	22	0	0	0	0	0	0
0	8	-1206	-1209	-1207	-1207	22	0	0	0	0	0	0	0	8	-1207	-1204	-1195	-1194	22	0	0	0	0	0
0	8	-111	53	-985	-1208	22	0	0	0	0	0	0	0	8	-1209	-986	-987	-1209	22	0	0	0	0	0
0	8	-1209	-987	1353	-1199	22	0	0	0	0	0	0	0	0	15	-1211	-1220	-1218	22	0	0	0	0	0
0	15	-1218	-1220	-1210	256	22	0	0	0	0	0	0	0	0	15	-1189	-1190	-1221	-1219	22	0	0	0	0
0	15	-1219	-1221	-1222	-1220	22	0	0	0	0	0	0	0	0	15	-1220	-1222	-1211	-1210	22	0	0	0	0
0	15	-1190	-1191	-1253	-1221	22	0	0	0	0	0	0	0	0	15	-1221	-1223	-1224	-1222	22	0	0	0	0
0	15	-1222	-1224	-1212	-1211	22	0	0	0	0	0	0	0	0	15	-1191	-1192	-1225	-1223	22	0	0	0	0
0	15	-1223	-1225	-1226	-1224	22	0	0	0	0	0	0	0	0	0	15	-1224	-1226	-1213	-1212	22	0	0	0
0	15	-1192	-1193	-1227	-1225	22	0	0	0	0	0	0	0	0	0	15	-1225	-1227	-1228	-1226	22	0	0	0
0	15	-1227	-1228	-1214	-1213	22	0	0	0	0	0	0	0	0	0	15	-1193	-1194	-1229	-1227	22	0	0	0
0	15	-1229	-1230	-1228	-1226	22	0	0	0	0	0	0	0	0	0	15	-1228	-1230	-1215	-1214	22	0	0	0
0	15	-1194	-1195	-1231	-1229	22	0	0	0	0	0	0	0	0	0	15	-1229	-1231	-1232	-1230	22	0	0	0
0	15	-1230	-1232	-1234	-1233	22	0	0	0	0	0	0	0	0	0	15	-1230	-1235	-1235	-1230	22	0	0	0
0	15	-1231	-1235	-1236	-1234	22	0	0	0	0	0	0	0	0	0	15	-1235	-1235	-1235	-1231	22	0	0	0
0	8	-1271	-1270	-1271	-1270	22	0	0	0	0	0	0	0	0	-1272	-1241	-1233	-1235	-1233	22	0	0	0	0
0	8	-132	-131	-1242	-1240	22	0	0	0	0	0	0	0	0	8	-1240	-1242	-1243	-1241	22	0	0	0	0
0	8	-141	-143	-1251	-1249	22	0	0	0	0	0	0	0	0	8	-141	-1243	-1244	-1242	22	0	0	0	0
0	8	-141	-143	-1251	-1249	22	0	0	0	0	0	0	0	0	0	-143	-1243	-1245	-1243	22	0	0	0	0
0	8	-136	-129	-1246	-1244	22	0	0	0	0	0	0	0	0	8	-1244	-1246	-1247	-1245	22	0	0	0	0
0	8	-1445	-1247	-1236	-1235	22	0	0	0	0	0	0	0	0	8	-1249	-1248	-1246	-1246	22	0	0	0	0
0	8	-1248	-1247	-1250	-1248	22	0	0	0	0	0	0	0	0	8	-1247	-1249	-1237	-1236	22	0	0	0	0
0	8	-1248	-1247	-1250	-1248	22	0	0	0	0	0	0	0	0	8	-1248	-1250	-1251	-1249	22	0	0	0	0
0	8	-1249	-1251	-1238	-1237	22	0	0	0	0	0	0	0	0	8	-1271	-1256	-1259	-1258	22	0	0	0	0
0	8	-1250	-1252	-1253	-1251	22	0	0	0	0	0	0	0	0	8	-1251	-1253	-1259	-1238	22	0	0	0	0
0	8	-126	52	-983	-1252	22	0	0	0	0	0	0	0	0	8	-1252	-984	-984	-1253	22	0	0	0	0
0	8	-1253	-984	132	-1239	22	0	0	0	0	0	0	0	0	15	-1129	-1261	-1262	-1261	22	0	0	0	0
0	15	-1131	-1262	-1264	255	22	0	0	0	0	0	0	0	0	15	-1233	-1234	-1263	-1261	22	0	0	0	0
0	15	-1261	-1263	-1264	-1262	22	0	0	0	0	0	0	0	0	0	15	-1262	-1264	-1265	-1264	22	0	0	0
0	15	-1234	-1235	-1265	-1263	22	0	0	0	0	0	0	0	0	0	15	-1263	-1265	-1266	-1264	22	0	0	0
0	15	-1264	-1266	-1266	-1266	22	0	0	0	0	0	0	0	0	0	15	-1235	-1236	-1267	-1266	22	0	0	0
0	15	-1265	-1267	-1268	-1266	22	0	0	0	0	0	0	0	0	0	15	-1266	-1268	-1267	-1266	22	0	0	0
0	15	-1266	-1267	-1269	-1266	22	0	0	0	0	0	0	0	0	0	15	-1267	-1269	-1270	-1268	22	0	0	0
0	15	-1268	-1270	-1268	-1267	22	0	0	0	0	0	0	0	0	0	15	-1268	-1270	-1269	-1268	22	0	0	0
0	15	-1273	-1271	-1242	-1258	22	0	0	0	0	0	0	0	0	0	15	-1239	-152	-1041	-1273	22	0	0	0
0	15	-1273	-1271	-1042	-1258	22	0	0	0	0	0	0	0	0	0	15	-1274	-1042	252	-1260	22	0	0	0

ELETTRICO TIPI SOLAI

Simbologia	Descrizione	Qp	Qa	Alt. Cappa
		<kg/mq>	<kg/mq>	<m>
1	solai H=20+4 cm qa=200	500.00	200.00 0.33	0.00 0.00
2	solai precompresso H=20+4 cm	510.00	200.00 0.33	0.00 0.00
3	solai normale H=20+4 cm	570.00	200.00 0.33	0.00 0.00
4	solai predalle H=20+4 cm	530.00	200.00 0.33	0.00 0.00
5	solai murati e tavelloni	590.00	130.00 0.33	0.00 0.00
6	solai balconi	400.00	400.00 0.33	0.00 0.00
7	scala	400.00	400.00 1.00	0.00 0.00
8	solai sottocati non praticabile qa=100	450.00	100.00 0.33	0.00 0.00
9	solai di copertura	420.00	130.00 0.33	0.00 0.00
10	Lamiera grata 545 cm	30.00	130.00 0.33	0.00 0.00
11	solai predalle H=28+4 cm E.T.	570.00	500.00 1.00	0.00 4.00
12	solai H=28+4 cm	500.00	500.00 1.00	32.00 4.00
13	solai predalle H=24+4 cm P.T.	540.00	500.00 0.50	0.00 0.00
14	solai predalle H=24+4 cm P.T.	540.00	500.00 0.50	0.00 0.00
15	soletta 30	1050.00	500.00 1.00	0.30 0.30
16	soletta 182	4700.00	150.00 0.50	1.82 1.82
17	solai SIMULATORE	825.00	500.00 1.00	0.00 0.00
18	solai SANITA CAVERAL	570.00	500.00 1.00	0.00 0.00

ELEINCO SOLAI

Simbologia
 scol. Numero del scolaro

0	243	-1055	15 A 26	0,00	724	1,37	724
0	-1055	-1056	15 A 26	0,00	724	1,37	724
0	-1056	244	15 A 26	0,00	724	1,37	724
0	244	-1047	15 A 26	0,00	724	1,30	724
0	-1047	-1048	15 A 26	0,00	724	1,30	724
0	-1048	245	15 A 26	0,00	724	1,30	724
0	245	242	15 A 26	0,00	724	1,00	724
0	242	-1040	15 A 26	0,00	724	1,50	724
0	-1040	243	15 A 26	0,00	724	1,50	724
0	243	-1038	15 A 26	0,00	724	1,30	724
0	-1038	246	15 A 26	0,00	724	1,35	724
0	246	244	15 A 26	0,00	724	1,35	724
0	244	-1025	15 A 26	0,00	724	1,37	724
0	-1025	-1026	15 A 26	0,00	724	1,37	724
0	-1026	247	15 A 26	0,00	724	1,37	724
0	247	-1014	15 A 26	0,00	724	1,24	724
0	-1014	-1015	15 A 26	0,00	724	1,24	724
0	-1015	-1016	15 A 26	0,00	724	1,24	724
0	-1016	248	15 A 26	0,00	724	1,24	724
0	248	-1061	15 A 26	0,00	2413	1,37	2413
0	-1061	-1062	15 A 26	0,00	2413	1,37	2413
0	-1062	136	15 A 26	0,00	2413	1,37	2413
0	136	-1069	15 A 26	0,00	2413	1,30	2413
0	-1069	-1070	15 A 26	0,00	2413	1,30	2413
0	-1070	137	15 A 26	0,00	2413	1,30	2413
0	137	155	15 A 26	0,00	2413	1,00	2413
0	155	-1079	15 A 26	0,00	2413	1,50	2413
0	-1079	156	15 A 26	0,00	2413	1,50	2413
0	156	-1084	15 A 26	0,00	2413	1,35	2413
0	-1084	138	15 A 26	0,00	2413	1,35	2413
0	138	157	15 A 26	0,00	2413	0,40	2413
0	157	-1091	15 A 26	0,00	2413	1,37	2413
0	-1091	-1092	15 A 26	0,00	2413	1,37	2413
0	-1092	139	15 A 26	0,00	2413	1,37	2413
0	139	-1099	15 A 26	0,00	2413	1,24	2413
0	-1099	-1100	15 A 26	0,00	2413	1,24	2413
0	-1100	-1101	15 A 26	0,00	2413	1,24	2413
0	-1101	140	15 A 26	0,00	2413	1,24	2413
0	140	-147	15 A 26	0,00	2413	1,57	2413
0	-147	-148	15 A 26	0,00	2413	1,37	2413
0	-148	968	15 A 26	0,00	2413	1,37	2413
0	968	144	15 A 26	0,00	2413	1,37	2413
0	144	-975	15 A 26	0,00	2413	1,30	2413
0	-975	976	15 A 26	0,00	2413	1,30	2413
0	976	145	15 A 26	0,00	2413	1,00	2413
0	145	142	15 A 26	0,00	2413	1,00	2413
0	142	-985	15 A 26	0,00	2413	1,50	2413
0	-985	153	15 A 26	0,00	2413	1,50	2413
0	153	-990	15 A 26	0,00	2413	1,35	2413
0	-990	146	15 A 26	0,00	2413	1,35	2413
0	146	154	15 A 26	0,00	2413	0,40	2413
0	154	-997	15 A 26	0,00	2413	1,37	2413
0	-997	-998	15 A 26	0,00	2413	1,37	2413
0	-998	147	15 A 26	0,00	2413	1,37	2413
0	147	-1005	15 A 26	0,00	2413	1,24	2413
0	-1005	-1006	15 A 26	0,00	2413	1,24	2413
0	-1006	-1007	15 A 26	0,00	2413	1,24	2413
0	-1007	148	15 A 26	0,00	2413	1,24	2413
0	148	257	15 A 26	0,00	724	0,40	724
0	257	-1119	15 A 26	0,00	724	1,37	724
0	-1119	-1120	15 A 26	0,00	724	1,37	724
0	-1120	239	15 A 26	0,00	724	1,37	724
0	239	-1108	15 A 26	0,00	724	1,24	724
0	-1108	-1109	15 A 26	0,00	724	1,24	724
0	-1109	-1110	15 A 26	0,00	724	1,24	724
0	-1110	240	15 A 26	0,00	724	1,24	724
0	240	-1141	15 A 26	0,00	724	1,37	724
0	-1141	-1142	15 A 26	0,00	724	1,37	724
0	-1142	236	15 A 26	0,00	724	1,37	724
0	236	-1133	15 A 26	0,00	724	1,30	724
0	-1133	-1134	15 A 26	0,00	724	1,30	724
0	-1134	237	15 A 26	0,00	724	1,30	724
0	237	255	15 A 26	0,00	724	3,00	724
0	255	256	15 A 26	0,00	724	3,00	724
100	256	238	15 A 26	0,00	724	2,70	724

ELENCO CARICHI ELEMENTI BIDIMENSIONALI

ELENCO CARICHI DISTRIBUITI SUGLI ELEMENTI BIDIMENSIONALI:
 Bld = numero dell'elemento bidimensionale
 H1,H2,H3,H4 = nodi che individuano l'elemento
 TC = PE carico dovuto al peso proprio dell'elemento
 QX,QY,QZ = componenti X,Y,Z del carico uniformemente distribuito sull'elemento (kg/mq)

ELENCO CARICHI IDROSTATICI SUGLI ELEMENTI BIDIMENSIONALI:

Bld = numero dell'elemento bidimensionale
 H1,H2,H3,H4 = nodi che individuano l'elemento
 Z1,Z2 = coordinate Z globali di inizio e fine carico (m)
 G1,G2 = componenti iniziale e finale del carico in direzione Y locale dell'elemento bidimensionale (kg/mq)

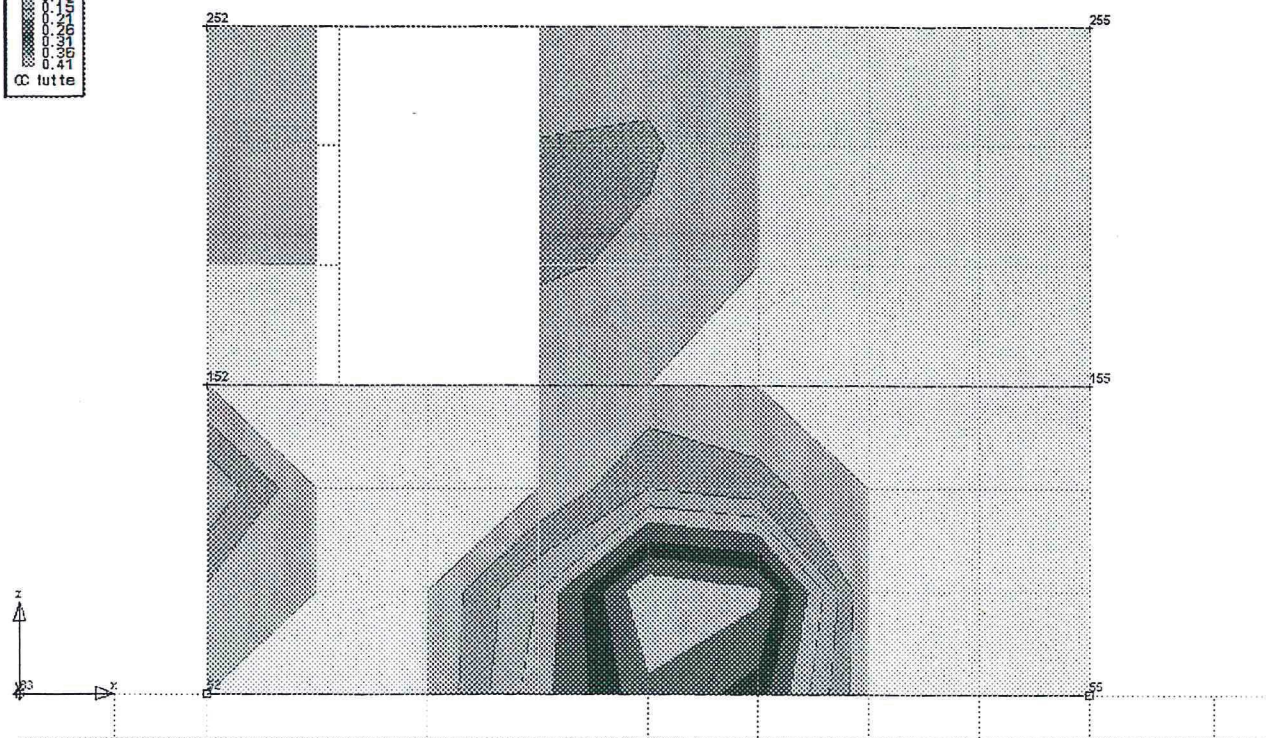
ELENCO CARICHI TERMICI SUGLI ELEMENTI BIDIMENSIONALI:

Bld = numero dell'elemento bidimensionale
 H1,H2,H3,H4 = nodi che individuano l'elemento
 DT = dilatazione termica uniforme (gradi)
 GT = gradiente di temperatura (gradi/m)

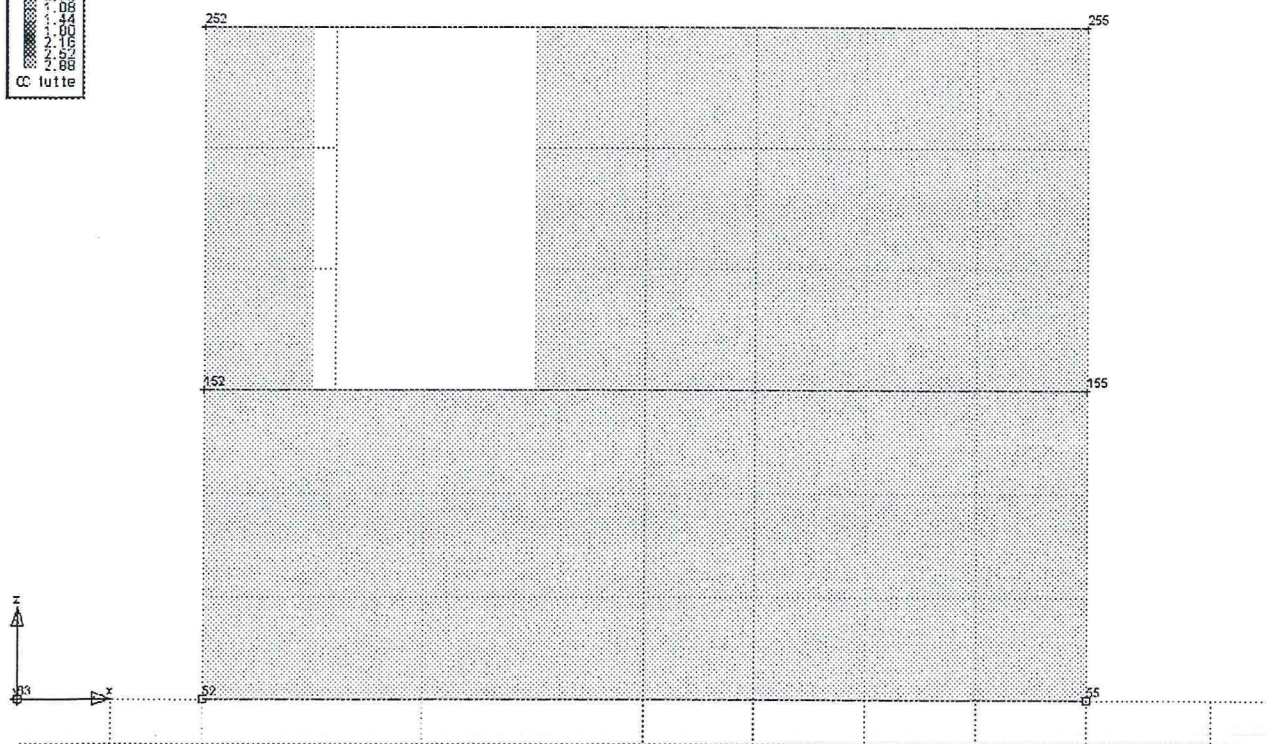
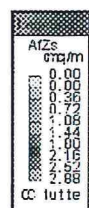
CONDIZIONE DI CARICO I: P.E.+Permanenti (1.00)

CARICHI UNIFORMI

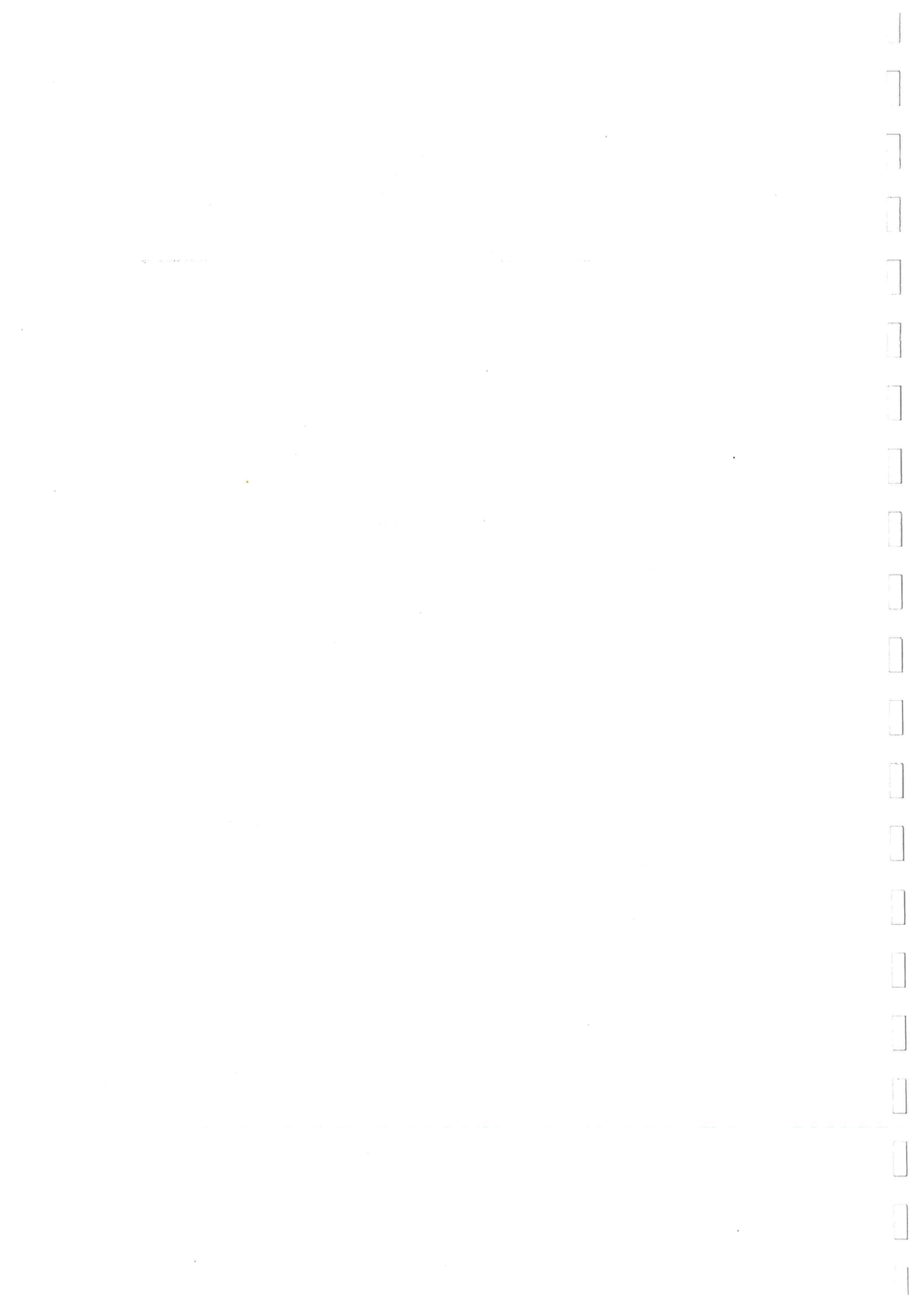
Bld	H1	H2	H3	H4	TC	QX	QY	QZ
0	91	93	-74	-75	FF	0	0	1250
0	157	-1061	-1121	-1123	FF	0	0	4100
0	90	-30	-32	-33	FF	0	0	1250
0	91	-30	-32	-33	FF	0	0	1250
0	88	-30	-32	-33	FF	0	0	1250
0	82	-30	-32	-33	FF	0	0	1250
0	57	-75	-1069	-1154	FF	0	0	1250
0	48	-5	-18	-23	FF	0	0	1250
0	47	-59	-102	-104	FF	0	0	1250
0	137	135	-1130	-1129	FF	0	0	4100
0	136	-1069	-1135	-1137	FF	0	0	4100
0	134	-1061	-849	-1143	FF	0	0	2975
0	156	-1189	-1217	-1219	FF	0	0	3050
0	155	-1123	-1129	-1261	FF	0	0	3050
0	157	-1147	-1121	-1175	FF	0	0	4100
0	138	157	-1127	-1121	FF	0	0	4100
0	139	-1099	-1111	-1113	FF	0	0	3425
0	171	-843	-850	-853	FF	0	0	3425
0	143	-825	-857	-859	FF	0	0	5025
0	172	-835	-857	-859	FF	0	0	5025
0	170	-725	-780	-792	FF	0	0	3425
0	169	-734	-790	-799	FF	0	0	3425
0	148	-715	-781	-784	FF	0	0	2400
0	71	-194	-837	-845	FF	0	0	2400
0	72	-192	-827	-839	FF	0	0	2400
0	69	-15	-728	-737	FF	0	0	2400
0	70	-10	-719	-730	FF	0	0	3500
0	147	-1005	-1017	-1019	FF	0	0	3500
0	154	-997	-1027	-1029	FF	0	0	3500
0	145	154	-1035	-1036	FF	0	0	3500
0	135	-990	-1035	-1036	FF	0	0	3500
0	132	-985	-1041	-1043	FF	0	0	3500
0	145	152	-1045	-1041	FF	0	0	3500
0	144	-975	-1049	-1051	FF	0	0	3500
0	143	-957	-855	-1057	FF	0	0	1250
0	82	-145	-179	-101	FF	0	0	1250
0	52	-125	45	-145	FF	0	0	1250
0	85	-142	82	-145	FF	0	0	1250
0	53	-111	-134	-135	FF	0	0	1250
0	84	-107	-143	-144	FF	0	0	1250
0	54	-59	45	-94	FF	0	0	1250
0	85	-105	-109	-110	FF	0	0	1250
0	85	-101	85	-105	FF	0	0	1250
0	45	-145	-151	-154	FF	0	0	1250
0	81	-178	-185	-186	FF	0	0	1250
0	44	-153	-184	-197	FF	0	0	1250
0	80	-183	-225	-227	FF	0	0	1250
0	45	-190	-222	-223	FF	0	0	1250
0	-15	-23	-20	-24	FF	0	0	1250



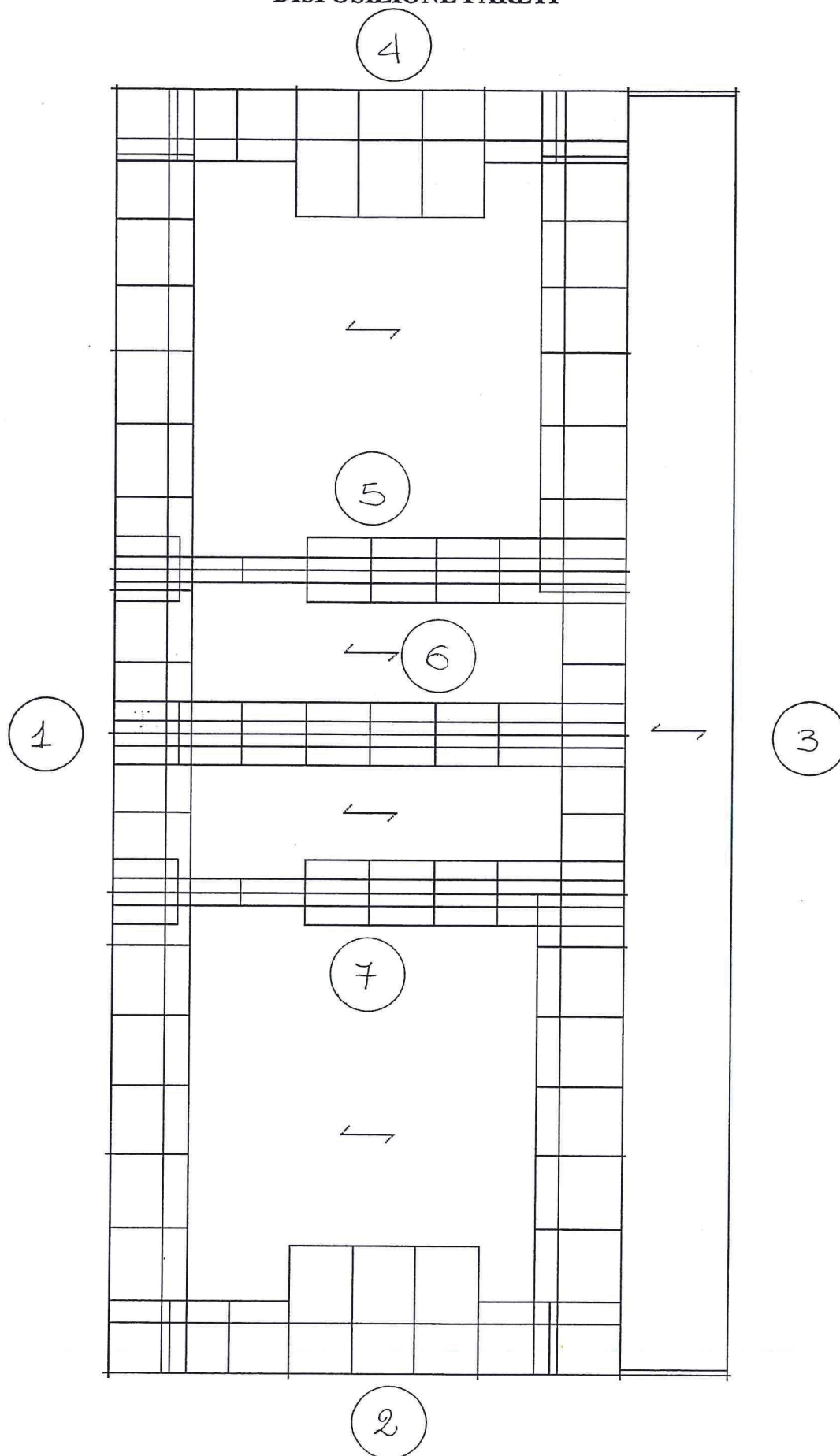
-Armatura parete n.7 in direzione X-



-Armatura parete n.7 in direzione Z-



DISPOSIZIONE PARETI



SISTEMI DI RIFERIMENTO

Le coordinate, i carichi concentrati, i cedimenti, le reazioni vincolari e gli spostamenti dei nodi sono riferiti ad una terna destra cartesiana globale con l'asse Z verticale rivolto verso l'alto.

I carichi in coordinate locali e le sollecitazioni delle ASSE sono riferite ad una terna destra cartesiana locale così definita:
 - origine nel nodo iniziale dell'asta;
 - asse X coincidente con l'asse dell'asta e con verso del nodo iniziale al nodo finale;
 - immaginando la trave a sezione rettangolare l'asse Y è parallelo alla base e l'asse Z è parallelo all'altezza. La rotazione dell'asta comporta quindi una rotazione di tutta la terna locale.

Si può immaginare la terna locale di un'asta comunque disposta nello spazio come derivante da quella globale dopo una serie di trasformazioni:
 - una rotazione intorno all'asse Z che porti l'asse X a coincidere con la proiezione dell'asse dell'asta sul piano orizzontale;
 - una traslazione lungo il nuovo asse X così definito in modo da portare l'origine a coincidere con la proiezione del nodo iniziale dell'asta sul piano orizzontale;
 - una traslazione lungo l'asse Z che porti l'origine a coincidere con il nodo iniziale dell'asta;
 - una rotazione intorno all'asse Y così definito che porti l'asse X a coincidere con l'asse dell'asta;
 - una rotazione intorno all'asse X così definito pari alla rotazione dell'asta.

In pratica le travi prive di rotazione avranno sempre l'asse Z rivolto verso l'alto e l'asse Y nel piano del telaio, mentre i pilastri privi di rotazione avranno l'asse Y parallelo all'asse X globale e l'asse Z parallelo ma controverso all'asse X globale. Da notare quindi che per i pilastri la "base" è il lato parallelo a Y.

Le sollecitazioni ed i carichi in coordinate locali negli ELEMENTI BIDIMENSIONALI e nei NODI sono riferiti ad una terna destra cartesiana locale così definita:
 - origine nel primo nodo dell'elemento;
 - asse X coincidente con la congiungente il primo ed il secondo nodo dell'elemento;
 - asse Y definito come prodotto vettoriale fra il versore dell'asse X e il versore della congiungente il primo e il quarto nodo. Asse Z a formare con gli altri due una terna destrorsa.

Faticamente un elemento verticale con l'asse X locale coincidente con l'asse X globale ha anche gli altri assi locali coincidenti con quelli globali.

NOTAZIONI E NOTIZIE

Secondo il principio adottato per tutti i carichi che sono positivi se CONTRAPPOSI agli assi, anche i momenti concentrati e le rotazioni impresse in coordinate globali risultano positivi se CONTRAPPOSI al segno positivo delle rotazioni. Il segno positivo dei momenti e delle rotazioni è quello orario per l'osservatore posto nell'origine: X ruota su Y, Y ruota su Z, Z ruota su X. In pratica è sufficiente adottare la regola della mano destra: col pollice rivolto nella direzione dell'asse, la rotazione che porta a chiudere il palmo della mano corrisponde al segno positivo.

UNITA' DI MISURA

Le unità di misura adottate sono le seguenti:

- lunghezza : m
- forza : kg
- massa : kg
- temperatura : gradi centigradi
- angoli : gradi sessadecimali o radianti

NORMATIVA DI RIFERIMENTO

La normativa di riferimento è la seguente:

- Legge n. 64 del 2/2/1974 - Provvedimenti per le costruzioni con particolari prescrizioni per le zone sismiche.
- D.M. del 24/7/1985 - Norme tecniche relative alle costruzioni sismiche.
- Legge n. 1086 del 5/11/1971 - Norme per la disciplina delle opere di conglomerato cementizio armato, normale e precompresso ed a struttura metallica.
- D.M. del 14/2/1992 - Norme tecniche per l'esecuzione delle opere in c.a. normale e precompresso e per le strutture metalliche.
- D.M. del 9/1/1995 - Norme tecniche per l'esecuzione delle opere in c.a. normale e precompresso e per le strutture metalliche.
- D.M. del 16/4/1996 - Norme tecniche per le costruzioni in zone sismiche.
- Circolare n. 21745 del 30/7/1981 - Legge n. 219 del 14/5/1981 - Art. 10 - Istruzioni relative al

rafforzamento degli edifici in muratura danneggiati dal sisma.

- Regione Autonoma Friuli Venezia Giulia - Legge Regionale n. 30 del 20/6/1977 - Documentazione tecnica per la progettazione e direzione delle opere di riparazione degli edifici - Documento Tecnico n. 2 - Raccomandazioni per la riparazione strutturale degli edifici in muratura.

- Norme Tecniche C.I.P. n. 10011-85 del 18/4/1985 - Costruzioni di acciaio - Istruzioni per il calcolo, l'esecuzione, il collaudo e la manutenzione.
- Norme Tecniche C.I.P. n. 10025-84 del 14/12/1984 - Istruzioni per il progetto, l'esecuzione ed il controllo delle strutture prefabbricate in conglomerato cementizio e per le strutture costruite con sistemi industrializzati di acciaio - Istruzioni per il calcolo, l'esecuzione, il collaudo e la manutenzione.
- Circolare n. 55 del 10/4/1997 - Istruzioni per l'applicazione delle "Norme tecniche per le costruzioni in zone sismiche" di cui al R.D. del 16/1/1995.

ELENCO VINCOLI NODI

Simbologia

Vn Numero del vincolo nodo

- Comm. Commento
- Sx Spostamento in dir. X (L-libero, B-bloccato)
- Sy Spostamento in dir. Y (L-libero, B-bloccato)
- Sz Spostamento in dir. Z (L-libero, B-bloccato)
- Rx Rotazione intorno all'asse X (L-libero, B-bloccato)
- Ry Rotazione intorno all'asse Y (L-libero, B-bloccato)
- Rz Rotazione intorno all'asse Z (L-libero, B-bloccato)
- RL Lunghezza (dir. Y locale)
- Lz Lunghezza (dir. Z locale)
- Kt Coeff. di sovrapposizione su suolo elastico alla Winkler

Vn	Comm.	Sx	Sy	Sz	Rx	Ry	Rz	RL	Lz	Kt
1	LIBERO	L	L	L	L	L	L	L	L	L
2	LIBERO	B	B	B	B	B	B	L	L	L
3	LIBERO	B	B	B	B	B	B	L	L	B
4	EL. SEN 110001	B	B	B	L	L	L	L	L	L
5	Vincolo in yncdi 1-4	B	B	B	L	L	L	L	L	L
6	Vincolo in yncdi 1-4	B	B	B	L	L	L	L	L	L
7	Vincolo in yncdi 1-4	B	B	B	L	L	L	L	L	L
8	vinc ry	B	B	B	B	B	B	L	L	B
9	1	B	B	B	B	B	B	L	L	B
10	4	B	B	B	B	B	B	L	L	B
11	nodi	L	L	L	L	L	L	L	L	B

ELENCO NODI

Simbologia

- Nodo Numero del nodo
- X Coordinata X del nodo
- Y Coordinata Y del nodo
- Z Coordinata Z del nodo
- Imp. Impalcato
- Vn Numero del vincolo nodo

Nodo	X	Y	Z	Imp.	Vn
-1274	-8.44	10.60	5.98	0	1
-1269	-6.03	10.60	4.67	0	1
-1266	-3.52	10.60	5.98	0	1
-1263	-2.41	10.60	4.67	0	1
-1260	-6.44	10.60	7.30	2	1
-1256	-3.52	10.60	7.30	2	1
-1253	-8.44	10.60	2.23	0	1
-1250	-7.24	10.60	2.23	0	1
-1247	-4.83	10.60	2.23	0	1
-1244	-3.52	10.60	2.23	0	1
-1241	-1.21	10.60	2.23	0	1
-1238	-7.24	10.60	3.35	1	1
-1235	-3.52	10.60	3.35	1	1
-1232	-8.44	10.60	5.98	0	1
-1229	-7.24	10.60	4.67	0	1
-1270	-6.03	10.60	5.98	0	1
-1267	-4.83	10.60	4.67	0	1
-1264	-2.41	10.60	5.98	0	1
-1261	-1.21	10.60	4.67	0	1
-1257	-4.83	10.60	7.30	2	1
-1254	-1.21	10.60	7.30	2	1
-1251	-7.24	10.60	2.23	0	1
-1248	-6.03	10.60	1.12	0	1
-1245	-3.52	10.60	2.23	0	1
-1242	-2.41	10.60	1.12	0	1
-1239	-6.44	10.60	3.35	1	1
-1236	-4.83	10.60	3.35	1	1
-1233	-1.21	10.60	3.35	1	1
-1230	-7.24	10.60	5.98	0	1
-1227	-6.03	10.60	4.67	0	1

245	-9.65	9.60	7.30	2	1	246	-9.65	16.30	7.30	2	1	247	-9.65	20.80	7.30	2	1
248	-9.65	25.75	7.30	2	1	252	-9.65	10.50	7.30	2	1	253	-9.65	13.60	7.30	2	1
254	-9.65	16.70	7.30	2	1	255	0.00	10.50	7.30	2	1	256	0.00	13.60	7.30	2	1
257	0.00	16.70	7.30	2	1	259	-2.76	25.75	7.30	2	1	270	-6.26	25.75	7.30	2	1
271	-2.72	1.60	7.30	2	1	272	-6.27	1.60	7.30	2	1	273	0.00	1.60	7.30	2	1
274	2.00	1.60	3.35	1	1	335	2.00	25.75	7.30	2	1	374	2.00	1.60	7.30	2	1

ELENCO MATERIALI

Simbologia									
Mat.	Numero del materiale								
Comm.	Commento								
F	Peso specifico								
E	Modulo elastico								
G	Modulo elastico tangenziale								
Hu	Coeff. di Poisson								
Alfa	Coeff. di dilatazione termica								

Mat.	Comm.	F	E	G	Hu	Alfa

1	CHALCESTRUZZO 300	2500.00	3000000000.00	1300000000.00	0.10	1.00E-005
2	ACCIAIO	7850.00	21000000000.00	800000000.00	0.30	1.00E-005
3	INPAT FORATI	1500.00	1584000000.00	264000000.00	0.20	1.00E-005
4	INPAT NATI FIEH	1800.00	792000000.00	132000000.00	0.20	1.00E-005
5	LEGNO	600.00	1100000000.00	50000000.00	0.10	6.00E-005
6	CHALCESTRUZZO 350	2500.00	3370000000.00	1300000000.00	0.10	1.00E-005

ELENCO SEZIONI ASTE

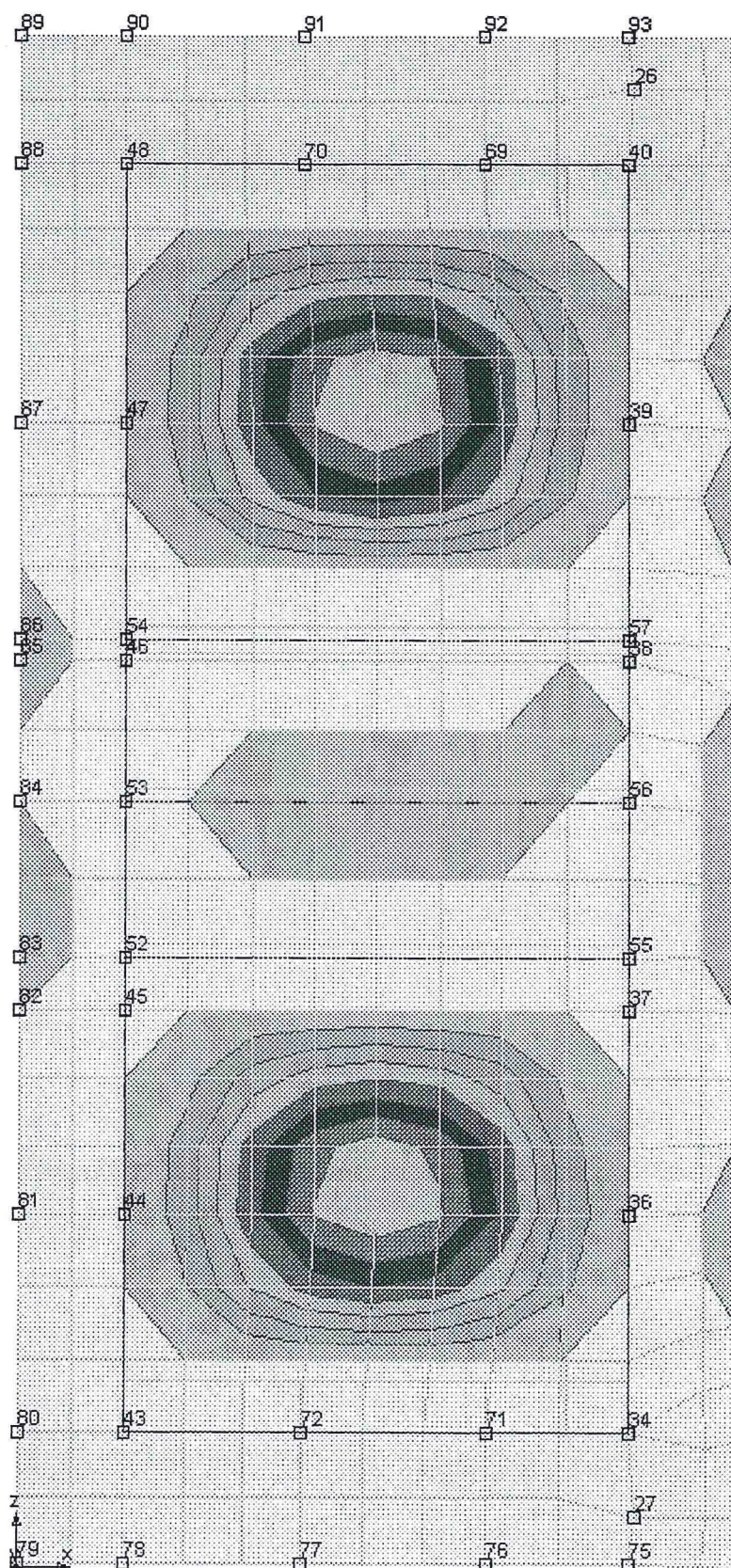
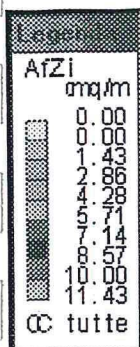
Simbologia									
Sez.	Numero della sezione								
Comm.	Commento								
Tipologia	Tipologia								
2C	Deppia C lato labbrli								
2Cdx	Deppia C lato costola								
2I	Deppia I								
2L	Deppia L lato labbrli								
2Ldx	Deppia L lato costola								
C	C								
Cdx	C destra								
Circ.	Circolare								
Circ. cava	Circolare cava								
I	I								
L	L								
Ldx	L destra								
Om	Omega								
EG	Figreco								
Fr	Poligono regolare								
FrC	Poligono regolare cavo								
Qc	Far coordinate								
Q	Inerzie assegnate								
R	Rettangolare								
Rc	Rettangolare cava								
T	T								
U	U								
Ur	U rovescia								
V	V								
Yr	V rovescia								
Z	Z								
Zdx	Z destra								
Ts	T stondata								
Is	L stondata								
Cs	C stondata								
Is	I stondata								
Dis	Disegnata								
Membratura									
G	Generica								
T	Trave								
F	Filastro								
Il	Verifica prevista								
Il	Ilessuna								
C	Cemento armato								
A	Acciaio								

B/IV/Area Base superiore / Numero di vertici / Area

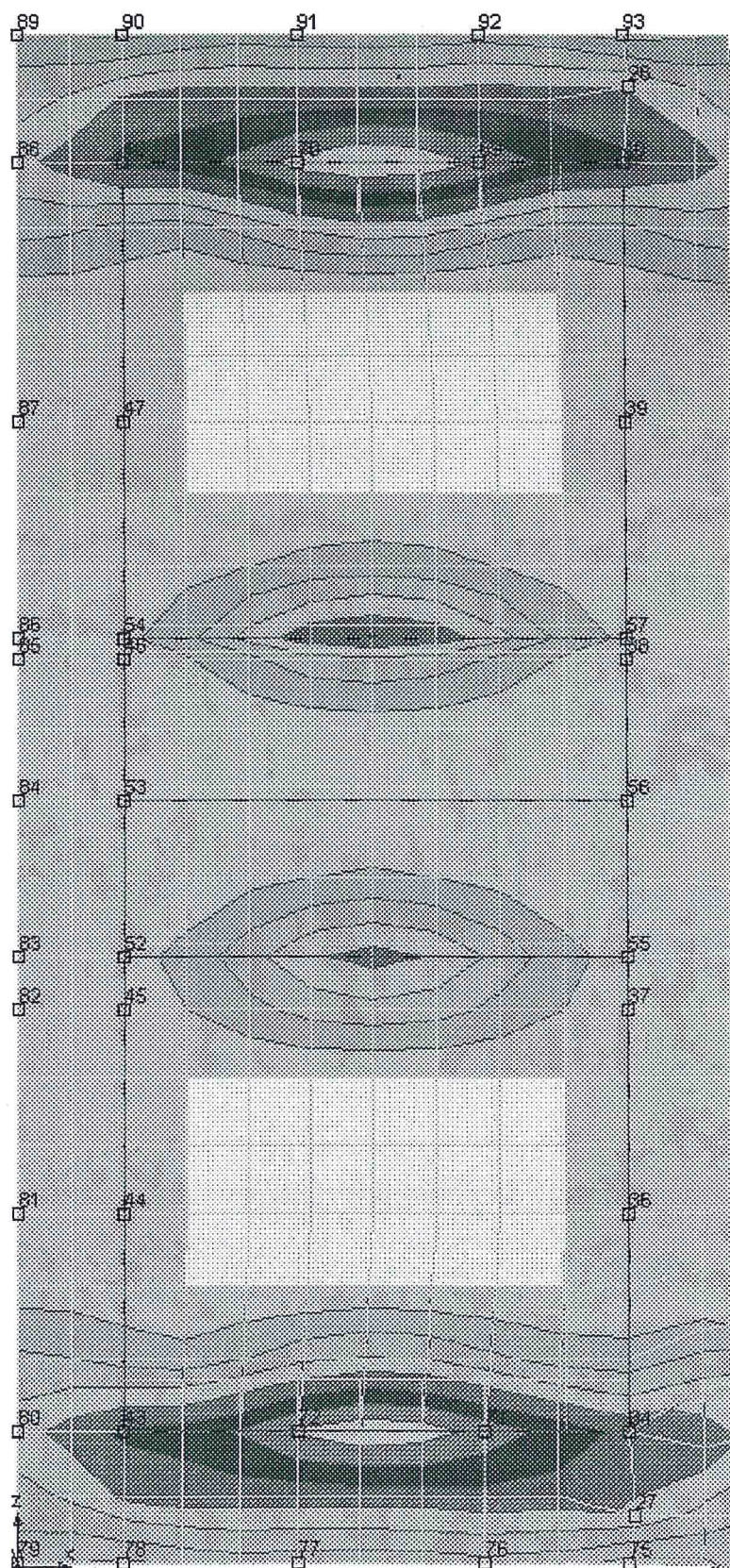
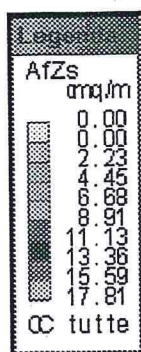
-163	-9.65	7.00	0.00	0	3	-162	0.00	7.00	0.00	0	3	-159	-1.21	5.70	0.00	0	3
-160	0.00	8.30	0.00	0	3	-158	-2.41	5.70	0.00	0	3	-155	-1.21	5.70	0.00	0	3
-157	-3.62	5.70	0.00	0	3	-156	-4.83	5.70	0.00	0	3	-153	-6.44	5.70	0.00	0	3
-154	-7.24	5.70	0.00	0	3	-152	-1.21	9.60	0.00	0	3	-149	-4.83	9.60	0.00	0	3
-151	-2.41	9.60	0.00	0	3	-150	-3.62	9.60	0.00	0	3	-147	-7.24	9.60	0.00	0	3
-148	-6.03	9.60	0.00	0	3	-146	-8.44	9.60	0.00	0	3	-143	-11.65	12.10	0.00	0	3
-145	-10.65	9.60	0.00	0	3	-144	-10.65	12.10	0.00	0	3	-141	-1.21	12.10	0.00	0	3
-142	-10.65	12.10	0.00	0	3	-140	-2.41	12.10	0.00	0	3	-137	-6.03	12.10	0.00	0	3
-139	-3.62	12.10	0.00	0	3	-138	-8.44	12.10	0.00	0	3	-135	-8.44	12.10	0.00	0	3
-136	-7.24	12.10	0.00	0	3	-134	-2.41	10.60	0.00	0	3	-131	-2.41	10.60	0.00	0	3
-133	0.00	12.10	0.00	0	3	-132	-1.21	10.60	0.00	0	3	-129	-4.83	10.60	0.00	0	3
-130	3.62	10.60	0.00	0	3	-128	-4.83	10.60	0.00	0	3	-125	-1.21	14.95	0.00	0	3
-127	-7.24	10.60	0.00	0	3	-126	-6.03	14.95	0.00	0	3	-123	-3.62	14.95	0.00	0	3
-124	-2.41	14.95	0.00	0	3	-122	-4.83	14.95	0.00	0	3	-119	-8.44	14.95	0.00	0	3
-121	-6.03	14.95	0.00	0	3	-120	-7.24	14.95	0.00	0	3	-117	-1.21	13.60	0.00	0	3
-118	0.00	14.95	0.00	0	3	-116	-2.41	13.60	0.00	0	3	-113	-2.41	13.60	0.00	0	3
-115	-3.62	13.60	0.00	0	3	-114	-4.83	13.60	0.00	0	3	-111	-8.44	13.60	0.00	0	3
-112	-7.24	13.60	0.00	0	3	-110	-10.65	13.60	0.00	0	3	-107	-10.65	13.60	0.00	0	3
-109	-11.65	14.95	0.00	0	3	-108	-9.65	14.95	0.00	0	3	-104	-10.65	13.60	0.00	0	3
-106	-10.65	16.30	0.00	0	3	-105	-10.65	16.07	0.00	0	3	-102	-11.65	19.43	0.00	0	3
-103	-11.65	18.07	0.00	0	3	-101	-10.65	13.60	0.00	0	3	-98	-2.41	16.30	0.00	0	3
-97	-4.83	16.30	0.00	0	3	-96	-6.03	16.30	0.00	0	3	-93	-6.03	18.07	0.00	0	3
-94	-8.44	16.30	0.00	0	3	-92	-1.21	18.07	0.00	0	3	-89	-2.41	18.07	0.00	0	3
-91	-2.41	18.07	0.00	0	3	-90	-2.41	18.07	0.00	0	3	-87	-4.83	18.07	0.00	0	3
-88	-3.62	18.07	0.00	0	3	-86	-6.03	18.07	0.00	0	3	-84	-6.03	18.07	0.00	0	3
-85	-6.03	18.07	0.00	0	3	-83	-7.24	18.07	0.00	0	3	-81	-8.44	18.07	0.00	0	3
-82	-7.24	18.07	0.00	0	3	-80	-8.44	18.07	0.00	0	3	-78	-1.21	16.70	0.00	0	3
-79	-9.65	18.07	0.00	0	3	-77	-9.65	18.07	0.00	0	3	-75	-1.21	16.70	0.00	0	3
-76	0.00	18.07	0.00	0	3	-74	-2.41	16.70	0.00	0	3	-72	-4.83	16.70	0.00	0	3
-73	-3.62	16.70	0.00	0	3	-71	-6.03	16.70	0.00	0	3	-69	-8.44	16.70	0.00	0	3
-70	-7.24	16.70	0.00	0	3	-68	-1.21	25.27	0.00	0	3	-66	-1.21	25.27	0.00	0	3
-67	-1.21	25.27	0.00	0	3	-65	-10.65	22.04	0.00	0	3	-63	-10.65	23.27	0.00	0	3
-64	-1.21	25.27	0.00	0	3	-62	-11.65	22.04	0.00	0	3	-61	-11.65	23.27	0.00	0	3
-63	-10.65	24.51	0.00	0	3	-59	-10.65	25.75	0.00	0	3	-58	-10.65	27.00	0.00	0	3
-61	-11.65	27.00	0.00	0	3	-56	-10.65	25.75	0.00	0	3	-55	-10.65	28.25	0.00	0	3
-54	-7.39	27.00	0.00	0	3	-53	-8.52	27.00	0.00	0	3	-52	-9.65	27.00	0.00	0	3
-48	-5.09	27.00	0.00	0	3	-50	-8.52	28.25	0.00	0	3	-49	-3.93	27.00	0.00	0	3
-45	-3.93	28.25	0.00	0	3	-47	-6.26	28.25	0.00	0	3	-45	-2.76	27.00	0.00	0	3
-42	-1.21	23.27	0.00	0	3	-44	-5.09	28.25	0.00	0	3	-43	-1.25	22.04	0.00	0	3
-41	-1.34	24.51	0.00	0	3	-42	-3.93	28.25	0.00	0	3	-40	-2.50	22.04	0.00	0	3
-39	-2.59	23.27	0.00	0	3	-38	-2.47	24.51	0.00	0	3	-37	-2.50	22.04	0.00	0	3
-36	-3.77	23.27	0.00	0	3	-37	-2.47	24.51	0.00	0	3	-36	-3.93	22.04	0.00	0	3
-33	-4.95	23.27	0.00	0	3	-35	-3.85	24.51	0.00	0	3	-34	-4.89	22.04	0.00	0	3
-30	-6.15	23.27	0.00	0	3	-32	-5.03	24.51	0.00	0	3	-31	-6.09	22.04	0.00	0	3
-27	-7.31	23.27	0.00	0	3	-30	-6.20	24.51	0.00	0	3	-28	-7.28	22.04	0.00	0	3
-24	-8.48	23.27	0.00	0	3	-29	-7.35	24.51	0.00	0	3	-26	-8.52	22.04	0.00	0	3
-21	0.00	22.04	0.00	0	3	-25	-7.35	24.51	0.00	0	3	-22	-8.52	22.04	0.00	0	3
-18	9.65	24.51	0.00	0	3	-24	-8.20	24.51	0.00	0	3	-19	-1.21	20.80	0.00	0	3
-15	-1.38	25.75	0.00	0	3	-23	-6.03	24.51	0.00	0	3	-18	-1.21	20.80	0.00	0	3
-12	-3.93	25.75	0.00	0	3	-22	-6.03	24.51	0.00	0	3	-16	-3.62	20.80	0.00	0	3
-9	-6.44	20.80	0.00	0	3	-21	-4.43	20.80	0.00	0	3	-15	-3.93	25.75	0.00	0	3
-6	-8.44	20.80	0.00	0	3	-20	-4.83	20.80	0.00	0	3	-10	-7.39	25.75	0.00	0	3
-3	0.00	9.60	0.00	0	3	-19	-6.52	25.75	0.00	0	3	-7	-6.52	25.75	0.00	0	3
0	0.00	25.75	0.00	0	3	-18	-7.24	25.75	0.00	0	3	-6	-8.44	20.80	0.00	0	3
3	0.00	9.60	0.00	0	3	-17	-7.24	25.75	0.00	0	3	-5	-6.52	25.75	0.00	0	3
6	0.00	25.75	0.00	0	3	-16	-8.44	20.80	0.00	0	3	-4	-6.52	25.75	0.00	0	3
9	0.00	9.60	0.00	0	3	-15	-7.24	25.75	0.00	0	3	-3	0.00	1.60	0.00	0	3
12	0.00	25.75	0.00	0	3	-14	-8.44	20.80	0.00	0	3	-2	0.00	1.60	0.00	0	3
15	0.00	9.60	0.00	0	3	-13	-7.24	25.75	0.00	0	3	-1	0.00	1.60	0.00	0	3
18	0.00	25.75	0.00	0	3	-12	-8.44	20.80	0.00	0	3	0	0.00	1.60	0.00	0	3
21	0.00	9.60	0.00	0	3	-11	-6.52	25.75	0.00	0	3	1	0.00	1.60	0.00	0	3
24	0.00	25.75	0.00	0	3	-10	-7.24	25.75	0.00	0	3	2	0.00	1.60	0.00	0	3
27	0.00	9.60	0.00	0	3	-9	-8.44	20.80	0.00	0	3	3	0.00	1.60	0.00	0	3
30	0.00	25.75	0.00	0	3	-8	-6.52	25.75	0.00	0	3	4	0.00	1.60	0.00	0	3
33	0.00	9.60	0.00	0	3	-7	-7.24	25.75	0.00	0	3	5	0.00	1.60	0.00	0	3
36	0.00	25.75	0.00	0	3	-6	-8.44	20.80	0.00	0	3	6	0.00	1.60	0.00	0	3
39	0.00	9.60	0.00	0	3	-5	-6.52	25.75	0.00	0	3	7	0.00	1.60	0.00	0	3
42	0.00	25.75	0.00	0	3	-4	-7.24	25.75	0.00	0	3	8	0.00	1.60	0.00	0	3
45	0.00	9.60	0.00	0	3	-3	-8.44	20.80	0.00	0	3	9	0.00	1.60	0.00	0	3
48	0.00	25.75	0.00	0	3	-2	-6.52	25.75	0.00	0	3	10	0.00	1.60	0.00	0	3
51	0.00	9.60	0.00	0	3	-1	-7.24	25.75	0.00	0	3	11	0.00	1.60	0.00	0	3
54	0.00	25.75	0.00	0	3	0	-8.44	20.80	0.00	0	3	12	0.00	1.60	0.00	0	3
57	0.00	9.60	0.00	0	3	1	-6.52	25.75	0.00	0	3	13	0.00	1.60	0.00	0	3
60	0.00	25.75	0.00	0	3	2	-7.24	25.75	0.00	0	3	14	0.00	1.60	0.00	0	3
63	0.00	9.60	0.00	0	3	3	-8.44	20.80	0.00	0	3	15	0.00	1.60	0.00	0	3
66	0.00	25.75	0.00	0	3	4	-6.52	25.75	0.00	0	3	16	0.00	1.60	0.00	0	3
69	0.00	9.60	0.00	0	3	5	-7.24	25.75	0.00	0	3	17	0.00	1.60	0.00	0	3
72	0.00	25.75	0.00	0	3	6	-8.44	20.80	0.00	0	3	18	0.00	1.60	0.00	0	3
75	0.00	9.60	0.00	0	3	7	-6.52	25.75	0.00	0	3	19	0.00	1.60	0.00	0	3
78	0.00	25.75	0.00	0	3	8	-7.24	25.75	0.00	0	3	20	0.00	1.60	0.00	0	3
81	0.00	9.60	0.00	0	3	9	-8.44	20.80	0.00	0	3	21	0.00	1.60	0.00	0	3
84	0.00	25.75	0.00	0	3	10	-6.52	25.75	0.00	0	3	22	0.00	1.60	0.00	0	3
87	0.00	9.60	0.00	0	3	11	-7.24	25.75	0.00	0	3	23	0.00	1.60	0.00	0	3
90	0.00	25.75	0.00	0	3	12	-8.44	20.80	0.00	0	3	24	0.00	1.60	0.00	0	3
93	0.00	9.60	0.00	0	3	13	-6.52	25.75	0.00	0	3	25	0.00	1.60	0.00	0	3
96	0.00	25.75	0.00	0	3	14	-7.24	25.75	0.								

H/R/Jx Altezza parte sup. / Raggio / Mem. d'inerzia intorno all'asse X
 B/s/Jy Base inferiore / Spessore ala / Mem. d'inerzia intorno all'asse Y
 h/a/Jz Altezza parte inf. / Spessore anima / Mem. d'inerzia intorno all'asse Z
 D/C Distanza / Ala
 Mat. Numero del materiale
 Crit. Critico di progetto

Sz.	Conn.	Tipo	Mem.	Var.	B/HV/Area	H/R/Jx	b/s/Jy	h/a/Jz	D/C	Mat.	Crit.
1	trave15x24	R	T	C	0.15	0.24	0.13	0.35	1	5	
2	trave25x24	P	T	C	0.25	0.24	0.13	0.35	1	5	
3	trave30x24	P	T	C	0.30	0.24	0.13	0.35	1	5	
4	trave40x24	P	T	C	0.40	0.24	0.13	0.35	1	5	
5	trave50x24	P	T	C	0.50	0.24	0.13	0.35	1	5	
6	trave60x24	P	T	C	0.60	0.24	0.13	0.35	1	5	
7	trave70x24	P	T	C	0.70	0.24	0.13	0.35	1	5	
8	trave80x24	P	T	C	0.80	0.24	0.13	0.35	1	5	
9	trave90x24	P	T	C	0.90	0.24	0.13	0.35	1	5	
10	trave100x24	P	T	C	1.00	0.24	0.13	0.35	1	5	
11	trave110x24	P	T	C	1.10	0.24	0.13	0.35	1	5	
12	trave120x24	P	T	C	1.20	0.24	0.13	0.35	1	5	
13	trave130x24	P	T	C	1.30	0.24	0.13	0.35	1	5	
14	trave140x24	P	T	C	1.40	0.24	0.13	0.35	1	5	
15	trave150x24	P	T	C	1.50	0.24	0.13	0.35	1	5	
16	trave160x24	P	T	C	1.60	0.24	0.13	0.35	1	5	
17	trave170x24	P	T	C	1.70	0.24	0.13	0.35	1	5	
18	trave180x24	P	T	C	1.80	0.24	0.13	0.35	1	5	
19	trave190x24	P	T	C	1.90	0.24	0.13	0.35	1	5	
20	trave200x24	P	T	C	2.00	0.24	0.13	0.35	1	5	
21	trave210x24	P	T	C	2.10	0.24	0.13	0.35	1	5	
22	trave220x24	P	T	C	2.20	0.24	0.13	0.35	1	5	
23	trave230x24	P	T	C	2.30	0.24	0.13	0.35	1	5	
24	trave240x24	P	T	C	2.40	0.24	0.13	0.35	1	5	
25	trave250x24	P	T	C	2.50	0.24	0.13	0.35	1	5	
26	trave260x24	P	T	C	2.60	0.24	0.13	0.35	1	5	
27	trave270x24	P	T	C	2.70	0.24	0.13	0.35	1	5	
28	trave280x24	P	T	C	2.80	0.24	0.13	0.35	1	5	
29	trave290x24	P	T	C	2.90	0.24	0.13	0.35	1	5	
30	trave300x24	P	T	C	3.00	0.24	0.13	0.35	1	5	
31	trave310x24	P	T	C	3.10	0.24	0.13	0.35	1	5	
32	trave320x24	P	T	C	3.20	0.24	0.13	0.35	1	5	
33	trave330x24	P	T	C	3.30	0.24	0.13	0.35	1	5	
34	trave340x24	P	T	C	3.40	0.24	0.13	0.35	1	5	
35	trave350x24	P	T	C	3.50	0.24	0.13	0.35	1	5	
36	trave360x24	P	T	C	3.60	0.24	0.13	0.35	1	5	
37	trave370x24	P	T	C	3.70	0.24	0.13	0.35	1	5	
38	trave380x24	P	T	C	3.80	0.24	0.13	0.35	1	5	
39	trave390x24	P	T	C	3.90	0.24	0.13	0.35	1	5	
40	trave400x24	P	T	C	4.00	0.24	0.13	0.35	1	5	
41	trave410x24	P	T	C	4.10	0.24	0.13	0.35	1	5	
42	trave420x24	P	T	C	4.20	0.24	0.13	0.35	1	5	
43	trave430x24	P	T	C	4.30	0.24	0.13	0.35	1	5	
44	trave440x24	P	T	C	4.40	0.24	0.13	0.35	1	5	
45	trave450x24	P	T	C	4.50	0.24	0.13	0.35	1	5	
46	trave460x24	P	T	C	4.60	0.24	0.13	0.35	1	5	
47	trave470x24	P	T	C	4.70	0.24	0.13	0.35	1	5	
48	trave480x24	P	T	C	4.80	0.24	0.13	0.35	1	5	
49	trave490x24	P	T	C	4.90	0.24	0.13	0.35	1	5	
50	trave500x24	P	T	C	5.00	0.24	0.13	0.35	1	5	
51	trave510x24	P	T	C	5.10	0.24	0.13	0.35	1	5	
52	trave520x24	P	T	C	5.20	0.24	0.13	0.35	1	5	
53	trave530x24	P	T	C	5.30	0.24	0.13	0.35	1	5	
54	trave540x24	P	T	C	5.40	0.24	0.13	0.35	1	5	
55	trave550x24	P	T	C	5.50	0.24	0.13	0.35	1	5	
56	trave560x24	P	T	C	5.60	0.24	0.13	0.35	1	5	
57	trave570x24	P	T	C	5.70	0.24	0.13	0.35	1	5	
58	trave580x24	P	T	C	5.80	0.24	0.13	0.35	1	5	
59	trave590x24	P	T	C	5.90	0.24	0.13	0.35	1	5	
60	trave600x24	P	T	C	6.00	0.24	0.13	0.35	1	5	
61	trave610x24	P	T	C	6.10	0.24	0.13	0.35	1	5	
62	trave620x24	P	T	C	6.20	0.24	0.13	0.35	1	5	
63	trave630x24	P	T	C	6.30	0.24	0.13	0.35	1	5	
64	trave640x24	P	T	C	6.40	0.24	0.13	0.35	1	5	
65	trave650x24	P	T	C	6.50	0.24	0.13	0.35	1	5	
66	trave660x24	P	T	C	6.60	0.24	0.13	0.35	1	5	
67	trave670x24	P	T	C	6.70	0.24	0.13	0.35	1	5	
68	trave680x24	P	T	C	6.80	0.24	0.13	0.35	1	5	
69	trave690x24	P	T	C	6.90	0.24	0.13	0.35	1	5	
70	trave700x24	P	T	C	7.00	0.24	0.13	0.35	1	5	
71	trave710x24	P	T	C	7.10	0.24	0.13	0.35	1	5	
72	trave720x24	P	T	C	7.20	0.24	0.13	0.35	1	5	
73	trave730x24	P	T	C	7.30	0.24	0.13	0.35	1	5	
74	trave740x24	P	T	C	7.40	0.24	0.13	0.35	1	5	
75	trave750x24	P	T	C	7.50	0.24	0.13	0.35	1	5	
76	trave760x24	P	T	C	7.60	0.24	0.13	0.35	1	5	
77	trave770x24	P	T	C	7.70	0.24	0.13	0.35	1	5	
78	trave780x24	P	T	C	7.80	0.24	0.13	0.35	1	5	
79	trave790x24	P	T	C	7.90	0.24	0.13	0.35	1	5	
80	trave800x24	P	T	C	8.00	0.24	0.13	0.35	1	5	
81	trave810x24	P	T	C	8.10	0.24	0.13	0.35	1	5	
82	trave820x24	P	T	C	8.20	0.24	0.13	0.35	1	5	
83	trave830x24	P	T	C	8.30	0.24	0.13	0.35	1	5	
84	trave840x24	P	T	C	8.40	0.24	0.13	0.35	1	5	
85	trave850x24	P	T	C	8.50	0.24	0.13	0.35	1	5	
86	trave860x24	P	T	C	8.60	0.24	0.13	0.35	1	5	
87	trave870x24	P	T	C	8.70	0.24	0.13	0.35	1	5	
88	trave880x24	P	T	C	8.80	0.24	0.13	0.35	1	5	
89	trave890x24	P	T	C	8.90	0.24	0.13	0.35	1	5	
90	trave900x24	P	T	C	9.00	0.24	0.13	0.35	1	5	
91	trave910x24	P	T	C	9.10	0.24	0.13	0.35	1	5	
92	trave920x24	P	T	C	9.20	0.24	0.13	0.35	1	5	
93	trave930x24	P	T	C	9.30	0.24	0.13	0.35	1	5	
94	trave940x24	P	T	C	9.40	0.24	0.13	0.35	1	5	
95	trave950x24	P	T	C	9.50	0.24	0.13	0.35	1	5	
96	trave960x24	P	T	C	9.60	0.24	0.13	0.35	1	5	
97	trave970x24	P	T	C	9.70	0.24	0.13	0.35	1	5	
98	trave980x24	P	T	C	9.80	0.24	0.13	0.35	1	5	
99	trave990x24	P	T	C	9.90	0.24	0.13	0.35	1	5	
100	trave1000x24	P	T	C	10.00	0.24	0.13	0.35	1	5	
101	trave1010x24	P	T	C	10.10	0.24	0.13	0.35	1	5	
102	trave1020x24	P	T	C	10.20	0.24	0.13	0.35	1	5	
103	trave1030x24	P	T	C	10.30	0.24	0.13	0.35	1	5	
104	trave1040x24	P	T	C	10.40	0.24	0.13	0.35	1	5	
105	trave1050x24	P	T	C	10.50	0.24	0.13	0.35	1	5	
106	trave1060x24	P	T	C	10.60	0.24	0.13	0.35	1	5	
107	trave1070x24	P	T	C	10.70	0.24	0.13	0.35	1	5	
108	trave1080x24	P	T	C	10.80	0.24	0.13	0.35	1	5	
109	trave1090x24	P	T	C	10.90	0.24	0.13	0.35	1	5	
110	trave1100x24	P	T	C	11.00	0.24	0.13	0.35	1	5	
111	trave1110x24	P	T	C	11.10	0.24	0.13	0.35	1	5	
112	trave1120x24	P	T	C	11.20	0.24	0.13	0.35	1	5	
113	trave1130x24	P	T	C	11.30	0.24	0.13	0.35	1	5	
114	trave1140x24	P	T	C	11.40	0.24	0.13	0.35	1	5	
115	trave1150x24	P	T	C	11.50	0.24	0.13	0.35	1	5	
116	trave1160x24	P	T	C	11.60	0.24	0.13	0.35	1	5	
117	trave1170x24	P	T	C	11.70	0.24	0.13	0.35	1	5	
118	trave1180x24	P	T	C	11.80	0.24	0.13	0.35	1	5	
119	trave1190x24	P	T	C	11.90	0.24	0.13	0.35	1	5	
120	trave1200x24	P	T	C	12.00	0.24	0.13	0.35	1	5	
121	trave1210x24	P	T	C	12.10	0.24	0.13	0.35	1	5	
122	trave1220x24	P	T	C	12.20	0.24	0.13	0.35	1	5	
123	trave1230x24	P	T	C	12.30	0.24	0.13	0.35	1	5	
124	trave1240x24	P	T	C	12.40	0.24	0.13	0.35	1	5	
125	trave1250x24	P	T	C	12.50	0.24	0.13	0.35	1	5	
126	trave1260x24	P	T	C	12.60	0.24	0.13	0.35	1	5	
127	trave1270x24	P	T	C	12.70	0.24	0.13	0.35	1	5	
128	trave1280x24	P	T	C	12.80	0.24	0.13	0.35	1	5	
129	trave1290x24	P	T	C	12.90	0.24	0.13	0.35	1	5	
130	trave1300x24	P	T	C	13.00	0.24	0.13	0.35	1	5	
131	trave1310x24	P	T	C	13.10	0.24	0.13	0.35	1	5	
132	trave1320x24	P	T	C	13.20	0.24	0.13	0.35	1	5	
133	trave1330x24	P	T	C	13.30	0.24	0.13	0.35	1	5	
134	trave1340x24	P	T	C	13.40	0.24	0.13	0.35	1	5	
135	trave1350x24	P	T	C	13.50	0.24	0.13	0.35	1	5	
136	trave1360x24	P	T	C	13.60	0.24	0.13	0.35	1	5	
137	trave1370x24	P	T	C	13.70	0.24	0				

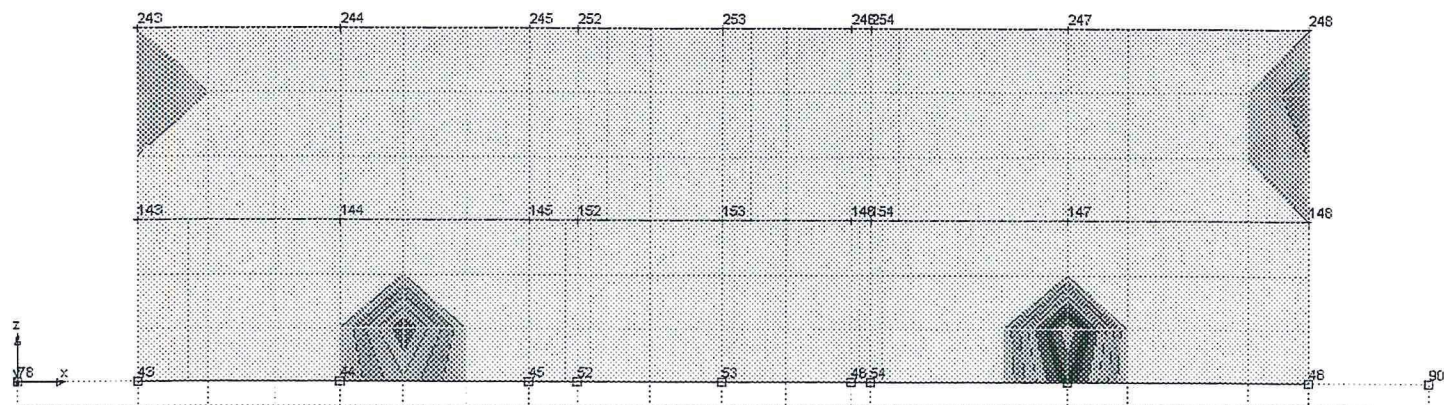
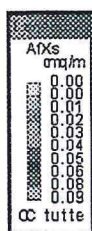


-Armatura superiore in direzione Z-

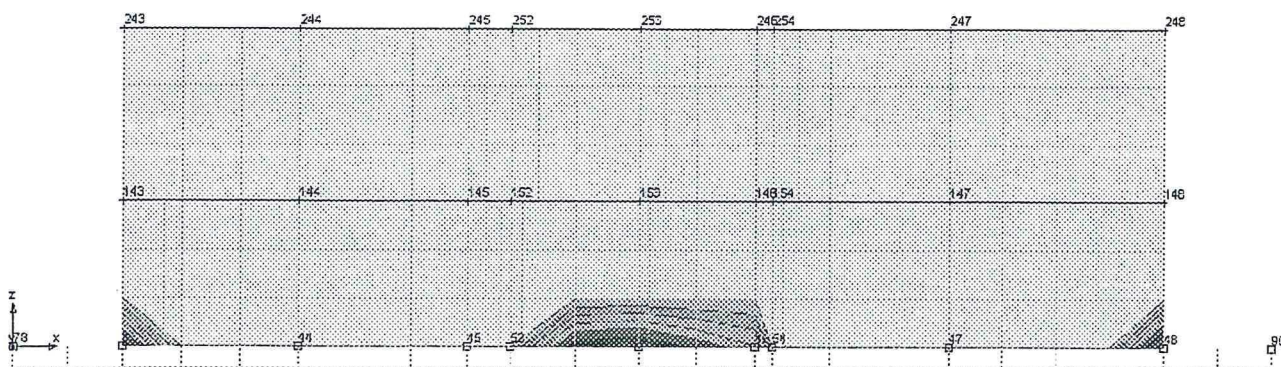
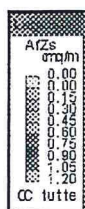


-Armatura inferiore in direzione Z-

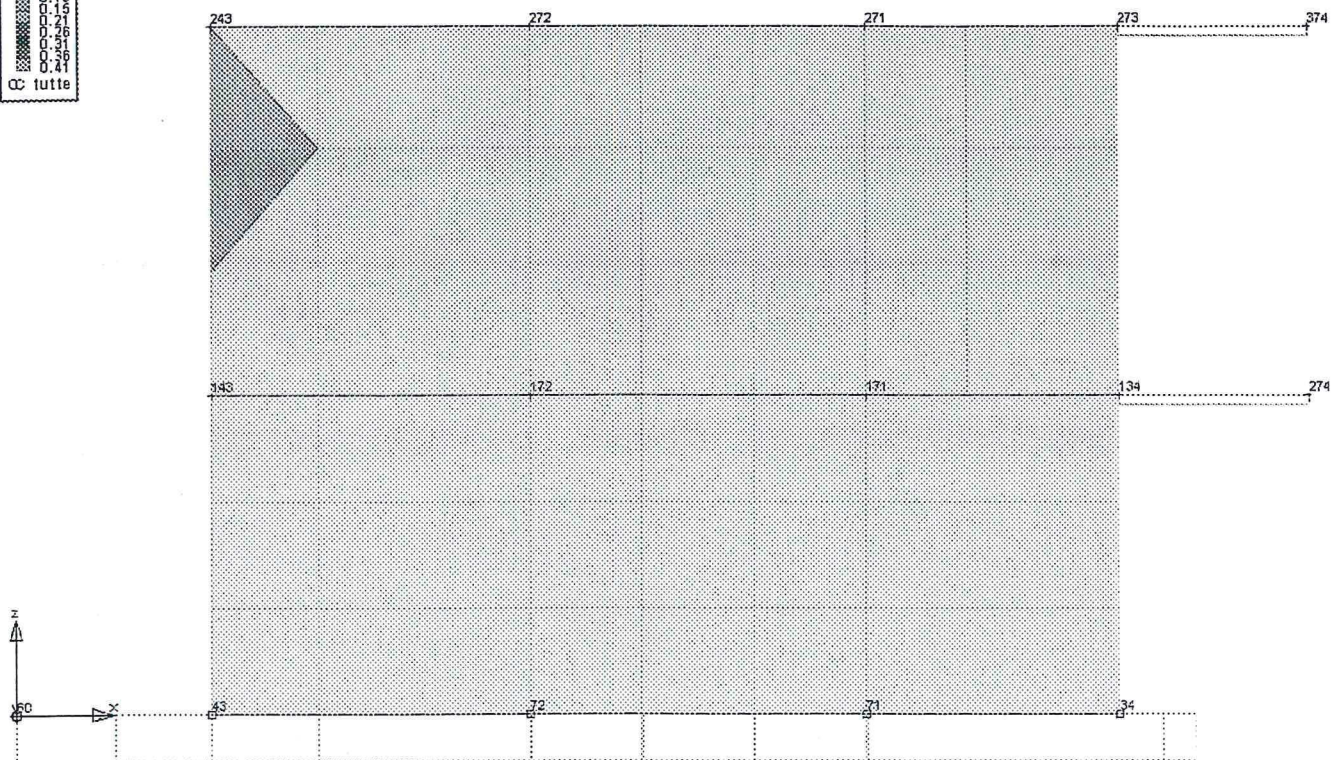
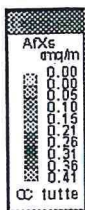
ARMATURA PARETI



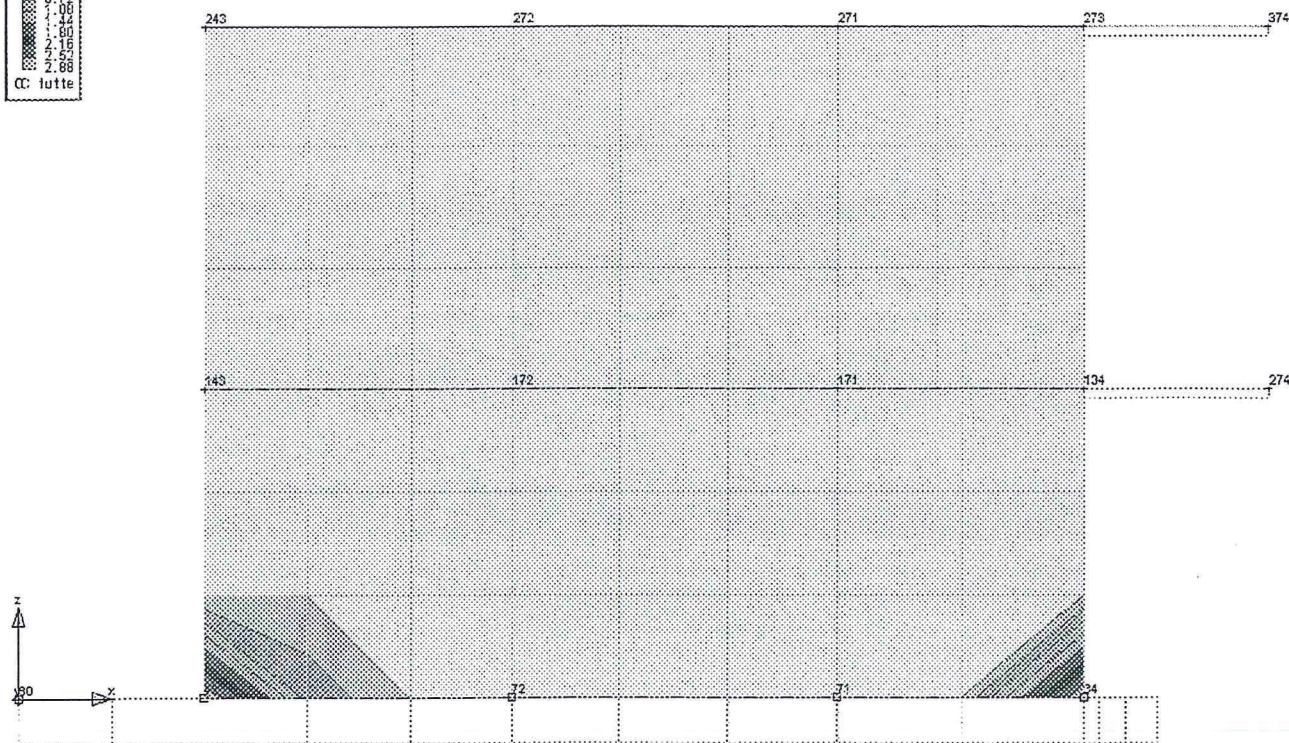
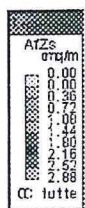
-Armatura parete n.1 in direzione X-



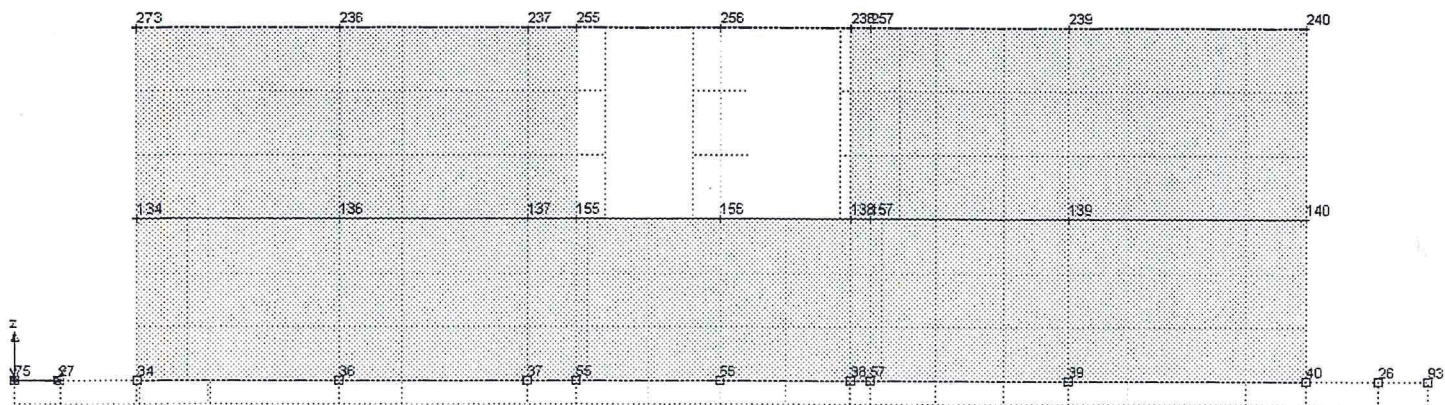
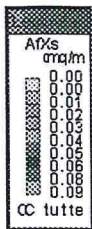
-Armatura parete n.1 in direzione Z-



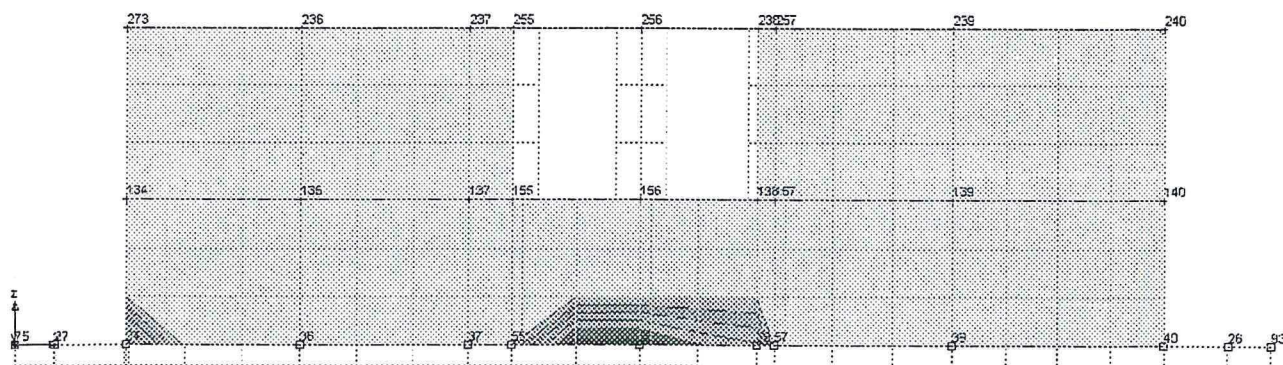
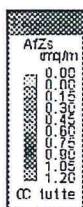
-Armatura parete n.2 in direzione X-



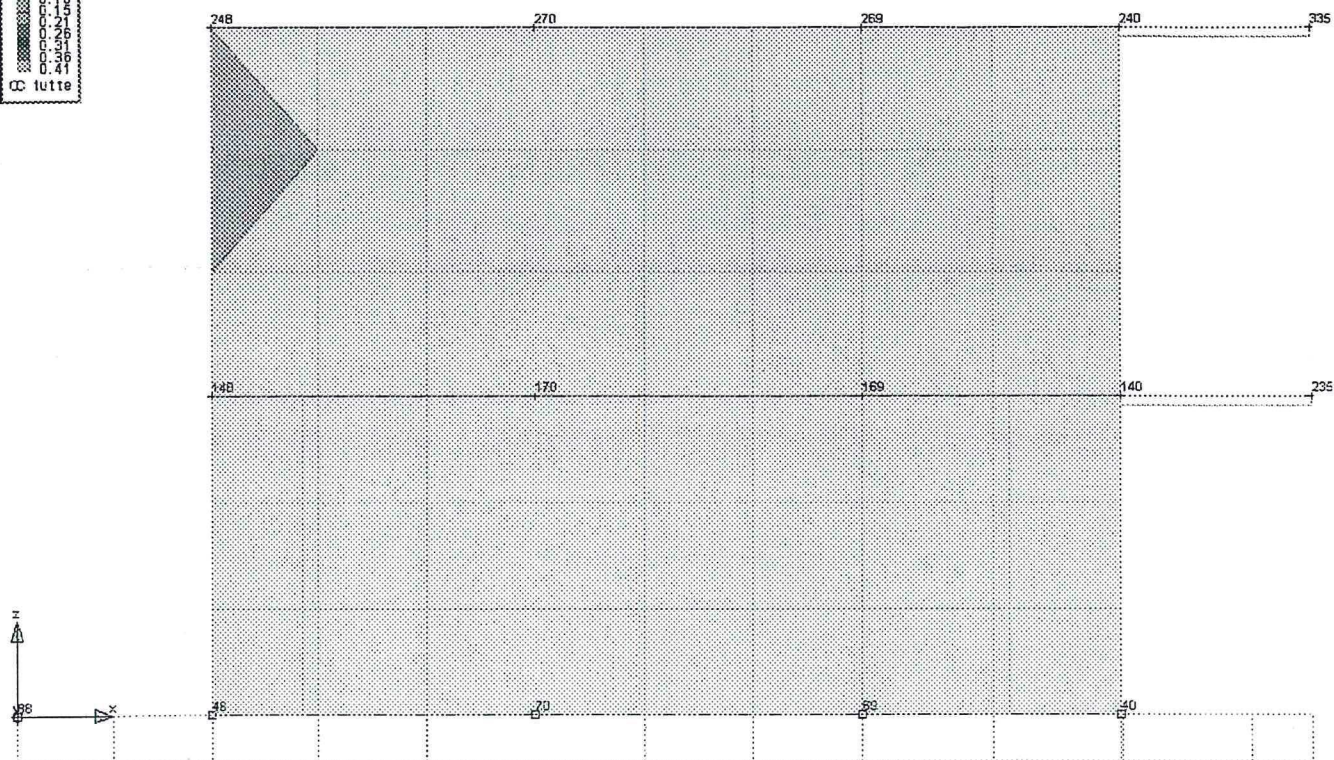
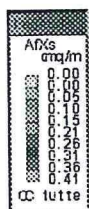
-Armatura parete n.2 in direzione Z-



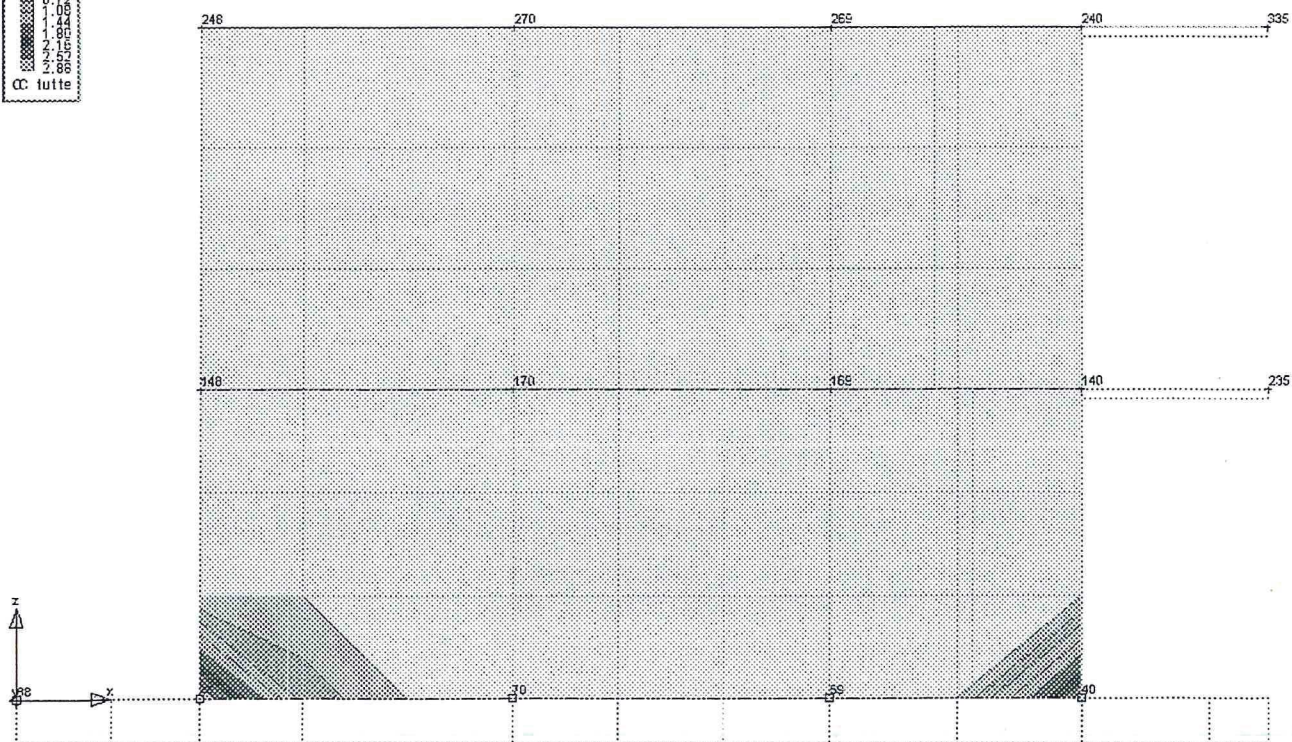
-Armatura parete n.3 in direzione X-



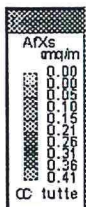
-Armatura parete n.3 in direzione Z-

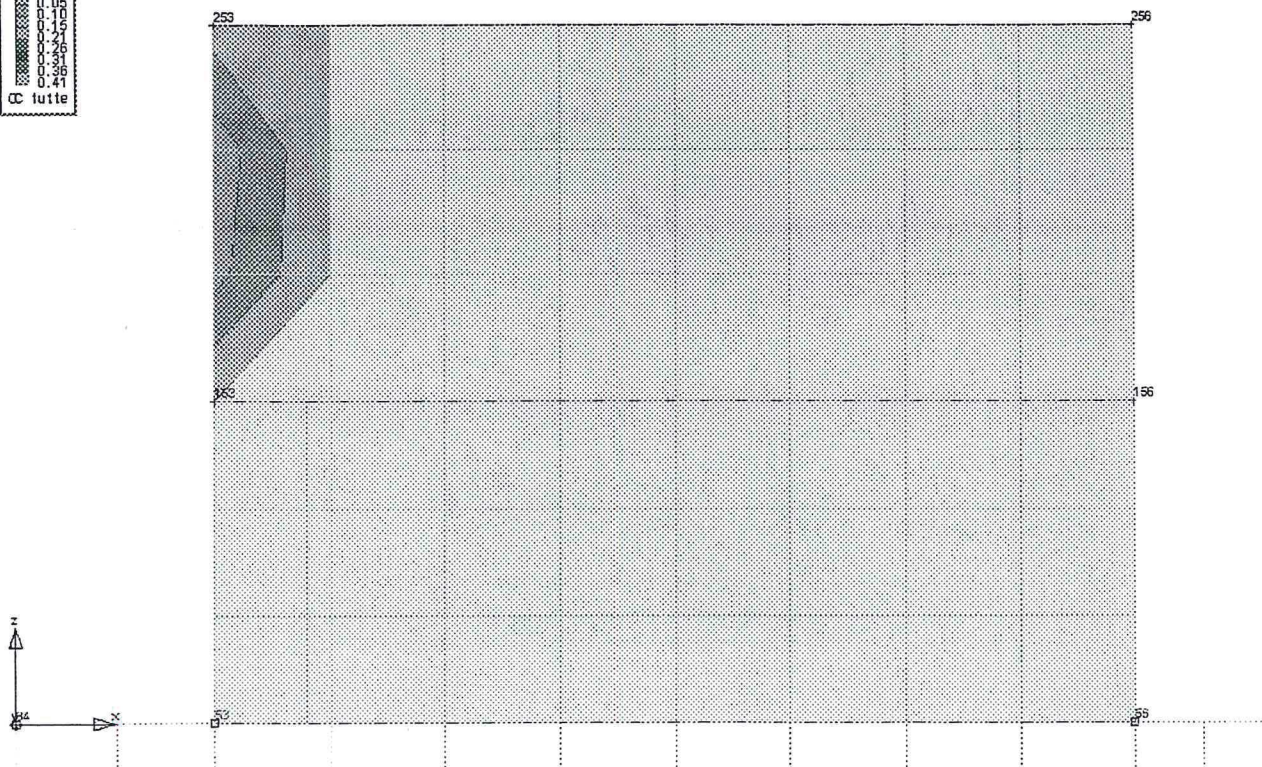
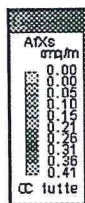


-Armatura parete n.4 in direzione X-

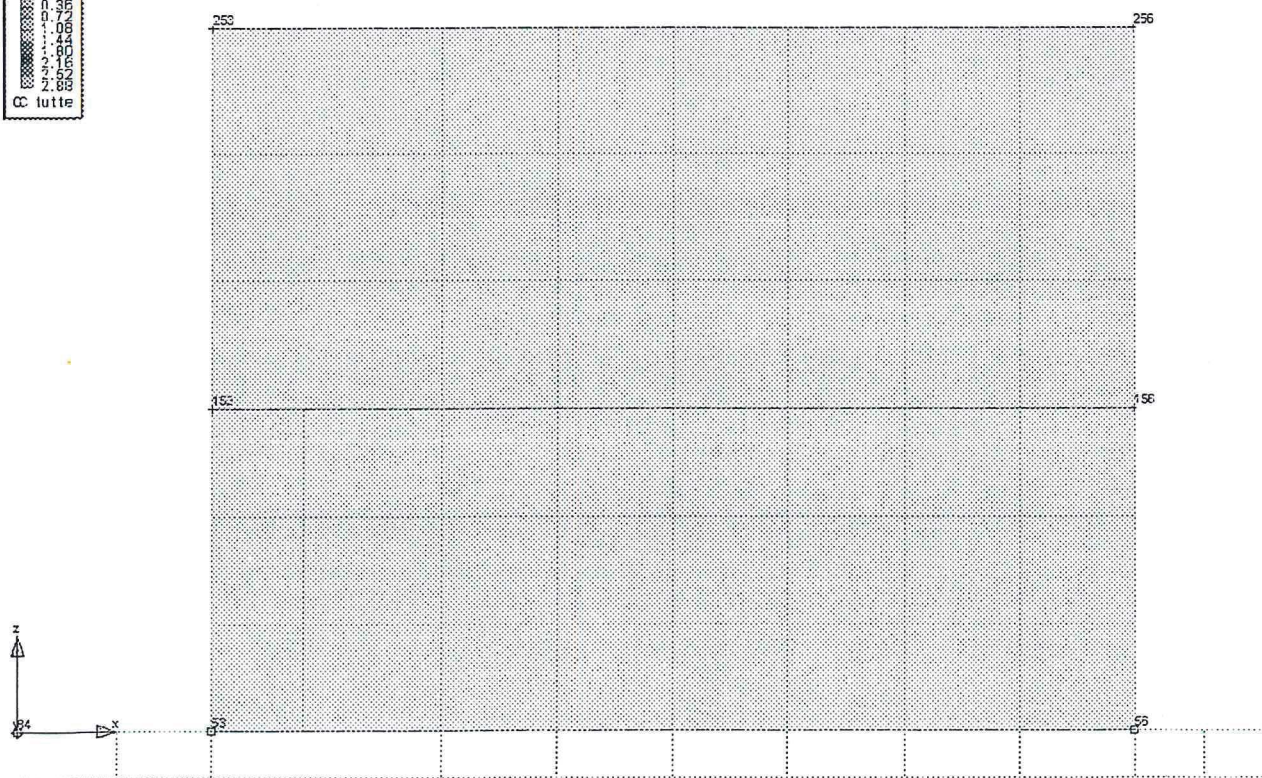
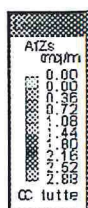


-Armatura parete n.4 in direzione Z-





-Armatura parete n.6 in direzione X-



-Armatura parete n.6 in direzione Z-