Comune

GENOVA

Provincia

GENOVA

Titolo del progetto

REALIZZAZIONE DEL NUOVO IMPIANTO DI DEPURAZIONE AREA CENTRALE DI GENOVA - D.A.C.

Livello di progettazione	Settore di business	Disciplina
E - ESECUTIVO	I2 - DEPURAZIONE	STR - STRUTTURE

Numero	Titolo	Scala
RT 001 - ALL4	Comparto Digestione anaerobica Relazione di calcolo strutturale	-

ID Progetto	Titolo sintetico (nome file di stampa)	Codifica WBS
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Redatto:

ing. Angelo Schiavone - LS

Verificato:

ing. Cosimo Parabita - IRETI

Approvato:

ing. Claudio Casale - IRETI

Funzione Ingegneria e Realizzazioni
IRETI.S.p.A - Società con socio unico IREN S.p.A
Sottoposta a direzione e coordinamento di IREN S.p.A
Sede legale : S.P. 95 per Castelnuovo Scrivia - 15057 Tortona (AL)
cod.fisc e P.IVA n° 01791490343 pec:ireti@pec.ireti.it

LS INGEGNERIA s.r.l.s
Via Dante Alighieri n.11
74015 Martina Franca (TA)
lsingegneriasrls@pec.it
C.fisc.-P.IVA 03000270730

PROGETTISTA :

Ing. Angelo Schiavone iscritto all'ord... degli ingegneri di Torino con n. ...

Ing. ANGELO SCHIAVONE n. 43...

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1. OGGETTO DELLA RELAZIONE

Il comparto digestione anaerobica è composto da cinque fondazioni circolari su pali (quattro digestori ed un gasometro) e da una struttura metallica che da accesso a più livelli dei digestori, oltre a contenere la scala ed un montacarichi. Pertanto sono stati realizzati tre distinti modelli di calcolo agli elementi finiti, di cui si riportano di seguito i dati inseriti, i risultati del calcolo, del progetto e della verifica degli elementi strutturali.

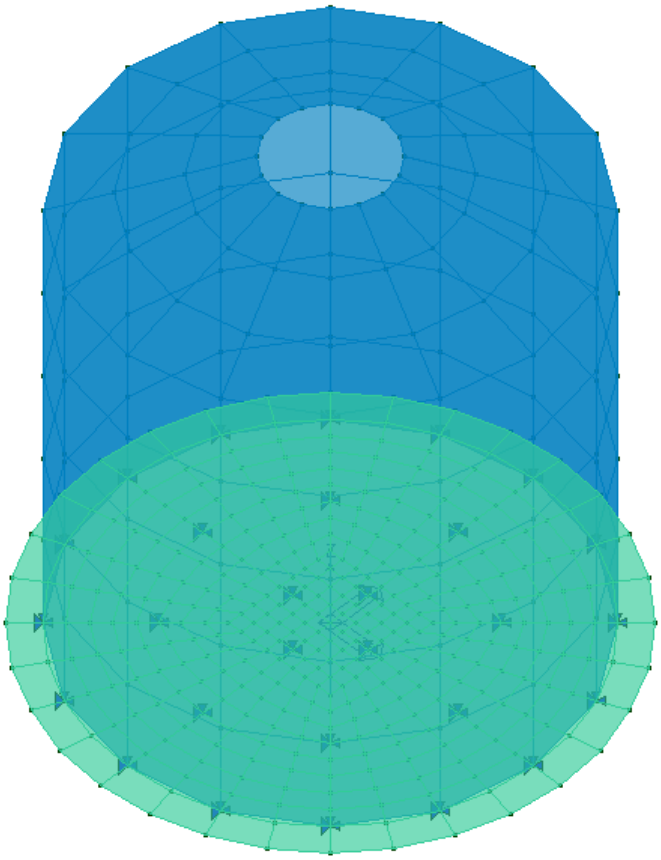
2. FONDAZIONE DIGESTORE

Il basamento utilizzato per sostenere il digestore è realizzato con una soletta circolare di diametro 21 m circa e spessore 100 cm, sostenuta da 28 pali di diametro 80 cm.

Nel modello di calcolo i pali sono stati schematizzati come vincoli rigidi, senza attribuire alcun contributo portante al terreno.

Per applicare i carichi nel modo più realistico possibile, è stato schematizzato il serbatoio metallico a cui sono stati applicati i carichi di competenza.

Per progettare e verificare l'armatura, sia in condizione statica sia in condizione sismica, con le assunzioni descritte nella relazione generale sulle strutture, è stato realizzato un modello agli elementi finiti, le cui immagini sono di seguito riportate.



Si riportano di seguito i tabulati relativi ai dati inseriti, ai principali risultati ottenuti ed alla progettazione degli elementi portanti.

2.1 DESCRIZIONE DELLA MODELLAZIONE

Tipo di analisi strutturale	
Statica lineare	SI
Statica non lineare	NO
Sismica statica lineare	NO
Sismica dinamica lineare	SI

Modellazione della geometria e proprietà meccaniche:	
nodi	497
elementi D2 (per aste, travi, pilastri…)	64
elementi D3 (per pareti, platee, gusci…)	480
elementi solaio	0
elementi solidi	0
Dimensione del modello strutturale [cm]:	
X min =	-1050.00
Xmax =	1050.00
Ymin =	-1050.00
Ymax =	1050.00
Zmin =	0.00
Zmax =	2130.00
Strutture verticali:	
Elementi di tipo asta	NO
Pilastri	NO
Pareti	SI
Setti (a comportamento membranale)	NO
Strutture non verticali:	
Elementi di tipo asta	NO
Travi	SI
Gusci	SI
Membrane	NO
Orizzontamenti:	
Solai con la proprietà piano rigido	NO

Solai senza la proprietà piano rigido	NO
Tipo di vincoli:	
Nodi vincolati rigidamente	SI
Nodi vincolati elasticamente	NO
Nodi con isolatori sismici	NO
Fondazioni puntuali (plinti/plinti su palo)	NO
Fondazioni di tipo trave	NO
Fondazioni di tipo platea	NO

2.2 CARATTERISTICHE MATERIALI UTILIZZATI

LEGENDA TABELLA DATI MATERIALI

Il programma consente l'uso di materiali diversi. Sono previsti i seguenti tipi di materiale:

1	materiale tipo cemento armato
2	materiale tipo acciaio
3	materiale tipo muratura
4	materiale tipo legno
5	materiale tipo generico

I materiali utilizzati nella modellazione sono individuati da una sigla identificativa ed un codice numerico (gli elementi strutturali richiamano quest'ultimo nella propria descrizione). Per ogni materiale vengono riportati in tabella i seguenti dati:

Young	modulo di elasticità normale
Poisson	coefficiente di contrazione trasversale
G	modulo di elasticità tangenziale
Gamma	peso specifico
Alfa	coefficiente di dilatazione termica

I dati soprariportati vengono utilizzati per la modellazione dello schema statico e per la determinazione dei carichi inerziali e termici. In relazione al tipo di materiale vengono riportati inoltre:

1	***cemento armato***		
		Rck	resistenza caratteristica cubica
		Fctm	resistenza media a trazione semplice
2	***acciaio***		
		Ft	tensione di rottura a trazione
		Fy	tensione di snervamento
		Fd	resistenza di calcolo
		Fdt	resistenza di calcolo per spess. t>40 mm
		Sadm	tensione ammissibile
		Sadmt	tensione ammissibile per spess. t>40 mm

TABELLA DATI MATERIALI

Id	Tipo / Note		Young	Poisson	G	Gamma	Alfa
		daN/cm2	daN/cm2		daN/cm2	daN/cm3	
4	Calcestruzzo Classe C32/40		3.360e+05	0.20	1.400e+05	2.50e-03	1.00e-05
	Rck	400.0					
	fctm	31.0					
12	acciaio Fe510 - S355		2.100e+06	0.30	8.077e+05	7.80e-03	1.20e-05
	ft	5100.0					
	fy	3550.0					
	fd	3550.0					
	fdt	3150.0					
	sadm	2400.0					
	sadmt	2100.0					

Di seguito si riportano i dati di progettazione degli elementi di fondazione in calcestruzzo armato.

Gusci c.a.	**1**
Armatura	
Inclinazione Ax [gradi]	0.0
Angolo Ax-Ay [gradi]	90.00
Minima tesa	0.20
Massima tesa	0.78
Maglia unica centrale	No
Copriferro [cm]	4.00
Maglia x	
diametro	24
passo	20
diametro aggiuntivi	24
Maglia y	
diametro	24
passo	20
diametro aggiuntivi	24
Stati limite ultimi	
Tensione fy [daN/cm2]	4500.00
Tipo acciaio	tipo C
Coefficiente gamma s	1.15
Coefficiente gamma c	1.50
Fattore di confidenza FC	0.0
Verifiche con N costante	Si
Applica SLU da DIN	No

2.3 MODELLAZIONE STRUTTURA: NODI

LEGENDA TABELLA DATI NODI

Il programma utilizza per la modellazione nodi strutturali.
Ogni nodo è individuato dalle coordinate cartesiane nel sistema di riferimento globale (X Y Z).
Ad ogni nodo è eventualmente associato un codice di vincolamento rigido, un codice di fondazione speciale, ed un set di sei molle (tre per le traslazioni, tre per le rotazioni). Le tabelle sotto riportate riflettono le succitate possibilità. In particolare per ogni nodo viene indicato in tabella:

Nodo	numero del nodo.
X	valore della coordinata X
Y	valore della coordinata Y
Z	valore della coordinata Z

Per i nodi ai quali sia associato un codice di vincolamento rigido, un codice di fondazione speciale o un set di molle viene indicato in tabella:

Nodo	numero del nodo.
X	valore della coordinata X
Y	valore della coordinata Y
Z	valore della coordinata Z
Note	eventuale codice di vincolo (es. v=110010 sei valori relativi ai sei gradi di libertà previsti per il nodo TxTyTzRxRyRz, il valore 1 indica che lo spostamento o rotazione relativo è impedito, il valore 0 indica che lo spostamento o rotazione relativo è libero).
Note	(FS = 1, 2,…) eventuale codice del tipo di fondazione speciale (1, 2,… fanno riferimento alle tipologie: plinto, palo, plinto su pali,…) che è collegato al nodo. (ISO = “id SIGLA”) indice e sigla identificativa dell’ eventuale isolatore sismico assegnato al nodo
Rig. TX	valore della rigidezza dei vincoli elastici eventualmente applicati al nodo, nello specifico TX (idem per TY, TZ, RX, RY, RZ).

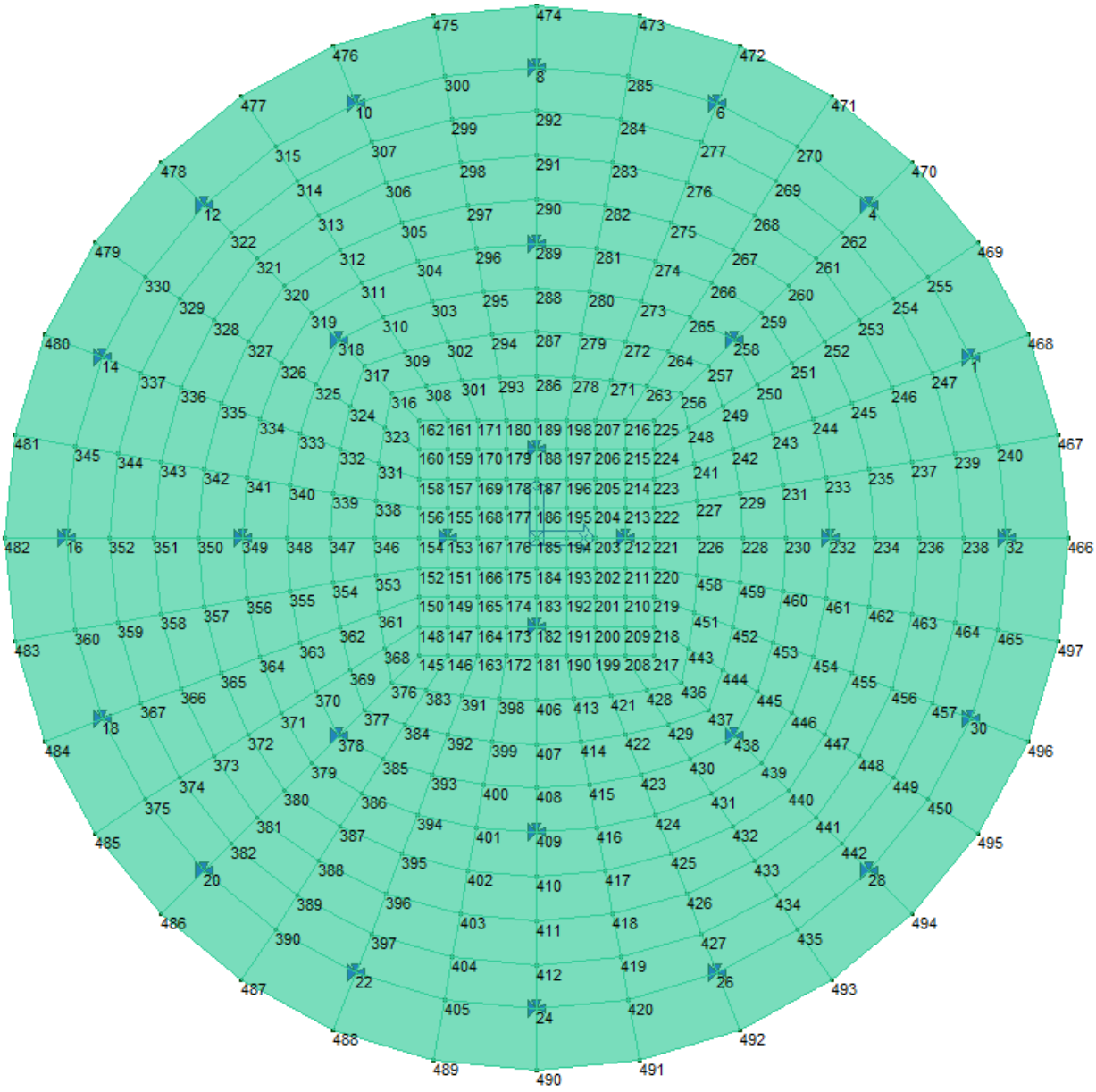
TABELLA DATI NODI

Nodo	X	Y	Z	Nodo	X	Y	Z	Nodo	X	Y	Z
	cm	cm	cm		cm	cm	cm		cm	cm	cm
145	-232.5	-232.5	0.0	146	-174.4	-232.5	0.0	147	-174.4	-174.4	0.0
148	-232.5	-174.4	0.0	149	-174.4	-116.3	0.0	150	-232.5	-116.3	0.0
151	-174.4	-58.1	0.0	152	-232.5	-58.1	0.0	154	-232.5	0.0	0.0
155	-174.4	58.1	0.0	156	-232.5	58.1	0.0	157	-174.4	116.3	0.0
158	-232.5	116.3	0.0	159	-174.4	174.4	0.0	160	-232.5	174.4	0.0
161	-174.4	232.5	0.0	162	-232.5	232.5	0.0	163	-116.3	-232.5	0.0
164	-116.3	-174.4	0.0	165	-116.3	-116.3	0.0	166	-116.3	-58.1	0.0
167	-116.3	0.0	0.0	168	-116.3	58.1	0.0	169	-116.3	116.3	0.0
170	-116.3	174.4	0.0	171	-116.3	232.5	0.0	172	-58.1	-232.5	0.0
173	-58.1	-174.4	0.0	174	-58.1	-116.3	0.0	175	-58.1	-58.1	0.0
176	-58.1	0.0	0.0	177	-58.1	58.1	0.0	178	-58.1	116.3	0.0
179	-58.1	174.4	0.0	180	-58.1	232.5	0.0	181	0.0	-232.5	0.0
183	0.0	-116.3	0.0	184	0.0	-58.1	0.0	185	0.0	0.0	0.0
186	0.0	58.1	0.0	187	0.0	116.3	0.0	189	0.0	232.5	0.0
190	58.1	-232.5	0.0	191	58.1	-174.4	0.0	192	58.1	-116.3	0.0
193	58.1	-58.1	0.0	194	58.1	0.0	0.0	195	58.1	58.1	0.0
196	58.1	116.3	0.0	197	58.1	174.4	0.0	198	58.1	232.5	0.0
199	116.3	-232.5	0.0	200	116.3	-174.4	0.0	201	116.3	-116.3	0.0
202	116.3	-58.1	0.0	203	116.3	0.0	0.0	204	116.3	58.1	0.0
205	116.3	116.3	0.0	206	116.3	174.4	0.0	207	116.3	232.5	0.0
208	174.4	-232.5	0.0	209	174.4	-174.4	0.0	210	174.4	-116.3	0.0
211	174.4	-58.1	0.0	213	174.4	58.1	0.0	214	174.4	116.3	0.0
215	174.4	174.4	0.0	216	174.4	232.5	0.0	217	232.5	-232.5	0.0
218	232.5	-174.4	0.0	219	232.5	-116.3	0.0	220	232.5	-58.1	0.0
221	232.5	0.0	0.0	222	232.5	58.1	0.0	223	232.5	116.3	0.0
224	232.5	174.4	0.0	225	232.5	232.5	0.0	226	319.7	0.0	0.0
227	317.5	73.5	0.0	228	406.9	0.0	0.0	229	402.4	89.0	0.0
230	494.1	0.0	0.0	231	487.4	104.4	0.0	233	572.3	119.8	0.0
234	668.4	0.0	0.0	235	657.3	135.2	0.0	236	755.6	0.0	0.0
237	742.2	150.6	0.0	238	842.8	0.0	0.0	239	827.2	166.0	0.0
240	912.1	181.4	0.0	241	310.8	146.2	0.0	242	389.2	176.2	0.0
243	467.5	206.1	0.0	244	545.9	236.1	0.0	245	624.2	266.0	0.0
246	702.5	296.0	0.0	247	780.9	325.9	0.0	248	300.1	217.2	0.0
249	367.7	260.0	0.0	250	435.3	302.7	0.0	251	502.9	345.5	0.0
252	570.5	388.3	0.0	253	638.1	431.1	0.0	254	705.7	473.9	0.0
255	773.3	516.7	0.0	256	285.6	285.6	0.0	257	338.8	338.8	0.0
259	445.1	445.1	0.0	260	498.2	498.2	0.0	261	551.3	551.3	0.0
262	604.5	604.5	0.0	263	217.2	300.1	0.0	264	260.0	367.7	0.0
265	302.7	435.3	0.0	266	345.5	502.9	0.0	267	388.3	570.5	0.0
268	431.1	638.1	0.0	269	473.9	705.7	0.0	270	516.7	773.3	0.0
271	146.2	310.8	0.0	272	176.2	389.2	0.0	273	206.1	467.5	0.0
274	236.1	545.9	0.0	275	266.0	624.2	0.0	276	296.0	702.5	0.0
277	325.9	780.9	0.0	278	73.5	317.5	0.0	279	89.0	402.4	0.0
280	104.4	487.4	0.0	281	119.8	572.3	0.0	282	135.2	657.3	0.0
283	150.6	742.2	0.0	284	166.0	827.2	0.0	285	181.4	912.1	0.0
286	0.0	319.7	0.0	287	0.0	406.9	0.0	288	0.0	494.1	0.0
290	0.0	668.4	0.0	291	0.0	755.6	0.0	292	0.0	842.8	0.0
293	-73.5	317.5	0.0	294	-89.0	402.4	0.0	295	-104.4	487.4	0.0
296	-119.8	572.3	0.0	297	-135.2	657.3	0.0	298	-150.6	742.2	0.0
299	-166.0	827.2	0.0	300	-181.4	912.1	0.0	301	-146.2	310.8	0.0
302	-176.2	389.2	0.0	303	-206.1	467.5	0.0	304	-236.1	545.9	0.0
305	-266.0	624.2	0.0	306	-296.0	702.5	0.0	307	-325.9	780.9	0.0
308	-217.2	300.1	0.0	309	-260.0	367.7	0.0	310	-302.7	435.3	0.0
311	-345.5	502.9	0.0	312	-388.3	570.5	0.0	313	-431.1	638.1	0.0
314	-473.9	705.7	0.0	315	-516.7	773.3	0.0	316	-285.6	285.6	0.0
317	-338.8	338.8	0.0	319	-445.1	445.1	0.0	320	-498.2	498.2	0.0
321	-551.3	551.3	0.0	322	-604.5	604.5	0.0	323	-300.1	217.2	0.0
324	-367.7	260.0	0.0	325	-435.3	302.7	0.0	326	-502.9	345.5	0.0
327	-570.5	388.3	0.0	328	-638.1	431.1	0.0	329	-705.7	473.9	0.0
330	-773.3	516.7	0.0	331	-310.8	146.2	0.0	332	-389.2	176.2	0.0
333	-467.5	206.1	0.0	334	-545.9	236.1	0.0	335	-624.2	266.0	0.0
336	-702.5	296.0	0.0	337	-780.9	325.9	0.0	338	-317.5	73.5	0.0
339	-402.4	89.0	0.0	340	-487.4	104.4	0.0	341	-572.3	119.8	0.0
342	-657.3	135.2	0.0	343	-742.2	150.6	0.0	344	-827.2	166.0	0.0
345	-912.1	181.4	0.0	346	-319.7	0.0	0.0	347	-406.9	0.0	0.0
348	-494.1	0.0	0.0	350	-668.4	0.0	0.0	351	-755.6	0.0	0.0
352	-842.8	0.0	0.0	353	-317.5	-73.5	0.0	354	-402.4	-89.0	0.0
355	-487.4	-104.4	0.0	356	-572.3	-119.8	0.0	357	-657.3	-135.2	0.0
358	-742.2	-150.6	0.0	359	-827.2	-166.0	0.0	360	-912.1	-181.4	0.0
361	-310.8	-146.2	0.0	362	-389.2	-176.2	0.0	363	-467.5	-206.1	0.0
364	-545.9	-236.1	0.0	365	-624.2	-266.0	0.0	366	-702.5	-296.0	0.0

Nodo	X	Y	Z	Nodo	X	Y	Z	Nodo	X	Y	Z
	cm	cm	cm		cm	cm	cm		cm	cm	cm
367	-780.9	-325.9	0.0	368	-300.1	-217.2	0.0	369	-367.7	-260.0	0.0
370	-435.3	-302.7	0.0	371	-502.9	-345.5	0.0	372	-570.5	-388.3	0.0
373	-638.1	-431.1	0.0	374	-705.7	-473.9	0.0	375	-773.3	-516.7	0.0
376	-285.6	-285.6	0.0	377	-338.8	-338.8	0.0	379	-445.1	-445.1	0.0
380	-498.2	-498.2	0.0	381	-551.3	-551.3	0.0	382	-604.5	-604.5	0.0
383	-217.2	-300.1	0.0	384	-260.0	-367.7	0.0	385	-302.7	-435.3	0.0
386	-345.5	-502.9	0.0	387	-388.3	-570.5	0.0	388	-431.1	-638.1	0.0
389	-473.9	-705.7	0.0	390	-516.7	-773.3	0.0	391	-146.2	-310.8	0.0
392	-176.2	-389.2	0.0	393	-206.1	-467.5	0.0	394	-236.1	-545.9	0.0
395	-266.0	-624.2	0.0	396	-296.0	-702.5	0.0	397	-325.9	-780.9	0.0
398	-73.5	-317.5	0.0	399	-89.0	-402.4	0.0	400	-104.4	-487.4	0.0
401	-119.8	-572.3	0.0	402	-135.2	-657.3	0.0	403	-150.6	-742.2	0.0
404	-166.0	-827.2	0.0	405	-181.4	-912.1	0.0	406	0.0	-319.7	0.0
407	0.0	-406.9	0.0	408	0.0	-494.1	0.0	410	0.0	-668.4	0.0
411	0.0	-755.6	0.0	412	0.0	-842.8	0.0	413	73.5	-317.5	0.0
414	89.0	-402.4	0.0	415	104.4	-487.4	0.0	416	119.8	-572.3	0.0
417	135.2	-657.3	0.0	418	150.6	-742.2	0.0	419	166.0	-827.2	0.0
420	181.4	-912.1	0.0	421	146.2	-310.8	0.0	422	176.2	-389.2	0.0
423	206.1	-467.5	0.0	424	236.1	-545.9	0.0	425	266.0	-624.2	0.0
426	296.0	-702.5	0.0	427	325.9	-780.9	0.0	428	217.2	-300.1	0.0
429	260.0	-367.7	0.0	430	302.7	-435.3	0.0	431	345.5	-502.9	0.0
432	388.3	-570.5	0.0	433	431.1	-638.1	0.0	434	473.9	-705.7	0.0
435	516.7	-773.3	0.0	436	285.6	-285.6	0.0	437	338.8	-338.8	0.0
439	445.1	-445.1	0.0	440	498.2	-498.2	0.0	441	551.3	-551.3	0.0
442	604.5	-604.5	0.0	443	300.1	-217.2	0.0	444	367.7	-260.0	0.0
445	435.3	-302.7	0.0	446	502.9	-345.5	0.0	447	570.5	-388.3	0.0
448	638.1	-431.1	0.0	449	705.7	-473.9	0.0	450	773.3	-516.7	0.0
451	310.8	-146.2	0.0	452	389.2	-176.2	0.0	453	467.5	-206.1	0.0
454	545.9	-236.1	0.0	455	624.2	-266.0	0.0	456	702.5	-296.0	0.0
457	780.9	-325.9	0.0	458	317.5	-73.5	0.0	459	402.4	-89.0	0.0
460	487.4	-104.4	0.0	461	572.3	-119.8	0.0	462	657.3	-135.2	0.0
463	742.2	-150.6	0.0	464	827.2	-166.0	0.0	465	912.1	-181.4	0.0
466	1050.0	0.0	0.0	467	1029.8	204.8	0.0	468	970.1	401.8	0.0
469	873.0	583.3	0.0	470	742.5	742.5	0.0	471	583.3	873.0	0.0
472	401.8	970.1	0.0	473	204.8	1029.8	0.0	474	0.0	1050.0	0.0
475	-204.8	1029.8	0.0	476	-401.8	970.1	0.0	477	-583.3	873.0	0.0
478	-742.5	742.5	0.0	479	-873.0	583.3	0.0	480	-970.1	401.8	0.0
481	-1029.8	204.8	0.0	482	-1050.0	0.0	0.0	483	-1029.8	-204.8	0.0
484	-970.1	-401.8	0.0	485	-873.0	-583.3	0.0	486	-742.5	-742.5	0.0
487	-583.3	-873.0	0.0	488	-401.8	-970.1	0.0	489	-204.8	-1029.8	0.0
490	0.0	-1050.0	0.0	491	204.8	-1029.8	0.0	492	401.8	-970.1	0.0
493	583.3	-873.0	0.0	494	742.5	-742.5	0.0	495	873.0	-583.3	0.0
496	970.1	-401.8	0.0	497	1029.8	-204.8	0.0				

Nodo	X	Y	Z	Note	Rig. TX	Rig. TY	Rig. TZ	Rig. RX	Rig. RY	Rig. RZ
	cm	cm	cm		daN/cm	daN/cm	daN/cm	daN cm/rad	daN cm/rad	daN cm/rad
1	859.2	355.9	0.0	v=111000						
4	657.6	657.6	0.0	v=111000						
6	355.9	859.2	0.0	v=111000						
8	0.0	930.0	0.0	v=111000						
10	-355.9	859.2	0.0	v=111000						
12	-657.6	657.6	0.0	v=111000						
14	-859.2	355.9	0.0	v=111000						
16	-930.0	0.0	0.0	v=111000						
18	-859.2	-355.9	0.0	v=111000						
20	-657.6	-657.6	0.0	v=111000						
22	-355.9	-859.2	0.0	v=111000						
24	0.0	-930.0	0.0	v=111000						
26	355.9	-859.2	0.0	v=111000						
28	657.6	-657.6	0.0	v=111000						
30	859.2	-355.9	0.0	v=111000						
32	930.0	0.0	0.0	v=111000						
153	-174.4	0.0	0.0	v=111000						
182	0.0	-174.4	0.0	v=111000						
188	0.0	174.4	0.0	v=111000						
212	174.4	0.0	0.0	v=111000						
232	581.3	0.0	0.0	v=111000						
258	391.9	391.9	0.0	v=111000						
289	0.0	581.3	0.0	v=111000						
318	-391.9	391.9	0.0	v=111000						
349	-581.3	0.0	0.0	v=111000						
378	-391.9	-391.9	0.0	v=111000						
409	0.0	-581.3	0.0	v=111000						
438	391.9	-391.9	0.0	v=111000						

Numerazione nodi



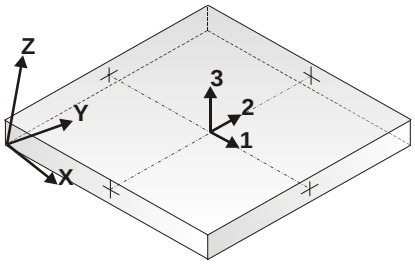
2.4 MODELLAZIONE STRUTTURA: ELEMENTI SHELL

LEGENDA TABELLA DATI SHELL

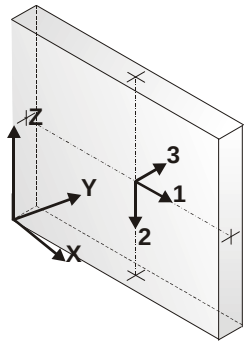
Il programma utilizza per la modellazione elementi a tre o quattro nodi denominati in generale shell.

Ogni elemento shell è individuato dai nodi I, J, K, L (L=I per gli elementi a tre nodi).

Ogni elemento è caratterizzato da un insieme di proprietà riportate in tabella che ne completano la modellazione.



orientamento elementi 3D non verticali



orientamento elementi 3D verticali

In particolare per ogni elemento viene indicato in tabella:

Elem.	numero dell'elemento
Note	codice di comportamento: *Guscio* (elemento guscio in elevazione non verticale) *Guscio fond.* (elemento guscio su suolo elastico) *Setto* (elemento guscio in elevazione verticale) *Membrana* (elemento guscio con comportamento membranale)
Nodo I (J, K, L)	numero del nodo I (J, K, L)
Mat.	codice del materiale assegnato all'elemento
Spessore	spessore dell'elemento (costante)
Wink V	costante di sottofondo (coefficiente di Winkler) per la modellazione del suolo elastico verticale
Wink O	costante di sottofondo (coefficiente di Winkler) per la modellazione del suolo elastico orizzontale

TABELLA DATI SHELL

Elem.	Note	Nodo I	Nodo J	Nodo K	Nodo L	Mat.	Spessore	Wink V	Wink O
							cm	daN/cm3	daN/cm3
129	Guscio	145	146	147	148	4	100.0		
130	Guscio	148	147	149	150	4	100.0		
131	Guscio	150	149	151	152	4	100.0		
132	Guscio	152	151	153	154	4	100.0		
133	Guscio	154	153	155	156	4	100.0		
134	Guscio	156	155	157	158	4	100.0		
135	Guscio	158	157	159	160	4	100.0		
136	Guscio	160	159	161	162	4	100.0		
137	Guscio	146	163	164	147	4	100.0		
138	Guscio	147	164	165	149	4	100.0		
139	Guscio	149	165	166	151	4	100.0		
140	Guscio	151	166	167	153	4	100.0		
141	Guscio	153	167	168	155	4	100.0		
142	Guscio	155	168	169	157	4	100.0		
143	Guscio	157	169	170	159	4	100.0		
144	Guscio	159	170	171	161	4	100.0		
145	Guscio	163	172	173	164	4	100.0		
146	Guscio	164	173	174	165	4	100.0		
147	Guscio	165	174	175	166	4	100.0		
148	Guscio	166	175	176	167	4	100.0		
149	Guscio	167	176	177	168	4	100.0		
150	Guscio	168	177	178	169	4	100.0		
151	Guscio	169	178	179	170	4	100.0		
152	Guscio	170	179	180	171	4	100.0		
153	Guscio	172	181	182	173	4	100.0		
154	Guscio	173	182	183	174	4	100.0		
155	Guscio	174	183	184	175	4	100.0		
156	Guscio	175	184	185	176	4	100.0		
157	Guscio	176	185	186	177	4	100.0		
158	Guscio	177	186	187	178	4	100.0		
159	Guscio	178	187	188	179	4	100.0		
160	Guscio	179	188	189	180	4	100.0		
161	Guscio	181	190	191	182	4	100.0		
162	Guscio	182	191	192	183	4	100.0		
163	Guscio	183	192	193	184	4	100.0		
164	Guscio	184	193	194	185	4	100.0		
165	Guscio	185	194	195	186	4	100.0		
166	Guscio	186	195	196	187	4	100.0		
167	Guscio	187	196	197	188	4	100.0		
168	Guscio	188	197	198	189	4	100.0		
169	Guscio	190	199	200	191	4	100.0		
170	Guscio	191	200	201	192	4	100.0		
171	Guscio	192	201	202	193	4	100.0		
172	Guscio	193	202	203	194	4	100.0		
173	Guscio	194	203	204	195	4	100.0		
174	Guscio	195	204	205	196	4	100.0		
175	Guscio	196	205	206	197	4	100.0		
176	Guscio	197	206	207	198	4	100.0		
177	Guscio	199	208	209	200	4	100.0		
178	Guscio	200	209	210	201	4	100.0		
179	Guscio	201	210	211	202	4	100.0		
180	Guscio	202	211	212	203	4	100.0		
181	Guscio	203	212	213	204	4	100.0		
182	Guscio	204	213	214	205	4	100.0		
183	Guscio	205	214	215	206	4	100.0		
184	Guscio	206	215	216	207	4	100.0		
185	Guscio	208	217	218	209	4	100.0		
186	Guscio	209	218	219	210	4	100.0		
187	Guscio	210	219	220	211	4	100.0		
188	Guscio	211	220	221	212	4	100.0		
189	Guscio	212	221	222	213	4	100.0		
190	Guscio	213	222	223	214	4	100.0		
191	Guscio	214	223	224	215	4	100.0		
192	Guscio	215	224	225	216	4	100.0		
193	Guscio	221	226	227	222	4	100.0		
194	Guscio	226	228	229	227	4	100.0		
195	Guscio	228	230	231	229	4	100.0		
196	Guscio	230	232	233	231	4	100.0		
197	Guscio	232	234	235	233	4	100.0		
198	Guscio	234	236	237	235	4	100.0		
199	Guscio	236	238	239	237	4	100.0		

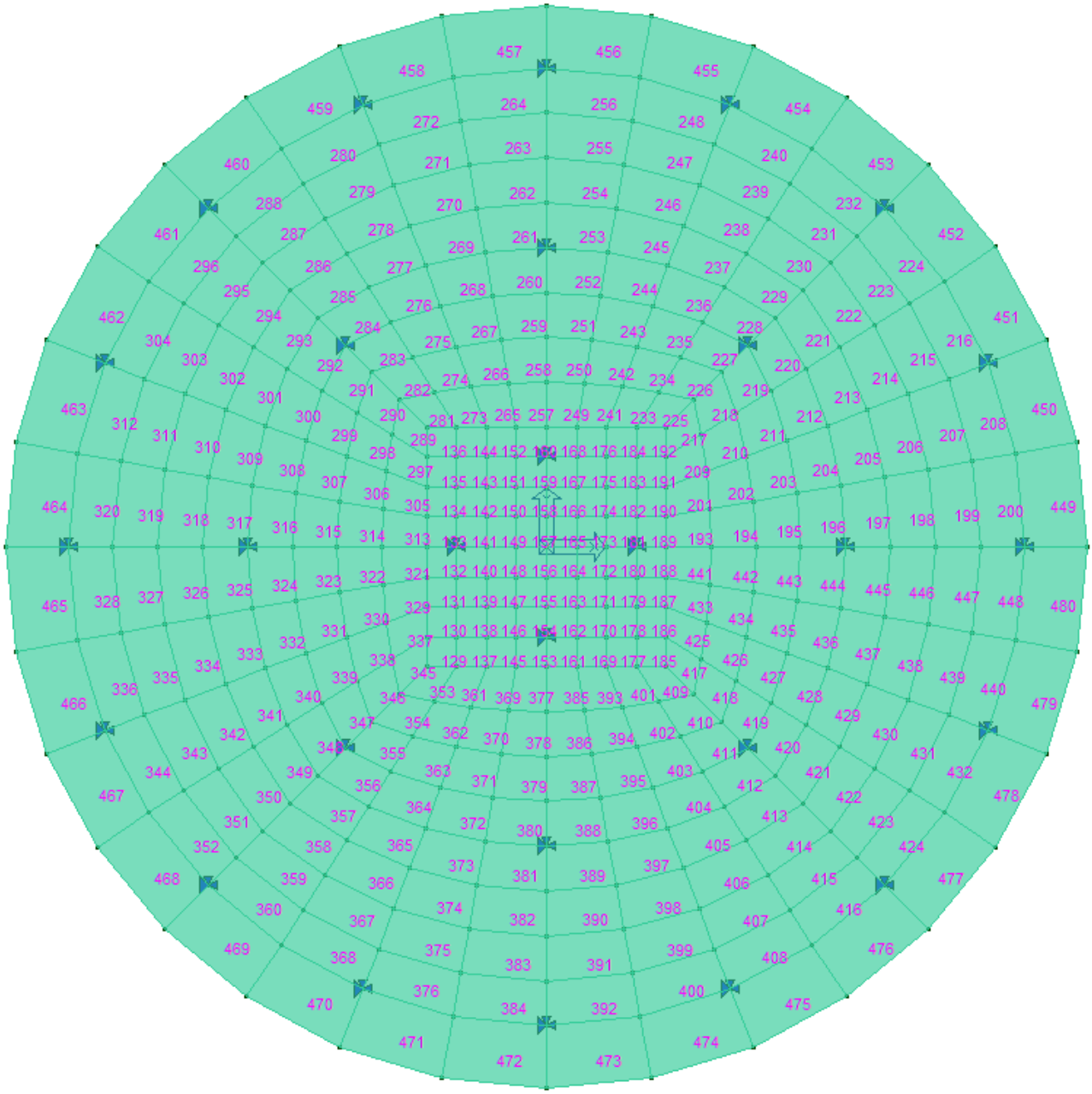
Elem.	Note	Nodo I	Nodo J	Nodo K	Nodo L	Mat.	Spessore	Wink V	Wink O
							cm	daN/cm3	daN/cm3
200	Guscio	238	32	240	239	4	100.0		
201	Guscio	222	227	241	223	4	100.0		
202	Guscio	227	229	242	241	4	100.0		
203	Guscio	229	231	243	242	4	100.0		
204	Guscio	231	233	244	243	4	100.0		
205	Guscio	233	235	245	244	4	100.0		
206	Guscio	235	237	246	245	4	100.0		
207	Guscio	237	239	247	246	4	100.0		
208	Guscio	239	240	1	247	4	100.0		
209	Guscio	223	241	248	224	4	100.0		
210	Guscio	241	242	249	248	4	100.0		
211	Guscio	242	243	250	249	4	100.0		
212	Guscio	243	244	251	250	4	100.0		
213	Guscio	244	245	252	251	4	100.0		
214	Guscio	245	246	253	252	4	100.0		
215	Guscio	246	247	254	253	4	100.0		
216	Guscio	247	1	255	254	4	100.0		
217	Guscio	224	248	256	225	4	100.0		
218	Guscio	248	249	257	256	4	100.0		
219	Guscio	249	250	258	257	4	100.0		
220	Guscio	250	251	259	258	4	100.0		
221	Guscio	251	252	260	259	4	100.0		
222	Guscio	252	253	261	260	4	100.0		
223	Guscio	253	254	262	261	4	100.0		
224	Guscio	254	255	4	262	4	100.0		
225	Guscio	216	225	256	263	4	100.0		
226	Guscio	263	256	257	264	4	100.0		
227	Guscio	264	257	258	265	4	100.0		
228	Guscio	265	258	259	266	4	100.0		
229	Guscio	266	259	260	267	4	100.0		
230	Guscio	267	260	261	268	4	100.0		
231	Guscio	268	261	262	269	4	100.0		
232	Guscio	269	262	4	270	4	100.0		
233	Guscio	207	216	263	271	4	100.0		
234	Guscio	271	263	264	272	4	100.0		
235	Guscio	272	264	265	273	4	100.0		
236	Guscio	273	265	266	274	4	100.0		
237	Guscio	274	266	267	275	4	100.0		
238	Guscio	275	267	268	276	4	100.0		
239	Guscio	276	268	269	277	4	100.0		
240	Guscio	277	269	270	6	4	100.0		
241	Guscio	198	207	271	278	4	100.0		
242	Guscio	278	271	272	279	4	100.0		
243	Guscio	279	272	273	280	4	100.0		
244	Guscio	280	273	274	281	4	100.0		
245	Guscio	281	274	275	282	4	100.0		
246	Guscio	282	275	276	283	4	100.0		
247	Guscio	283	276	277	284	4	100.0		
248	Guscio	284	277	6	285	4	100.0		
249	Guscio	189	198	278	286	4	100.0		
250	Guscio	286	278	279	287	4	100.0		
251	Guscio	287	279	280	288	4	100.0		
252	Guscio	288	280	281	289	4	100.0		
253	Guscio	289	281	282	290	4	100.0		
254	Guscio	290	282	283	291	4	100.0		
255	Guscio	291	283	284	292	4	100.0		
256	Guscio	292	284	285	8	4	100.0		
257	Guscio	180	189	286	293	4	100.0		
258	Guscio	293	286	287	294	4	100.0		
259	Guscio	294	287	288	295	4	100.0		
260	Guscio	295	288	289	296	4	100.0		
261	Guscio	296	289	290	297	4	100.0		
262	Guscio	297	290	291	298	4	100.0		
263	Guscio	298	291	292	299	4	100.0		
264	Guscio	299	292	8	300	4	100.0		
265	Guscio	171	180	293	301	4	100.0		
266	Guscio	301	293	294	302	4	100.0		
267	Guscio	302	294	295	303	4	100.0		
268	Guscio	303	295	296	304	4	100.0		
269	Guscio	304	296	297	305	4	100.0		
270	Guscio	305	297	298	306	4	100.0		
271	Guscio	306	298	299	307	4	100.0		
272	Guscio	307	299	300	10	4	100.0		
273	Guscio	161	171	301	308	4	100.0		

Elem.	Note	Nodo I	Nodo J	Nodo K	Nodo L	Mat.	Spessore	Wink V	Wink O
							cm	daN/cm3	daN/cm3
274	Guscio	308	301	302	309	4	100.0		
275	Guscio	309	302	303	310	4	100.0		
276	Guscio	310	303	304	311	4	100.0		
277	Guscio	311	304	305	312	4	100.0		
278	Guscio	312	305	306	313	4	100.0		
279	Guscio	313	306	307	314	4	100.0		
280	Guscio	314	307	10	315	4	100.0		
281	Guscio	162	161	308	316	4	100.0		
282	Guscio	316	308	309	317	4	100.0		
283	Guscio	317	309	310	318	4	100.0		
284	Guscio	318	310	311	319	4	100.0		
285	Guscio	319	311	312	320	4	100.0		
286	Guscio	320	312	313	321	4	100.0		
287	Guscio	321	313	314	322	4	100.0		
288	Guscio	322	314	315	12	4	100.0		
289	Guscio	323	160	162	316	4	100.0		
290	Guscio	324	323	316	317	4	100.0		
291	Guscio	325	324	317	318	4	100.0		
292	Guscio	326	325	318	319	4	100.0		
293	Guscio	327	326	319	320	4	100.0		
294	Guscio	328	327	320	321	4	100.0		
295	Guscio	329	328	321	322	4	100.0		
296	Guscio	330	329	322	12	4	100.0		
297	Guscio	331	158	160	323	4	100.0		
298	Guscio	332	331	323	324	4	100.0		
299	Guscio	333	332	324	325	4	100.0		
300	Guscio	334	333	325	326	4	100.0		
301	Guscio	335	334	326	327	4	100.0		
302	Guscio	336	335	327	328	4	100.0		
303	Guscio	337	336	328	329	4	100.0		
304	Guscio	14	337	329	330	4	100.0		
305	Guscio	338	156	158	331	4	100.0		
306	Guscio	339	338	331	332	4	100.0		
307	Guscio	340	339	332	333	4	100.0		
308	Guscio	341	340	333	334	4	100.0		
309	Guscio	342	341	334	335	4	100.0		
310	Guscio	343	342	335	336	4	100.0		
311	Guscio	344	343	336	337	4	100.0		
312	Guscio	345	344	337	14	4	100.0		
313	Guscio	346	154	156	338	4	100.0		
314	Guscio	347	346	338	339	4	100.0		
315	Guscio	348	347	339	340	4	100.0		
316	Guscio	349	348	340	341	4	100.0		
317	Guscio	350	349	341	342	4	100.0		
318	Guscio	351	350	342	343	4	100.0		
319	Guscio	352	351	343	344	4	100.0		
320	Guscio	16	352	344	345	4	100.0		
321	Guscio	353	152	154	346	4	100.0		
322	Guscio	354	353	346	347	4	100.0		
323	Guscio	355	354	347	348	4	100.0		
324	Guscio	356	355	348	349	4	100.0		
325	Guscio	357	356	349	350	4	100.0		
326	Guscio	358	357	350	351	4	100.0		
327	Guscio	359	358	351	352	4	100.0		
328	Guscio	360	359	352	16	4	100.0		
329	Guscio	361	150	152	353	4	100.0		
330	Guscio	362	361	353	354	4	100.0		
331	Guscio	363	362	354	355	4	100.0		
332	Guscio	364	363	355	356	4	100.0		
333	Guscio	365	364	356	357	4	100.0		
334	Guscio	366	365	357	358	4	100.0		
335	Guscio	367	366	358	359	4	100.0		
336	Guscio	18	367	359	360	4	100.0		
337	Guscio	368	148	150	361	4	100.0		
338	Guscio	369	368	361	362	4	100.0		
339	Guscio	370	369	362	363	4	100.0		
340	Guscio	371	370	363	364	4	100.0		
341	Guscio	372	371	364	365	4	100.0		
342	Guscio	373	372	365	366	4	100.0		
343	Guscio	374	373	366	367	4	100.0		
344	Guscio	375	374	367	18	4	100.0		
345	Guscio	376	145	148	368	4	100.0		
346	Guscio	377	376	368	369	4	100.0		
347	Guscio	378	377	369	370	4	100.0		

Elem.	Note	Nodo I	Nodo J	Nodo K	Nodo L	Mat.	Spessore	Wink V	Wink O
							cm	daN/cm3	daN/cm3
348	Guscio	379	378	370	371	4	100.0		
349	Guscio	380	379	371	372	4	100.0		
350	Guscio	381	380	372	373	4	100.0		
351	Guscio	382	381	373	374	4	100.0		
352	Guscio	20	382	374	375	4	100.0		
353	Guscio	376	383	146	145	4	100.0		
354	Guscio	377	384	383	376	4	100.0		
355	Guscio	378	385	384	377	4	100.0		
356	Guscio	379	386	385	378	4	100.0		
357	Guscio	380	387	386	379	4	100.0		
358	Guscio	381	388	387	380	4	100.0		
359	Guscio	382	389	388	381	4	100.0		
360	Guscio	20	390	389	382	4	100.0		
361	Guscio	383	391	163	146	4	100.0		
362	Guscio	384	392	391	383	4	100.0		
363	Guscio	385	393	392	384	4	100.0		
364	Guscio	386	394	393	385	4	100.0		
365	Guscio	387	395	394	386	4	100.0		
366	Guscio	388	396	395	387	4	100.0		
367	Guscio	389	397	396	388	4	100.0		
368	Guscio	390	22	397	389	4	100.0		
369	Guscio	391	398	172	163	4	100.0		
370	Guscio	392	399	398	391	4	100.0		
371	Guscio	393	400	399	392	4	100.0		
372	Guscio	394	401	400	393	4	100.0		
373	Guscio	395	402	401	394	4	100.0		
374	Guscio	396	403	402	395	4	100.0		
375	Guscio	397	404	403	396	4	100.0		
376	Guscio	22	405	404	397	4	100.0		
377	Guscio	398	406	181	172	4	100.0		
378	Guscio	399	407	406	398	4	100.0		
379	Guscio	400	408	407	399	4	100.0		
380	Guscio	401	409	408	400	4	100.0		
381	Guscio	402	410	409	401	4	100.0		
382	Guscio	403	411	410	402	4	100.0		
383	Guscio	404	412	411	403	4	100.0		
384	Guscio	405	24	412	404	4	100.0		
385	Guscio	406	413	190	181	4	100.0		
386	Guscio	407	414	413	406	4	100.0		
387	Guscio	408	415	414	407	4	100.0		
388	Guscio	409	416	415	408	4	100.0		
389	Guscio	410	417	416	409	4	100.0		
390	Guscio	411	418	417	410	4	100.0		
391	Guscio	412	419	418	411	4	100.0		
392	Guscio	24	420	419	412	4	100.0		
393	Guscio	413	421	199	190	4	100.0		
394	Guscio	414	422	421	413	4	100.0		
395	Guscio	415	423	422	414	4	100.0		
396	Guscio	416	424	423	415	4	100.0		
397	Guscio	417	425	424	416	4	100.0		
398	Guscio	418	426	425	417	4	100.0		
399	Guscio	419	427	426	418	4	100.0		
400	Guscio	420	26	427	419	4	100.0		
401	Guscio	421	428	208	199	4	100.0		
402	Guscio	422	429	428	421	4	100.0		
403	Guscio	423	430	429	422	4	100.0		
404	Guscio	424	431	430	423	4	100.0		
405	Guscio	425	432	431	424	4	100.0		
406	Guscio	426	433	432	425	4	100.0		
407	Guscio	427	434	433	426	4	100.0		
408	Guscio	26	435	434	427	4	100.0		
409	Guscio	428	436	217	208	4	100.0		
410	Guscio	429	437	436	428	4	100.0		
411	Guscio	430	438	437	429	4	100.0		
412	Guscio	431	439	438	430	4	100.0		
413	Guscio	432	440	439	431	4	100.0		
414	Guscio	433	441	440	432	4	100.0		
415	Guscio	434	442	441	433	4	100.0		
416	Guscio	435	28	442	434	4	100.0		
417	Guscio	217	436	443	218	4	100.0		
418	Guscio	436	437	444	443	4	100.0		
419	Guscio	437	438	445	444	4	100.0		
420	Guscio	438	439	446	445	4	100.0		
421	Guscio	439	440	447	446	4	100.0		

Elem.	Note	Nodo I	Nodo J	Nodo K	Nodo L	Mat.	Spessore	Wink V	Wink O
							cm	daN/cm3	daN/cm3
422	Guscio	440	441	448	447	4	100.0		
423	Guscio	441	442	449	448	4	100.0		
424	Guscio	442	28	450	449	4	100.0		
425	Guscio	218	443	451	219	4	100.0		
426	Guscio	443	444	452	451	4	100.0		
427	Guscio	444	445	453	452	4	100.0		
428	Guscio	445	446	454	453	4	100.0		
429	Guscio	446	447	455	454	4	100.0		
430	Guscio	447	448	456	455	4	100.0		
431	Guscio	448	449	457	456	4	100.0		
432	Guscio	449	450	30	457	4	100.0		
433	Guscio	219	451	458	220	4	100.0		
434	Guscio	451	452	459	458	4	100.0		
435	Guscio	452	453	460	459	4	100.0		
436	Guscio	453	454	461	460	4	100.0		
437	Guscio	454	455	462	461	4	100.0		
438	Guscio	455	456	463	462	4	100.0		
439	Guscio	456	457	464	463	4	100.0		
440	Guscio	457	30	465	464	4	100.0		
441	Guscio	220	458	226	221	4	100.0		
442	Guscio	458	459	228	226	4	100.0		
443	Guscio	459	460	230	228	4	100.0		
444	Guscio	460	461	232	230	4	100.0		
445	Guscio	461	462	234	232	4	100.0		
446	Guscio	462	463	236	234	4	100.0		
447	Guscio	463	464	238	236	4	100.0		
448	Guscio	464	465	32	238	4	100.0		
449	Guscio	32	466	467	240	4	100.0		
450	Guscio	240	467	468	1	4	100.0		
451	Guscio	1	468	469	255	4	100.0		
452	Guscio	255	469	470	4	4	100.0		
453	Guscio	270	4	470	471	4	100.0		
454	Guscio	6	270	471	472	4	100.0		
455	Guscio	285	6	472	473	4	100.0		
456	Guscio	8	285	473	474	4	100.0		
457	Guscio	300	8	474	475	4	100.0		
458	Guscio	10	300	475	476	4	100.0		
459	Guscio	315	10	476	477	4	100.0		
460	Guscio	12	315	477	478	4	100.0		
461	Guscio	479	330	12	478	4	100.0		
462	Guscio	480	14	330	479	4	100.0		
463	Guscio	481	345	14	480	4	100.0		
464	Guscio	482	16	345	481	4	100.0		
465	Guscio	483	360	16	482	4	100.0		
466	Guscio	484	18	360	483	4	100.0		
467	Guscio	485	375	18	484	4	100.0		
468	Guscio	486	20	375	485	4	100.0		
469	Guscio	486	487	390	20	4	100.0		
470	Guscio	487	488	22	390	4	100.0		
471	Guscio	488	489	405	22	4	100.0		
472	Guscio	489	490	24	405	4	100.0		
473	Guscio	490	491	420	24	4	100.0		
474	Guscio	491	492	26	420	4	100.0		
475	Guscio	492	493	435	26	4	100.0		
476	Guscio	493	494	28	435	4	100.0		
477	Guscio	28	494	495	450	4	100.0		
478	Guscio	450	495	496	30	4	100.0		
479	Guscio	30	496	497	465	4	100.0		
480	Guscio	465	497	466	32	4	100.0		

Numerazione elementi fondazione



2.5 MODELLAZIONE DELLE AZIONI

LEGENDA TABELLA DATI AZIONI

Il programma consente l'uso di diverse tipologie di carico (azioni). Le azioni utilizzate nella modellazione sono individuate da una sigla identificativa ed un codice numerico (gli elementi strutturali richiamano quest'ultimo nella propria descrizione). Per ogni azione applicata alla struttura viene di riportato il codice, il tipo e la sigla identificativa. Le tabelle successive dettagliano i valori caratteristici di ogni azione in relazione al tipo. Le tabelle riportano infatti i seguenti dati in relazione al tipo:

1	**carico concentrato nodale** 6 dati (forza Fx, Fy, Fz, momento Mx, My, Mz)
2	**spostamento nodale impresso** 6 dati (spostamento Tx,Ty,Tz, rotazione Rx,Ry,Rz)
3	**carico distribuito globale su elemento tipo trave** 7 dati (fx,fy,fz,mx,my,mz,ascissa di inizio carico) 7 dati (fx,fy,fz,mx,my,mz,ascissa di fine carico)
4	**carico distribuito locale su elemento tipo trave** 7 dati (f1,f2,f3,m1,m2,m3,ascissa di inizio carico) 7 dati (f1,f2,f3,m1,m2,m3,ascissa di fine carico)
5	**carico concentrato globale su elemento tipo trave** 7 dati (Fx,Fy,Fz,Mx,My,Mz,ascissa di carico)
6	**carico concentrato locale su elemento tipo trave** 7 dati (F1, F2, F3, M1, M2, M3, ascissa di carico)
7	**variazione termica applicata ad elemento tipo trave** 7 dati (variazioni termiche: uniforme, media e differenza in altezza e larghezza al nodo iniziale e finale)
8	**carico di pressione uniforme su elemento tipo piastra** 1 dato (pressione)
9	**carico di pressione variabile su elemento tipo piastra** 4 dati (pressione, quota, pressione, quota)
10	**variazione termica applicata ad elemento tipo piastra** 2 dati (variazioni termiche: media e differenza nello spessore)
11	**carico variabile generale su elementi tipo trave e piastra** 1 dato descrizione della tipologia 4 dati per segmento (posizione, valore, posizione, valore) la tipologia precisa l'ascissa di definizione, la direzione del carico, la modalità di carico e la larghezza d'influenza per gli elementi tipo trave
12	**gruppo di carichi con impronta su piastra** 9 dati (numero di ripetizioni in direzione X e Y, valore di ciascun carico, posizione centrale del primo, dimensioni dell' impronta, interasse tra i carichi

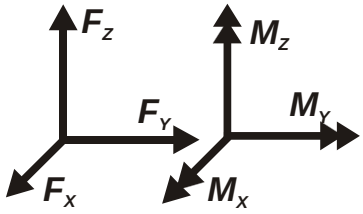
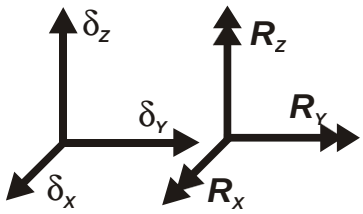
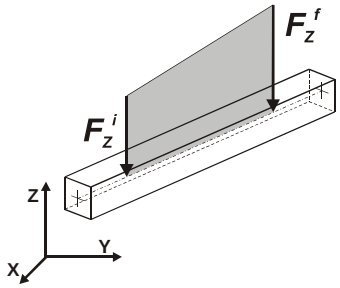
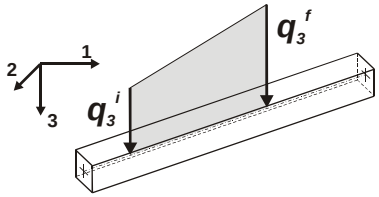
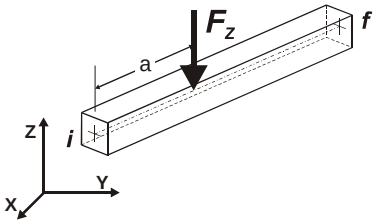
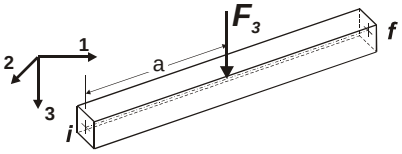
 Carico concentrato nodale	 Spostamento impresso
 Carico distribuito globale	 Carico distribuito locale
 Carico concentrato globale	 Carico concentrato locale

TABELLA DATI AZIONI

Tipo	carico concentrato nodale

Id	Tipo	Fx	Fy	Fz	Mx	My	Mz
		daN	daN	daN	daN cm	daN cm	daN cm
4	perm 1	0.0	0.0	-2810.00	0.0	0.0	0.0
5	var 1	0.0	0.0	-1620.00	0.0	0.0	0.0
6	perm 2	0.0	0.0	-7480.00	0.0	0.0	0.0
7	var 2	0.0	0.0	-1.030e+04	0.0	0.0	0.0
8	perm 3	0.0	0.0	-3410.00	0.0	0.0	0.0
9	var 3	0.0	0.0	-3022.00	0.0	0.0	0.0

Sono i carichi dovuti alle passerelle ed applicati al bordo del basamento.

Tipo	carico di pressione uniforme su piastra

Id	Tipo	pressione
		daN/cm2
1	pressione fondo 20000 daN/m²	2.00

Tipo	carico di pressione variabile su piastra

Id	Tipo	pressione	quota	pressione	quota
		daN/cm2	cm	daN/cm2	cm
2	pressione pareti	0.0	1800.00	2.00	0.0
3	pressione sisma pareti	0.16	1800.00	0.83	0.0

I carichi applicati sono descritti nella relazione generale sulle strutture.

2.6 SCHEMATIZZAZIONE DEI CASI DI CARICO

LEGENDA TABELLA CASI DI CARICO

Il programma consente l'applicazione di diverse tipologie di casi di carico.

Sono previsti i seguenti 11 tipi di casi di carico:

	Sigla	***Tipo***	***Descrizione***
1	**Ggk**	A	caso di carico comprensivo del peso proprio struttura
2	**Gk**	NA	caso di carico con azioni permanenti
3	**Qk**	NA	caso di carico con azioni variabili
4	**Gsk**	A	caso di carico comprensivo dei carichi permanenti sui solai e sulle coperture
5	**Qsk**	A	caso di carico comprensivo dei carichi variabili sui solai
6	**Qnk**	A	caso di carico comprensivo dei carichi di neve sulle coperture
7	**Qtk**	SA	caso di carico comprensivo di una variazione termica agente sulla struttura
8	**Qvk**	NA	caso di carico comprensivo di azioni da vento sulla struttura
9	**Esk**	SA	caso di carico sismico con analisi statica equivalente
10	**Edk**	SA	caso di carico sismico con analisi dinamica
11	**Pk**	NA	caso di carico comprensivo di azioni derivanti da coazioni, cedimenti e precompressioni

Sono di tipo automatico A (ossia non prevedono introduzione dati da parte dell'utente) i seguenti casi di carico: 1-Ggk; 4-Gsk; 5-Qsk; 6-Qnk.

Sono di tipo semi-automatico SA (ossia prevedono una minima introduzione dati da parte dell'utente) i seguenti casi di carico:

7-Qtk, in quanto richiede solo il valore della variazione termica;

9-Esk e 10-Edk, in quanto richiedono il valore dell'angolo di ingresso del sisma e l'individuazione dei casi di carico partecipanti alla definizione delle masse.

Sono di tipo non automatico NA ossia prevedono la diretta applicazione di carichi generici agli elementi strutturali (si veda il precedente punto Modellazione delle Azioni) i restanti casi di carico.

Nella tabella successiva vengono riportati i casi di carico agenti sulla struttura, con l'indicazione dei dati relativi al caso di carico stesso:

Numero Tipo e *Sigla identificativa*, *Valore di riferimento* del caso di carico (se previsto).

In successione, per i casi di carico non automatici, viene riportato l'elenco di nodi ed elementi direttamente caricati con la sigla identificativa del carico.

Per i casi di carico di tipo sismico (9-Esk e 10-Edk), viene riportata la tabella di definizione delle masse: per ogni caso di carico partecipante alla definizione delle masse viene indicata la relativa aliquota (partecipazione) considerata. Si precisa che per i caso di carico 5-Qsk e 6-Qnk la partecipazione è prevista localmente per ogni elemento solaio o copertura presente nel modello (si confronti il valore Sksol nel capitolo relativo agli elementi solaio) e pertanto la loro partecipazione è di norma pari a uno.

TABELLA CASI DI CARICO

CDC	Tipo	Sigla Id	Note
1	Ggk	CDC=Ggk (peso proprio della struttura)	
2	Gk	CDC=G1k (permanente liquido)	D3 :da 1 a 3 Azione : pressione pareti
			D3 :da 4 a 7 Azione : pressione pareti
			D3 :da 8 a 11 Azione : pressione pareti
			D3 :da 12 a 15 Azione : pressione pareti
			D3 :da 16 a 19 Azione : pressione pareti
			D3 :da 20 a 23 Azione : pressione pareti
			D3 :da 24 a 27 Azione : pressione pareti
			D3 :da 28 a 31 Azione : pressione pareti
			D3 :da 32 a 35 Azione : pressione pareti
			D3 :da 36 a 39 Azione : pressione pareti
			D3 :da 40 a 43 Azione : pressione pareti
			D3 :da 44 a 47 Azione : pressione pareti
			D3 :da 48 a 51 Azione : pressione pareti
			D3 :da 52 a 55 Azione : pressione pareti
			D3 :da 56 a 59 Azione : pressione pareti
			D3 :da 60 a 63 Azione : pressione pareti
			D3 :da 64 a 67 Azione : pressione pareti
			D3 :da 68 a 71 Azione : pressione pareti
			D3 :da 72 a 75 Azione : pressione pareti
			D3 :da 76 a 79 Azione : pressione pareti
			D3 : 80 Azione : pressione pareti
			D3 :da 129 a 448 Azione : pressione fondo 20000 daN/m²
3	Etk	CDC=Etk (inc. sp. liquido) SLV dir + alfa=0.0	D3 :da 1 a 3 Azione : pressione sisma pareti
			D3 :da 12 a 15 Azione : pressione sisma pareti
			D3 :da 16 a 19 Azione : pressione sisma pareti
			D3 :da 28 a 31 Azione : pressione sisma pareti
			D3 :da 32 a 35 Azione : pressione sisma pareti
			D3 :da 44 a 47 Azione : pressione sisma pareti
			D3 :da 48 a 51 Azione : pressione sisma pareti
			D3 :da 60 a 63 Azione : pressione sisma pareti
			D3 :da 64 a 67 Azione : pressione sisma pareti
			D3 :da 76 a 79 Azione : pressione sisma pareti
			D3 : 80 Azione : pressione sisma pareti
4	Etk	CDC=Etk (inc. sp. liquido) SLV dir - alfa=0.0	D3 :da 4 a 7 Azione : pressione sisma pareti
			D3 :da 8 a 11 Azione : pressione sisma pareti
			D3 :da 20 a 23 Azione : pressione sisma pareti
			D3 :da 24 a 27 Azione : pressione sisma pareti
			D3 :da 36 a 39 Azione : pressione sisma pareti
			D3 :da 40 a 43 Azione : pressione sisma pareti
			D3 :da 52 a 55 Azione : pressione sisma pareti
			D3 :da 56 a 59 Azione : pressione sisma pareti
			D3 :da 68 a 71 Azione : pressione sisma pareti
			D3 :da 72 a 75 Azione : pressione sisma pareti
5	Etk	CDC=Etk (inc. sp. liquido) SLV dir + alfa=90.00	D3 :da 1 a 3 Azione : pressione sisma pareti
			D3 :da 4 a 7 Azione : pressione sisma pareti
			D3 :da 16 a 19 Azione : pressione sisma pareti
			D3 :da 20 a 23 Azione : pressione sisma pareti
			D3 :da 32 a 35 Azione : pressione sisma pareti
			D3 :da 36 a 39 Azione : pressione sisma pareti
			D3 :da 48 a 51 Azione : pressione sisma pareti
			D3 :da 52 a 55 Azione : pressione sisma pareti
			D3 :da 64 a 67 Azione : pressione sisma pareti
			D3 :da 68 a 71 Azione : pressione sisma pareti
			D3 : 80 Azione : pressione sisma pareti
6	Etk	CDC=Etk (inc. sp. liquido) SLV dir - alfa=90.00	D3 :da 8 a 11 Azione : pressione sisma pareti
			D3 :da 12 a 15 Azione : pressione sisma pareti
			D3 :da 24 a 27 Azione : pressione sisma pareti
			D3 :da 28 a 31 Azione : pressione sisma pareti
			D3 :da 40 a 43 Azione : pressione sisma pareti
			D3 :da 44 a 47 Azione : pressione sisma pareti
			D3 :da 56 a 59 Azione : pressione sisma pareti
			D3 :da 60 a 63 Azione : pressione sisma pareti
			D3 :da 72 a 75 Azione : pressione sisma pareti
			D3 :da 76 a 79 Azione : pressione sisma pareti
7	Edk	CDC=Ed (dinamico SLU) alfa=0.0 (ecc. +)	partecipazione:1.00 per 1 CDC=Ggk (peso proprio della struttura)
			partecipazione:1.00 per 11 CDC=G1k (permanente passerelle)
			partecipazione:1.00 per 12 CDC=Qk (variabile passerelle)
8	Edk	CDC=Ed (dinamico SLU) alfa=0.0 (ecc. -)	come precedente CDC sismico
9	Edk	CDC=Ed (dinamico SLU) alfa=90.00 (ecc. +)	come precedente CDC sismico

CDC	Tipo	Sigla Id	Note
10	Edk	CDC=Ed (dinamico SLU) alfa=90.00 (ecc. -)	come precedente CDC sismico
11	Gk	CDC=G1k (permanente passerelle)	Nodo: 474 Azione : perm 3
			Nodo: 476 Azione : perm 2
			Nodo: 478 Azione : perm 1
12	Qk	CDC=Qk (variabile passerelle)	Nodo: 474 Azione : var 3
			Nodo: 476 Azione : var 2
			Nodo: 478 Azione : var 1

2.7 DEFINIZIONE DELLE COMBINAZIONI

LEGENDA TABELLA COMBINAZIONI DI CARICO

Il programma combina i diversi tipi di casi di carico (CDC) secondo le regole previste dalla normativa vigente.
Le combinazioni previste sono destinate al controllo di sicurezza della struttura ed alla verifica degli spostamenti e delle sollecitazioni.

La tabella delle combinazioni riportata di seguito comprende le seguenti informazioni: *Numero*, *Tipo*, *Sigla identificativa* e il *peso nella combinazione*, assunto per ogni caso di carico.

Ai fini delle verifiche degli stati limite si definiscono le seguenti combinazioni delle azioni:
Combinazione fondamentale SLU

$\gamma G1 \cdot G1 + \gamma G2 \cdot G2 + \gamma P \cdot P + \gamma Q1 \cdot Qk1 + \gamma Q2 \cdot \psi 02 \cdot Qk2 + \gamma Q3 \cdot \psi 03 \cdot Qk3 + \ldots$

Combinazione caratteristica (rara) SLE

$G1 + G2 + P + Qk1 + \psi 02 \cdot Qk2 + \psi 03 \cdot Qk3 + \ldots$

Combinazione sismica, impiegata per gli stati limite ultimi e di esercizio connessi all'azione sismica E

$E + G1 + G2 + P + \psi 21 \cdot Qk1 + \psi 22 \cdot Qk2 + \ldots$

Combinazione eccezionale, impiegata per gli stati limite connessi alle azioni eccezionali

$G1 + G2 + P + \psi 21 \cdot Qk1 + \psi 22 \cdot Qk2 + \ldots$

Dove:

NTC 2008 Tabella 2.5.I

Destinazione d'uso/azione	ψ0	ψ1	ψ2
Categoria A residenziali	0,70	0,50	0,30
Categoria B uffici	0,70	0,50	0,30
Categoria C ambienti suscettibili di affollamento	0,70	0,70	0,60
Categoria D ambienti ad uso commerciale	0,70	0,70	0,60
Categoria E biblioteche, archivi, magazzini,…	1,00	0,90	0,80
Categoria F Rimesse e parcheggi (autoveicoli <= 30kN)	0,70	0,70	0,60
Categoria G Rimesse e parcheggi (autoveicoli > 30kN)	0,70	0,50	0,30
Categoria H Coperture	0,00	0,00	0,00
Vento	0,60	0,20	0,00
Neve a quota <= 1000 m	0,50	0,20	0,00
Neve a quota > 1000 m	0,70	0,50	0,20
Variazioni Termiche	0,60	0,50	0,00

Nelle verifiche si adotta l'approccio 2 dove si definisce un'unica combinazione per le azioni, per la resistenza dei materiali e per la resistenza globale (con coefficienti A1).

NTC 2008 Tabella 2.6.I

		Coefficiente γf	**EQU**	**A1**	**A2**
Carichi permanenti	Favorevoli	γG1	0,9	1,0	1,0
	Sfavorevoli		1,1	1,3	1,0
Carichi permanenti non strutturali	Favorevoli	γG2	0,0	0,0	0,0
(Non compiutamente definiti)	Sfavorevoli		1,5	1,5	1,3
Carichi variabili	Favorevoli	γQi	0,0	0,0	0,0
	Sfavorevoli		1,5	1,5	1,3

TABELLA COMBINAZIONI DI CARICO

Cmb	Tipo	Sigla Id
1	SLU	Comb. SLU A1 1
2	SLU	Comb. SLU A1 2
3	SLU	Comb. SLU A1 (SLV sism.) 3
4	SLU	Comb. SLU A1 (SLV sism.) 4
5	SLU	Comb. SLU A1 (SLV sism.) 5
6	SLU	Comb. SLU A1 (SLV sism.) 6
7	SLU	Comb. SLU A1 (SLV sism.) 7
8	SLU	Comb. SLU A1 (SLV sism.) 8
9	SLU	Comb. SLU A1 (SLV sism.) 9
10	SLU	Comb. SLU A1 (SLV sism.) 10
11	SLU	Comb. SLU A1 (SLV sism.) 11
12	SLU	Comb. SLU A1 (SLV sism.) 12
13	SLU	Comb. SLU A1 (SLV sism.) 13
14	SLU	Comb. SLU A1 (SLV sism.) 14
15	SLU	Comb. SLU A1 (SLV sism.) 15
16	SLU	Comb. SLU A1 (SLV sism.) 16
17	SLU	Comb. SLU A1 (SLV sism.) 17
18	SLU	Comb. SLU A1 (SLV sism.) 18
19	SLU	Comb. SLU A1 (SLV sism.) 19
20	SLU	Comb. SLU A1 (SLV sism.) 20
21	SLU	Comb. SLU A1 (SLV sism.) 21
22	SLU	Comb. SLU A1 (SLV sism.) 22
23	SLU	Comb. SLU A1 (SLV sism.) 23
24	SLU	Comb. SLU A1 (SLV sism.) 24
25	SLU	Comb. SLU A1 (SLV sism.) 25
26	SLU	Comb. SLU A1 (SLV sism.) 26
27	SLU	Comb. SLU A1 (SLV sism.) 27
28	SLU	Comb. SLU A1 (SLV sism.) 28
29	SLU	Comb. SLU A1 (SLV sism.) 29
30	SLU	Comb. SLU A1 (SLV sism.) 30
31	SLU	Comb. SLU A1 (SLV sism.) 31
32	SLU	Comb. SLU A1 (SLV sism.) 32
33	SLU	Comb. SLU A1 (SLV sism.) 33
34	SLU	Comb. SLU A1 (SLV sism.) 34
35	SLE(r)	Comb. SLE(rara) 35
36	SLE(r)	Comb. SLE(rara) 36

Cmb	CDC 1	CDC 2	CDC 3	CDC 4	CDC 5	CDC 6	CDC 7	CDC 8	CDC 9	CDC 10	CDC 11	CDC 12
1	1.30	1.30	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	1.30	0.0
2	1.30	1.30	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	1.30	1.50
3	1.00	1.00	0.0	1.00	0.0	0.30	-1.00	0.0	-0.30	0.0	1.00	0.60
4	1.00	1.00	0.0	1.00	0.30	0.0	-1.00	0.0	0.30	0.0	1.00	0.60
5	1.00	1.00	1.00	0.0	0.0	0.30	1.00	0.0	-0.30	0.0	1.00	0.60
6	1.00	1.00	1.00	0.0	0.30	0.0	1.00	0.0	0.30	0.0	1.00	0.60
7	1.00	1.00	0.0	1.00	0.0	0.30	-1.00	0.0	0.0	-0.30	1.00	0.60
8	1.00	1.00	0.0	1.00	0.30	0.0	-1.00	0.0	0.0	0.30	1.00	0.60
9	1.00	1.00	1.00	0.0	0.0	0.30	1.00	0.0	0.0	-0.30	1.00	0.60
10	1.00	1.00	1.00	0.0	0.30	0.0	1.00	0.0	0.0	0.30	1.00	0.60
11	1.00	1.00	0.0	1.00	0.0	0.30	0.0	-1.00	-0.30	0.0	1.00	0.60
12	1.00	1.00	0.0	1.00	0.30	0.0	0.0	-1.00	0.30	0.0	1.00	0.60
13	1.00	1.00	1.00	0.0	0.0	0.30	0.0	1.00	-0.30	0.0	1.00	0.60
14	1.00	1.00	1.00	0.0	0.30	0.0	0.0	1.00	0.30	0.0	1.00	0.60
15	1.00	1.00	0.0	1.00	0.0	0.30	0.0	-1.00	0.0	-0.30	1.00	0.60
16	1.00	1.00	0.0	1.00	0.30	0.0	0.0	-1.00	0.0	0.30	1.00	0.60
17	1.00	1.00	1.00	0.0	0.0	0.30	0.0	1.00	0.0	-0.30	1.00	0.60
18	1.00	1.00	1.00	0.0	0.30	0.0	0.0	1.00	0.0	0.30	1.00	0.60
19	1.00	1.00	0.0	0.30	0.0	1.00	-0.30	0.0	-1.00	0.0	1.00	0.60
20	1.00	1.00	0.0	0.30	1.00	0.0	-0.30	0.0	1.00	0.0	1.00	0.60
21	1.00	1.00	0.30	0.0	0.0	1.00	0.30	0.0	-1.00	0.0	1.00	0.60
22	1.00	1.00	0.30	0.0	1.00	0.0	0.30	0.0	1.00	0.0	1.00	0.60
23	1.00	1.00	0.0	0.30	0.0	1.00	0.0	-0.30	-1.00	0.0	1.00	0.60
24	1.00	1.00	0.0	0.30	1.00	0.0	0.0	-0.30	1.00	0.0	1.00	0.60
25	1.00	1.00	0.30	0.0	0.0	1.00	0.0	0.30	-1.00	0.0	1.00	0.60
26	1.00	1.00	0.30	0.0	1.00	0.0	0.0	0.30	1.00	0.0	1.00	0.60
27	1.00	1.00	0.0	0.30	0.0	1.00	-0.30	0.0	0.0	-1.00	1.00	0.60
28	1.00	1.00	0.0	0.30	1.00	0.0	-0.30	0.0	0.0	1.00	1.00	0.60
29	1.00	1.00	0.30	0.0	0.0	1.00	0.30	0.0	0.0	-1.00	1.00	0.60
30	1.00	1.00	0.30	0.0	1.00	0.0	0.30	0.0	0.0	1.00	1.00	0.60
31	1.00	1.00	0.0	0.30	0.0	1.00	0.0	-0.30	0.0	-1.00	1.00	0.60
32	1.00	1.00	0.0	0.30	1.00	0.0	0.0	-0.30	0.0	1.00	1.00	0.60
33	1.00	1.00	0.30	0.0	0.0	1.00	0.0	0.30	0.0	-1.00	1.00	0.60
34	1.00	1.00	0.30	0.0	1.00	0.0	0.0	0.30	0.0	1.00	1.00	0.60
35	1.00	1.00	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	1.00	0.0
36	1.00	1.00	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	1.00	1.00

2.8 AZIONE SISMICA

VALUTAZIONE DELL' AZIONE SISMICA

L'azione sismica sulle costruzioni è valutata a partire dalla "pericolosità sismica di base", in condizioni ideali di sito di riferimento rigido con superficie topografica orizzontale.

Allo stato attuale, la pericolosità sismica su reticolo di riferimento nell'intervallo di riferimento è fornita dai dati pubblicati sul sito http://esse1.mi.ingv.it/. Per punti non coincidenti con il reticolo di riferimento e periodi di ritorno non contemplati direttamente si opera come indicato nell' allegato alle NTC (rispettivamente media pesata e interpolazione).

L' azione sismica viene definita in relazione ad un periodo di riferimento Vr che si ricava, per ciascun tipo di costruzione, moltiplicandone la vita nominale per il coefficiente d'uso (vedi tabella Parametri della struttura). Fissato il periodo di riferimento Vr e la probabilità di superamento Pver associata a ciascuno degli stati limite considerati, si ottiene il periodo di ritorno Tr e i relativi parametri di pericolosità sismica (vedi tabella successiva):

ag: accelerazione orizzontale massima del terreno;

Fo: valore massimo del fattore di amplificazione dello spettro in accelerazione orizzontale;

T*c: periodo di inizio del tratto a velocità costante dello spettro in accelerazione orizzontale;

Parametri della struttura					
Classe d'uso	Vita Vn [anni]	Coeff. Uso	Periodo Vr [anni]	Tipo di suolo	Categoria topografica
IV	100.0	2.0	200.0	C	T1

Individuati su reticolo di riferimento i parametri di pericolosità sismica si valutano i parametri spettrali riportati in tabella:

S è il coefficiente che tiene conto della categoria di sottosuolo e delle condizioni topografiche

mediante la relazione seguente S = Ss*St (3.2.5)

Fo è il fattore che quantifica l'amplificazione spettrale massima, su sito di riferimento rigido orizzontale

Fv è il fattore che quantifica l'amplificazione spettrale massima verticale, in termini di accelerazione orizzontale massima del terreno ag su sito di riferimento rigido orizzontale

Tb è il periodo corrispondente all'inizio del tratto dello spettro ad accelerazione costante.

Tc è il periodo corrispondente all'inizio del tratto dello spettro a velocità costante.

Td è il periodo corrispondente all'inizio del tratto dello spettro a spostamento costante.

Id nodo	Longitudine	Latitudine	Distanza
			Km
Loc.	8.872	44.410	
16917	8.872	44.395	1.662
16918	8.942	44.398	5.700
16696	8.938	44.448	6.710
16695	8.868	44.445	3.892

SL	Pver	Tr	ag	Fo	T*c
		Anni	g		sec
SLO	81.0	120.0	0.040	2.540	0.250
SLD	63.0	201.0	0.049	2.530	0.270
SLV	10.0	1898.0	0.105	2.540	0.310
SLC	5.0	2475.0	0.115	2.540	0.310

SL	ag	S	Fo	Fv	Tb	Tc	Td
	g				sec	sec	sec
SLO	0.040	1.500	2.540	0.689	0.138	0.415	1.762
SLD	0.049	1.500	2.530	0.758	0.146	0.437	1.797
SLV	0.105	1.500	2.540	1.111	0.160	0.479	2.020
SLC	0.115	1.500	2.540	1.161	0.160	0.479	2.059

2.9 RISULTATI ANALISI SISMICHE

LEGENDA TABELLA ANALISI SISMICHE

Il programma consente l'analisi di diverse configurazioni sismiche.

Sono previsti, infatti, i seguenti casi di carico:
9. Esk caso di carico sismico con analisi statica equivalente
10. Edk caso di carico sismico con analisi dinamica

Ciascun caso di carico è caratterizzato da un angolo di ingresso e da una configurazione di masse determinante la forza sismica complessiva (si rimanda al capitolo relativo ai casi di carico per chiarimenti inerenti questo aspetto).

Nella colonna Note, in funzione della norma in uso sono riportati i parametri fondamentali che caratterizzano l' azione sismica: in particolare possono essere presenti i seguenti valori:

Angolo di ingresso	Angolo di ingresso dell'azione sismica orizzontale
Fattore di importanza	Fattore di importanza dell'edificio, in base alla categoria di appartenenza
Zona sismica	Zona sismica
Accelerazione ag	Accelerazione orizzontale massima sul suolo
Categoria suolo	Categoria di profilo stratigrafico del suolo di fondazione
Fattore di struttura q	Fattore dipendente dalla tipologia strutturale
Fattore di sito S	Fattore dipendente dalla stratigrafia e dal profilo topografico
Classe di duttilità CD	Classe di duttilità della struttura – "A" duttilità alta, "B" duttilità bassa
Fattore riduz. SLD	Fattore di riduzione dello spettro elastico per lo stato limite di danno
Periodo proprio T1	Periodo proprio di vibrazione della struttura
Coefficiente Lambda	Coefficiente dipendente dal periodo proprio T1 e dal numero di piani della struttura
Ordinata spettro Sd(T1)	Valore delle ordinate dello spettro di progetto per lo stato limite ultimo, componente orizzontale (verticale Svd)
Ordinata spettro Se(T1)	Valore delle ordinate dello spettro elastico ridotta del fattore SLD per lo stato limite di danno, componente orizzontale (verticale Sve)
Ordinata spettro S (Tb-Tc)	Valore dell' ordinata dello spettro in uso nel tratto costante
numero di modi considerati	Numero di modi di vibrare della struttura considerati nell'analisi dinamica

Per ciascun caso di carico sismico viene riportato l'insieme di dati sotto riportati (le masse sono espresse in unità di forza):

a) **analisi sismica statica equivalente**:
- quota, posizione del centro di applicazione e azione orizzontale risultante, posizione del baricentro delle rigidezze, rapporto r/Ls (per strutture a nucleo), indici di regolarità e/r secondo EC8 4.2.3.2
- azione sismica complessiva

b) **analisi sismica dinamica con spettro di risposta**:
- quota, posizione del centro di massa e massa risultante, posizione del baricentro delle rigidezze, rapporto r/Ls (per strutture a nucleo) **,** indici di regolarità e/r secondo EC8 4.2.3.2
- frequenza, periodo, accelerazione spettrale, massa eccitata nelle tre direzioni globali per tutti i modi
- massa complessiva ed aliquota di massa complessiva eccitata.

TABELLA ANALISI SISMICHE

CDC	Tipo	Sigla Id	Note
7	Edk	CDC=Ed (dinamico SLU) alfa=0.0 (ecc. +)	
			categoria suolo: C
			fattore di sito S = 1.500
			ordinata spettro (tratto Tb-Tc) = 0.400 g
			angolo di ingresso:0.0
			eccentricità aggiuntiva: positiva
			periodo proprio T1: 0.053 sec.
			fattore di struttura q: 1.000
			fattore per spost. mu d: 1.000
			classe di duttilità CD: B
			numero di modi considerati: 9
			combinaz. modale: CQC

Quota	M Sismica x g	Pos. GX	Pos. GY	E agg. X-X	E agg. Y-Y	Pos. KX	Pos. KY	rapp. r/Ls	rapp. ex/rx	rapp. ey/ry
cm	daN	cm	cm	cm	cm	cm	cm			
2130.00	4900.61	0.0	0.0	0.0	-24.00	0.0	0.0	0.0	0.0	0.0
2046.67	1.261e+04	0.0	0.0	0.0	-47.00	0.0	0.0	0.0	0.0	0.0
1963.33	1.800e+04	0.0	0.0	0.0	-70.00	0.0	0.0	0.0	0.0	0.0
1880.00	2.805e+04	0.0	0.0	0.0	-93.00	0.0	0.0	1.471	0.0	0.0
1504.00	3.406e+04	0.0	0.0	0.0	-93.00	0.0	0.0	1.471	0.0	0.0
1128.00	3.406e+04	0.0	0.0	0.0	-93.00	0.0	0.0	1.471	0.0	0.0
752.00	3.406e+04	0.0	0.0	0.0	-93.00	0.0	0.0	1.471	0.0	0.0
376.00	3.406e+04	0.0	0.0	0.0	-93.00	0.0	0.0	1.471	0.0	0.0
Risulta	1.998e+05									

Modo	Frequenza	Periodo	Acc. Spettrale	M efficace X x g	%	M efficace Y x g	%	M efficace Z x g	%	Energia	Energia x v
	Hz	sec	g	daN		daN		daN			
1	8.407	0.119	0.338	608.43	0.3	0.0	0.0	0.0	0.0	0.0	0.0
2	18.740	0.053	0.238	0.0	0.0	1.548e+05	77.5	0.05	2.25e-05	0.0	0.0
3	18.747	0.053	0.238	1.559e+05	78.1	0.0	0.0	0.0	0.0	0.0	0.0
4	22.329	0.045	0.225	0.0	0.0	0.94	4.69e-04	4.493e+04	22.5	0.0	0.0
5	24.650	0.041	0.219	0.0	0.0	3996.61	2.0	1.87	9.36e-04	0.0	0.0
6	44.833	0.022	0.191	3.176e+04	15.9	0.0	0.0	0.0	0.0	0.0	0.0
7	51.025	0.020	0.187	0.0	0.0	3.366e+04	16.8	43.79	2.19e-02	0.0	0.0
8	61.021	0.016	0.182	0.0	0.0	48.85	2.45e-02	1.009e+05	50.5	0.0	0.0
9	88.873	0.011	0.175	0.0	0.0	39.83	1.99e-02	4.083e+04	20.4	0.0	0.0
Risulta				1.883e+05		1.925e+05		1.867e+05			
In percentuale				94.25		96.35		93.45			

CDC	Tipo	Sigla Id	Note
8	Edk	CDC=Ed (dinamico SLU) alfa=0.0 (ecc. -)	
			categoria suolo: C
			fattore di sito S = 1.500
			ordinata spettro (tratto Tb-Tc) = 0.400 g
			angolo di ingresso:0.0
			eccentricità aggiuntiva: negativa
			periodo proprio T1: 0.053 sec.
			fattore di struttura q: 1.000
			fattore per spost. mu d: 1.000
			classe di duttilità CD: B
			numero di modi considerati: 9
			combinaz. modale: CQC

Quota	M Sismica x g	Pos. GX	Pos. GY	E agg. X-X	E agg. Y-Y	Pos. KX	Pos. KY	rapp. r/Ls	rapp. ex/rx	rapp. ey/ry
cm	daN	cm	cm	cm	cm	cm	cm			
2130.00	4900.61	0.0	0.0	0.0	24.00	0.0	0.0	0.0	0.0	0.0
2046.67	1.261e+04	0.0	0.0	0.0	47.00	0.0	0.0	0.0	0.0	0.0
1963.33	1.800e+04	0.0	0.0	0.0	70.00	0.0	0.0	0.0	0.0	0.0
1880.00	2.805e+04	0.0	0.0	0.0	93.00	0.0	0.0	1.471	0.0	0.0
1504.00	3.406e+04	0.0	0.0	0.0	93.00	0.0	0.0	1.471	0.0	0.0
1128.00	3.406e+04	0.0	0.0	0.0	93.00	0.0	0.0	1.471	0.0	0.0
752.00	3.406e+04	0.0	0.0	0.0	93.00	0.0	0.0	1.471	0.0	0.0
376.00	3.406e+04	0.0	0.0	0.0	93.00	0.0	0.0	1.471	0.0	0.0
Risulta	1.998e+05									

Modo	Frequenza	Periodo	Acc. Spettrale	M efficace X x g	%	M efficace Y x g	%	M efficace Z x g	%	Energia	Energia x v
	Hz	sec	g	daN		daN		daN			
1	8.407	0.119	0.338	608.43	0.3	0.0	0.0	0.0	0.0	0.0	0.0
2	18.740	0.053	0.238	0.0	0.0	1.548e+05	77.5	0.05	2.25e-05	0.0	0.0
3	18.747	0.053	0.238	1.559e+05	78.1	0.0	0.0	0.0	0.0	0.0	0.0
4	22.329	0.045	0.225	0.0	0.0	0.94	4.69e-04	4.493e+04	22.5	0.0	0.0
5	24.650	0.041	0.219	0.0	0.0	3996.61	2.0	1.87	9.36e-04	0.0	0.0
6	44.833	0.022	0.191	3.176e+04	15.9	0.0	0.0	0.0	0.0	0.0	0.0
7	51.025	0.020	0.187	0.0	0.0	3.366e+04	16.8	43.79	2.19e-02	0.0	0.0
8	61.021	0.016	0.182	0.0	0.0	48.85	2.45e-02	1.009e+05	50.5	0.0	0.0
9	88.873	0.011	0.175	0.0	0.0	39.83	1.99e-02	4.083e+04	20.4	0.0	0.0
Risulta				1.883e+05		1.925e+05		1.867e+05			
In percentuale				94.25		96.35		93.45			

CDC	Tipo	Sigla Id	Note
9	Edk	CDC=Ed (dinamico SLU) alfa=90.00 (ecc. +)	
			categoria suolo: C
			fattore di sito S = 1.500
			ordinata spettro (tratto Tb-Tc) = 0.400 g
			angolo di ingresso:90.00
			eccentricità aggiuntiva: positiva
			periodo proprio T1: 0.053 sec.
			fattore di struttura q: 1.000
			fattore per spost. mu d: 1.000
			classe di duttilità CD: B
			numero di modi considerati: 9
			combinaz. modale: CQC

Quota	M Sismica x g	Pos. GX	Pos. GY	E agg. X-X	E agg. Y-Y	Pos. KX	Pos. KY	rapp. r/Ls	rapp. ex/rx	rapp. ey/ry
cm	daN	cm	cm	cm	cm	cm	cm			
2130.00	4900.61	0.0	0.0	24.00	0.0	0.0	0.0	0.0	0.0	0.0
2046.67	1.261e+04	0.0	0.0	47.00	0.0	0.0	0.0	0.0	0.0	0.0
1963.33	1.800e+04	0.0	0.0	70.00	0.0	0.0	0.0	0.0	0.0	0.0
1880.00	2.805e+04	0.0	0.0	93.00	0.0	0.0	0.0	1.471	0.0	0.0
1504.00	3.406e+04	0.0	0.0	93.00	0.0	0.0	0.0	1.471	0.0	0.0
1128.00	3.406e+04	0.0	0.0	93.00	0.0	0.0	0.0	1.471	0.0	0.0
752.00	3.406e+04	0.0	0.0	93.00	0.0	0.0	0.0	1.471	0.0	0.0
376.00	3.406e+04	0.0	0.0	93.00	0.0	0.0	0.0	1.471	0.0	0.0
Risulta	1.998e+05									

Modo	Frequenza	Periodo	Acc. Spettrale	M efficace X x g	%	M efficace Y x g	%	M efficace Z x g	%	Energia	Energia x v
	Hz	sec	g	daN		daN		daN			
1	8.407	0.119	0.338	0.0	0.0	608.43	0.3	0.0	0.0	0.0	0.0
2	18.740	0.053	0.238	1.548e+05	77.5	0.0	0.0	0.05	2.25e-05	0.0	0.0
3	18.747	0.053	0.238	0.0	0.0	1.559e+05	78.1	0.0	0.0	0.0	0.0
4	22.329	0.045	0.225	0.94	4.69e-04	0.0	0.0	4.493e+04	22.5	0.0	0.0
5	24.650	0.041	0.219	3996.61	2.0	0.0	0.0	1.87	9.36e-04	0.0	0.0
6	44.833	0.022	0.191	0.0	0.0	3.176e+04	15.9	0.0	0.0	0.0	0.0
7	51.025	0.020	0.187	3.366e+04	16.8	0.0	0.0	43.79	2.19e-02	0.0	0.0
8	61.021	0.016	0.182	48.85	2.45e-02	0.0	0.0	1.009e+05	50.5	0.0	0.0
9	88.873	0.011	0.175	39.83	1.99e-02	0.0	0.0	4.083e+04	20.4	0.0	0.0
Risulta				1.925e+05		1.883e+05		1.867e+05			
In percentuale				96.35		94.25		93.45			

CDC	Tipo	Sigla Id	Note
10	Edk	CDC=Ed (dinamico SLU) alfa=90.00 (ecc. -)	
			categoria suolo: C
			fattore di sito S = 1.500
			ordinata spettro (tratto Tb-Tc) = 0.400 g
			angolo di ingresso:90.00
			eccentricità aggiuntiva: negativa
			periodo proprio T1: 0.053 sec.
			fattore di struttura q: 1.000
			fattore per spost. mu d: 1.000
			classe di duttilità CD: B
			numero di modi considerati: 9
			combinaz. modale: CQC

Quota	M Sismica x g	Pos. GX	Pos. GY	E agg. X-X	E agg. Y-Y	Pos. KX	Pos. KY	rapp. r/Ls	rapp. ex/rx	rapp. ey/ry
cm	daN	cm	cm	cm	cm	cm	cm			
2130.00	4900.61	0.0	0.0	-24.00	0.0	0.0	0.0	0.0	0.0	0.0
2046.67	1.261e+04	0.0	0.0	-47.00	0.0	0.0	0.0	0.0	0.0	0.0
1963.33	1.800e+04	0.0	0.0	-70.00	0.0	0.0	0.0	0.0	0.0	0.0
1880.00	2.805e+04	0.0	0.0	-93.00	0.0	0.0	0.0	1.471	0.0	0.0
1504.00	3.406e+04	0.0	0.0	-93.00	0.0	0.0	0.0	1.471	0.0	0.0
1128.00	3.406e+04	0.0	0.0	-93.00	0.0	0.0	0.0	1.471	0.0	0.0
752.00	3.406e+04	0.0	0.0	-93.00	0.0	0.0	0.0	1.471	0.0	0.0
376.00	3.406e+04	0.0	0.0	-93.00	0.0	0.0	0.0	1.471	0.0	0.0
Risulta	1.998e+05									

Modo	Frequenza	Periodo	Acc. Spettrale	M efficace X x g	%	M efficace Y x g	%	M efficace Z x g	%	Energia	Energia x v
	Hz	sec	g	daN		daN		daN			
1	8.407	0.119	0.338	0.0	0.0	608.43	0.3	0.0	0.0	0.0	0.0
2	18.740	0.053	0.238	1.548e+05	77.5	0.0	0.0	0.05	2.25e-05	0.0	0.0
3	18.747	0.053	0.238	0.0	0.0	1.559e+05	78.1	0.0	0.0	0.0	0.0
4	22.329	0.045	0.225	0.94	4.69e-04	0.0	0.0	4.493e+04	22.5	0.0	0.0
5	24.650	0.041	0.219	3996.61	2.0	0.0	0.0	1.87	9.36e-04	0.0	0.0
6	44.833	0.022	0.191	0.0	0.0	3.176e+04	15.9	0.0	0.0	0.0	0.0
7	51.025	0.020	0.187	3.366e+04	16.8	0.0	0.0	43.79	2.19e-02	0.0	0.0
8	61.021	0.016	0.182	48.85	2.45e-02	0.0	0.0	1.009e+05	50.5	0.0	0.0
9	88.873	0.011	0.175	39.83	1.99e-02	0.0	0.0	4.083e+04	20.4	0.0	0.0
Risulta				1.925e+05		1.883e+05		1.867e+05			
In percentuale				96.35		94.25		93.45			

2.10 RISULTATI NODALI

LEGENDA RISULTATI NODALI

Il controllo dei risultati delle analisi condotte, per quanto concerne i nodi strutturali, è possibile in relazione alle tabelle sotto riportate.

La prima tabella riporta per ogni nodo a cui sia associato un vincolo rigido e per ogni combinazione i valori delle azioni esercitate dalla struttura sui vincoli (reazioni vincolari cambiate di segno).

La seconda tabella riassume per ogni nodo le sei combinazioni in cui si attingono i valori minimi e massimi della reazione Fz, della reazione Mx e della reazione My.

RISULTATI AZIONI NODALI

Nodo	Cmb	Azione X	Azione Y	Azione Z	Azione RX	Azione RY	Azione RZ
		daN	daN	daN	daN cm	daN cm	daN cm
1	1	1.324e+05	5.482e+04	-1.883e+05	0.0	0.0	0.0
1	2	1.324e+05	5.482e+04	-1.883e+05	0.0	0.0	0.0
1	3	1.038e+05	5907.26	2.314e+04	0.0	0.0	0.0
1	4	9.440e+04	1.091e+05	-1.462e+05	0.0	0.0	0.0
1	5	1.621e+05	-2914.83	-1.392e+05	0.0	0.0	0.0
1	6	1.527e+05	1.003e+05	-3.086e+05	0.0	0.0	0.0
1	7	1.039e+05	5670.25	2.317e+04	0.0	0.0	0.0
1	8	9.431e+04	1.094e+05	-1.463e+05	0.0	0.0	0.0
1	9	1.622e+05	-3151.85	-1.392e+05	0.0	0.0	0.0
1	10	1.526e+05	1.006e+05	-3.086e+05	0.0	0.0	0.0
1	11	1.039e+05	5726.51	2.296e+04	0.0	0.0	0.0
1	12	9.452e+04	1.090e+05	-1.464e+05	0.0	0.0	0.0
1	13	1.620e+05	-2734.09	-1.391e+05	0.0	0.0	0.0
1	14	1.526e+05	1.005e+05	-3.084e+05	0.0	0.0	0.0
1	15	1.040e+05	5489.50	2.300e+04	0.0	0.0	0.0
1	16	9.443e+04	1.092e+05	-1.464e+05	0.0	0.0	0.0
1	17	1.621e+05	-2971.10	-1.390e+05	0.0	0.0	0.0
1	18	1.525e+05	1.007e+05	-3.085e+05	0.0	0.0	0.0
1	19	1.351e+05	-1.176e+05	1.639e+05	0.0	0.0	0.0
1	20	1.039e+05	2.265e+05	-4.006e+05	0.0	0.0	0.0
1	21	1.526e+05	-1.203e+05	1.152e+05	0.0	0.0	0.0
1	22	1.214e+05	2.238e+05	-4.494e+05	0.0	0.0	0.0
1	23	1.352e+05	-1.177e+05	1.638e+05	0.0	0.0	0.0
1	24	1.039e+05	2.264e+05	-4.007e+05	0.0	0.0	0.0
1	25	1.526e+05	-1.202e+05	1.152e+05	0.0	0.0	0.0
1	26	1.213e+05	2.239e+05	-4.493e+05	0.0	0.0	0.0
1	27	1.354e+05	-1.184e+05	1.640e+05	0.0	0.0	0.0
1	28	1.036e+05	2.273e+05	-4.008e+05	0.0	0.0	0.0
1	29	1.529e+05	-1.211e+05	1.153e+05	0.0	0.0	0.0
1	30	1.211e+05	2.246e+05	-4.495e+05	0.0	0.0	0.0
1	31	1.355e+05	-1.185e+05	1.639e+05	0.0	0.0	0.0
1	32	1.036e+05	2.272e+05	-4.008e+05	0.0	0.0	0.0
1	33	1.529e+05	-1.210e+05	1.153e+05	0.0	0.0	0.0
1	34	1.210e+05	2.247e+05	-4.494e+05	0.0	0.0	0.0
1	35	1.018e+05	4.217e+04	-1.449e+05	0.0	0.0	0.0
1	36	1.018e+05	4.217e+04	-1.449e+05	0.0	0.0	0.0
4	1	1.013e+05	1.013e+05	-1.776e+05	0.0	0.0	0.0
4	2	1.013e+05	1.013e+05	-1.775e+05	0.0	0.0	0.0
4	3	5.669e+04	9.151e+04	-5.932e+04	0.0	0.0	0.0
4	4	5.318e+04	1.172e+05	-9.388e+04	0.0	0.0	0.0
4	5	1.431e+05	7.912e+04	-1.749e+05	0.0	0.0	0.0
4	6	1.396e+05	1.048e+05	-2.095e+05	0.0	0.0	0.0
4	7	5.679e+04	9.139e+04	-5.926e+04	0.0	0.0	0.0
4	8	5.307e+04	1.173e+05	-9.394e+04	0.0	0.0	0.0
4	9	1.432e+05	7.900e+04	-1.749e+05	0.0	0.0	0.0
4	10	1.395e+05	1.049e+05	-2.095e+05	0.0	0.0	0.0
4	11	5.710e+04	9.116e+04	-5.952e+04	0.0	0.0	0.0
4	12	5.359e+04	1.168e+05	-9.408e+04	0.0	0.0	0.0
4	13	1.427e+05	7.947e+04	-1.747e+05	0.0	0.0	0.0
4	14	1.392e+05	1.052e+05	-2.093e+05	0.0	0.0	0.0
4	15	5.720e+04	9.104e+04	-5.946e+04	0.0	0.0	0.0

Nodo	Cmb	Azione X	Azione Y	Azione Z	Azione RX	Azione RY	Azione RZ
		daN	daN	daN	daN cm	daN cm	daN cm
4	16	5.349e+04	1.170e+05	-9.414e+04	0.0	0.0	0.0
4	17	1.428e+05	7.935e+04	-1.747e+05	0.0	0.0	0.0
4	18	1.391e+05	1.053e+05	-2.093e+05	0.0	0.0	0.0
4	19	9.103e+04	5.721e+04	-5.946e+04	0.0	0.0	0.0
4	20	7.934e+04	1.428e+05	-1.747e+05	0.0	0.0	0.0
4	21	1.170e+05	5.349e+04	-9.414e+04	0.0	0.0	0.0
4	22	1.053e+05	1.391e+05	-2.093e+05	0.0	0.0	0.0
4	23	9.116e+04	5.710e+04	-5.952e+04	0.0	0.0	0.0
4	24	7.947e+04	1.427e+05	-1.747e+05	0.0	0.0	0.0
4	25	1.168e+05	5.359e+04	-9.408e+04	0.0	0.0	0.0
4	26	1.052e+05	1.392e+05	-2.093e+05	0.0	0.0	0.0
4	27	9.138e+04	5.679e+04	-5.926e+04	0.0	0.0	0.0
4	28	7.899e+04	1.432e+05	-1.749e+05	0.0	0.0	0.0
4	29	1.173e+05	5.308e+04	-9.394e+04	0.0	0.0	0.0
4	30	1.049e+05	1.395e+05	-2.095e+05	0.0	0.0	0.0
4	31	9.151e+04	5.669e+04	-5.932e+04	0.0	0.0	0.0
4	32	7.912e+04	1.431e+05	-1.749e+05	0.0	0.0	0.0
4	33	1.172e+05	5.318e+04	-9.388e+04	0.0	0.0	0.0
4	34	1.048e+05	1.396e+05	-2.095e+05	0.0	0.0	0.0
4	35	7.794e+04	7.794e+04	-1.366e+05	0.0	0.0	0.0
4	36	7.794e+04	7.795e+04	-1.366e+05	0.0	0.0	0.0
6	1	5.482e+04	1.324e+05	-1.884e+05	0.0	0.0	0.0
6	2	5.481e+04	1.324e+05	-1.884e+05	0.0	0.0	0.0
6	3	-1.185e+05	1.355e+05	1.639e+05	0.0	0.0	0.0
6	4	-1.210e+05	1.529e+05	1.153e+05	0.0	0.0	0.0
6	5	2.272e+05	1.036e+05	-4.008e+05	0.0	0.0	0.0
6	6	2.247e+05	1.210e+05	-4.495e+05	0.0	0.0	0.0
6	7	-1.184e+05	1.354e+05	1.640e+05	0.0	0.0	0.0
6	8	-1.211e+05	1.529e+05	1.152e+05	0.0	0.0	0.0
6	9	2.273e+05	1.036e+05	-4.008e+05	0.0	0.0	0.0
6	10	2.246e+05	1.211e+05	-4.495e+05	0.0	0.0	0.0
6	11	-1.177e+05	1.352e+05	1.638e+05	0.0	0.0	0.0
6	12	-1.202e+05	1.526e+05	1.152e+05	0.0	0.0	0.0
6	13	2.264e+05	1.039e+05	-4.007e+05	0.0	0.0	0.0
6	14	2.239e+05	1.213e+05	-4.493e+05	0.0	0.0	0.0
6	15	-1.176e+05	1.351e+05	1.639e+05	0.0	0.0	0.0
6	16	-1.203e+05	1.526e+05	1.151e+05	0.0	0.0	0.0
6	17	2.265e+05	1.039e+05	-4.007e+05	0.0	0.0	0.0
6	18	2.238e+05	1.214e+05	-4.494e+05	0.0	0.0	0.0
6	19	5482.11	1.040e+05	2.296e+04	0.0	0.0	0.0
6	20	-2978.49	1.621e+05	-1.391e+05	0.0	0.0	0.0
6	21	1.092e+05	9.443e+04	-1.465e+05	0.0	0.0	0.0
6	22	1.007e+05	1.525e+05	-3.085e+05	0.0	0.0	0.0
6	23	5719.12	1.039e+05	2.293e+04	0.0	0.0	0.0
6	24	-2741.48	1.620e+05	-1.391e+05	0.0	0.0	0.0
6	25	1.089e+05	9.452e+04	-1.464e+05	0.0	0.0	0.0
6	26	1.005e+05	1.526e+05	-3.085e+05	0.0	0.0	0.0
6	27	5662.86	1.039e+05	2.314e+04	0.0	0.0	0.0
6	28	-3159.24	1.622e+05	-1.393e+05	0.0	0.0	0.0
6	29	1.094e+05	9.432e+04	-1.463e+05	0.0	0.0	0.0
6	30	1.005e+05	1.526e+05	-3.087e+05	0.0	0.0	0.0
6	31	5899.87	1.038e+05	2.310e+04	0.0	0.0	0.0
6	32	-2922.23	1.621e+05	-1.393e+05	0.0	0.0	0.0
6	33	1.091e+05	9.440e+04	-1.463e+05	0.0	0.0	0.0
6	34	1.003e+05	1.527e+05	-3.086e+05	0.0	0.0	0.0
6	35	4.217e+04	1.018e+05	-1.449e+05	0.0	0.0	0.0
6	36	4.216e+04	1.018e+05	-1.449e+05	0.0	0.0	0.0
8	1	-8.51	1.433e+05	-1.662e+05	0.0	0.0	0.0
8	2	-21.33	1.433e+05	-1.730e+05	0.0	0.0	0.0
8	3	-2.873e+05	1.310e+05	-9.909e+04	0.0	0.0	0.0
8	4	-2.874e+05	1.466e+05	-1.572e+05	0.0	0.0	0.0
8	5	2.874e+05	1.310e+05	-9.909e+04	0.0	0.0	0.0
8	6	2.872e+05	1.466e+05	-1.572e+05	0.0	0.0	0.0
8	7	-2.874e+05	1.310e+05	-9.909e+04	0.0	0.0	0.0
8	8	-2.873e+05	1.466e+05	-1.572e+05	0.0	0.0	0.0
8	9	2.872e+05	1.310e+05	-9.909e+04	0.0	0.0	0.0
8	10	2.874e+05	1.466e+05	-1.572e+05	0.0	0.0	0.0
8	11	-2.863e+05	1.310e+05	-9.909e+04	0.0	0.0	0.0
8	12	-2.865e+05	1.466e+05	-1.572e+05	0.0	0.0	0.0
8	13	2.864e+05	1.310e+05	-9.909e+04	0.0	0.0	0.0
8	14	2.863e+05	1.466e+05	-1.572e+05	0.0	0.0	0.0
8	15	-2.865e+05	1.310e+05	-9.909e+04	0.0	0.0	0.0
8	16	-2.863e+05	1.466e+05	-1.572e+05	0.0	0.0	0.0
8	17	2.863e+05	1.310e+05	-9.909e+04	0.0	0.0	0.0

Nodo	Cmb	Azione X	Azione Y	Azione Z	Azione RX	Azione RY	Azione RZ
		daN	daN	daN	daN cm	daN cm	daN cm
8	18	2.864e+05	1.466e+05	-1.572e+05	0.0	0.0	0.0
8	19	-8.595e+04	1.128e+05	-3.127e+04	0.0	0.0	0.0
8	20	-8.647e+04	1.649e+05	-2.250e+05	0.0	0.0	0.0
8	21	8.645e+04	1.128e+05	-3.127e+04	0.0	0.0	0.0
8	22	8.592e+04	1.649e+05	-2.250e+05	0.0	0.0	0.0
8	23	-8.566e+04	1.128e+05	-3.127e+04	0.0	0.0	0.0
8	24	-8.618e+04	1.649e+05	-2.250e+05	0.0	0.0	0.0
8	25	8.616e+04	1.128e+05	-3.127e+04	0.0	0.0	0.0
8	26	8.564e+04	1.649e+05	-2.250e+05	0.0	0.0	0.0
8	27	-8.647e+04	1.128e+05	-3.127e+04	0.0	0.0	0.0
8	28	-8.595e+04	1.649e+05	-2.250e+05	0.0	0.0	0.0
8	29	8.592e+04	1.128e+05	-3.127e+04	0.0	0.0	0.0
8	30	8.645e+04	1.649e+05	-2.250e+05	0.0	0.0	0.0
8	31	-8.618e+04	1.128e+05	-3.127e+04	0.0	0.0	0.0
8	32	-8.566e+04	1.649e+05	-2.250e+05	0.0	0.0	0.0
8	33	8.564e+04	1.128e+05	-3.127e+04	0.0	0.0	0.0
8	34	8.616e+04	1.649e+05	-2.250e+05	0.0	0.0	0.0
8	35	-6.55	1.102e+05	-1.279e+05	0.0	0.0	0.0
8	36	-15.10	1.102e+05	-1.324e+05	0.0	0.0	0.0
10	1	-5.482e+04	1.324e+05	-2.008e+05	0.0	0.0	0.0
10	2	-5.482e+04	1.324e+05	-2.202e+05	0.0	0.0	0.0
10	3	-2.273e+05	1.036e+05	-4.181e+05	0.0	0.0	0.0
10	4	-2.246e+05	1.211e+05	-4.668e+05	0.0	0.0	0.0
10	5	1.184e+05	1.354e+05	1.467e+05	0.0	0.0	0.0
10	6	1.211e+05	1.529e+05	9.794e+04	0.0	0.0	0.0
10	7	-2.272e+05	1.036e+05	-4.181e+05	0.0	0.0	0.0
10	8	-2.247e+05	1.210e+05	-4.668e+05	0.0	0.0	0.0
10	9	1.185e+05	1.355e+05	1.466e+05	0.0	0.0	0.0
10	10	1.210e+05	1.529e+05	9.799e+04	0.0	0.0	0.0
10	11	-2.265e+05	1.039e+05	-4.180e+05	0.0	0.0	0.0
10	12	-2.238e+05	1.214e+05	-4.667e+05	0.0	0.0	0.0
10	13	1.176e+05	1.351e+05	1.466e+05	0.0	0.0	0.0
10	14	1.203e+05	1.526e+05	9.783e+04	0.0	0.0	0.0
10	15	-2.264e+05	1.039e+05	-4.180e+05	0.0	0.0	0.0
10	16	-2.239e+05	1.213e+05	-4.667e+05	0.0	0.0	0.0
10	17	1.177e+05	1.352e+05	1.465e+05	0.0	0.0	0.0
10	18	1.202e+05	1.526e+05	9.789e+04	0.0	0.0	0.0
10	19	-1.094e+05	9.431e+04	-1.636e+05	0.0	0.0	0.0
10	20	-1.005e+05	1.526e+05	-3.260e+05	0.0	0.0	0.0
10	21	-5666.42	1.039e+05	5829.82	0.0	0.0	0.0
10	22	3155.67	1.622e+05	-1.566e+05	0.0	0.0	0.0
10	23	-1.091e+05	9.440e+04	-1.636e+05	0.0	0.0	0.0
10	24	-1.003e+05	1.527e+05	-3.260e+05	0.0	0.0	0.0
10	25	-5903.44	1.038e+05	5797.78	0.0	0.0	0.0
10	26	2918.66	1.621e+05	-1.566e+05	0.0	0.0	0.0
10	27	-1.092e+05	9.442e+04	-1.638e+05	0.0	0.0	0.0
10	28	-1.007e+05	1.525e+05	-3.258e+05	0.0	0.0	0.0
10	29	-5485.68	1.040e+05	5654.16	0.0	0.0	0.0
10	30	2974.93	1.621e+05	-1.564e+05	0.0	0.0	0.0
10	31	-1.090e+05	9.451e+04	-1.637e+05	0.0	0.0	0.0
10	32	-1.005e+05	1.526e+05	-3.258e+05	0.0	0.0	0.0
10	33	-5722.69	1.039e+05	5622.11	0.0	0.0	0.0
10	34	2737.91	1.620e+05	-1.564e+05	0.0	0.0	0.0
10	35	-4.217e+04	1.018e+05	-1.544e+05	0.0	0.0	0.0
10	36	-4.217e+04	1.018e+05	-1.674e+05	0.0	0.0	0.0
…							
438	36	0.0	0.0	-4.220e+05	0.0	0.0	0.0

	Azione X	Azione Y	Azione Z	Azione RX	Azione RY	Azione RZ
Min	-2.874e+05	-2.874e+05	-5.487e+05	0.0	0.0	0.0
Max	2.874e+05	2.874e+05	1.641e+05	0.0	0.0	0.0

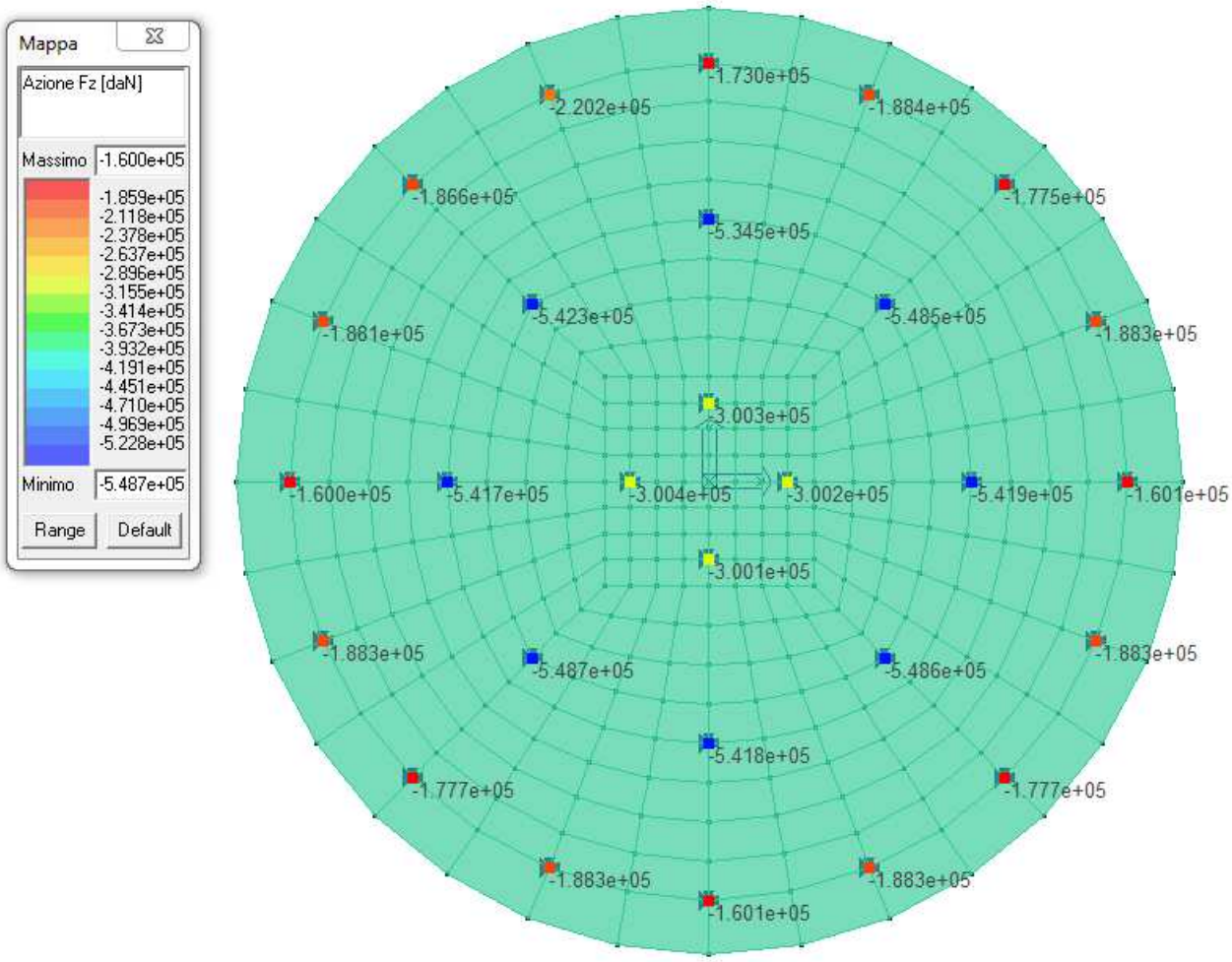
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Nodo	Cmb	Azione X	Azione Y	Azione Z	Azione RX	Azione RY	Azione RZ
		daN	daN	daN	daN cm	daN cm	daN cm
1	30	1.211e+05	2.246e+05	-4.495e+05	0.0	0.0	0.0
	27	1.354e+05	-1.184e+05	1.640e+05	0.0	0.0	0.0
	1	1.324e+05	5.482e+04	-1.883e+05	0.0	0.0	0.0
4	10	1.395e+05	1.049e+05	-2.095e+05	0.0	0.0	0.0
	7	5.679e+04	9.139e+04	-5.926e+04	0.0	0.0	0.0
	1	1.013e+05	1.013e+05	-1.776e+05	0.0	0.0	0.0
6	10	2.246e+05	1.211e+05	-4.495e+05	0.0	0.0	0.0
	7	-1.184e+05	1.354e+05	1.640e+05	0.0	0.0	0.0
	1	5.482e+04	1.324e+05	-1.884e+05	0.0	0.0	0.0
8	26	8.564e+04	1.649e+05	-2.250e+05	0.0	0.0	0.0
	23	-8.566e+04	1.128e+05	-3.127e+04	0.0	0.0	0.0
	1	-8.51	1.433e+05	-1.662e+05	0.0	0.0	0.0
10	4	-2.246e+05	1.211e+05	-4.668e+05	0.0	0.0	0.0
	5	1.184e+05	1.354e+05	1.467e+05	0.0	0.0	0.0
	1	-5.482e+04	1.324e+05	-2.008e+05	0.0	0.0	0.0
12	4	-1.395e+05	1.049e+05	-2.151e+05	0.0	0.0	0.0
	5	-5.678e+04	9.139e+04	-6.478e+04	0.0	0.0	0.0
	1	-1.013e+05	1.013e+05	-1.827e+05	0.0	0.0	0.0
14	20	-1.211e+05	2.246e+05	-4.494e+05	0.0	0.0	0.0
	21	-1.354e+05	-1.184e+05	1.641e+05	0.0	0.0	0.0
	1	-1.324e+05	5.483e+04	-1.883e+05	0.0	0.0	0.0
16	3	-1.649e+05	-8.593e+04	-2.176e+05	0.0	0.0	0.0
	6	-1.128e+05	8.594e+04	-2.380e+04	0.0	0.0	0.0
	1	-1.433e+05	1.36	-1.600e+05	0.0	0.0	0.0
18	23	-1.211e+05	-2.246e+05	-4.495e+05	0.0	0.0	0.0
	26	-1.354e+05	1.184e+05	1.640e+05	0.0	0.0	0.0
	1	-1.324e+05	-5.482e+04	-1.883e+05	0.0	0.0	0.0
20	11	-1.395e+05	-1.049e+05	-2.096e+05	0.0	0.0	0.0
	14	-5.679e+04	-9.139e+04	-5.935e+04	0.0	0.0	0.0
	1	-1.013e+05	-1.013e+05	-1.777e+05	0.0	0.0	0.0
22	11	-2.246e+05	-1.211e+05	-4.494e+05	0.0	0.0	0.0
	14	1.184e+05	-1.354e+05	1.640e+05	0.0	0.0	0.0
	1	-5.482e+04	-1.324e+05	-1.883e+05	0.0	0.0	0.0
24	23	-8.646e+04	-1.649e+05	-2.176e+05	0.0	0.0	0.0
	26	8.646e+04	-1.128e+05	-2.384e+04	0.0	0.0	0.0
	1	0.25	-1.433e+05	-1.601e+05	0.0	0.0	0.0
26	17	2.246e+05	-1.211e+05	-4.495e+05	0.0	0.0	0.0
	16	-1.184e+05	-1.354e+05	1.640e+05	0.0	0.0	0.0
	1	5.482e+04	-1.324e+05	-1.883e+05	0.0	0.0	0.0
28	33	1.049e+05	-1.395e+05	-2.096e+05	0.0	0.0	0.0
	32	9.139e+04	-5.679e+04	-5.936e+04	0.0	0.0	0.0
	1	1.013e+05	-1.013e+05	-1.777e+05	0.0	0.0	0.0
30	33	1.211e+05	-2.246e+05	-4.494e+05	0.0	0.0	0.0
	32	1.354e+05	1.184e+05	1.640e+05	0.0	0.0	0.0
	1	1.324e+05	-5.482e+04	-1.883e+05	0.0	0.0	0.0
32	13	1.649e+05	-8.617e+04	-2.176e+05	0.0	0.0	0.0
	12	1.128e+05	8.617e+04	-2.383e+04	0.0	0.0	0.0
	1	1.433e+05	-0.21	-1.601e+05	0.0	0.0	0.0
153	2	0.0	0.0	-3.004e+05	0.0	0.0	0.0
	3	0.0	0.0	-2.301e+05	0.0	0.0	0.0
	1	0.0	0.0	-3.002e+05	0.0	0.0	0.0
182	2	0.0	0.0	-3.001e+05	0.0	0.0	0.0
	19	0.0	0.0	-2.299e+05	0.0	0.0	0.0
	1	0.0	0.0	-3.001e+05	0.0	0.0	0.0
188	2	0.0	0.0	-3.003e+05	0.0	0.0	0.0
	20	0.0	0.0	-2.301e+05	0.0	0.0	0.0
	1	0.0	0.0	-3.002e+05	0.0	0.0	0.0
212	2	0.0	0.0	-3.002e+05	0.0	0.0	0.0
	5	0.0	0.0	-2.300e+05	0.0	0.0	0.0
	1	0.0	0.0	-3.001e+05	0.0	0.0	0.0
232	2	0.0	0.0	-5.419e+05	0.0	0.0	0.0
	35	0.0	0.0	-4.168e+05	0.0	0.0	0.0
	1	0.0	0.0	-5.418e+05	0.0	0.0	0.0
258	1	0.0	0.0	-5.485e+05	0.0	0.0	0.0
	36	0.0	0.0	-4.219e+05	0.0	0.0	0.0
	1	0.0	0.0	-5.485e+05	0.0	0.0	0.0
289	1	0.0	0.0	-5.386e+05	0.0	0.0	0.0
	36	0.0	0.0	-4.115e+05	0.0	0.0	0.0
	1	0.0	0.0	-5.386e+05	0.0	0.0	0.0

Nodo	Cmb	Azione X	Azione Y	Azione Z	Azione RX	Azione RY	Azione RZ
		daN	daN	daN	daN cm	daN cm	daN cm
318	1	0.0	0.0	-5.458e+05	0.0	0.0	0.0
	36	0.0	0.0	-4.175e+05	0.0	0.0	0.0
	1	0.0	0.0	-5.458e+05	0.0	0.0	0.0
349	1	0.0	0.0	-5.417e+05	0.0	0.0	0.0
	36	0.0	0.0	-4.167e+05	0.0	0.0	0.0
	1	0.0	0.0	-5.417e+05	0.0	0.0	0.0
378	2	0.0	0.0	-5.487e+05	0.0	0.0	0.0
	35	0.0	0.0	-4.221e+05	0.0	0.0	0.0
	1	0.0	0.0	-5.487e+05	0.0	0.0	0.0
409	1	0.0	0.0	-5.418e+05	0.0	0.0	0.0
	36	0.0	0.0	-4.168e+05	0.0	0.0	0.0
	1	0.0	0.0	-5.418e+05	0.0	0.0	0.0
438	1	0.0	0.0	-5.486e+05	0.0	0.0	0.0
	36	0.0	0.0	-4.220e+05	0.0	0.0	0.0
	1	0.0	0.0	-5.486e+05	0.0	0.0	0.0

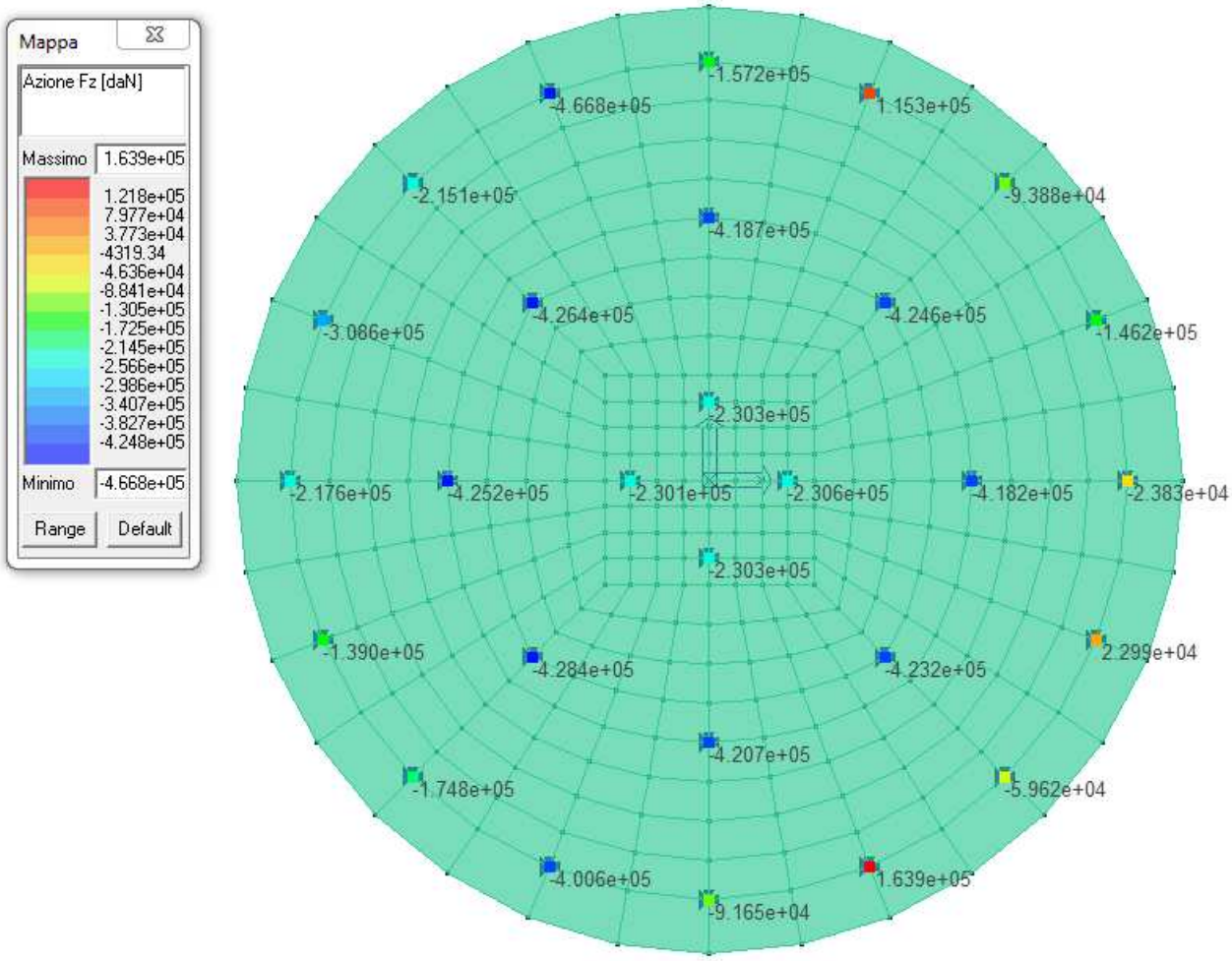
AZIONI VERTICALI VINCOLI

Azione massima combinazioni SLU STR A1 (CMB 2)



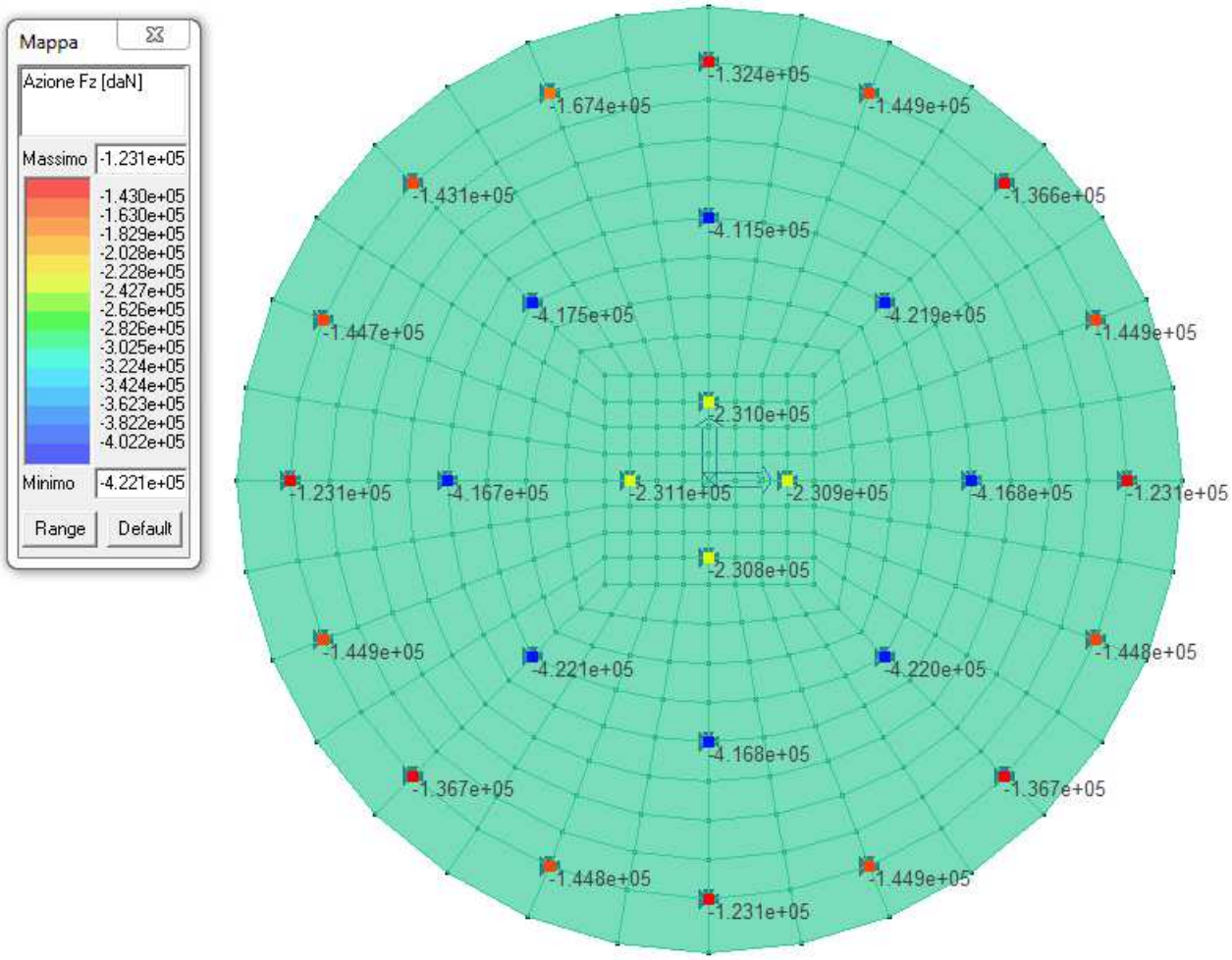
Azione massima 548700 daN

Azione massima combinazioni SLV sismiche (CMB 4)



Azione massima / minima 466800 daN (compressione) e 163900 daN (trazione)

Azione massima combinazioni SLE (rara) (CMB 36)



Azione massima 422100 daN

2.11 VERIFICHE ELEMENTI PARETE E GUSCIO IN C.A.

LEGENDA TABELLA VERIFICHE ELEMENTI PARETE E GUSCIO IN C.A.

Nel caso dei gusci e nel caso in cui la progettazione della parete sia integrata o effettuata del tutto con progettazione locale si produce una tabella nella quale vengono riportati per ogni macroelemento il numero dello stesso ed il codice di verifica.

Per la progettazione con il metodo degli stati limite vengono riportati il rapporto x/d, la verifica per sollecitazioni ultime e la verifica per compressione media con l'indicazione delle due combinazioni in cui si sono attinti i rispettivi valori.

Per ogni elemento viene riportata inoltre la maglia di armatura necessaria in relazione alle risultanze della progettazione dei nodi dell'elemento stesso (diametri in mm, passi in cm). Le quantità di armature necessarie sono armature (disposte rispettivamente in direzione principale e secondaria, inferiore e superiore) distribuite nell'elemento ed espresse in centimetri quadri per sviluppo lineare pari ad un metro.

La progettazione degli elementi strutturali con proprietà fondazione è effettuata (per travi e platee) incrementando le sollecitazioni delle combinazioni con sisma del fattore: γrd= 1.1 in CDB e γrd=1.3 in CDA per pali, plinti, travi e platee.

In particolare i simboli utilizzati assumono il seguente significato:

M_S		macroelemento di tipo setto (elementi verticali contigui ed analoghi per proprietà)
M_G		macroelemento di tipo guscio (elementi non verticali contigui ed analoghi per proprietà)
Stato		codice di verifica dell'elemento
Nodo		numero del nodo
x/d		rapporto tra posizione dell'asse neutro e altezza utile alla rottura della sezione (per sola flessione)
verif.		rapporto Sd/Su con sollecitazioni ultime ~~proporzionali~~: valore minore o uguale a 1 per verifica positiva
Ver.rd		rapporto Nd/Nu (Nu ottenuto con riduzione del 25% di fcd): valore minore o uguale a 1 per verifica positiva
Rete pr		maglia di armatura (diametro/passo) in direzione principale inferiore e superiore
Rete sec		maglia di armatura (diametro/passo) in direzione secondaria inferiore e superiore
Aggiuntivi		relativa armatura aggiuntiva (diametro/passo) inferiore (i) e superiore (s) eventualmente differenziate
sc max		massima tensione di compressione del calcestruzzo
sc med		massima tensione media di compressione del calcestruzzo
sf max		massima tensione dell'acciaio
Rif. cmb		combinazioni di carico in cui si verificano i valori riportati
Af pr-		quantità di armatura richiesta in direzione principale relativa alla faccia negativa (intradosso piastre) (valore derivante da calcolo o minimo normativo)
Af pr+		quantità di armatura richiesta in direzione principale relativa alla faccia positiva (estradosso piastre) (valore derivante da calcolo o minimo normativo)
Af sec-	**Af sec+**	valori analoghi a quelli soprariportati ma relativi alla armatura secondaria

N	**M**	azioni membranali e flessionali (in direzione dell'armatura principale e secondaria) estratte, poiché rappresentative, tra quelle utilizzate per il progetto e la verifica

TABELLA VERIFICHE ELEMENTI GUSCIO IN C.A.

M_G	Nodo	x/d	verif.	ver. rid	Af pr-	Af pr+	Af sec-	Af sec+	N x	N y	N xy	M x	M y	M xy
									daN/cm	daN/cm	daN/cm	daN	daN	daN
33	ok 1	0.06	0.4	0.0	22.6	22.6	22.6	22.6	0.0	0.0	0.0	2.246e+04	2.217e+04	7584.4
33	ok 4	0.06	0.3	0.0	22.6	22.6	22.6	22.6	0.0	0.0	0.0	2.723e+04	1.519e+04	3268.7
33	ok 6	0.06	0.4	0.0	22.6	22.6	22.6	22.6	0.0	0.0	0.0	2.221e+04	2.299e+04	7285.9
33	ok 8	0.06	0.4	0.0	22.6	22.6	22.6	22.6	0.0	0.0	0.0	1.861e+04	2.671e+04	4574.9
33	ok 10	0.06	0.5	0.0	22.6	22.6	22.6	22.6	0.0	0.0	0.0	2.547e+04	3.526e+04	-9777.5
33	ok 12	0.06	0.4	0.0	22.6	22.6	22.6	22.6	0.0	0.0	0.0	2.868e+04	1.932e+04	-4326.8
33	ok 14	0.06	0.4	0.0	22.6	22.6	22.6	22.6	0.0	0.0	0.0	2.235e+04	2.244e+04	-7803.6
33	ok 16	0.06	0.3	0.0	22.6	22.6	22.6	22.6	0.0	0.0	0.0	2.137e+04	1.655e+04	-6201.4
33	ok 18	0.06	0.4	0.0	22.6	22.6	22.6	22.6	0.0	0.0	0.0	2.247e+04	2.215e+04	7572.8
33	ok 20	0.06	0.3	0.0	22.6	22.6	22.6	22.6	0.0	0.0	0.0	1.516e+04	2.728e+04	3258.9
33	ok 22	0.06	0.4	0.0	22.6	22.6	22.6	22.6	0.0	0.0	0.0	2.215e+04	2.245e+04	7576.9
33	ok 24	0.06	0.3	0.0	22.6	22.6	22.6	22.6	0.0	0.0	0.0	1.655e+04	2.135e+04	6156.7
33	ok 26	0.06	0.4	0.0	22.6	22.6	22.6	22.6	0.0	0.0	0.0	2.215e+04	2.245e+04	-7577.0
33	ok 28	0.06	0.3	0.0	22.6	22.6	22.6	22.6	0.0	0.0	0.0	1.516e+04	2.728e+04	-3259.1
33	ok 30	0.06	0.4	0.0	22.6	22.6	22.6	22.6	0.0	0.0	0.0	2.245e+04	2.215e+04	-7577.1
33	ok 32	0.06	0.3	0.0	22.6	22.6	22.6	22.6	0.0	0.0	0.0	2.135e+04	1.655e+04	-6156.8
33	ok 145	0.06	0.3	0.0	22.6	22.6	22.6	22.6	0.0	0.0	0.0	-1.294e+04	-1.262e+04	-1.425e+04
33	ok 146	0.06	0.3	0.0	22.6	22.6	22.6	22.6	0.0	0.0	0.0	-1.134e+04	-1.083e+04	-1.190e+04
33	ok 147	0.06	0.2	0.0	22.6	22.6	22.6	22.6	0.0	0.0	0.0	-6070.1	-6076.8	-8056.0
33	ok 148	0.06	0.3	0.0	22.6	22.6	22.6	22.6	0.0	0.0	0.0	-1.084e+04	-1.134e+04	-1.190e+04
33	ok 149	0.06	8.32e-02	0.0	22.6	22.6	22.6	22.6	0.0	0.0	0.0	4594.5	402.0	-3756.3
33	ok 150	0.06	0.2	0.0	22.6	22.6	22.6	22.6	0.0	0.0	0.0	-6674.1	-4470.5	-1.075e+04
33	NV 151	0.06	0.3	0.0	22.6	22.6	22.6	22.6	0.0	0.0	0.0	2.471e+04	1.565e+04	-1398.8
33	NV 152	0.06	0.4	0.0	22.6	22.6	22.6	22.6	0.0	0.0	0.0	6615.7	2.041e+04	-1.413e+04
33	NV 153	0.06	1.0	0.0	22.6	24.2	22.6	25.3	0.0	0.0	0.0	7.500e+04	8.423e+04	-7949.8
33	NV 154	0.06	0.4	0.0	22.6	22.6	22.6	22.6	0.0	0.0	0.0	-1.678e+04	2.763e+04	-3516.8
33	NV 155	0.06	0.3	0.0	22.6	22.6	22.6	22.6	0.0	0.0	0.0	2.469e+04	1.562e+04	1394.8
33	NV 156	0.06	0.4	0.0	22.6	22.6	22.6	22.6	0.0	0.0	0.0	6596.6	2.036e+04	1.413e+04
33	ok 157	0.06	8.29e-02	0.0	22.6	22.6	22.6	22.6	0.0	0.0	0.0	4579.2	302.2	3757.1
33	ok 158	0.06	0.2	0.0	22.6	22.6	22.6	22.6	0.0	0.0	0.0	-6688.9	-4513.4	1.074e+04
33	ok 159	0.06	0.2	0.0	22.6	22.6	22.6	22.6	0.0	0.0	0.0	-6080.2	-6145.1	8059.5
33	ok 160	0.06	0.3	0.0	22.6	22.6	22.6	22.6	0.0	0.0	0.0	-1.087e+04	-1.152e+04	1.189e+04
33	ok 161	0.06	0.3	0.0	22.6	22.6	22.6	22.6	0.0	0.0	0.0	-1.132e+04	-1.107e+04	1.194e+04
33	ok 162	0.06	0.3	0.0	22.6	22.6	22.6	22.6	0.0	0.0	0.0	-1.263e+04	-1.321e+04	1.425e+04
33	ok 163	0.06	0.2	0.0	22.6	22.6	22.6	22.6	0.0	0.0	0.0	-4461.7	-6669.1	-1.074e+04
33	ok 164	0.06	8.31e-02	0.0	22.6	22.6	22.6	22.6	0.0	0.0	0.0	411.8	4584.0	-3753.3
33	ok 165	0.06	0.2	0.0	22.6	22.6	22.6	22.6	0.0	0.0	0.0	9828.7	7947.5	5619.3
33	NV 166	0.06	0.5	0.0	22.6	22.6	22.6	22.6	0.0	0.0	0.0	2.390e+04	2.660e+04	1.370e+04
33	NV 167	0.06	0.4	0.0	22.6	22.6	22.6	22.6	0.0	0.0	0.0	1.676e+04	3.610e+04	-703.3
33	NV 168	0.06	0.5	0.0	22.6	22.6	22.6	22.6	0.0	0.0	0.0	2.390e+04	2.656e+04	-1.370e+04
33	ok 169	0.06	0.2	0.0	22.6	22.6	22.6	22.6	0.0	0.0	0.0	9817.7	7912.4	-5614.8
33	ok 170	0.06	8.27e-02	0.0	22.6	22.6	22.6	22.6	0.0	0.0	0.0	411.2	4453.0	3788.6
33	ok 171	0.06	0.2	0.0	22.6	22.6	22.6	22.6	0.0	0.0	0.0	-4457.3	-6858.1	1.082e+04
33	NV 172	0.06	0.4	0.0	22.6	22.6	22.6	22.6	0.0	0.0	0.0	2.040e+04	6614.6	-1.412e+04
33	NV 173	0.06	0.3	0.0	22.6	22.6	22.6	22.6	0.0	0.0	0.0	1.565e+04	2.469e+04	-1394.3
33	NV 174	0.06	0.5	0.0	22.6	22.6	22.6	22.6	0.0	0.0	0.0	2.660e+04	2.389e+04	1.369e+04
33	ok 175	0.06	0.3	0.0	22.6	22.6	22.6	22.6	0.0	0.0	0.0	1.412e+04	1.619e+04	7371.0
33	ok 176	0.06	0.2	0.0	22.6	22.6	22.6	22.6	0.0	0.0	0.0	1.202e+04	1.821e+04	127.8
33	ok 177	0.06	0.3	0.0	22.6	22.6	22.6	22.6	0.0	0.0	0.0	1.619e+04	1.410e+04	-7367.5
33	NV 178	0.06	0.5	0.0	22.6	22.6	22.6	22.6	0.0	0.0	0.0	2.660e+04	2.386e+04	-1.368e+04
33	NV 179	0.06	0.3	0.0	22.6	22.6	22.6	22.6	0.0	0.0	0.0	1.564e+04	2.465e+04	1412.5
33	NV 180	0.06	0.4	0.0	22.6	22.6	22.6	22.6	0.0	0.0	0.0	2.040e+04	6486.0	1.421e+04
33	NV 181	0.06	0.4	0.0	22.6	22.6	22.6	22.6	0.0	0.0	0.0	2.764e+04	-1.675e+04	-3513.8
33	NV 182	0.06	1.0	0.0	22.6	25.3	22.6	24.2	0.0	0.0	0.0	8.418e+04	7.494e+04	-7939.2
33	NV 183	0.06	0.4	0.0	22.6	22.6	22.6	22.6	0.0	0.0	0.0	3.609e+04	1.676e+04	701.9
33	ok 184	0.06	0.2	0.0	22.6	22.6	22.6	22.6	0.0	0.0	0.0	1.821e+04	1.202e+04	129.0
33	ok 185	0.06	0.2	0.0	22.6	22.6	22.6	22.6	0.0	0.0	0.0	1.279e+04	1.279e+04	41.7
33	ok 186	0.06	0.2	0.0	22.6	22.6	22.6	22.6	0.0	0.0	0.0	1.822e+04	1.200e+04	136.8
33	NV 187	0.06	0.4	0.0	22.6	22.6	22.6	22.6	0.0	0.0	0.0	3.611e+04	1.672e+04	723.0
33	NV 188	0.06	1.0	0.0	22.6	25.3	22.6	24.2	0.0	0.0	0.0	8.422e+04	7.492e+04	7986.3
33	NV 189	0.06	0.4	0.0	22.6	22.6	22.6	22.6	0.0	0.0	0.0	2.762e+04	-1.686e+04	3584.4
33	NV 190	0.06	0.4	0.0	22.6	22.6	22.6	22.6	0.0	0.0	0.0	2.040e+04	6616.5	1.412e+04
33	NV 191	0.06	0.3	0.0	22.6	22.6	22.6	22.6	0.0	0.0	0.0	1.565e+04	2.469e+04	1393.3
33	NV 192	0.06	0.5	0.0	22.6	22.6	22.6	22.6	0.0	0.0	0.0	2.659e+04	2.389e+04	-1.369e+04

M_G	Nodo	x/d	verif.	ver. rid	Af pr-	Af pr+	Af sec-	Af sec+	N x	N y	N xy	M x	M y	M xy
									daN/cm	daN/cm	daN/cm	daN	daN	daN
33	ok 193	0.06	0.3	0.0	22.6	22.6	22.6	22.6	0.0	0.0	0.0	1.411e+04	1.619e+04	-7366.0
33	ok 194	0.06	0.2	0.0	22.6	22.6	22.6	22.6	0.0	0.0	0.0	1.202e+04	1.822e+04	133.5
33	ok 195	0.06	0.3	0.0	22.6	22.6	22.6	22.6	0.0	0.0	0.0	1.619e+04	1.410e+04	7383.1
33	NV 196	0.06	0.5	0.0	22.6	22.6	22.6	22.6	0.0	0.0	0.0	2.659e+04	2.387e+04	1.372e+04
33	NV 197	0.06	0.3	0.0	22.6	22.6	22.6	22.6	0.0	0.0	0.0	1.563e+04	2.467e+04	-1382.5
33	NV 198	0.06	0.4	0.0	22.6	22.6	22.6	22.6	0.0	0.0	0.0	2.038e+04	6585.1	-1.411e+04
33	ok 199	0.06	0.2	0.0	22.6	22.6	22.6	22.6	0.0	0.0	0.0	-4464.2	-6668.2	1.074e+04
33	ok 200	0.06	8.31e-02	0.0	22.6	22.6	22.6	22.6	0.0	0.0	0.0	406.7	4586.1	3750.7
33	ok 201	0.06	0.2	0.0	22.6	22.6	22.6	22.6	0.0	0.0	0.0	9823.3	7955.0	-5619.2
33	NV 202	0.06	0.5	0.0	22.6	22.6	22.6	22.6	0.0	0.0	0.0	2.389e+04	2.661e+04	-1.369e+04
33	NV 203	0.06	0.4	0.0	22.6	22.6	22.6	22.6	0.0	0.0	0.0	1.676e+04	3.611e+04	707.1
33	NV 204	0.06	0.5	0.0	22.6	22.6	22.6	22.6	0.0	0.0	0.0	2.388e+04	2.659e+04	1.370e+04
33	ok 205	0.06	0.2	0.0	22.6	22.6	22.6	22.6	0.0	0.0	0.0	7931.1	9799.9	5634.7
33	ok 206	0.06	8.28e-02	0.0	22.6	22.6	22.6	22.6	0.0	0.0	0.0	390.5	4568.2	-3745.1
33	ok 207	0.06	0.2	0.0	22.6	22.6	22.6	22.6	0.0	0.0	0.0	-4491.4	-6697.0	-1.073e+04
33	ok 208	0.06	0.3	0.0	22.6	22.6	22.6	22.6	0.0	0.0	0.0	-1.134e+04	-1.083e+04	1.189e+04
33	ok 209	0.06	0.2	0.0	22.6	22.6	22.6	22.6	0.0	0.0	0.0	-6072.6	-6072.1	8050.5
33	ok 210	0.06	8.31e-02	0.0	22.6	22.6	22.6	22.6	0.0	0.0	0.0	4586.8	408.0	3751.4
33	NV 211	0.06	0.3	0.0	22.6	22.6	22.6	22.6	0.0	0.0	0.0	2.470e+04	1.566e+04	1396.1
33	NV 212	0.06	1.0	0.0	22.6	24.2	22.6	25.3	0.0	0.0	0.0	7.496e+04	8.421e+04	7945.6
33	NV 213	0.06	0.3	0.0	22.6	22.6	22.6	22.6	0.0	0.0	0.0	2.469e+04	1.564e+04	-1389.9
33	ok 214	0.06	8.29e-02	0.0	22.6	22.6	22.6	22.6	0.0	0.0	0.0	4577.0	396.2	-3749.1
33	ok 215	0.06	0.2	0.0	22.6	22.6	22.6	22.6	0.0	0.0	0.0	-6088.4	-6091.5	-8049.2
33	ok 216	0.06	0.3	0.0	22.6	22.6	22.6	22.6	0.0	0.0	0.0	-1.139e+04	-1.090e+04	-1.189e+04
33	ok 217	0.06	0.3	0.0	22.6	22.6	22.6	22.6	0.0	0.0	0.0	-1.294e+04	-1.262e+04	1.424e+04
33	ok 218	0.06	0.3	0.0	22.6	22.6	22.6	22.6	0.0	0.0	0.0	-1.083e+04	-1.134e+04	1.189e+04
33	ok 219	0.06	0.2	0.0	22.6	22.6	22.6	22.6	0.0	0.0	0.0	-6666.8	-4456.9	1.074e+04
33	NV 220	0.06	0.4	0.0	22.6	22.6	22.6	22.6	0.0	0.0	0.0	6618.9	2.042e+04	1.412e+04
33	NV 221	0.06	0.4	0.0	22.6	22.6	22.6	22.6	0.0	0.0	0.0	-1.676e+04	2.765e+04	-3514.3
33	NV 222	0.06	0.4	0.0	22.6	22.6	22.6	22.6	0.0	0.0	0.0	6608.9	2.040e+04	-1.413e+04
33	ok 223	0.06	0.2	0.0	22.6	22.6	22.6	22.6	0.0	0.0	0.0	-6687.2	-4484.5	-1.074e+04
33	ok 224	0.06	0.3	0.0	22.6	22.6	22.6	22.6	0.0	0.0	0.0	-1.086e+04	-1.138e+04	-1.190e+04
33	ok 225	0.06	0.3	0.0	22.6	22.6	22.6	22.6	0.0	0.0	0.0	-1.297e+04	-1.268e+04	-1.425e+04
33	ok 226	0.06	0.3	0.0	22.6	22.6	22.6	22.6	0.0	0.0	0.0	-2.827e+04	6074.6	-540.9
33	ok 227	0.06	0.3	0.0	22.6	22.6	22.6	22.6	0.0	0.0	0.0	-2.316e+04	-1100.6	-5504.4
33	ok 228	0.06	0.4	0.0	22.6	22.6	22.6	22.6	0.0	0.0	0.0	-2.746e+04	8069.3	-219.3
33	ok 229	0.06	0.3	0.0	22.6	22.6	22.6	22.6	0.0	0.0	0.0	-2.169e+04	-4677.7	6374.5
33	NV 230	0.06	0.4	0.0	22.6	22.6	22.6	22.6	0.0	0.0	0.0	-2.908e+04	3.092e+04	-8606.1
33	NV 231	0.06	0.4	0.0	22.6	22.6	22.6	22.6	0.0	0.0	0.0	1.234e+04	6025.0	2.091e+04
33	NV 232	0.07	1.0	0.0	22.6	34.5	22.6	35.4	0.0	0.0	0.0	1.077e+05	1.108e+05	-1.337e+04
33	NV 233	0.06	0.6	0.0	22.6	22.6	22.6	22.6	0.0	0.0	0.0	-4777.2	-4.138e+04	8848.7
33	NV 234	0.06	0.5	0.0	22.6	22.6	22.6	22.6	0.0	0.0	0.0	-3.383e+04	3.417e+04	-1.351e+04
33	NV 235	0.06	0.4	0.0	22.6	22.6	22.6	22.6	0.0	0.0	0.0	-1.429e+04	-2.098e+04	-1.167e+04
33	ok 236	0.06	0.5	0.0	22.6	22.6	22.6	22.6	0.0	0.0	0.0	-4.029e+04	7096.6	-1943.0
33	ok 237	0.06	0.5	0.0	22.6	22.6	22.6	22.6	0.0	0.0	0.0	-3.013e+04	-1.864e+04	-1.362e+04
33	ok 238	0.06	0.5	0.0	22.6	22.6	22.6	22.6	0.0	0.0	0.0	-3.906e+04	2263.3	-2015.5
33	ok 239	0.06	0.4	0.0	22.6	22.6	22.6	22.6	0.0	0.0	0.0	-2.366e+04	-2.316e+04	-8581.9
33	ok 240	0.06	0.4	0.0	22.6	22.6	22.6	22.6	0.0	0.0	0.0	-1.945e+04	-2.847e+04	-5291.7
33	ok 241	0.06	0.3	0.0	22.6	22.6	22.6	22.6	0.0	0.0	0.0	-1.519e+04	-1.343e+04	-8683.3
33	ok 242	0.06	0.3	0.0	22.6	22.6	22.6	22.6	0.0	0.0	0.0	-9373.7	-2.121e+04	1585.5
33	ok 243	0.06	0.4	0.0	22.6	22.6	22.6	22.6	0.0	0.0	0.0	-8148.0	-2.645e+04	1.267e+04
33	ok 244	0.06	0.4	0.0	22.6	22.6	22.6	22.6	0.0	0.0	0.0	-1.717e+04	-2.717e+04	1.046e+04
33	ok 245	0.06	0.4	0.0	22.6	22.6	22.6	22.6	0.0	0.0	0.0	-3.004e+04	-2.661e+04	-551.5
33	ok 246	0.06	0.5	0.0	22.6	22.6	22.6	22.6	0.0	0.0	0.0	-3.537e+04	-2.392e+04	-7860.0
33	ok 247	0.06	0.5	0.0	22.6	22.6	22.6	22.6	0.0	0.0	0.0	-2.904e+04	-1.530e+04	-1.420e+04
33	ok 248	0.06	0.3	0.0	22.6	22.6	22.6	22.6	0.0	0.0	0.0	-8234.6	-1.672e+04	-1.339e+04
33	NV 249	0.06	0.3	0.0	22.6	22.6	22.6	22.6	0.0	0.0	0.0	1.048e+04	-2.047e+04	-7758.7
33	NV 250	0.06	0.5	0.0	22.6	22.6	22.6	22.6	0.0	0.0	0.0	541.8	-2.879e+04	2.304e+04
33	NV 251	0.06	0.4	0.0	22.6	22.6	22.6	22.6	0.0	0.0	0.0	-6360.5	3.019e+04	1.562e+04
33	ok 252	0.06	0.4	0.0	22.6	22.6	22.6	22.6	0.0	0.0	0.0	-3.459e+04	-7613.1	-5156.6
33	ok 253	0.06	0.5	0.0	22.6	22.6	22.6	22.6	0.0	0.0	0.0	-3.561e+04	-1.761e+04	-1.037e+04
33	ok 254	0.06	0.4	0.0	22.6	22.6	22.6	22.6	0.0	0.0	0.0	-2.637e+04	-2.235e+04	-2489.7
33	ok 255	0.06	0.4	0.0	22.6	22.6	22.6	22.6	0.0	0.0	0.0	-2.850e+04	-2.267e+04	4887.9
33	ok 256	0.06	0.3	0.0	22.6	22.6	22.6	22.6	0.0	0.0	0.0	-9162.8	-8217.7	-1.640e+04
33	NV 257	0.06	0.5	0.0	22.6	22.6	22.6	22.6	0.0	0.0	0.0	1.851e+04	2.368e+04	-1.976e+04
33	NV 258	0.08	1.0	0.0	22.6	39.5	22.6	39.5	0.0	0.0	0.0	1.350e+05	1.142e+05	2850.2
33	NV 259	0.06	0.6	0.0	22.6	22.6	22.6	22.6	0.0	0.0	0.0	2.583e+04	-7879.4	-3.418e+04
33	ok 260	0.06	0.5	0.0	22.6	22.6	22.6	22.6	0.0	0.0	0.0	-1.127e+04	-1.642e+04	-2.468e+04
33	ok 261	0.06	0.5	0.0	22.6	22.6	22.6	22.6	0.0	0.0	0.0	-2.203e+04	-2.286e+04	-2.135e+04
33	ok 262	0.06	0.5	0.0	22.6	22.6	22.6	22.6	0.0	0.0	0.0	-2.209e+04	-1.495e+04	-1.970e+04
33	ok 263	0.06	0.3	0.0	22.6	22.6	22.6	22.6	0.0	0.0	0.0	-1.672e+04	-8303.0	-1.339e+04
33	NV 264	0.06	0.3	0.0	22.6	22.6	22.6	22.6	0.0	0.0	0.0	-2.042e+04	1.044e+04	-7758.8
33	NV 265	0.06	0.5	0.0	22.6	22.6	22.6	22.6	0.0	0.0	0.0	-2.872e+04	447.7	2.306e+04
33	NV 266	0.06	0.4	0.0	22.6	22.6	22.6	22.6	0.0	0.0	0.0	3.025e+04	-6374.5	1.563e+04

M_G	Nodo	x/d	verif.	ver. rid	Af pr-	Af pr+	Af sec-	Af sec+	N x	N y	N xy	M x	M y	M xy
									daN/cm	daN/cm	daN/cm	daN	daN	daN
33	ok 267	0.06	0.4	0.0	22.6	22.6	22.6	22.6	0.0	0.0	0.0	-7578.4	-3.456e+04	-5152.3
33	ok 268	0.06	0.5	0.0	22.6	22.6	22.6	22.6	0.0	0.0	0.0	-1.760e+04	-3.554e+04	-1.037e+04
33	ok 269	0.06	0.4	0.0	22.6	22.6	22.6	22.6	0.0	0.0	0.0	-2.236e+04	-2.626e+04	-2514.1
33	ok 270	0.06	0.4	0.0	22.6	22.6	22.6	22.6	0.0	0.0	0.0	-2.270e+04	-2.838e+04	4837.0
33	ok 271	0.06	0.3	0.0	22.6	22.6	22.6	22.6	0.0	0.0	0.0	-1.349e+04	-1.527e+04	-8673.2
33	ok 272	0.06	0.3	0.0	22.6	22.6	22.6	22.6	0.0	0.0	0.0	-2.126e+04	-9503.6	1578.0
33	ok 273	0.06	0.4	0.0	22.6	22.6	22.6	22.6	0.0	0.0	0.0	-2.644e+04	-8310.2	1.269e+04
33	ok 274	0.06	0.4	0.0	22.6	22.6	22.6	22.6	0.0	0.0	0.0	-2.707e+04	-1.722e+04	1.053e+04
33	ok 275	0.06	0.4	0.0	22.6	22.6	22.6	22.6	0.0	0.0	0.0	-2.657e+04	-2.996e+04	-493.9
33	ok 276	0.06	0.5	0.0	22.6	22.6	22.6	22.6	0.0	0.0	0.0	-2.391e+04	-3.518e+04	-7832.9
33	ok 277	0.06	0.5	0.0	22.6	22.6	22.6	22.6	0.0	0.0	0.0	-1.528e+04	-2.880e+04	-1.426e+04
33	ok 278	0.06	0.3	0.0	22.6	22.6	22.6	22.6	0.0	0.0	0.0	-1218.4	-2.325e+04	-5452.4
33	ok 279	0.06	0.3	0.0	22.6	22.6	22.6	22.6	0.0	0.0	0.0	-4896.2	-2.182e+04	6383.6
33	NV 280	0.06	0.4	0.0	22.6	22.6	22.6	22.6	0.0	0.0	0.0	5865.0	1.211e+04	2.087e+04
33	NV 281	0.06	0.6	0.0	22.6	22.6	22.6	22.6	0.0	0.0	0.0	-4.124e+04	-4829.5	8880.9
33	NV 282	0.06	0.4	0.0	22.6	22.6	22.6	22.6	0.0	0.0	0.0	-2.094e+04	-1.415e+04	-1.155e+04
33	ok 283	0.06	0.5	0.0	22.6	22.6	22.6	22.6	0.0	0.0	0.0	-1.860e+04	-2.970e+04	-1.355e+04
33	ok 284	0.06	0.4	0.0	22.6	22.6	22.6	22.6	0.0	0.0	0.0	-2.313e+04	-2.302e+04	-8673.9
33	ok 285	0.06	0.4	0.0	22.6	22.6	22.6	22.6	0.0	0.0	0.0	-2.907e+04	-1.888e+04	-6604.1
33	ok 286	0.06	0.3	0.0	22.6	22.6	22.6	22.6	0.0	0.0	0.0	5959.8	-2.839e+04	660.8
33	ok 287	0.06	0.4	0.0	22.6	22.6	22.6	22.6	0.0	0.0	0.0	7944.3	-2.752e+04	282.0
33	NV 288	0.06	0.4	0.0	22.6	22.6	22.6	22.6	0.0	0.0	0.0	3.065e+04	-2.905e+04	8625.8
33	NV 289	0.07	1.0	0.0	22.6	35.2	22.6	34.3	0.0	0.0	0.0	1.101e+05	1.070e+05	1.333e+04
33	NV 290	0.06	0.5	0.0	22.6	22.6	22.6	22.6	0.0	0.0	0.0	3.401e+04	-3.341e+04	-1.344e+04
33	ok 291	0.06	0.5	0.0	22.6	22.6	22.6	22.6	0.0	0.0	0.0	7273.1	-3.954e+04	-2042.2
33	ok 292	0.06	0.5	0.0	22.6	22.6	22.6	22.6	0.0	0.0	0.0	2844.1	-3.809e+04	-2409.0
33	ok 293	0.06	0.3	0.0	22.6	22.6	22.6	22.6	0.0	0.0	0.0	-1113.0	-2.334e+04	5673.9
33	ok 294	0.06	0.3	0.0	22.6	22.6	22.6	22.6	0.0	0.0	0.0	-4685.7	-2.177e+04	-6244.7
33	NV 295	0.06	0.4	0.0	22.6	22.6	22.6	22.6	0.0	0.0	0.0	5982.2	1.215e+04	-2.072e+04
33	NV 296	0.06	0.6	0.0	22.6	22.6	22.6	22.6	0.0	0.0	0.0	-4.107e+04	-4660.9	-8771.9
33	NV 297	0.06	0.4	0.0	22.6	22.6	22.6	22.6	0.0	0.0	0.0	-2.069e+04	-1.378e+04	1.156e+04
33	ok 298	0.06	0.5	0.0	22.6	22.6	22.6	22.6	0.0	0.0	0.0	-1.830e+04	-2.906e+04	1.337e+04
33	ok 299	0.06	0.4	0.0	22.6	22.6	22.6	22.6	0.0	0.0	0.0	-2.287e+04	-2.214e+04	8122.4
33	ok 300	0.06	0.4	0.0	22.6	22.6	22.6	22.6	0.0	0.0	0.0	-2.794e+04	-2.299e+04	-3709.9
33	ok 301	0.06	0.3	0.0	22.6	22.6	22.6	22.6	0.0	0.0	0.0	-1.333e+04	-1.547e+04	8827.4
33	ok 302	0.06	0.3	0.0	22.6	22.6	22.6	22.6	0.0	0.0	0.0	-2.096e+04	-9693.4	-1342.3
33	ok 303	0.06	0.4	0.0	22.6	22.6	22.6	22.6	0.0	0.0	0.0	-2.624e+04	-8185.3	-1.255e+04
33	ok 304	0.06	0.4	0.0	22.6	22.6	22.6	22.6	0.0	0.0	0.0	-2.684e+04	-1.695e+04	-1.040e+04
33	ok 305	0.06	0.4	0.0	22.6	22.6	22.6	22.6	0.0	0.0	0.0	-2.614e+04	-2.942e+04	475.7
33	ok 306	0.06	0.5	0.0	22.6	22.6	22.6	22.6	0.0	0.0	0.0	-2.321e+04	-3.426e+04	7686.2
33	ok 307	0.06	0.4	0.0	22.6	22.6	22.6	22.6	0.0	0.0	0.0	-1.429e+04	-2.724e+04	1.417e+04
33	ok 308	0.06	0.3	0.0	22.6	22.6	22.6	22.6	0.0	0.0	0.0	-1.659e+04	-8597.3	1.344e+04
33	NV 309	0.06	0.3	0.0	22.6	22.6	22.6	22.6	0.0	0.0	0.0	-8666.5	2.393e+04	5631.1
33	NV 310	0.06	0.5	0.0	22.6	22.6	22.6	22.6	0.0	0.0	0.0	-2.854e+04	464.2	-2.290e+04
33	NV 311	0.06	0.4	0.0	22.6	22.6	22.6	22.6	0.0	0.0	0.0	3.024e+04	-6210.2	-1.558e+04
33	ok 312	0.06	0.4	0.0	22.6	22.6	22.6	22.6	0.0	0.0	0.0	-7260.7	-3.401e+04	4991.4
33	ok 313	0.06	0.5	0.0	22.6	22.6	22.6	22.6	0.0	0.0	0.0	-1.721e+04	-3.461e+04	1.002e+04
33	ok 314	0.06	0.3	0.0	22.6	22.6	22.6	22.6	0.0	0.0	0.0	-2.205e+04	-2.498e+04	2035.8
33	ok 315	0.06	0.4	0.0	22.6	22.6	22.6	22.6	0.0	0.0	0.0	-2.246e+04	-2.744e+04	-4840.5
33	ok 316	0.06	0.3	0.0	22.6	22.6	22.6	22.6	0.0	0.0	0.0	-9172.1	-8531.6	1.635e+04
33	NV 317	0.06	0.5	0.0	22.6	22.6	22.6	22.6	0.0	0.0	0.0	1.839e+04	2.342e+04	1.969e+04
33	NV 318	0.08	1.0	0.0	22.6	39.3	22.6	39.3	0.0	0.0	0.0	1.344e+05	1.136e+05	-2836.5
33	NV 319	0.06	0.6	0.0	22.6	22.6	22.6	22.6	0.0	0.0	0.0	2.579e+04	-7769.8	3.396e+04
33	ok 320	0.06	0.5	0.0	22.6	22.6	22.6	22.6	0.0	0.0	0.0	-1.618e+04	-1.095e+04	2.446e+04
33	ok 321	0.06	0.5	0.0	22.6	22.6	22.6	22.6	0.0	0.0	0.0	-2.132e+04	-2.262e+04	2.106e+04
33	ok 322	0.06	0.5	0.0	22.6	22.6	22.6	22.6	0.0	0.0	0.0	-1.438e+04	-2.118e+04	1.950e+04
33	ok 323	0.06	0.3	0.0	22.6	22.6	22.6	22.6	0.0	0.0	0.0	-8336.7	-1.691e+04	1.335e+04
33	NV 324	0.06	0.3	0.0	22.6	22.6	22.6	22.6	0.0	0.0	0.0	1.020e+04	-2.066e+04	7721.0
33	NV 325	0.06	0.5	0.0	22.6	22.6	22.6	22.6	0.0	0.0	0.0	508.4	-2.878e+04	-2.293e+04
33	NV 326	0.06	0.4	0.0	22.6	22.6	22.6	22.6	0.0	0.0	0.0	-6316.9	2.996e+04	-1.556e+04
33	ok 327	0.06	0.4	0.0	22.6	22.6	22.6	22.6	0.0	0.0	0.0	-3.436e+04	-7567.6	5064.7
33	ok 328	0.06	0.5	0.0	22.6	22.6	22.6	22.6	0.0	0.0	0.0	-3.531e+04	-1.739e+04	1.019e+04
33	ok 329	0.06	0.4	0.0	22.6	22.6	22.6	22.6	0.0	0.0	0.0	-2.611e+04	-2.197e+04	2206.7
33	ok 330	0.06	0.4	0.0	22.6	22.6	22.6	22.6	0.0	0.0	0.0	-2.942e+04	-2.163e+04	-5289.5
33	ok 331	0.06	0.3	0.0	22.6	22.6	22.6	22.6	0.0	0.0	0.0	-1.528e+04	-1.354e+04	8677.6
33	ok 332	0.06	0.3	0.0	22.6	22.6	22.6	22.6	0.0	0.0	0.0	-9516.6	-2.131e+04	-1559.0
33	ok 333	0.06	0.4	0.0	22.6	22.6	22.6	22.6	0.0	0.0	0.0	-8163.8	-2.648e+04	-1.263e+04
33	ok 334	0.06	0.4	0.0	22.6	22.6	22.6	22.6	0.0	0.0	0.0	-1.712e+04	-2.720e+04	-1.043e+04
33	ok 335	0.06	0.4	0.0	22.6	22.6	22.6	22.6	0.0	0.0	0.0	-2.992e+04	-2.662e+04	513.8
33	ok 336	0.06	0.5	0.0	22.6	22.6	22.6	22.6	0.0	0.0	0.0	-3.524e+04	-2.385e+04	7767.9
33	ok 337	0.06	0.5	0.0	22.6	22.6	22.6	22.6	0.0	0.0	0.0	-2.896e+04	-1.515e+04	1.409e+04
33	ok 338	0.06	0.3	0.0	22.6	22.6	22.6	22.6	0.0	0.0	0.0	-2.322e+04	-1163.4	5512.8
33	ok 339	0.06	0.3	0.0	22.6	22.6	22.6	22.6	0.0	0.0	0.0	-2.177e+04	-4747.9	-6336.4
33	NV 340	0.06	0.4	0.0	22.6	22.6	22.6	22.6	0.0	0.0	0.0	1.231e+04	5990.8	-2.089e+04

M_G	Nodo	x/d	verif.	ver. rid	Af pr-	Af pr+	Af sec-	Af sec+	N x	N y	N xy	M x	M y	M xy
									daN/cm	daN/cm	daN/cm	daN	daN	daN
33	NV 341	0.06	0.6	0.0	22.6	22.6	22.6	22.6	0.0	0.0	0.0	-4758.5	-4.140e+04	-8831.1
33	NV 342	0.06	0.4	0.0	22.6	22.6	22.6	22.6	0.0	0.0	0.0	-1.419e+04	-2.103e+04	1.166e+04
33	ok 343	0.06	0.5	0.0	22.6	22.6	22.6	22.6	0.0	0.0	0.0	-3.007e+04	-1.863e+04	1.358e+04
33	ok 344	0.06	0.4	0.0	22.6	22.6	22.6	22.6	0.0	0.0	0.0	-2.362e+04	-2.313e+04	8534.9
33	ok 345	0.06	0.4	0.0	22.6	22.6	22.6	22.6	0.0	0.0	0.0	-1.944e+04	-2.840e+04	5241.0
33	ok 346	0.06	0.3	0.0	22.6	22.6	22.6	22.6	0.0	0.0	0.0	-2.831e+04	6038.4	548.2
33	ok 347	0.06	0.4	0.0	22.6	22.6	22.6	22.6	0.0	0.0	0.0	-2.751e+04	8020.4	241.9
33	NV 348	0.06	0.4	0.0	22.6	22.6	22.6	22.6	0.0	0.0	0.0	-2.908e+04	3.088e+04	8617.2
33	NV 349	0.07	1.0	0.0	22.6	34.5	22.6	35.4	0.0	0.0	0.0	1.076e+05	1.107e+05	1.337e+04
33	NV 350	0.06	0.5	0.0	22.6	22.6	22.6	22.6	0.0	0.0	0.0	-3.381e+04	3.413e+04	1.350e+04
33	ok 351	0.06	0.5	0.0	22.6	22.6	22.6	22.6	0.0	0.0	0.0	-4.026e+04	7072.4	1931.9
33	ok 352	0.06	0.5	0.0	22.6	22.6	22.6	22.6	0.0	0.0	0.0	-3.903e+04	2250.3	-2031.0
33	ok 353	0.06	0.3	0.0	22.6	22.6	22.6	22.6	0.0	0.0	0.0	-2.318e+04	-1106.7	-5496.4
33	ok 354	0.06	0.3	0.0	22.6	22.6	22.6	22.6	0.0	0.0	0.0	-2.172e+04	-4690.4	6394.0
33	NV 355	0.06	0.4	0.0	22.6	22.6	22.6	22.6	0.0	0.0	0.0	1.231e+04	6001.6	2.094e+04
33	NV 356	0.06	0.6	0.0	22.6	22.6	22.6	22.6	0.0	0.0	0.0	-4789.8	-4.139e+04	8869.8
33	NV 357	0.06	0.4	0.0	22.6	22.6	22.6	22.6	0.0	0.0	0.0	-1.428e+04	-2.100e+04	-1.166e+04
33	ok 358	0.06	0.5	0.0	22.6	22.6	22.6	22.6	0.0	0.0	0.0	-3.012e+04	-1.866e+04	-1.361e+04
33	ok 359	0.06	0.4	0.0	22.6	22.6	22.6	22.6	0.0	0.0	0.0	-2.364e+04	-2.318e+04	-8590.0
33	ok 360	0.06	0.4	0.0	22.6	22.6	22.6	22.6	0.0	0.0	0.0	-1.944e+04	-2.848e+04	-5307.6
33	ok 361	0.06	0.3	0.0	22.6	22.6	22.6	22.6	0.0	0.0	0.0	-1.519e+04	-1.341e+04	-8679.6
33	ok 362	0.06	0.3	0.0	22.6	22.6	22.6	22.6	0.0	0.0	0.0	-9381.4	-2.118e+04	1594.8
33	ok 363	0.06	0.4	0.0	22.6	22.6	22.6	22.6	0.0	0.0	0.0	-8160.7	-2.643e+04	1.268e+04
33	ok 364	0.06	0.4	0.0	22.6	22.6	22.6	22.6	0.0	0.0	0.0	-1.718e+04	-2.715e+04	1.046e+04
33	ok 365	0.06	0.4	0.0	22.6	22.6	22.6	22.6	0.0	0.0	0.0	-3.005e+04	-2.661e+04	-546.3
33	ok 366	0.06	0.5	0.0	22.6	22.6	22.6	22.6	0.0	0.0	0.0	-3.537e+04	-2.392e+04	-7859.4
33	ok 367	0.06	0.5	0.0	22.6	22.6	22.6	22.6	0.0	0.0	0.0	-2.904e+04	-1.530e+04	-1.421e+04
33	ok 368	0.06	0.3	0.0	22.6	22.6	22.6	22.6	0.0	0.0	0.0	-8220.6	-1.667e+04	-1.339e+04
33	NV 369	0.06	0.3	0.0	22.6	22.6	22.6	22.6	0.0	0.0	0.0	1.049e+04	-2.041e+04	-7760.4
33	NV 370	0.06	0.5	0.0	22.6	22.6	22.6	22.6	0.0	0.0	0.0	537.3	-2.874e+04	2.305e+04
33	NV 371	0.06	0.4	0.0	22.6	22.6	22.6	22.6	0.0	0.0	0.0	-6366.3	3.025e+04	1.561e+04
33	ok 372	0.06	0.4	0.0	22.6	22.6	22.6	22.6	0.0	0.0	0.0	-3.460e+04	-7589.5	-5182.0
33	ok 373	0.06	0.5	0.0	22.6	22.6	22.6	22.6	0.0	0.0	0.0	-3.561e+04	-1.760e+04	-1.040e+04
33	ok 374	0.06	0.4	0.0	22.6	22.6	22.6	22.6	0.0	0.0	0.0	-2.635e+04	-2.236e+04	-2514.3
33	ok 375	0.06	0.4	0.0	22.6	22.6	22.6	22.6	0.0	0.0	0.0	-2.848e+04	-2.270e+04	4871.5
33	ok 376	0.06	0.3	0.0	22.6	22.6	22.6	22.6	0.0	0.0	0.0	-9144.1	-8135.4	-1.641e+04
33	NV 377	0.06	0.5	0.0	22.6	22.6	22.6	22.6	0.0	0.0	0.0	2.372e+04	1.852e+04	-1.977e+04
33	NV 378	0.08	1.0	0.0	22.6	39.5	22.6	39.5	0.0	0.0	0.0	1.143e+05	1.351e+05	2838.2
33	NV 379	0.06	0.6	0.0	22.6	22.6	22.6	22.6	0.0	0.0	0.0	-7867.6	2.584e+04	-3.421e+04
33	ok 380	0.06	0.5	0.0	22.6	22.6	22.6	22.6	0.0	0.0	0.0	-1.642e+04	-1.127e+04	-2.471e+04
33	ok 381	0.06	0.5	0.0	22.6	22.6	22.6	22.6	0.0	0.0	0.0	-2.203e+04	-2.288e+04	-2.138e+04
33	ok 382	0.06	0.5	0.0	22.6	22.6	22.6	22.6	0.0	0.0	0.0	-2.208e+04	-1.497e+04	-1.972e+04
33	ok 383	0.06	0.3	0.0	22.6	22.6	22.6	22.6	0.0	0.0	0.0	-1.667e+04	-8208.4	-1.339e+04
33	NV 384	0.06	0.3	0.0	22.6	22.6	22.6	22.6	0.0	0.0	0.0	-2.041e+04	1.050e+04	-7763.7
33	NV 385	0.06	0.5	0.0	22.6	22.6	22.6	22.6	0.0	0.0	0.0	-2.874e+04	551.5	2.304e+04
33	NV 386	0.06	0.4	0.0	22.6	22.6	22.6	22.6	0.0	0.0	0.0	3.025e+04	-6355.1	1.560e+04
33	ok 387	0.06	0.4	0.0	22.6	22.6	22.6	22.6	0.0	0.0	0.0	-7592.5	-3.459e+04	-5186.3
33	ok 388	0.06	0.5	0.0	22.6	22.6	22.6	22.6	0.0	0.0	0.0	-1.761e+04	-3.561e+04	-1.040e+04
33	ok 389	0.06	0.4	0.0	22.6	22.6	22.6	22.6	0.0	0.0	0.0	-2.236e+04	-2.635e+04	-2516.5
33	ok 390	0.06	0.4	0.0	22.6	22.6	22.6	22.6	0.0	0.0	0.0	-2.270e+04	-2.849e+04	4871.2
33	ok 391	0.06	0.3	0.0	22.6	22.6	22.6	22.6	0.0	0.0	0.0	-1.340e+04	-1.517e+04	-8680.5
33	ok 392	0.06	0.3	0.0	22.6	22.6	22.6	22.6	0.0	0.0	0.0	-2.118e+04	-9356.7	1587.3
33	ok 393	0.06	0.4	0.0	22.6	22.6	22.6	22.6	0.0	0.0	0.0	-2.642e+04	-8142.5	1.267e+04
33	ok 394	0.06	0.4	0.0	22.6	22.6	22.6	22.6	0.0	0.0	0.0	-2.714e+04	-1.717e+04	1.045e+04
33	ok 395	0.06	0.4	0.0	22.6	22.6	22.6	22.6	0.0	0.0	0.0	-2.660e+04	-3.004e+04	-555.2
33	ok 396	0.06	0.5	0.0	22.6	22.6	22.6	22.6	0.0	0.0	0.0	-2.392e+04	-3.537e+04	-7864.4
33	ok 397	0.06	0.5	0.0	22.6	22.6	22.6	22.6	0.0	0.0	0.0	-1.530e+04	-2.904e+04	-1.421e+04
33	ok 398	0.06	0.3	0.0	22.6	22.6	22.6	22.6	0.0	0.0	0.0	-1091.7	-2.314e+04	-5500.3
33	ok 399	0.06	0.3	0.0	22.6	22.6	22.6	22.6	0.0	0.0	0.0	-4667.4	-2.168e+04	6379.9
33	NV 400	0.06	0.4	0.0	22.6	22.6	22.6	22.6	0.0	0.0	0.0	6034.6	1.234e+04	2.092e+04
33	NV 401	0.06	0.6	0.0	22.6	22.6	22.6	22.6	0.0	0.0	0.0	-4.137e+04	-4779.7	8851.5
33	NV 402	0.06	0.4	0.0	22.6	22.6	22.6	22.6	0.0	0.0	0.0	-2.097e+04	-1.429e+04	-1.167e+04
33	ok 403	0.06	0.5	0.0	22.6	22.6	22.6	22.6	0.0	0.0	0.0	-1.863e+04	-3.014e+04	-1.361e+04
33	ok 404	0.06	0.4	0.0	22.6	22.6	22.6	22.6	0.0	0.0	0.0	-2.316e+04	-2.366e+04	-8581.5
33	ok 405	0.06	0.4	0.0	22.6	22.6	22.6	22.6	0.0	0.0	0.0	-2.847e+04	-1.946e+04	-5292.0
33	ok 406	0.06	0.3	0.0	22.6	22.6	22.6	22.6	0.0	0.0	0.0	6069.3	-2.826e+04	-537.6
33	ok 407	0.06	0.4	0.0	22.6	22.6	22.6	22.6	0.0	0.0	0.0	8067.3	-2.745e+04	-215.6
33	NV 408	0.06	0.4	0.0	22.6	22.6	22.6	22.6	0.0	0.0	0.0	3.091e+04	-2.907e+04	-8600.2
33	NV 409	0.07	1.0	0.0	22.6	35.4	22.6	34.5	0.0	0.0	0.0	1.108e+05	1.077e+05	-1.336e+04
33	NV 410	0.06	0.5	0.0	22.6	22.6	22.6	22.6	0.0	0.0	0.0	3.416e+04	-3.383e+04	-1.350e+04
33	ok 411	0.06	0.5	0.0	22.6	22.6	22.6	22.6	0.0	0.0	0.0	7095.1	-4.029e+04	1940.4
33	ok 412	0.06	0.5	0.0	22.6	22.6	22.6	22.6	0.0	0.0	0.0	2263.1	-3.906e+04	2015.2
33	ok 413	0.06	0.3	0.0	22.6	22.6	22.6	22.6	0.0	0.0	0.0	-1093.1	-2.314e+04	5496.3
33	ok 414	0.06	0.3	0.0	22.6	22.6	22.6	22.6	0.0	0.0	0.0	-4666.9	-2.168e+04	-6381.7

M_G	Nodo	x/d	verif.	ver. rid	Af pr-	Af pr+	Af sec-	Af sec+	N x	N y	N xy	M x	M y	M xy
									daN/cm	daN/cm	daN/cm	daN	daN	daN
33	NV 415	0.06	0.4	0.0	22.6	22.6	22.6	22.6	0.0	0.0	0.0	6035.0	1.234e+04	-2.092e+04
33	NV 416	0.06	0.6	0.0	22.6	22.6	22.6	22.6	0.0	0.0	0.0	-4.137e+04	-4780.5	-8851.9
33	NV 417	0.06	0.4	0.0	22.6	22.6	22.6	22.6	0.0	0.0	0.0	-2.097e+04	-1.429e+04	1.167e+04
33	ok 418	0.06	0.5	0.0	22.6	22.6	22.6	22.6	0.0	0.0	0.0	-1.863e+04	-3.014e+04	1.361e+04
33	ok 419	0.06	0.4	0.0	22.6	22.6	22.6	22.6	0.0	0.0	0.0	-2.316e+04	-2.366e+04	8581.6
33	ok 420	0.06	0.4	0.0	22.6	22.6	22.6	22.6	0.0	0.0	0.0	-2.847e+04	-1.946e+04	5292.3
33	ok 421	0.06	0.3	0.0	22.6	22.6	22.6	22.6	0.0	0.0	0.0	-1.340e+04	-1.518e+04	8675.1
33	ok 422	0.06	0.3	0.0	22.6	22.6	22.6	22.6	0.0	0.0	0.0	-2.117e+04	-9360.4	-1591.5
33	ok 423	0.06	0.4	0.0	22.6	22.6	22.6	22.6	0.0	0.0	0.0	-2.642e+04	-8144.3	-1.267e+04
33	ok 424	0.06	0.4	0.0	22.6	22.6	22.6	22.6	0.0	0.0	0.0	-2.714e+04	-1.717e+04	-1.045e+04
33	ok 425	0.06	0.4	0.0	22.6	22.6	22.6	22.6	0.0	0.0	0.0	-2.660e+04	-3.004e+04	555.5
33	ok 426	0.06	0.5	0.0	22.6	22.6	22.6	22.6	0.0	0.0	0.0	-2.392e+04	-3.537e+04	7864.6
33	ok 427	0.06	0.5	0.0	22.6	22.6	22.6	22.6	0.0	0.0	0.0	-1.530e+04	-2.905e+04	1.421e+04
33	ok 428	0.06	0.3	0.0	22.6	22.6	22.6	22.6	0.0	0.0	0.0	-1.667e+04	-8209.8	1.339e+04
33	NV 429	0.06	0.3	0.0	22.6	22.6	22.6	22.6	0.0	0.0	0.0	-2.041e+04	1.050e+04	7759.2
33	NV 430	0.06	0.5	0.0	22.6	22.6	22.6	22.6	0.0	0.0	0.0	-2.874e+04	544.9	-2.304e+04
33	NV 431	0.06	0.4	0.0	22.6	22.6	22.6	22.6	0.0	0.0	0.0	3.024e+04	-6361.7	-1.560e+04
33	ok 432	0.06	0.4	0.0	22.6	22.6	22.6	22.6	0.0	0.0	0.0	-7593.8	-3.459e+04	5186.4
33	ok 433	0.06	0.5	0.0	22.6	22.6	22.6	22.6	0.0	0.0	0.0	-1.761e+04	-3.561e+04	1.040e+04
33	ok 434	0.06	0.4	0.0	22.6	22.6	22.6	22.6	0.0	0.0	0.0	-2.237e+04	-2.635e+04	2516.1
33	ok 435	0.06	0.4	0.0	22.6	22.6	22.6	22.6	0.0	0.0	0.0	-2.270e+04	-2.849e+04	-4871.6
33	ok 436	0.06	0.3	0.0	22.6	22.6	22.6	22.6	0.0	0.0	0.0	-8137.4	-9137.9	1.640e+04
33	NV 437	0.06	0.5	0.0	22.6	22.6	22.6	22.6	0.0	0.0	0.0	1.851e+04	2.372e+04	1.976e+04
33	NV 438	0.08	1.0	0.0	22.6	39.5	22.6	39.5	0.0	0.0	0.0	1.351e+05	1.143e+05	-2837.9
33	NV 439	0.06	0.6	0.0	22.6	22.6	22.6	22.6	0.0	0.0	0.0	-7866.6	2.583e+04	3.421e+04
33	ok 440	0.06	0.5	0.0	22.6	22.6	22.6	22.6	0.0	0.0	0.0	-1.642e+04	-1.127e+04	2.471e+04
33	ok 441	0.06	0.5	0.0	22.6	22.6	22.6	22.6	0.0	0.0	0.0	-2.203e+04	-2.288e+04	2.138e+04
33	ok 442	0.06	0.5	0.0	22.6	22.6	22.6	22.6	0.0	0.0	0.0	-2.208e+04	-1.497e+04	1.972e+04
33	ok 443	0.06	0.3	0.0	22.6	22.6	22.6	22.6	0.0	0.0	0.0	-8211.2	-1.667e+04	1.339e+04
33	NV 444	0.06	0.3	0.0	22.6	22.6	22.6	22.6	0.0	0.0	0.0	1.049e+04	-2.041e+04	7758.8
33	NV 445	0.06	0.5	0.0	22.6	22.6	22.6	22.6	0.0	0.0	0.0	544.3	-2.874e+04	-2.304e+04
33	NV 446	0.06	0.4	0.0	22.6	22.6	22.6	22.6	0.0	0.0	0.0	-6361.8	3.024e+04	-1.560e+04
33	ok 447	0.06	0.4	0.0	22.6	22.6	22.6	22.6	0.0	0.0	0.0	-3.459e+04	-7593.4	5186.0
33	ok 448	0.06	0.5	0.0	22.6	22.6	22.6	22.6	0.0	0.0	0.0	-3.561e+04	-1.761e+04	1.040e+04
33	ok 449	0.06	0.4	0.0	22.6	22.6	22.6	22.6	0.0	0.0	0.0	-2.635e+04	-2.237e+04	2516.1
33	ok 450	0.06	0.4	0.0	22.6	22.6	22.6	22.6	0.0	0.0	0.0	-2.849e+04	-2.270e+04	-4871.5
33	ok 451	0.06	0.3	0.0	22.6	22.6	22.6	22.6	0.0	0.0	0.0	-1.518e+04	-1.340e+04	8675.6
33	ok 452	0.06	0.3	0.0	22.6	22.6	22.6	22.6	0.0	0.0	0.0	-9362.0	-2.117e+04	-1592.1
33	ok 453	0.06	0.4	0.0	22.6	22.6	22.6	22.6	0.0	0.0	0.0	-8144.8	-2.642e+04	-1.267e+04
33	ok 454	0.06	0.4	0.0	22.6	22.6	22.6	22.6	0.0	0.0	0.0	-1.717e+04	-2.714e+04	-1.045e+04
33	ok 455	0.06	0.4	0.0	22.6	22.6	22.6	22.6	0.0	0.0	0.0	-3.004e+04	-2.660e+04	554.8
33	ok 456	0.06	0.5	0.0	22.6	22.6	22.6	22.6	0.0	0.0	0.0	-3.537e+04	-2.392e+04	7864.3
33	ok 457	0.06	0.5	0.0	22.6	22.6	22.6	22.6	0.0	0.0	0.0	-2.904e+04	-1.530e+04	1.421e+04
33	ok 458	0.06	0.3	0.0	22.6	22.6	22.6	22.6	0.0	0.0	0.0	-2.315e+04	-1090.3	5496.7
33	ok 459	0.06	0.3	0.0	22.6	22.6	22.6	22.6	0.0	0.0	0.0	-2.169e+04	-4660.1	-6384.6
33	NV 460	0.06	0.4	0.0	22.6	22.6	22.6	22.6	0.0	0.0	0.0	1.234e+04	6042.0	-2.092e+04
33	NV 461	0.06	0.6	0.0	22.6	22.6	22.6	22.6	0.0	0.0	0.0	-4778.4	-4.137e+04	-8855.6
33	NV 462	0.06	0.4	0.0	22.6	22.6	22.6	22.6	0.0	0.0	0.0	-1.429e+04	-2.097e+04	1.167e+04
33	ok 463	0.06	0.5	0.0	22.6	22.6	22.6	22.6	0.0	0.0	0.0	-3.014e+04	-1.863e+04	1.361e+04
33	ok 464	0.06	0.4	0.0	22.6	22.6	22.6	22.6	0.0	0.0	0.0	-2.366e+04	-2.316e+04	8581.6
33	ok 465	0.06	0.4	0.0	22.6	22.6	22.6	22.6	0.0	0.0	0.0	-1.946e+04	-2.847e+04	5292.2
33	ok 466	0.06	9.90e-02	0.0	22.6	22.6	22.6	22.6	0.0	0.0	0.0	-6328.5	4321.7	4679.3
33	ok 467	0.06	0.2	0.0	22.6	22.6	22.6	22.6	0.0	0.0	0.0	6763.5	-1.577e+04	4091.0
33	ok 468	0.06	0.1	0.0	22.6	22.6	22.6	22.6	0.0	0.0	0.0	-9206.9	6818.3	-1310.2
33	ok 469	0.06	0.2	0.0	22.6	22.6	22.6	22.6	0.0	0.0	0.0	-755.2	-9880.7	1.155e+04
33	ok 470	0.06	0.1	0.0	22.6	22.6	22.6	22.6	0.0	0.0	0.0	-5951.7	4081.7	-6195.1
33	ok 471	0.06	0.2	0.0	22.6	22.6	22.6	22.6	0.0	0.0	0.0	-9855.9	-713.3	1.150e+04
33	ok 472	0.06	0.1	0.0	22.6	22.6	22.6	22.6	0.0	0.0	0.0	7118.8	-9009.4	-1574.8
33	ok 473	0.06	0.2	0.0	22.6	22.6	22.6	22.6	0.0	0.0	0.0	-1.539e+04	6792.5	3682.0
33	ok 474	0.06	0.1	0.0	22.6	22.6	22.6	22.6	0.0	0.0	0.0	3678.5	-6127.7	-6442.5
33	ok 475	0.06	0.2	0.0	22.6	22.6	22.6	22.6	0.0	0.0	0.0	-1.514e+04	5643.7	-4022.9
33	ok 476	0.06	0.2	0.0	22.6	22.6	22.6	22.6	0.0	0.0	0.0	6514.8	-1.182e+04	-3293.8
33	ok 477	0.06	0.2	0.0	22.6	22.6	22.6	22.6	0.0	0.0	0.0	-9545.3	-367.3	-1.104e+04
33	ok 478	0.06	0.1	0.0	22.6	22.6	22.6	22.6	0.0	0.0	0.0	-7249.0	5337.5	6078.7
33	ok 479	0.06	0.2	0.0	22.6	22.6	22.6	22.6	0.0	0.0	0.0	-472.2	-9802.2	-1.153e+04
33	ok 480	0.06	0.1	0.0	22.6	22.6	22.6	22.6	0.0	0.0	0.0	-9229.8	6962.3	1330.5
33	ok 481	0.06	0.2	0.0	22.6	22.6	22.6	22.6	0.0	0.0	0.0	6758.9	-1.570e+04	-4098.3
33	ok 482	0.06	9.91e-02	0.0	22.6	22.6	22.6	22.6	0.0	0.0	0.0	-6327.8	4335.1	-4691.3
33	ok 483	0.06	0.2	0.0	22.6	22.6	22.6	22.6	0.0	0.0	0.0	6765.9	-1.577e+04	4085.5
33	ok 484	0.06	0.1	0.0	22.6	22.6	22.6	22.6	0.0	0.0	0.0	-9204.8	6817.1	-1313.6
33	ok 485	0.06	0.2	0.0	22.6	22.6	22.6	22.6	0.0	0.0	0.0	-744.4	-9880.4	1.154e+04
33	ok 486	0.06	0.1	0.0	22.6	22.6	22.6	22.6	0.0	0.0	0.0	-5945.7	4066.9	-6195.6
33	ok 487	0.06	0.2	0.0	22.6	22.6	22.6	22.6	0.0	0.0	0.0	-9880.7	-744.4	1.154e+04
33	ok 488	0.06	0.1	0.0	22.6	22.6	22.6	22.6	0.0	0.0	0.0	6813.0	-9205.2	-1309.3

M_G	Nodo	x/d	verif.	ver. rid	Af pr-	Af pr+	Af sec-	Af sec+	N x	N y	N xy	M x	M y	M xy
									daN/cm	daN/cm	daN/cm	daN	daN	daN
33	ok 489	0.06	0.2	0.0	22.6	22.6	22.6	22.6	0.0	0.0	0.0	-1.577e+04	6763.0	4090.7
33	ok 490	0.06	9.90e-02	0.0	22.6	22.6	22.6	22.6	0.0	0.0	0.0	4321.8	-6328.7	4679.5
33	ok 491	0.06	0.2	0.0	22.6	22.6	22.6	22.6	0.0	0.0	0.0	-1.577e+04	6763.1	-4090.7
33	ok 492	0.06	0.1	0.0	22.6	22.6	22.6	22.6	0.0	0.0	0.0	6813.3	-9205.3	1309.4
33	ok 493	0.06	0.2	0.0	22.6	22.6	22.6	22.6	0.0	0.0	0.0	-9880.7	-744.5	-1.154e+04
33	ok 494	0.06	0.1	0.0	22.6	22.6	22.6	22.6	0.0	0.0	0.0	4066.9	-5945.8	6195.8
33	ok 495	0.06	0.2	0.0	22.6	22.6	22.6	22.6	0.0	0.0	0.0	-744.4	-9880.8	-1.154e+04
33	ok 496	0.06	0.1	0.0	22.6	22.6	22.6	22.6	0.0	0.0	0.0	-9205.2	6813.1	1309.4
33	ok 497	0.06	0.2	0.0	22.6	22.6	22.6	22.6	0.0	0.0	0.0	6763.0	-1.577e+04	-4090.7

M_G	x/d	verif.	ver. rid	Af pr-	Af pr+	Af sec-	Af sec+	N x	N y	N xy	M x	M y	M xy
								0.0	0.0	0.0	-4.137e+04	-4.140e+04	-3.421e+04
	0.08	0.98	0.0	22.62	39.52	22.62	39.50	0.0	0.0	0.0	1.351e+05	1.351e+05	3.421e+04

Gli elementi con codice i verifica NV segnalano che è necessario predisporre delle armature a punzonamento attorno alla sommità dei pali più caricati, si dispone pertanto un’armatura a punzonamento con due anelli posti ad interasse 40 cm di ferri di cucitura composti da 2ϕ20/40.

L’armatura della soletta è costituita da una maglia base di 1ϕ24/20/20 inf/sup a cui si aggiungono ferri alternati con sezione variabile ove necessario.

2.12 STATI LIMITE D' ESERCIZIO

LEGENDA TABELLA STATI LIMITE D' ESERCIZIO

In tabella vengono riportati i valori di interesse per il controllo degli stati limite d'esercizio.

In particolare vengono riportati, in relazione al tipo di elemento strutturale, i risultati relativi alle tre categorie di combinazione considerate:

- Combinazioni rare
- Combinazioni frequenti
- Combinazioni quasi permanenti.

I valori di interesse sono i seguenti:

rRfck	rapporto tra la massima compressione nel calcestruzzo e la tensione fck in combinazioni rare	[*normalizzato a 1*]
rRfyk	rapporto tra la massima tensione nell'acciaio e la tensione fyk in combinazioni rare	[*normalizzato a 1*]
rPfck	rapporto tra la massima compressione nel calcestruzzo e la tensione fck in combinazioni quasi permanenti	[*normalizzato a 1*]
wR	apertura caratteristica delle fessure in combinazioni rare	[*mm*]
wF	apertura caratteristica delle fessure in combinazioni frequenti	[*mm*]
wP	apertura caratteristica delle fessure in combinazioni quasi permanenti	[*mm*]
dR	massima deformazione in combinazioni rare	
dF	massima deformazione in combinazioni frequenti	
dP	massima deformazione in combinazioni quasi permanenti	

Per ognuno dei nove valori soprariportati viene indicata (Rif.cmb) la combinazione in cui si è verificato.

In relazione al tipo di elemento strutturale i valori sono selezionati nel modo seguente:

pilastri	**rRfck**	**rRfyk**	**rPfck**	per sezioni significative
travi	**rRfck**	**rRfyk**	**rPfck**	per sezioni significative
	wR	**wF**	**wP**	per sezioni significative
	dR	**dF**	**dP**	massimi in campata
setti e gusci	**rRfck**	**rRfyk**	**rPfck**	massimi nei nodi dell'elemento
	wR	**wF**	**wP**	massimi nei nodi dell'elemento

Si precisa che i valori di massima deformazione per travi sono riferiti al piano verticale (piano locale 1-2 con momenti flettenti 3-3).

TABELLA STATI LIMITE D' ESERCIZIO

Guscio	rRfck	rRfyk	rPfck	Rif. cmb	wR	wF	wP	Rif. cmb
					mm	mm	mm	
129	0.09	0.28	0.0	36,36,0	0.0	0.0	0.0	0,0,0
130	0.08	0.24	0.0	36,36,0	0.0	0.0	0.0	0,0,0
131	0.09	0.27	0.0	36,36,0	0.0	0.0	0.0	0,0,0
132	0.30	0.86	0.0	36,36,0	0.26	0.0	0.0	36,0,0
133	0.30	0.86	0.0	36,36,0	0.26	0.0	0.0	36,0,0
134	0.09	0.27	0.0	36,36,0	0.0	0.0	0.0	0,0,0
135	0.08	0.24	0.0	36,36,0	0.0	0.0	0.0	0,0,0
136	0.09	0.28	0.0	36,36,0	0.0	0.0	0.0	0,0,0
137	0.08	0.24	0.0	36,36,0	0.0	0.0	0.0	0,0,0
138	0.05	0.16	0.0	36,36,0	0.0	0.0	0.0	0,0,0
139	0.10	0.31	0.0	36,36,0	0.0	0.0	0.0	0,0,0
140	0.30	0.86	0.0	36,36,0	0.26	0.0	0.0	36,0,0
141	0.30	0.86	0.0	36,36,0	0.26	0.0	0.0	36,0,0
142	0.10	0.31	0.0	35,35,0	0.0	0.0	0.0	0,0,0
143	0.05	0.16	0.0	35,35,0	0.0	0.0	0.0	0,0,0
144	0.08	0.24	0.0	36,36,0	0.0	0.0	0.0	0,0,0
145	0.09	0.27	0.0	36,36,0	0.0	0.0	0.0	0,0,0
146	0.10	0.31	0.0	36,36,0	0.0	0.0	0.0	0,0,0
147	0.10	0.30	0.0	36,36,0	0.0	0.0	0.0	0,0,0
148	0.13	0.39	0.0	36,36,0	0.0	0.0	0.0	0,0,0
149	0.13	0.39	0.0	36,36,0	0.0	0.0	0.0	0,0,0
150	0.10	0.30	0.0	35,35,0	0.0	0.0	0.0	0,0,0
151	0.10	0.31	0.0	35,35,0	0.0	0.0	0.0	0,0,0
152	0.09	0.27	0.0	35,35,0	0.0	0.0	0.0	0,0,0
153	0.30	0.86	0.0	36,36,0	0.26	0.0	0.0	36,0,0
154	0.30	0.86	0.0	36,36,0	0.26	0.0	0.0	36,0,0
155	0.13	0.39	0.0	36,36,0	0.0	0.0	0.0	0,0,0
156	0.08	0.24	0.0	36,36,0	0.0	0.0	0.0	0,0,0
157	0.08	0.24	0.0	35,35,0	0.0	0.0	0.0	0,0,0
158	0.13	0.39	0.0	36,36,0	0.0	0.0	0.0	0,0,0
159	0.30	0.86	0.0	35,35,0	0.26	0.0	0.0	35,0,0
160	0.30	0.86	0.0	36,36,0	0.26	0.0	0.0	36,0,0
161	0.30	0.86	0.0	36,36,0	0.26	0.0	0.0	36,0,0
162	0.30	0.86	0.0	36,36,0	0.26	0.0	0.0	36,0,0
163	0.13	0.39	0.0	36,36,0	0.0	0.0	0.0	0,0,0
164	0.08	0.24	0.0	36,36,0	0.0	0.0	0.0	0,0,0
165	0.08	0.24	0.0	36,36,0	0.0	0.0	0.0	0,0,0
166	0.13	0.39	0.0	36,36,0	0.0	0.0	0.0	0,0,0
167	0.30	0.86	0.0	36,36,0	0.26	0.0	0.0	36,0,0
168	0.30	0.86	0.0	35,35,0	0.26	0.0	0.0	35,0,0
169	0.09	0.27	0.0	36,36,0	0.0	0.0	0.0	0,0,0
170	0.10	0.31	0.0	36,36,0	0.0	0.0	0.0	0,0,0
171	0.10	0.30	0.0	36,36,0	0.0	0.0	0.0	0,0,0
172	0.13	0.39	0.0	36,36,0	0.0	0.0	0.0	0,0,0
173	0.13	0.39	0.0	36,36,0	0.0	0.0	0.0	0,0,0
174	0.10	0.30	0.0	36,36,0	0.0	0.0	0.0	0,0,0
175	0.10	0.31	0.0	36,36,0	0.0	0.0	0.0	0,0,0
176	0.09	0.27	0.0	35,35,0	0.0	0.0	0.0	0,0,0
177	0.08	0.24	0.0	35,35,0	0.0	0.0	0.0	0,0,0
178	0.05	0.16	0.0	36,36,0	0.0	0.0	0.0	0,0,0
179	0.10	0.31	0.0	36,36,0	0.0	0.0	0.0	0,0,0
180	0.30	0.86	0.0	36,36,0	0.26	0.0	0.0	36,0,0
181	0.30	0.86	0.0	36,36,0	0.26	0.0	0.0	36,0,0
182	0.10	0.31	0.0	36,36,0	0.0	0.0	0.0	0,0,0
183	0.05	0.16	0.0	36,36,0	0.0	0.0	0.0	0,0,0
184	0.08	0.24	0.0	36,36,0	0.0	0.0	0.0	0,0,0
185	0.09	0.28	0.0	35,35,0	0.0	0.0	0.0	0,0,0
186	0.08	0.24	0.0	35,35,0	0.0	0.0	0.0	0,0,0
187	0.09	0.27	0.0	36,36,0	0.0	0.0	0.0	0,0,0
188	0.30	0.86	0.0	36,36,0	0.26	0.0	0.0	36,0,0
189	0.30	0.86	0.0	36,36,0	0.26	0.0	0.0	36,0,0
190	0.09	0.27	0.0	36,36,0	0.0	0.0	0.0	0,0,0
191	0.08	0.24	0.0	36,36,0	0.0	0.0	0.0	0,0,0
192	0.09	0.28	0.0	36,36,0	0.0	0.0	0.0	0,0,0
193	0.11	0.33	0.0	36,36,0	0.0	0.0	0.0	0,0,0
194	0.10	0.29	0.0	36,36,0	0.0	0.0	0.0	0,0,0
195	0.12	0.38	0.0	36,36,0	0.0	0.0	0.0	0,0,0
196	0.36	0.86	0.0	36,36,0	0.33	0.0	0.0	36,0,0
197	0.36	0.86	0.0	36,36,0	0.33	0.0	0.0	36,0,0
198	0.14	0.43	0.0	35,35,0	0.0	0.0	0.0	0,0,0

Guscio	rRfck	rRfyk	rPfck	Rif. cmb	wR	wF	wP	Rif. cmb
					mm	mm	mm	
199	0.14	0.42	0.0	35,35,0	0.0	0.0	0.0	0,0,0
200	0.14	0.42	0.0	35,35,0	0.0	0.0	0.0	0,0,0
201	0.08	0.26	0.0	36,36,0	0.0	0.0	0.0	0,0,0
202	0.08	0.25	0.0	36,36,0	0.0	0.0	0.0	0,0,0
203	0.11	0.33	0.0	36,36,0	0.0	0.0	0.0	0,0,0
204	0.12	0.36	0.0	36,36,0	0.0	0.0	0.0	0,0,0
205	0.11	0.35	0.0	36,36,0	0.0	0.0	0.0	0,0,0
206	0.14	0.42	0.0	35,35,0	0.0	0.0	0.0	0,0,0
207	0.14	0.42	0.0	35,35,0	0.0	0.0	0.0	0,0,0
208	0.13	0.41	0.0	35,35,0	0.0	0.0	0.0	0,0,0
209	0.09	0.27	0.0	36,36,0	0.0	0.0	0.0	0,0,0
210	0.09	0.28	0.0	36,36,0	0.0	0.0	0.0	0,0,0
211	0.11	0.34	0.0	36,36,0	0.0	0.0	0.0	0,0,0
212	0.11	0.35	0.0	36,36,0	0.0	0.0	0.0	0,0,0
213	0.13	0.39	0.0	35,35,0	0.0	0.0	0.0	0,0,0
214	0.14	0.43	0.0	35,35,0	0.0	0.0	0.0	0,0,0
215	0.14	0.43	0.0	35,35,0	0.0	0.0	0.0	0,0,0
216	0.13	0.40	0.0	35,35,0	0.0	0.0	0.0	0,0,0
217	0.09	0.29	0.0	36,36,0	0.0	0.0	0.0	0,0,0
218	0.14	0.44	0.0	35,35,0	0.0	0.0	0.0	0,0,0
219	0.38	0.86	0.0	35,35,0	0.33	0.0	0.0	35,0,0
220	0.38	0.86	0.0	35,35,0	0.33	0.0	0.0	35,0,0
221	0.16	0.48	0.0	35,35,0	0.0	0.0	0.0	0,0,0
222	0.15	0.47	0.0	35,35,0	0.0	0.0	0.0	0,0,0
223	0.15	0.47	0.0	35,35,0	0.0	0.0	0.0	0,0,0
224	0.13	0.41	0.0	35,35,0	0.0	0.0	0.0	0,0,0
225	0.09	0.29	0.0	36,36,0	0.0	0.0	0.0	0,0,0
226	0.14	0.44	0.0	35,35,0	0.0	0.0	0.0	0,0,0
227	0.38	0.86	0.0	35,35,0	0.33	0.0	0.0	35,0,0
228	0.38	0.86	0.0	35,35,0	0.33	0.0	0.0	35,0,0
229	0.16	0.48	0.0	35,35,0	0.0	0.0	0.0	0,0,0
230	0.15	0.47	0.0	35,35,0	0.0	0.0	0.0	0,0,0
231	0.15	0.47	0.0	35,35,0	0.0	0.0	0.0	0,0,0
232	0.13	0.41	0.0	35,35,0	0.0	0.0	0.0	0,0,0
233	0.09	0.27	0.0	36,36,0	0.0	0.0	0.0	0,0,0
234	0.09	0.28	0.0	36,36,0	0.0	0.0	0.0	0,0,0
235	0.11	0.34	0.0	36,36,0	0.0	0.0	0.0	0,0,0
236	0.11	0.35	0.0	36,36,0	0.0	0.0	0.0	0,0,0
237	0.13	0.38	0.0	35,35,0	0.0	0.0	0.0	0,0,0
238	0.14	0.43	0.0	35,35,0	0.0	0.0	0.0	0,0,0
239	0.14	0.42	0.0	35,35,0	0.0	0.0	0.0	0,0,0
240	0.13	0.40	0.0	35,35,0	0.0	0.0	0.0	0,0,0
241	0.09	0.26	0.0	36,36,0	0.0	0.0	0.0	0,0,0
242	0.08	0.25	0.0	36,36,0	0.0	0.0	0.0	0,0,0
243	0.11	0.33	0.0	36,36,0	0.0	0.0	0.0	0,0,0
244	0.12	0.36	0.0	36,36,0	0.0	0.0	0.0	0,0,0
245	0.11	0.35	0.0	36,36,0	0.0	0.0	0.0	0,0,0
246	0.13	0.41	0.0	35,35,0	0.0	0.0	0.0	0,0,0
247	0.14	0.42	0.0	35,35,0	0.0	0.0	0.0	0,0,0
248	0.13	0.40	0.0	35,35,0	0.0	0.0	0.0	0,0,0
249	0.11	0.33	0.0	35,35,0	0.0	0.0	0.0	0,0,0
250	0.10	0.29	0.0	36,36,0	0.0	0.0	0.0	0,0,0
251	0.12	0.38	0.0	35,35,0	0.0	0.0	0.0	0,0,0
252	0.36	0.86	0.0	35,35,0	0.33	0.0	0.0	35,0,0
253	0.36	0.86	0.0	35,35,0	0.33	0.0	0.0	35,0,0
254	0.14	0.42	0.0	35,35,0	0.0	0.0	0.0	0,0,0
255	0.13	0.41	0.0	35,35,0	0.0	0.0	0.0	0,0,0
256	0.13	0.41	0.0	35,35,0	0.0	0.0	0.0	0,0,0
257	0.11	0.33	0.0	35,35,0	0.0	0.0	0.0	0,0,0
258	0.10	0.29	0.0	36,36,0	0.0	0.0	0.0	0,0,0
259	0.12	0.38	0.0	35,35,0	0.0	0.0	0.0	0,0,0
260	0.36	0.86	0.0	35,35,0	0.33	0.0	0.0	35,0,0
261	0.36	0.86	0.0	35,35,0	0.33	0.0	0.0	35,0,0
262	0.14	0.42	0.0	35,35,0	0.0	0.0	0.0	0,0,0
263	0.13	0.41	0.0	35,35,0	0.0	0.0	0.0	0,0,0
264	0.13	0.41	0.0	35,35,0	0.0	0.0	0.0	0,0,0
265	0.09	0.26	0.0	36,36,0	0.0	0.0	0.0	0,0,0
266	0.08	0.25	0.0	36,36,0	0.0	0.0	0.0	0,0,0
267	0.10	0.32	0.0	35,35,0	0.0	0.0	0.0	0,0,0
268	0.12	0.36	0.0	35,35,0	0.0	0.0	0.0	0,0,0
269	0.11	0.34	0.0	35,35,0	0.0	0.0	0.0	0,0,0
270	0.13	0.41	0.0	35,35,0	0.0	0.0	0.0	0,0,0
271	0.13	0.41	0.0	35,35,0	0.0	0.0	0.0	0,0,0
272	0.13	0.39	0.0	35,35,0	0.0	0.0	0.0	0,0,0

Guscio	rRfck	rRfyk	rPfck	Rif. cmb	wR	wF	wP	Rif. cmb
					mm	mm	mm	
273	0.09	0.27	0.0	36,36,0	0.0	0.0	0.0	0,0,0
274	0.09	0.28	0.0	36,36,0	0.0	0.0	0.0	0,0,0
275	0.11	0.34	0.0	35,35,0	0.0	0.0	0.0	0,0,0
276	0.11	0.35	0.0	35,35,0	0.0	0.0	0.0	0,0,0
277	0.12	0.38	0.0	35,35,0	0.0	0.0	0.0	0,0,0
278	0.14	0.42	0.0	35,35,0	0.0	0.0	0.0	0,0,0
279	0.13	0.41	0.0	35,35,0	0.0	0.0	0.0	0,0,0
280	0.12	0.38	0.0	35,35,0	0.0	0.0	0.0	0,0,0
281	0.09	0.29	0.0	36,36,0	0.0	0.0	0.0	0,0,0
282	0.14	0.44	0.0	35,35,0	0.0	0.0	0.0	0,0,0
283	0.38	0.86	0.0	35,35,0	0.33	0.0	0.0	35,0,0
284	0.38	0.86	0.0	35,35,0	0.33	0.0	0.0	35,0,0
285	0.16	0.48	0.0	35,35,0	0.0	0.0	0.0	0,0,0
286	0.15	0.46	0.0	35,35,0	0.0	0.0	0.0	0,0,0
287	0.15	0.46	0.0	35,35,0	0.0	0.0	0.0	0,0,0
288	0.13	0.40	0.0	35,35,0	0.0	0.0	0.0	0,0,0
289	0.09	0.29	0.0	36,36,0	0.0	0.0	0.0	0,0,0
290	0.14	0.44	0.0	35,35,0	0.0	0.0	0.0	0,0,0
291	0.38	0.86	0.0	35,35,0	0.33	0.0	0.0	35,0,0
292	0.38	0.86	0.0	35,35,0	0.33	0.0	0.0	35,0,0
293	0.16	0.48	0.0	35,35,0	0.0	0.0	0.0	0,0,0
294	0.15	0.46	0.0	35,35,0	0.0	0.0	0.0	0,0,0
295	0.15	0.46	0.0	35,35,0	0.0	0.0	0.0	0,0,0
296	0.13	0.40	0.0	35,35,0	0.0	0.0	0.0	0,0,0
297	0.09	0.27	0.0	36,36,0	0.0	0.0	0.0	0,0,0
298	0.09	0.28	0.0	36,36,0	0.0	0.0	0.0	0,0,0
299	0.11	0.34	0.0	36,36,0	0.0	0.0	0.0	0,0,0
300	0.11	0.35	0.0	36,36,0	0.0	0.0	0.0	0,0,0
301	0.12	0.38	0.0	35,35,0	0.0	0.0	0.0	0,0,0
302	0.14	0.42	0.0	35,35,0	0.0	0.0	0.0	0,0,0
303	0.14	0.42	0.0	35,35,0	0.0	0.0	0.0	0,0,0
304	0.13	0.40	0.0	35,35,0	0.0	0.0	0.0	0,0,0
305	0.09	0.26	0.0	36,36,0	0.0	0.0	0.0	0,0,0
306	0.08	0.25	0.0	36,36,0	0.0	0.0	0.0	0,0,0
307	0.11	0.33	0.0	36,36,0	0.0	0.0	0.0	0,0,0
308	0.12	0.36	0.0	36,36,0	0.0	0.0	0.0	0,0,0
309	0.11	0.35	0.0	36,36,0	0.0	0.0	0.0	0,0,0
310	0.14	0.42	0.0	35,35,0	0.0	0.0	0.0	0,0,0
311	0.14	0.42	0.0	35,35,0	0.0	0.0	0.0	0,0,0
312	0.13	0.40	0.0	35,35,0	0.0	0.0	0.0	0,0,0
313	0.11	0.33	0.0	35,35,0	0.0	0.0	0.0	0,0,0
314	0.10	0.29	0.0	36,36,0	0.0	0.0	0.0	0,0,0
315	0.12	0.38	0.0	35,35,0	0.0	0.0	0.0	0,0,0
316	0.36	0.86	0.0	35,35,0	0.33	0.0	0.0	35,0,0
317	0.36	0.86	0.0	35,35,0	0.33	0.0	0.0	35,0,0
318	0.14	0.43	0.0	35,35,0	0.0	0.0	0.0	0,0,0
319	0.13	0.41	0.0	35,35,0	0.0	0.0	0.0	0,0,0
320	0.14	0.42	0.0	35,35,0	0.0	0.0	0.0	0,0,0
321	0.11	0.33	0.0	36,36,0	0.0	0.0	0.0	0,0,0
322	0.10	0.29	0.0	36,36,0	0.0	0.0	0.0	0,0,0
323	0.12	0.38	0.0	35,35,0	0.0	0.0	0.0	0,0,0
324	0.36	0.86	0.0	35,35,0	0.33	0.0	0.0	35,0,0
325	0.36	0.86	0.0	35,35,0	0.33	0.0	0.0	35,0,0
326	0.14	0.43	0.0	35,35,0	0.0	0.0	0.0	0,0,0
327	0.14	0.42	0.0	35,35,0	0.0	0.0	0.0	0,0,0
328	0.14	0.42	0.0	35,35,0	0.0	0.0	0.0	0,0,0
329	0.08	0.26	0.0	36,36,0	0.0	0.0	0.0	0,0,0
330	0.08	0.25	0.0	36,36,0	0.0	0.0	0.0	0,0,0
331	0.11	0.33	0.0	36,36,0	0.0	0.0	0.0	0,0,0
332	0.12	0.36	0.0	36,36,0	0.0	0.0	0.0	0,0,0
333	0.11	0.35	0.0	36,36,0	0.0	0.0	0.0	0,0,0
334	0.14	0.42	0.0	35,35,0	0.0	0.0	0.0	0,0,0
335	0.14	0.42	0.0	35,35,0	0.0	0.0	0.0	0,0,0
336	0.13	0.41	0.0	35,35,0	0.0	0.0	0.0	0,0,0
337	0.09	0.27	0.0	36,36,0	0.0	0.0	0.0	0,0,0
338	0.09	0.28	0.0	36,36,0	0.0	0.0	0.0	0,0,0
339	0.11	0.34	0.0	36,36,0	0.0	0.0	0.0	0,0,0
340	0.11	0.35	0.0	36,36,0	0.0	0.0	0.0	0,0,0
341	0.13	0.39	0.0	36,36,0	0.0	0.0	0.0	0,0,0
342	0.14	0.43	0.0	35,35,0	0.0	0.0	0.0	0,0,0
343	0.14	0.43	0.0	35,35,0	0.0	0.0	0.0	0,0,0
344	0.13	0.40	0.0	35,35,0	0.0	0.0	0.0	0,0,0
345	0.09	0.29	0.0	36,36,0	0.0	0.0	0.0	0,0,0
346	0.14	0.44	0.0	36,36,0	0.0	0.0	0.0	0,0,0

Guscio	rRfck	rRfyk	rPfck	Rif. cmb	wR	wF	wP	Rif. cmb
					mm	mm	mm	
347	0.38	0.86	0.0	36,36,0	0.33	0.0	0.0	36,0,0
348	0.38	0.86	0.0	36,36,0	0.33	0.0	0.0	36,0,0
349	0.16	0.48	0.0	36,36,0	0.0	0.0	0.0	0,0,0
350	0.15	0.47	0.0	35,35,0	0.0	0.0	0.0	0,0,0
351	0.15	0.47	0.0	35,35,0	0.0	0.0	0.0	0,0,0
352	0.13	0.41	0.0	35,35,0	0.0	0.0	0.0	0,0,0
353	0.09	0.29	0.0	36,36,0	0.0	0.0	0.0	0,0,0
354	0.14	0.44	0.0	36,36,0	0.0	0.0	0.0	0,0,0
355	0.38	0.86	0.0	36,36,0	0.33	0.0	0.0	36,0,0
356	0.38	0.86	0.0	36,36,0	0.33	0.0	0.0	36,0,0
357	0.16	0.48	0.0	36,36,0	0.0	0.0	0.0	0,0,0
358	0.15	0.47	0.0	35,35,0	0.0	0.0	0.0	0,0,0
359	0.15	0.47	0.0	35,35,0	0.0	0.0	0.0	0,0,0
360	0.13	0.41	0.0	35,35,0	0.0	0.0	0.0	0,0,0
361	0.09	0.27	0.0	36,36,0	0.0	0.0	0.0	0,0,0
362	0.09	0.28	0.0	36,36,0	0.0	0.0	0.0	0,0,0
363	0.11	0.34	0.0	35,35,0	0.0	0.0	0.0	0,0,0
364	0.11	0.35	0.0	35,35,0	0.0	0.0	0.0	0,0,0
365	0.13	0.39	0.0	35,35,0	0.0	0.0	0.0	0,0,0
366	0.14	0.43	0.0	35,35,0	0.0	0.0	0.0	0,0,0
367	0.14	0.43	0.0	35,35,0	0.0	0.0	0.0	0,0,0
368	0.13	0.40	0.0	35,35,0	0.0	0.0	0.0	0,0,0
369	0.08	0.26	0.0	35,35,0	0.0	0.0	0.0	0,0,0
370	0.08	0.25	0.0	35,35,0	0.0	0.0	0.0	0,0,0
371	0.11	0.32	0.0	35,35,0	0.0	0.0	0.0	0,0,0
372	0.12	0.36	0.0	35,35,0	0.0	0.0	0.0	0,0,0
373	0.11	0.35	0.0	35,35,0	0.0	0.0	0.0	0,0,0
374	0.14	0.42	0.0	35,35,0	0.0	0.0	0.0	0,0,0
375	0.14	0.42	0.0	35,35,0	0.0	0.0	0.0	0,0,0
376	0.13	0.41	0.0	35,35,0	0.0	0.0	0.0	0,0,0
377	0.11	0.33	0.0	36,36,0	0.0	0.0	0.0	0,0,0
378	0.10	0.29	0.0	35,35,0	0.0	0.0	0.0	0,0,0
379	0.12	0.38	0.0	35,35,0	0.0	0.0	0.0	0,0,0
380	0.36	0.86	0.0	35,35,0	0.33	0.0	0.0	35,0,0
381	0.36	0.86	0.0	35,35,0	0.33	0.0	0.0	35,0,0
382	0.14	0.43	0.0	35,35,0	0.0	0.0	0.0	0,0,0
383	0.14	0.42	0.0	35,35,0	0.0	0.0	0.0	0,0,0
384	0.14	0.42	0.0	36,36,0	0.0	0.0	0.0	0,0,0
385	0.11	0.33	0.0	36,36,0	0.0	0.0	0.0	0,0,0
386	0.10	0.29	0.0	35,35,0	0.0	0.0	0.0	0,0,0
387	0.12	0.38	0.0	36,36,0	0.0	0.0	0.0	0,0,0
388	0.36	0.86	0.0	35,35,0	0.33	0.0	0.0	35,0,0
389	0.36	0.86	0.0	35,35,0	0.33	0.0	0.0	35,0,0
390	0.14	0.43	0.0	35,35,0	0.0	0.0	0.0	0,0,0
391	0.14	0.42	0.0	36,36,0	0.0	0.0	0.0	0,0,0
392	0.14	0.42	0.0	36,36,0	0.0	0.0	0.0	0,0,0
393	0.08	0.26	0.0	35,35,0	0.0	0.0	0.0	0,0,0
394	0.08	0.25	0.0	35,35,0	0.0	0.0	0.0	0,0,0
395	0.11	0.32	0.0	35,35,0	0.0	0.0	0.0	0,0,0
396	0.12	0.36	0.0	35,35,0	0.0	0.0	0.0	0,0,0
397	0.11	0.35	0.0	35,35,0	0.0	0.0	0.0	0,0,0
398	0.14	0.42	0.0	36,36,0	0.0	0.0	0.0	0,0,0
399	0.14	0.42	0.0	36,36,0	0.0	0.0	0.0	0,0,0
400	0.13	0.41	0.0	36,36,0	0.0	0.0	0.0	0,0,0
401	0.09	0.27	0.0	35,35,0	0.0	0.0	0.0	0,0,0
402	0.09	0.28	0.0	35,35,0	0.0	0.0	0.0	0,0,0
403	0.11	0.34	0.0	35,35,0	0.0	0.0	0.0	0,0,0
404	0.11	0.35	0.0	35,35,0	0.0	0.0	0.0	0,0,0
405	0.13	0.39	0.0	36,36,0	0.0	0.0	0.0	0,0,0
406	0.14	0.43	0.0	36,36,0	0.0	0.0	0.0	0,0,0
407	0.14	0.43	0.0	36,36,0	0.0	0.0	0.0	0,0,0
408	0.13	0.40	0.0	36,36,0	0.0	0.0	0.0	0,0,0
409	0.09	0.29	0.0	35,35,0	0.0	0.0	0.0	0,0,0
410	0.14	0.44	0.0	36,36,0	0.0	0.0	0.0	0,0,0
411	0.38	0.86	0.0	35,35,0	0.33	0.0	0.0	35,0,0
412	0.38	0.86	0.0	35,35,0	0.33	0.0	0.0	35,0,0
413	0.16	0.48	0.0	35,35,0	0.0	0.0	0.0	0,0,0
414	0.15	0.47	0.0	35,35,0	0.0	0.0	0.0	0,0,0
415	0.15	0.47	0.0	35,35,0	0.0	0.0	0.0	0,0,0
416	0.13	0.41	0.0	36,36,0	0.0	0.0	0.0	0,0,0
417	0.09	0.29	0.0	35,35,0	0.0	0.0	0.0	0,0,0
418	0.14	0.44	0.0	36,36,0	0.0	0.0	0.0	0,0,0
419	0.38	0.86	0.0	35,35,0	0.33	0.0	0.0	35,0,0
420	0.38	0.86	0.0	35,35,0	0.33	0.0	0.0	35,0,0

Guscio	rRfck	rRfyk	rPfck	Rif. cmb	wR	wF	wP	Rif. cmb
					mm	mm	mm	
421	0.16	0.48	0.0	35,35,0	0.0	0.0	0.0	0,0,0
422	0.15	0.47	0.0	35,35,0	0.0	0.0	0.0	0,0,0
423	0.15	0.47	0.0	35,35,0	0.0	0.0	0.0	0,0,0
424	0.13	0.41	0.0	36,36,0	0.0	0.0	0.0	0,0,0
425	0.09	0.27	0.0	35,35,0	0.0	0.0	0.0	0,0,0
426	0.09	0.28	0.0	35,35,0	0.0	0.0	0.0	0,0,0
427	0.11	0.34	0.0	35,35,0	0.0	0.0	0.0	0,0,0
428	0.11	0.35	0.0	35,35,0	0.0	0.0	0.0	0,0,0
429	0.13	0.39	0.0	35,35,0	0.0	0.0	0.0	0,0,0
430	0.14	0.43	0.0	35,35,0	0.0	0.0	0.0	0,0,0
431	0.14	0.43	0.0	35,35,0	0.0	0.0	0.0	0,0,0
432	0.13	0.40	0.0	35,35,0	0.0	0.0	0.0	0,0,0
433	0.08	0.26	0.0	36,36,0	0.0	0.0	0.0	0,0,0
434	0.08	0.25	0.0	36,36,0	0.0	0.0	0.0	0,0,0
435	0.11	0.32	0.0	35,35,0	0.0	0.0	0.0	0,0,0
436	0.12	0.36	0.0	35,35,0	0.0	0.0	0.0	0,0,0
437	0.11	0.35	0.0	35,35,0	0.0	0.0	0.0	0,0,0
438	0.14	0.42	0.0	35,35,0	0.0	0.0	0.0	0,0,0
439	0.14	0.42	0.0	35,35,0	0.0	0.0	0.0	0,0,0
440	0.13	0.41	0.0	35,35,0	0.0	0.0	0.0	0,0,0
441	0.11	0.33	0.0	36,36,0	0.0	0.0	0.0	0,0,0
442	0.10	0.29	0.0	36,36,0	0.0	0.0	0.0	0,0,0
443	0.12	0.38	0.0	36,36,0	0.0	0.0	0.0	0,0,0
444	0.36	0.86	0.0	36,36,0	0.33	0.0	0.0	36,0,0
445	0.36	0.86	0.0	36,36,0	0.33	0.0	0.0	36,0,0
446	0.14	0.43	0.0	35,35,0	0.0	0.0	0.0	0,0,0
447	0.14	0.42	0.0	35,35,0	0.0	0.0	0.0	0,0,0
448	0.14	0.42	0.0	35,35,0	0.0	0.0	0.0	0,0,0
449	0.11	0.33	0.0	35,35,0	0.0	0.0	0.0	0,0,0
450	0.11	0.34	0.0	36,36,0	0.0	0.0	0.0	0,0,0
451	0.11	0.33	0.0	35,35,0	0.0	0.0	0.0	0,0,0
452	0.11	0.33	0.0	36,36,0	0.0	0.0	0.0	0,0,0
453	0.11	0.33	0.0	35,35,0	0.0	0.0	0.0	0,0,0
454	0.11	0.33	0.0	35,35,0	0.0	0.0	0.0	0,0,0
455	0.11	0.35	0.0	36,36,0	0.0	0.0	0.0	0,0,0
456	0.11	0.34	0.0	36,36,0	0.0	0.0	0.0	0,0,0
457	0.10	0.32	0.0	35,35,0	0.0	0.0	0.0	0,0,0
458	0.14	0.45	0.0	36,36,0	0.0	0.0	0.0	0,0,0
459	0.14	0.43	0.0	36,36,0	0.0	0.0	0.0	0,0,0
460	0.11	0.34	0.0	36,36,0	0.0	0.0	0.0	0,0,0
461	0.11	0.34	0.0	36,36,0	0.0	0.0	0.0	0,0,0
462	0.11	0.32	0.0	35,35,0	0.0	0.0	0.0	0,0,0
463	0.11	0.34	0.0	35,35,0	0.0	0.0	0.0	0,0,0
464	0.11	0.33	0.0	35,35,0	0.0	0.0	0.0	0,0,0
465	0.11	0.33	0.0	36,36,0	0.0	0.0	0.0	0,0,0
466	0.11	0.34	0.0	36,36,0	0.0	0.0	0.0	0,0,0
467	0.11	0.33	0.0	36,36,0	0.0	0.0	0.0	0,0,0
468	0.11	0.33	0.0	35,35,0	0.0	0.0	0.0	0,0,0
469	0.11	0.33	0.0	35,35,0	0.0	0.0	0.0	0,0,0
470	0.11	0.33	0.0	35,35,0	0.0	0.0	0.0	0,0,0
471	0.11	0.34	0.0	35,35,0	0.0	0.0	0.0	0,0,0
472	0.11	0.33	0.0	35,35,0	0.0	0.0	0.0	0,0,0
473	0.11	0.33	0.0	36,36,0	0.0	0.0	0.0	0,0,0
474	0.11	0.34	0.0	36,36,0	0.0	0.0	0.0	0,0,0
475	0.11	0.33	0.0	36,36,0	0.0	0.0	0.0	0,0,0
476	0.11	0.33	0.0	36,36,0	0.0	0.0	0.0	0,0,0
477	0.11	0.33	0.0	35,35,0	0.0	0.0	0.0	0,0,0
478	0.11	0.33	0.0	35,35,0	0.0	0.0	0.0	0,0,0
479	0.11	0.34	0.0	35,35,0	0.0	0.0	0.0	0,0,0
480	0.11	0.33	0.0	35,35,0	0.0	0.0	0.0	0,0,0
	rRfck	**rRfyk**	**rPfck**		**wR**	**wF**	**wP**	
Max	0.38	0.86	0.0		0.33	0.0	0.0	

3. STRUTTURA PASSERELLE DIGESTORI

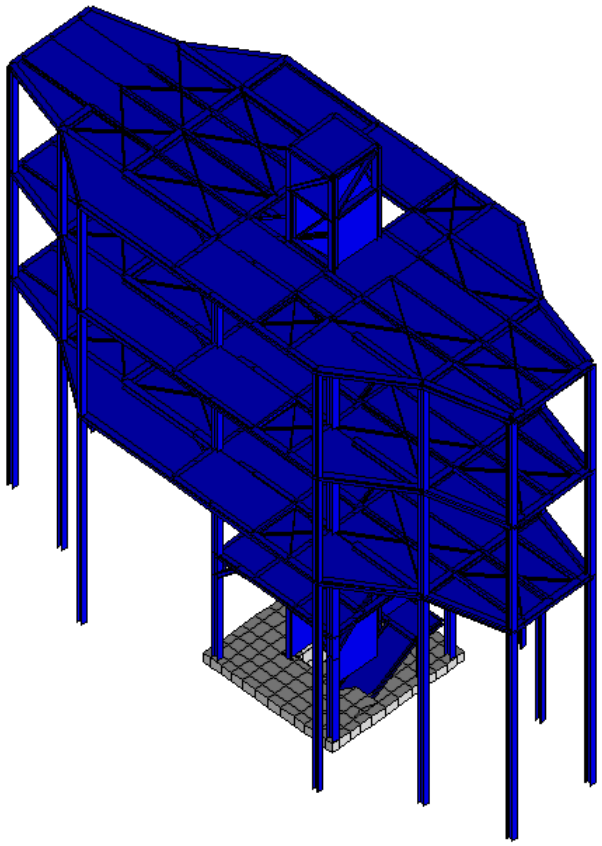
La struttura portante delle passerelle metalliche, con scala e montacarichi, è composta da un plinto di fondazione del nucleo scala su pali diametro 80 cm; una struttura per il montacarichi composta da colonne in profilo HEB240, traversi HEB200 e diagonali HEA160; una struttura di sostegno delle passerelle composta da colonne in profili HEB240 e HEB280, travi di piano in profili IPE220, HEB200, HEA240 e HEA260, crociere di controvento di piano in profili UPN80.

Le rampe delle scale hanno cosciali tipo UPN 180, sostenuti da traversi e montati in profilo HEA160.

I piani di calpestio delle passerelle sono in grigliato ed il tamponamento del montacarichi è in lamiera.

I vincoli esterni applicati (pali sotto al basamento scala e appoggi sui basamenti digestori) sono schematizzati come vincoli rigidi.

Di seguito si riporta l'immagine unifilare del modello agli elementi finiti.



Si riportano di seguito i tabulati relativi ai dati inseriti, ai principali risultati ottenuti ed alla progettazione degli elementi portanti.

3.1 DESCRIZIONE DELLA MODELLAZIONE

Tipo di analisi strutturale	
Statica lineare	SI
Statica non lineare	NO
Sismica statica lineare	NO
Sismica dinamica lineare	SI

Modellazione della geometria e proprietà meccaniche:	
nodi	624
elementi D2 (per aste, travi, pilastri…)	807
elementi D3 (per pareti, platee, gusci…)	224
elementi solaio	97
elementi solidi	0
Dimensione del modello strutturale [cm]:	
X min =	-1210.00
Xmax =	1104.00
Ymin =	-370.00
Ymax =	574.00
Zmin =	-160.00
Zmax =	2357.00
Strutture verticali:	
Elementi di tipo asta	NO
Pilastri	SI
Pareti	SI
Setti (a comportamento membranale)	NO
Strutture non verticali:	
Elementi di tipo asta	SI
Travi	SI
Gusci	SI
Membrane	NO
Orizzontamenti:	
Solai con la proprietà piano rigido	NO
Solai senza la proprietà piano rigido	SI
Tipo di vincoli:	
Nodi vincolati rigidamente	SI

Nodi vincolati elasticamente	NO
Nodi con isolatori sismici	NO
Fondazioni puntuali (plinti/plinti su palo)	NO
Fondazioni di tipo trave	NO
Fondazioni di tipo platea	NO

3.2 CARATTERISTICHE MATERIALI UTILIZZATI

LEGENDA TABELLA DATI MATERIALI

Il programma consente l'uso di materiali diversi. Sono previsti i seguenti tipi di materiale:

1	materiale tipo cemento armato
2	materiale tipo acciaio
3	materiale tipo muratura
4	materiale tipo legno
5	materiale tipo generico

I materiali utilizzati nella modellazione sono individuati da una sigla identificativa ed un codice numerico (gli elementi strutturali richiamano quest'ultimo nella propria descrizione). Per ogni materiale vengono riportati in tabella i seguenti dati:

Young	modulo di elasticità normale
Poisson	coefficiente di contrazione trasversale
G	modulo di elasticità tangenziale
Gamma	peso specifico
Alfa	coefficiente di dilatazione termica

I dati soprariportati vengono utilizzati per la modellazione dello schema statico e per la determinazione dei carichi inerziali e termici. In relazione al tipo di materiale vengono riportati inoltre:

1	***cemento armato***		
		Rck	resistenza caratteristica cubica
		Fctm	resistenza media a trazione semplice
2	***acciaio***		
		Ft	tensione di rottura a trazione
		Fy	tensione di snervamento
		Fd	resistenza di calcolo
		Fdt	resistenza di calcolo per spess. t>40 mm
		Sadm	tensione ammissibile
		Sadmt	tensione ammissibile per spess. t>40 mm

TABELLA DATI MATERIALI

Id	Tipo / Note		Young	Poisson	G	Gamma	Alfa
		daN/cm2	daN/cm2		daN/cm2	daN/cm3	
4	Calcestruzzo Classe C32/40		3.360e+05	0.20	1.400e+05	2.50e-03	1.00e-05
	Rck	400.0					
	fctm	31.0					
11	acciaio Fe430 - S275		2.100e+06	0.30	8.077e+05	7.80e-03	1.20e-05
	ft	4300.0					
	fy	2750.0					
	fd	2750.0					
	fdt	2500.0					
	sadm	1900.0					
	sadmt	1700.0					

Di seguito si riportano i dati di progettazione degli elementi in calcestruzzo armato.

Pareti c.a.	**1**	**2**	**3**	**4**
Generalità				
Progetto armatura	Composto con parete sismica	Composto con parete sismica	Composto con parete sismica	Composto con parete sismica
Armatura				
Inclinazione Av [gradi]	90.00	90.00	90.00	90.00
Angolo Av-Ao [gradi]	90.00	90.00	90.00	90.00
Minima tesa	0.15	0.25	0.25	0.25
Massima tesa	4.00	4.00	4.00	4.00
Maglia unica centrale	No	No	No	No
Unico strato verticale	No	No	No	No
Unico strato orizzontale	No	No	No	No
Copriferro [cm]	2.00	2.00	2.00	2.00
Maglia V				
diametro	16	10	10	10
passo	20	25	25	25
diametro aggiuntivi	16	12	12	12
Maglia O				
diametro	16	8	8	8
passo	20	25	25	25
diametro aggiuntivi	16	8	8	8
Stati limite ultimi				
Tensione fy [daN/cm2]	4500.00	4500.00	4500.00	4500.00
Tipo acciaio	tipo C	tipo C	tipo C	tipo C
Coefficiente gamma s	1.15	1.15	1.15	1.15
Coefficiente gamma c	1.50	1.50	1.50	1.50
Fattore di confidenza FC	0.0	0.0	0.0	0.0
Verifiche con N costante	Si	Si	Si	Si
Parete sismica				
Fattore amplificazione taglio V	1.50	1.50	1.50	1.50
Hcrit. par. 7.4.4.5.1 [cm]	0.0	0.0	0.0	0.0
Hcrit. par. 7.4.6.1.4 [cm]	0.0	0.0	0.0	0.0
Usa diagramma di fig. 7.4.2	Si	No	Si	Si
Vincolo lati	nessun lato	nessun lato	nessun lato	nessun lato
Verifica come fascia	No	No	No	No
Diametro di estremità	0	0	0	0
Zona confinata				
Minima tesa	1.00	1.00	1.00	1.00
Massima tesa	4.00	4.00	4.00	4.00
Distanza barre [cm]	2.00	2.00	2.00	2.00
Interferro	2	2	2	2
Armatura inclinata				
Area barre [cm2]	0.0	0.0	0.0	0.0
Angolo orizzontale [gradi]	0.0	0.0	0.0	0.0
Distanza di base [cm]	0.0	0.0	0.0	0.0

Gusci c.a.	1	2	3	4
Armatura				
Inclinazione Ax [gradi]	0.0	0.0	0.0	0.0
Angolo Ax-Ay [gradi]	90.00	90.00	90.00	90.00
Minima tesa	0.20	0.31	0.31	0.31
Massima tesa	1.50	0.78	0.78	0.78
Maglia unica centrale	No	No	No	No
Copriferro [cm]	2.00	2.00	2.00	2.00
Maglia x				
diametro	16	10	10	10
passo	20	20	20	20
diametro aggiuntivi	16	12	12	12
Maglia y				
diametro	16	10	10	10
passo	20	20	20	20
diametro aggiuntivi	16	12	12	12
Stati limite ultimi				
Tensione fy [daN/cm2]	4500.00	4500.00	4500.00	4500.00
Tipo acciaio	tipo C	tipo C	tipo C	tipo C
Coefficiente gamma s	1.15	1.15	1.15	1.15
Coefficiente gamma c	1.50	1.50	1.50	1.50
Fattore di confidenza FC	0.0	0.0	0.0	0.0
Verifiche con N costante	Si	Si	Si	Si
Applica SLU da DIN	No	No	No	No

Di seguito si riportano i dati di progettazione degli elementi in acciaio.

Aste acc.	1	2	3	4
Generalità				
Beta assegnato	0.80	0.80	0.80	0.80
Verifica come controvento	No	No	No	No
Coefficiente gamma M0	1.05	1.05	1.05	1.05
Coefficiente gamma M1	1.05	1.05	1.05	1.05
Coefficiente gamma M2	1.25	1.25	1.25	1.25

Pilastri acc.	1	2	3	4
Lunghezze libere				
Metodo di calcolo 2-2	Assegnato	Assegnato	Assegnato	Assegnato
2-2 Beta assegnato	2.00	2.00	2.00	2.00
2-2 Beta * L assegnato [cm]	0.0	0.0	980.00	490.00
Metodo di calcolo 3-3	Assegnato	Assegnato	Assegnato	Assegnato
3-3 Beta assegnato	2.00	2.00	2.00	2.00
3-3 Beta * L assegnato [cm]	0.0	0.0	980.00	490.00
1-1 Beta assegnato	1.00	1.00	1.00	1.00
1-1 Beta * L assegnato [cm]	0.0	0.0	980.00	490.00
Generalità				
Coefficiente gamma M0	1.05	1.05	1.05	1.05
Coefficiente gamma M1	1.05	1.05	1.05	1.05
Coefficiente gamma M2	1.25	1.25	1.25	1.25
Effetti del 2 ordine	Si	Si	Si	Si
Momenti equivalenti	Si	Si	Si	Si

Travi acc.	1	2	3	4
Lunghezze libere				
3-3 Beta * L automatico	Si	Si	Si	Si
3-3 Beta assegnato	1.00	1.00	1.00	1.00
3-3 Beta assegnato [cm]	0.0	0.0	0.0	0.0
2-2 Beta * L automatico	Si	Si	Si	Si
2-2 Beta assegnato	1.00	1.00	1.00	1.00
2-2 Beta * L assegnato [cm]	0.0	0.0	0.0	0.0
1-1 Beta * L automatico	Si	Si	Si	Si
1-1 Beta assegnato	1.00	1.00	1.00	1.00
1-1 Beta * L assegnato [cm]	0.0	0.0	0.0	0.0
Generalità				
Coefficiente gamma M0	1.05	1.05	1.05	1.05
Coefficiente gamma M1	1.05	1.05	1.05	1.05
Coefficiente gamma M2	1.25	1.25	1.25	1.25
Luce di taglio per GR [cm]	1.00	1.00	1.00	1.00
Momenti equivalenti	Si	Si	Si	Si

3.3 MODELLAZIONE DELLE SEZIONI

LEGENDA TABELLA DATI SEZIONI

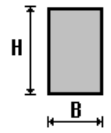
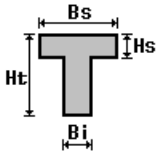
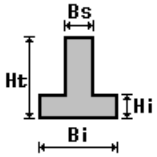
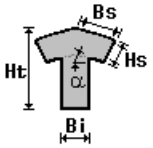
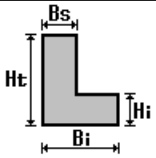
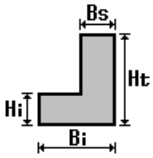
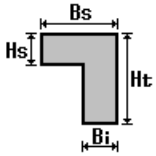
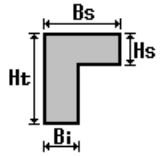
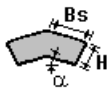
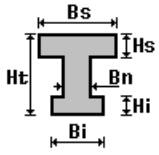
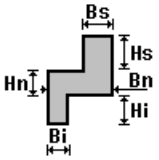
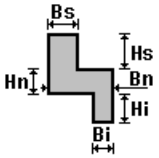
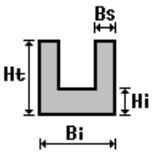
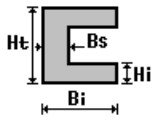
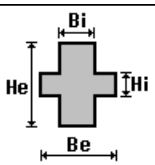
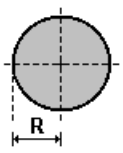
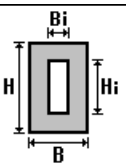
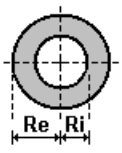
Il programma consente l'uso di sezioni diverse. Sono previsti i seguenti tipi di sezione:

1 sezione di tipo generico
2 profilati semplici
3 profilati accoppiati e speciali

Le sezioni utilizzate nella modellazione sono individuate da una sigla identificativa ed un codice numerico (gli elementi strutturali richiamano quest'ultimo nella propria descrizione). Per ogni sezione vengono riportati in tabella i seguenti dati:

Area	area della sezione
A V2	area della sezione/fattore di taglio (per il taglio in direzione 2)
A V3	area della sezione/fattore di taglio (per il taglio in direzione 3)
Jt	fattore torsionale di rigidezza
J2-2	momento d'inerzia della sezione riferito all'asse 2
J3-3	momento d'inerzia della sezione riferito all'asse 3
W2-2	modulo di resistenza della sezione riferito all'asse 2
W3-3	modulo di resistenza della sezione riferito all'asse 3
Wp2-2	modulo di resistenza plastico della sezione riferito all'asse 2
Wp3-3	modulo di resistenza plastico della sezione riferito all'asse 3

I dati soprariportati vengono utilizzati per la determinazione dei carichi inerziali e per la definizione delle rigidezze degli elementi strutturali; qualora il valore di Area V2 (e/o Area V3) sia nullo la deformabilità per taglio V2 (e/o V3) è trascurata. La valutazione delle caratteristiche inerziali delle sezioni è condotta nel riferimento 2-3 dell'elemento.

 rettangolare	 a T	 a T rovescia	 a T di colmo	 a L	 a L specchiata
 a L specchiata rovescia	 a L rovescia	 a L di colmo	 a doppio T	 a quattro specchiata	 a quattro
 a U	 a C	 a croce	 circolare	 rettangolare cava	 circolare cava

Per quanto concerne i profilati semplici ed accoppiati l'asse 2 del riferimento coincide con l'asse x riportato nei più diffusi profilari.

Per quanto concerne le sezioni di tipo generico (tipo 1.):
i valori dimensionali con prefisso B sono riferiti all'asse 2
i valori dimensionali con prefisso H sono riferiti all'asse 3

TABELLA DATI SEZIONI

Id	Tipo	Area	A V2	A V3	Jt	J 2-2	J 3-3	W 2-2	W 3-3	Wp 2-2	Wp 3-3
		cm2	cm2	cm2	cm4	cm4	cm4	cm3	cm3	cm3	cm3
1	HEB 240 colonne castelletto	106.00	0.0	0.0	102.70	3923.00	1.126e+04	326.90	938.30	498.40	1053.10
2	HEA 160 diagonali	38.80	0.0	0.0	12.20	616.00	1673.00	76.90	220.10	117.60	245.10
4	HEA 240 travi piano	76.80	0.0	0.0	41.60	2769.00	7763.00	230.70	675.10	351.70	744.60
5	HEA 160 sostegni scala	38.80	0.0	0.0	12.20	616.00	1673.00	76.90	220.10	117.60	245.10
6	UPN 180 cosciali	28.00	0.0	0.0	9.55	114.00	1354.00	22.40	150.00	42.90	179.00
7	HEA 160 saette	38.80	0.0	0.0	12.20	616.00	1673.00	76.90	220.10	117.60	245.10
8	HEA 260 travi lunghe	86.80	0.0	0.0	52.40	3668.00	1.046e+04	282.10	836.40	430.20	919.80
9	UPN 80 crociere	11.00	0.0	0.0	2.16	19.40	106.00	6.30	26.50	12.10	31.80
10	HEB 280 colonne scala	131.40	0.0	0.0	143.70	6595.00	1.927e+04	471.00	1376.40	717.60	1534.40
11	IPE 220 travi secondarie	33.40	0.0	0.0	9.10	205.00	2772.00	37.30	252.00	58.10	285.40
12	HEB 200 travi scala	78.10	0.0	0.0	59.30	2003.00	5696.00	200.30	569.60	305.80	642.50
13	HEB 200 travi castelletto	78.10	0.0	0.0	59.30	2003.00	5696.00	200.30	569.60	305.80	642.50

3.4 MODELLAZIONE DELLA STRUTTURA: ELEMENTI SOLAIO

LEGENDA TABELLA DATI SOLAI

Il programma utilizza per la modellazione di elementi a tre o più nodi denominati in generale solaio.
Ogni elemento solaio è individuato da una poligonale di nodi 1,2, ..., N.

L'elemento solaio è utilizzato in primo luogo per la modellazione dei carichi agenti sugli elementi strutturali. In secondo luogo può essere utilizzato per la corretta ripartizione delle forze orizzontali agenti nel proprio piano. L'elemento balcone è derivato dall'elemento solaio.

I carichi agenti sugli elementi, raccolti in un archivio, sono direttamente assegnati agli elementi utilizzando le informazioni raccolte nell' archivio (es. i coefficienti combinatori).

L'elemento pannello è utilizzato solo per l'applicazione dei carichi, quali pesi delle tamponature o spinte dovute al vento o terre. In questo caso i carichi sono applicati in analogia agli altri elementi strutturali

La tabella seguente riporta i dati utilizzati per la definizione dei carichi e delle masse.

Id.Arch.	Identificativo dell' archivio
Tipo	Tipo di carico ***Variab.*** Carico variabile generico ***Var. rid.*** Carico variabile generico con riduzione in funzione dell' area (c.5.5. …) ***Neve*** Carico di neve
G1k	carico permanente (comprensivo del peso proprio)
G2k	carico permanente non strutturale e non compiutamente definito
Qk	carico variabile
Fatt. A	fattore di riduzione del carico variabile (0.5 o 0.75) per tipo "Var.rid."

S sis.	fattore di riduzione del carico variabile per la definizione delle masse sismiche per D.M. 96 (vedi NOTA sul capitolo "normativa di riferimento")
Psi 0	Coefficiente combinatorio dei valori caratteristici delle azioni variabili: ***per valore raro***
Psi 1	Coefficiente combinatorio dei valori caratteristici delle azioni variabili: ***per valore frequente***
Psi 2	Coefficiente combinatorio dei valori caratteristici delle azioni variabili: ***per valore quasi permanente***
Psi S 2	Coefficiente di combinazione che fornisce il valore quasi-permanente dell'azione variabile: ***per la definizione delle masse sismiche***
Fatt. Fi	Coefficiente di correlazione dei carichi per edifici

Ogni elemento è caratterizzato da un insieme di proprietà riportate in tabella che ne completano la modellazione. In particolare per ogni elemento viene indicato in tabella:

Elem	numero dell'elemento
Tipo	codice di comportamento ***S*** elemento utilizzato solo per scarico ***C*** elemento utilizzato per scarico e per modellazione piano rigido ***M*** scarico monodirezionale ***B*** scarico bidirezionale
Id.Arch.	Identificativo dell' archivio
Mat	codice del materiale assegnato all'elemento
Spessore	spessore dell'elemento (costante)
Orditura	angolo (rispetto all'asse X) della direzione dei travetti principali
Gk	carico permanente (comprensivo del peso proprio)
Qk	carico variabile
Nodi	numero dei nodi che definiscono l'elemento (5 per riga)

TABELLA DATI SOLAI

ID Arch.	Tipo	G1k	G2k	Qk	Fatt. A	s sis.	Psi 0	Psi 1	Psi 2	Psi S 2	Fatt. Fi
		daN/cm2	daN/cm2	daN/cm2							
1	Variab.	1.00e-02		4.00e-02		1.00	0.70	0.70	0.60	0.60	1.00
2	Variab.	8.50e-03		3.40e-02		1.00	0.70	0.70	0.60	0.60	1.00
3	Variab.	1.00e-02		3.00e-02		1.00	0.70	0.70	0.60	0.60	1.00

Elem.	Tipo	ID Arch.	Mat.	Spessore	Orditura	G1k	G2k	Qk	Nodo 1	Nodo 2	Nodo 3	Nodo 4	Nodo 5
						daN/cm2	daN/cm2	daN/cm2					
1	SM	2	m=11	1.0	0.0	8.50e-03		3.40e-02	252	125	128	253	
2	SM	1	m=11	1.0	90.0	1.00e-02		4.00e-02	253	257	255	251	
3	SM	2	m=11	1.0	90.0	8.50e-03		3.40e-02	255	270	267	251	
4	SM	1	m=11	1.0	90.0	1.00e-02		4.00e-02	270	268	265	267	
5	SM	2	m=11	1.0	0.0	8.50e-03		3.40e-02	266	265	285	286	
6	SM	1	m=11	1.0	90.0	1.00e-02		4.00e-02	287	284	276	278	
7	SM	1	m=11	1.0	90.0	1.00e-02		4.00e-02	291	288	279	281	
8	SM	1	m=11	1.0	90.0	1.00e-02		4.00e-02	293	292	278	279	
9	SM	2	m=11	1.0	0.0	8.50e-03		3.40e-02	309	289	290	310	
10	SM	1	m=11	1.0	90.0	1.00e-02		4.00e-02	310	314	312	308	
11	SM	2	m=11	1.0	90.0	8.50e-03		3.40e-02	312	327	324	308	
12	SM	1	m=11	1.0	90.0	1.00e-02		4.00e-02	327	325	322	324	
13	SM	2	m=11	1.0	0.0	8.50e-03		3.40e-02	323	322	360	361	
14	SM	3	m=11	0.5	90.0	1.00e-02		3.00e-02	344	334	337	349	
15	SM	3	m=11	0.5	90.0	1.00e-02		3.00e-02	341	333	334	344	
16	SM	3	m=11	0.5	90.0	1.00e-02		3.00e-02	349	337	338	351	
17	SM	1	m=11	1.0	90.0	1.00e-02		4.00e-02	362	359	344	346	
18	SM	1	m=11	1.0	90.0	1.00e-02		4.00e-02	366	363	347	349	
19	SM	3	m=11	0.5	90.0	1.00e-02		3.00e-02	356	352	341	344	359
20	SM	3	m=11	0.5	90.0	1.00e-02		3.00e-02	366	349	351	353	368

Elem.	Tipo	ID Arch.	Mat.	Spessore	Orditura	G1k	G2k	Qk	Nodo 1	Nodo 2	Nodo 3	Nodo 4	Nodo 5
						daN/cm2	daN/cm2	daN/cm2					
21	SM	1	m=11	1.0	90.0	1.00e-02		4.00e-02	370	369	346	347	
22	SM	3	m=11	0.5	90.0	1.00e-02		3.00e-02	371	356	359	374	
23	SM	3	m=11	0.5	90.0	1.00e-02		3.00e-02	375	366	368	377	
24	SM	3	m=11	0.5	90.0	1.00e-02		3.00e-02	380	371	374	383	
25	SM	3	m=11	0.5	90.0	1.00e-02		3.00e-02	385	375	377	387	
26	SM	3	m=11	0.5	90.0	1.00e-02		3.00e-02	400	385	387	391	402
27	SM	3	m=11	0.5	90.0	1.00e-02		3.00e-02	395	392	390	380	383
28	SM	3	m=11	0.5	90.0	1.00e-02		3.00e-02	409	400	402	410	
29	SM	3	m=11	0.5	90.0	1.00e-02		3.00e-02	405	392	393	395	406
30	SM	3	m=11	0.5	90.0	1.00e-02		3.00e-02	406	395	400	409	
31	SM	2	m=11	1.0	0.0	8.50e-03		3.40e-02	413	364	365	414	
32	SM	1	m=11	1.0	90.0	1.00e-02		4.00e-02	414	418	416	412	
33	SM	2	m=11	1.0	90.0	8.50e-03		3.40e-02	416	431	428	412	
34	SM	1	m=11	1.0	90.0	1.00e-02		4.00e-02	431	429	426	428	
35	SM	2	m=11	1.0	0.0	8.50e-03		3.40e-02	427	426	464	465	
36	SM	3	m=11	0.5	90.0	1.00e-02		3.00e-02	448	438	441	453	
37	SM	3	m=11	0.5	90.0	1.00e-02		3.00e-02	445	437	438	448	
38	SM	3	m=11	0.5	90.0	1.00e-02		3.00e-02	453	441	442	455	
39	SM	1	m=11	1.0	90.0	1.00e-02		4.00e-02	466	463	448	450	
40	SM	1	m=11	1.0	90.0	1.00e-02		4.00e-02	470	467	451	453	
41	SM	3	m=11	0.5	90.0	1.00e-02		3.00e-02	460	456	445	448	463
42	SM	3	m=11	0.5	90.0	1.00e-02		3.00e-02	470	453	455	457	472
43	SM	1	m=11	1.0	90.0	1.00e-02		4.00e-02	474	473	450	451	
44	SM	3	m=11	0.5	90.0	1.00e-02		3.00e-02	475	460	463	478	
45	SM	3	m=11	0.5	90.0	1.00e-02		3.00e-02	479	470	472	481	
46	SM	3	m=11	0.5	90.0	1.00e-02		3.00e-02	484	475	478	487	
47	SM	3	m=11	0.5	90.0	1.00e-02		3.00e-02	489	479	481	491	
48	SM	3	m=11	0.5	90.0	1.00e-02		3.00e-02	504	489	491	495	506
49	SM	3	m=11	0.5	90.0	1.00e-02		3.00e-02	499	496	494	484	487
50	SM	3	m=11	0.5	90.0	1.00e-02		3.00e-02	513	504	506	514	
51	SM	3	m=11	0.5	90.0	1.00e-02		3.00e-02	509	496	497	499	510
52	SM	3	m=11	0.5	90.0	1.00e-02		3.00e-02	510	499	504	513	
53	SM	2	m=11	1.0	0.0	8.50e-03		3.40e-02	517	468	469	518	
54	SM	1	m=11	1.0	90.0	1.00e-02		4.00e-02	518	522	520	516	
55	SM	2	m=11	1.0	90.0	8.50e-03		3.40e-02	520	535	532	516	
56	SM	1	m=11	1.0	90.0	1.00e-02		4.00e-02	535	533	530	532	
57	SM	2	m=11	1.0	0.0	8.50e-03		3.40e-02	531	530	568	569	
58	SM	3	m=11	0.5	90.0	1.00e-02		3.00e-02	552	542	545	557	
59	SM	3	m=11	0.5	90.0	1.00e-02		3.00e-02	549	541	542	552	
60	SM	3	m=11	0.5	90.0	1.00e-02		3.00e-02	557	545	546	559	
61	SM	1	m=11	1.0	90.0	1.00e-02		4.00e-02	570	567	552	554	
62	SM	1	m=11	1.0	90.0	1.00e-02		4.00e-02	572	571	555	557	
63	SM	3	m=11	0.5	90.0	1.00e-02		3.00e-02	564	560	549	552	567
64	SM	3	m=11	0.5	90.0	1.00e-02		3.00e-02	572	557	559	561	574
65	SM	1	m=11	1.0	90.0	1.00e-02		4.00e-02	576	575	554	555	
66	SM	3	m=11	0.5	90.0	1.00e-02		3.00e-02	577	564	567	580	
67	SM	3	m=11	0.5	90.0	1.00e-02		3.00e-02	581	572	574	583	
68	SM	3	m=11	0.5	90.0	1.00e-02		3.00e-02	590	571	572	591	
69	SM	3	m=11	0.5	90.0	1.00e-02		3.00e-02	586	577	580	589	
70	SM	3	m=11	0.5	90.0	1.00e-02		3.00e-02	591	581	583	593	
71	SM	3	m=11	0.5	90.0	1.00e-02		3.00e-02	606	591	593	597	608
72	SM	3	m=11	0.5	90.0	1.00e-02		3.00e-02	601	598	596	586	589
73	SM	3	m=11	0.5	90.0	1.00e-02		3.00e-02	604	590	591	606	
74	SM	3	m=11	0.5	90.0	1.00e-02		3.00e-02	615	606	608	616	
75	SM	3	m=11	0.5	90.0	1.00e-02		3.00e-02	611	598	599	601	612
76	SM	3	m=11	0.5	90.0	1.00e-02		3.00e-02	612	601	606	615	
77	SM	3	m=11	0.5	90.0	1.00e-02		3.00e-02	623	621	622	624	

I carichi applicati ai pianerottoli sono:

- Peso proprio + permanente: 100 daN/m^2
- Variabile: 400 daN/m^2

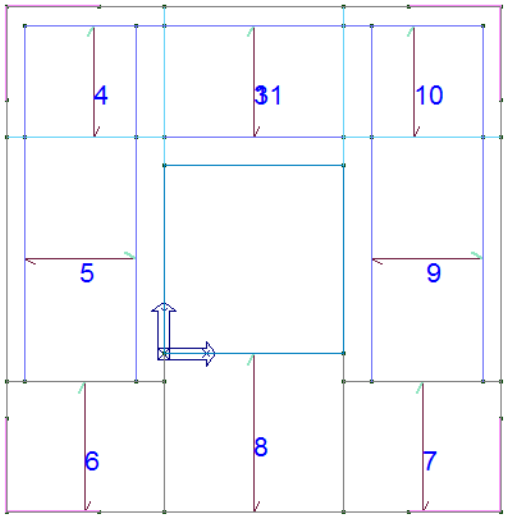
I carichi applicati alle rampe inclinate sono:

- Peso proprio + permanente: 85 daN/m^2
- Variabile: 340 daN/m^2

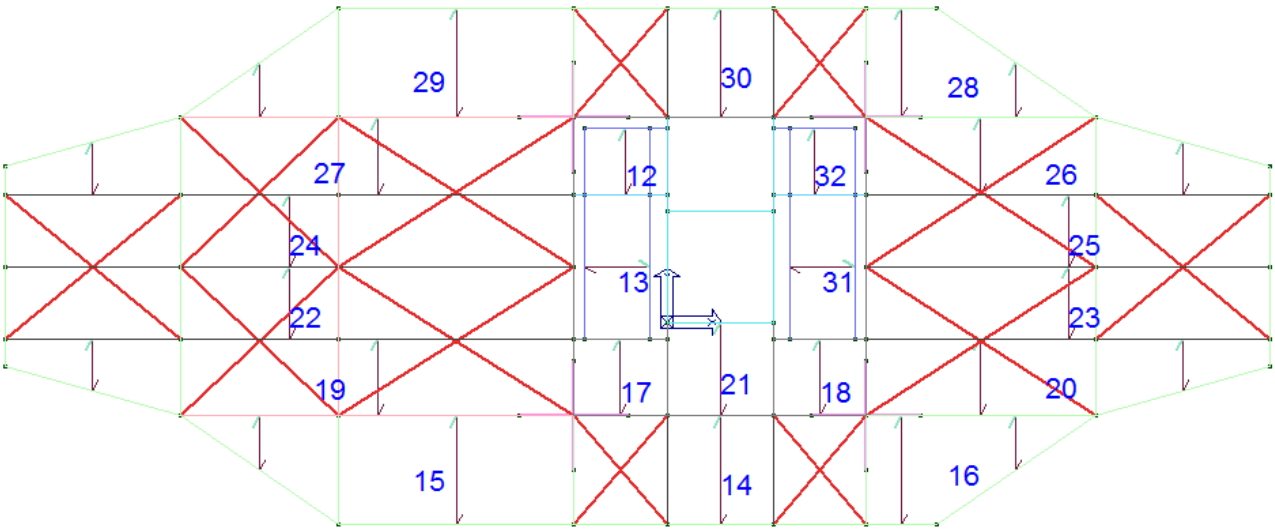
I carichi applicati alle passerelle sono:

- Peso proprio + permanente: 100 daN/m^2
- Variabile: 300 daN/m^2

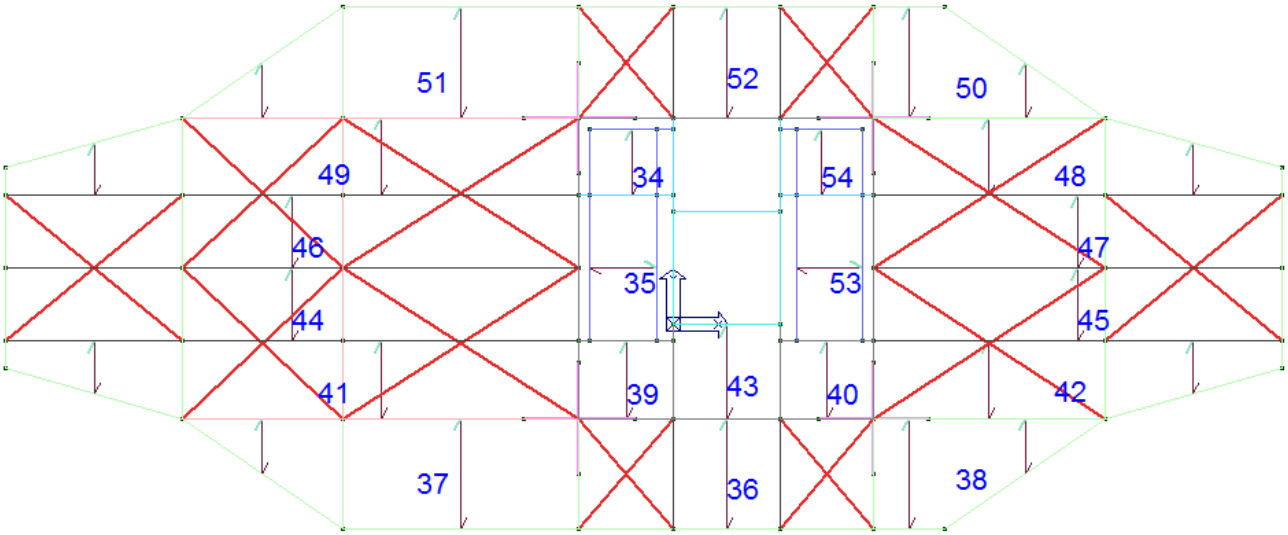
Numerazione elementi solaio 1° piano



Numerazione elementi solaio 2° piano



Numerazione elementi solaio 3° piano



Numerazione elementi solaio 4° piano

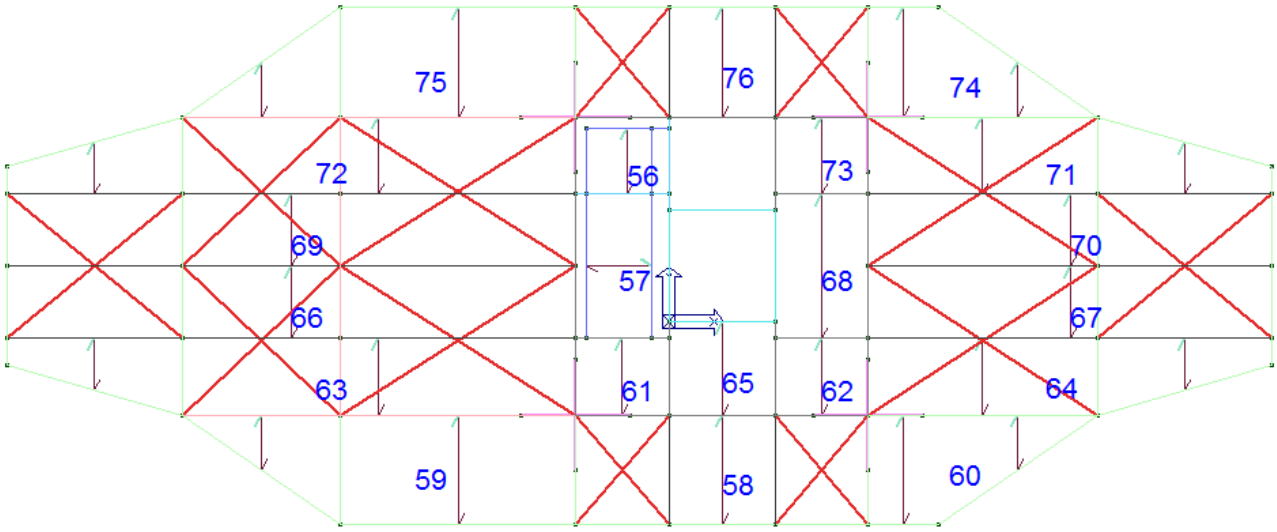
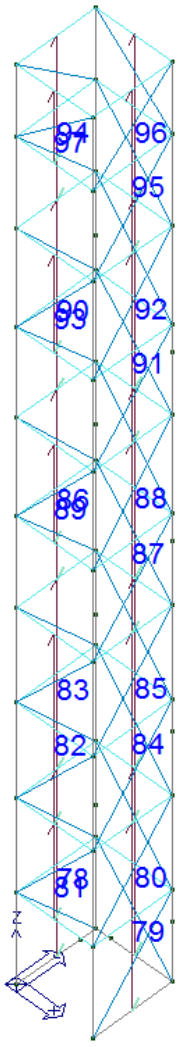


TABELLA DATI PANNELLI

Elem.	Tipo	ID Arch.	Mat.	Spessore	Orditura	G1k	G2k	Qk	Nodo 1	Nodo 2	Nodo 3	Nodo 4
						daN/cm2	daN/cm2	daN/cm2				
78	PM		m=11	0.5	90.0				172	294	292	131
79	PM		m=11	0.5	90.0				176	295	293	135
80	PM		m=11	0.5	90.0				172	294	295	176
81	PM		m=11	0.5	90.0				259	292	293	260
82	PM		m=11	0.5	90.0				292	369	370	293
83	PM		m=11	0.5	90.0				294	378	369	292
84	PM		m=11	0.5	90.0				295	379	370	293
85	PM		m=11	0.5	90.0				294	378	379	295
86	PM		m=11	0.5	90.0				378	482	473	369
87	PM		m=11	0.5	90.0				379	483	474	370
88	PM		m=11	0.5	90.0				378	482	483	379
89	PM		m=11	0.5	90.0				420	473	474	421
90	PM		m=11	0.5	90.0				482	584	575	473
91	PM		m=11	0.5	90.0				483	585	576	474
92	PM		m=11	0.5	90.0				482	584	585	483
93	PM		m=11	0.5	90.0				524	575	576	525
94	PM		m=11	0.5	90.0				621	575	584	623
95	PM		m=11	0.5	90.0				622	576	585	624
96	PM		m=11	0.5	90.0				584	623	624	585
97	PM		m=11	0.5	90.0				617	621	622	618

Numerazione elementi pannello



3.5 MODELLAZIONE DELLE AZIONI

LEGENDA TABELLA DATI AZIONI

Il programma consente l'uso di diverse tipologie di carico (azioni). Le azioni utilizzate nella modellazione sono individuate da una sigla identificativa ed un codice numerico (gli elementi strutturali richiamano quest'ultimo nella propria descrizione). Per ogni azione applicata alla struttura viene di riportato il codice, il tipo e la sigla identificativa. Le tabelle successive dettagliano i valori caratteristici di ogni azione in relazione al tipo. Le tabelle riportano infatti i seguenti dati in relazione al tipo:

1	**carico concentrato nodale** 6 dati (forza Fx, Fy, Fz, momento Mx, My, Mz)
2	**spostamento nodale impresso** 6 dati (spostamento Tx,Ty,Tz, rotazione Rx,Ry,Rz)
3	**carico distribuito globale su elemento tipo trave** 7 dati (fx,fy,fz,mx,my,mz,ascissa di inizio carico) 7 dati (fx,fy,fz,mx,my,mz,ascissa di fine carico)
4	**carico distribuito locale su elemento tipo trave** 7 dati (f1,f2,f3,m1,m2,m3,ascissa di inizio carico) 7 dati (f1,f2,f3,m1,m2,m3,ascissa di fine carico)
5	**carico concentrato globale su elemento tipo trave** 7 dati (Fx,Fy,Fz,Mx,My,Mz,ascissa di carico)
6	**carico concentrato locale su elemento tipo trave** 7 dati (F1, F2, F3, M1, M2, M3, ascissa di carico)
7	**variazione termica applicata ad elemento tipo trave** 7 dati (variazioni termiche: uniforme, media e differenza in altezza e larghezza al nodo iniziale e finale)
8	**carico di pressione uniforme su elemento tipo piastra** 1 dato (pressione)
9	**carico di pressione variabile su elemento tipo piastra** 4 dati (pressione, quota, pressione, quota)
10	**variazione termica applicata ad elemento tipo piastra** 2 dati (variazioni termiche: media e differenza nello spessore)
11	**carico variabile generale su elementi tipo trave e piastra** 1 dato descrizione della tipologia 4 dati per segmento (posizione, valore, posizione, valore) la tipologia precisa l'ascissa di definizione, la direzione del carico, la modalità di carico e la larghezza d'influenza per gli elementi tipo trave
12	**gruppo di carichi con impronta su piastra** 9 dati (numero di ripetizioni in direzione X e Y, valore di ciascun carico, posizione centrale del primo, dimensioni dell' impronta, interasse tra i carichi

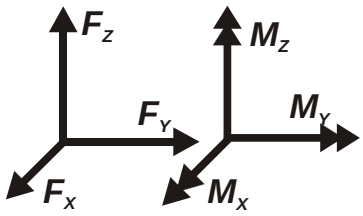
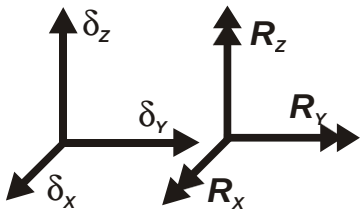
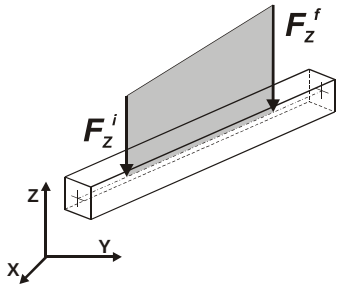
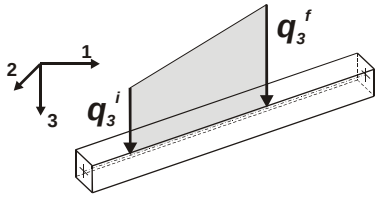
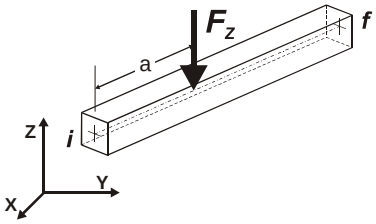
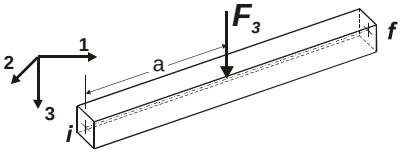
 Carico concentrato nodale	 Spostamento impresso
 Carico distribuito globale	 Carico distribuito locale
 Carico concentrato globale	 Carico concentrato locale

TABELLA DATI AZIONI

Tipo	carico distribuito globale su trave

Id	Tipo	Pos.	fx	fy	fz	mx	my	mz
		cm	daN/cm	daN/cm	daN/cm	daN	daN	daN
3	vento +x	0.0	0.50	0.0	0.0	0.0	0.0	0.0
		0.0	0.50	0.0	0.0	0.0	0.0	0.0
4	vento -x	0.0	-0.50	0.0	0.0	0.0	0.0	0.0
		0.0	-0.50	0.0	0.0	0.0	0.0	0.0
5	vento +y	0.0	0.0	0.50	0.0	0.0	0.0	0.0
		0.0	0.0	0.50	0.0	0.0	0.0	0.0
6	vento -y	0.0	0.0	-0.50	0.0	0.0	0.0	0.0
		0.0	0.0	-0.50	0.0	0.0	0.0	0.0

Tipo	carico di pressione uniforme su piastra

Id	Tipo	pressione
		daN/cm2
1	QVK PAN ++ vento*0.4	5.00e-03
2	QVK PAN -- vento*0.4	5.00e-03

La pressione del vento è:

- sup. sopravento 100 daN/m^2 (carico applicato 2 volte)
- sup. sottovento 50 daN/m^2 (carico applicato 1 volta)

I carichi applicati sono descritti nella relazione generale sulle strutture.

3.6 SCHEMATIZZAZIONE DEI CASI DI CARICO

LEGENDA TABELLA CASI DI CARICO

Il programma consente l'applicazione di diverse tipologie di casi di carico.

Sono previsti i seguenti 11 tipi di casi di carico:

	Sigla	***Tipo***	***Descrizione***
1	**Ggk**	A	caso di carico comprensivo del peso proprio struttura
2	**Gk**	NA	caso di carico con azioni permanenti
3	**Qk**	NA	caso di carico con azioni variabili
4	**Gsk**	A	caso di carico comprensivo dei carichi permanenti sui solai e sulle coperture
5	**Qsk**	A	caso di carico comprensivo dei carichi variabili sui solai
6	**Qnk**	A	caso di carico comprensivo dei carichi di neve sulle coperture
7	**Qtk**	SA	caso di carico comprensivo di una variazione termica agente sulla struttura
8	**Qvk**	NA	caso di carico comprensivo di azioni da vento sulla struttura
9	**Esk**	SA	caso di carico sismico con analisi statica equivalente
10	**Edk**	SA	caso di carico sismico con analisi dinamica
11	**Pk**	NA	caso di carico comprensivo di azioni derivanti da coazioni, cedimenti e precompressioni

Sono di tipo automatico A (ossia non prevedono introduzione dati da parte dell'utente) i seguenti casi di carico: 1-Ggk; 4-Gsk; 5-Qsk; 6-Qnk.

Sono di tipo semi-automatico SA (ossia prevedono una minima introduzione dati da parte dell'utente) i seguenti casi di carico:

7-Qtk, in quanto richiede solo il valore della variazione termica;

9-Esk e 10-Edk, in quanto richiedono il valore dell'angolo di ingresso del sisma e l'individuazione dei casi di carico partecipanti alla definizione delle masse.

Sono di tipo non automatico NA ossia prevedono la diretta applicazione di carichi generici agli elementi strutturali (si veda il precedente punto Modellazione delle Azioni) i restanti casi di carico.

Nella tabella successiva vengono riportati i casi di carico agenti sulla struttura, con l'indicazione dei dati relativi al caso di carico stesso:

Numero Tipo e *Sigla identificativa*, *Valore di riferimento* del caso di carico (se previsto).

In successione, per i casi di carico non automatici, viene riportato l'elenco di nodi ed elementi direttamente caricati con la sigla identificativa del carico.

Per i casi di carico di tipo sismico (9-Esk e 10-Edk), viene riportata la tabella di definizione delle masse: per ogni caso di carico partecipante alla definizione delle masse viene indicata la relativa aliquota (partecipazione) considerata. Si precisa che per i caso di carico 5-Qsk e 6-Qnk la partecipazione è prevista localmente per ogni elemento solaio o copertura presente nel modello (si confronti il valore Sksol nel capitolo relativo agli elementi solaio) e pertanto la loro partecipazione è di norma pari a uno.

TABELLA CASI DI CARICO

CDC	Tipo	Sigla Id	Note
1	Ggk	CDC=Ggk (peso proprio della struttura)	
2	Gsk	CDC=G1sk (permanente solai-coperture)	
3	Gsk	CDC=G2pk (permanente pannelli n.c.d.)	
4	Qsk	CDC=Qsk (variabile solai)	
5	Edk	CDC=Ed (dinamico SLU) alfa=0.0 (ecc. +)	partecipazione:1.00 per 1 CDC=Ggk (peso proprio della struttura)
			partecipazione:1.00 per 2 CDC=G1sk (permanente solai-coperture)
			partecipazione:1.00 per 3 CDC=G2pk (permanente pannelli n.c.d.)
			partecipazione:1.00 per 4 CDC=Qsk (variabile solai)
6	Edk	CDC=Ed (dinamico SLU) alfa=0.0 (ecc. -)	come precedente CDC sismico
7	Edk	CDC=Ed (dinamico SLU) alfa=90.00 (ecc. +)	come precedente CDC sismico
8	Edk	CDC=Ed (dinamico SLU) alfa=90.00 (ecc. -)	come precedente CDC sismico
9	Edk	CDC=Ed (dinamico SLD) alfa=0.0 (ecc. +)	come precedente CDC sismico
10	Edk	CDC=Ed (dinamico SLD) alfa=0.0 (ecc. -)	come precedente CDC sismico
11	Edk	CDC=Ed (dinamico SLD) alfa=90.00 (ecc. +)	come precedente CDC sismico
12	Edk	CDC=Ed (dinamico SLD) alfa=90.00 (ecc. -)	come precedente CDC sismico
13	Qvk	CDC=Qvk (carico da vento) dir X +	D2 : 150 Azione : vento +x
			D2 : 150 Azione : vento +x
			D2 : 151 Azione : vento +x
			D2 : 152 Azione : vento +x
			D2 : 152 Azione : vento +x
			D2 : 153 Azione : vento +x
			D2 : 184 Azione : vento +x
			D2 : 184 Azione : vento +x
			D2 : 185 Azione : vento +x
			D2 : 186 Azione : vento +x
			D2 : 186 Azione : vento +x
			D2 : 187 Azione : vento +x
			D2 : 229 Azione : vento +x
			D2 : 229 Azione : vento +x
			D2 : 230 Azione : vento +x
			D2 : 231 Azione : vento +x
			D2 : 231 Azione : vento +x
			D2 : 232 Azione : vento +x
			D2 : 259 Azione : vento +x
			D2 : 259 Azione : vento +x
			D2 : 260 Azione : vento +x
			D2 : 261 Azione : vento +x
			D2 : 261 Azione : vento +x
			D2 : 262 Azione : vento +x
			D2 : 293 Azione : vento +x
			D2 : 293 Azione : vento +x
			D2 : 294 Azione : vento +x
			D2 : 295 Azione : vento +x
			D2 : 295 Azione : vento +x
			D2 : 296 Azione : vento +x
			D2 : 330 Azione : vento +x
			D2 : 330 Azione : vento +x
			D2 : 331 Azione : vento +x
			D2 : 348 Azione : vento +x
			D2 : 348 Azione : vento +x
			D2 : 354 Azione : vento +x
			D2 : 362 Azione : vento +x
			D2 : 362 Azione : vento +x
			D2 : 368 Azione : vento +x
			D2 : 379 Azione : vento +x
			D2 : 379 Azione : vento +x
			D2 : 380 Azione : vento +x
			D2 : 434 Azione : vento +x
			D2 : 434 Azione : vento +x
			D2 : 435 Azione : vento +x
			D2 : 436 Azione : vento +x
			D2 : 436 Azione : vento +x
			D2 : 437 Azione : vento +x
			D2 : 447 Azione : vento +x
			D2 : 447 Azione : vento +x
			D2 : 448 Azione : vento +x
			D2 : 450 Azione : vento +x
			D2 : 450 Azione : vento +x
			D2 : 451 Azione : vento +x
			D2 : 480 Azione : vento +x

CDC	Tipo	Sigla Id	Note
			D2 : 480 Azione : vento +x
			D2 : 481 Azione : vento +x
			D2 : 482 Azione : vento +x
			D2 : 482 Azione : vento +x
			D2 : 483 Azione : vento +x
			D2 : 517 Azione : vento +x
			D2 : 517 Azione : vento +x
			D2 : 518 Azione : vento +x
			D2 : 535 Azione : vento +x
			D2 : 535 Azione : vento +x
			D2 : 541 Azione : vento +x
			D2 : 549 Azione : vento +x
			D2 : 549 Azione : vento +x
			D2 : 555 Azione : vento +x
			D2 : 566 Azione : vento +x
			D2 : 566 Azione : vento +x
			D2 : 567 Azione : vento +x
			D2 : 621 Azione : vento +x
			D2 : 621 Azione : vento +x
			D2 : 622 Azione : vento +x
			D2 : 623 Azione : vento +x
			D2 : 623 Azione : vento +x
			D2 : 624 Azione : vento +x
			D2 : 634 Azione : vento +x
			D2 : 634 Azione : vento +x
			D2 : 635 Azione : vento +x
			D2 : 637 Azione : vento +x
			D2 : 637 Azione : vento +x
			D2 : 638 Azione : vento +x
			D2 : 667 Azione : vento +x
			D2 : 667 Azione : vento +x
			D2 : 668 Azione : vento +x
			D2 : 669 Azione : vento +x
			D2 : 669 Azione : vento +x
			D2 : 670 Azione : vento +x
			D2 : 704 Azione : vento +x
			D2 : 704 Azione : vento +x
			D2 : 705 Azione : vento +x
			D2 : 720 Azione : vento +x
			D2 : 720 Azione : vento +x
			D2 : 726 Azione : vento +x
			D2 : 734 Azione : vento +x
			D2 : 734 Azione : vento +x
			D2 : 740 Azione : vento +x
			D2 : 751 Azione : vento +x
			D2 : 751 Azione : vento +x
			D2 : 752 Azione : vento +x
			Pannello: 78 Azione : QVK PAN ++ vento*0.4
			Pannello: 78 Azione : QVK PAN ++ vento*0.4
			Pannello: 79 Azione : QVK PAN ++ vento*0.4
			Pannello: 83 Azione : QVK PAN ++ vento*0.4
			Pannello: 83 Azione : QVK PAN ++ vento*0.4
			Pannello: 84 Azione : QVK PAN ++ vento*0.4
			Pannello: 86 Azione : QVK PAN ++ vento*0.4
			Pannello: 86 Azione : QVK PAN ++ vento*0.4
			Pannello: 87 Azione : QVK PAN ++ vento*0.4
			Pannello: 90 Azione : QVK PAN ++ vento*0.4
			Pannello: 90 Azione : QVK PAN ++ vento*0.4
			Pannello: 91 Azione : QVK PAN ++ vento*0.4
			Pannello: 94 Azione : QVK PAN ++ vento*0.4
			Pannello: 94 Azione : QVK PAN ++ vento*0.4
			Pannello: 95 Azione : QVK PAN ++ vento*0.4
14	Qvk	CDC=Qvk (carico da vento) dir X -	D2 : 150 Azione : vento -x
			D2 : 151 Azione : vento -x
			D2 : 151 Azione : vento -x
			D2 : 152 Azione : vento -x
			D2 : 153 Azione : vento -x
			D2 : 153 Azione : vento -x
			D2 : 184 Azione : vento -x
			D2 : 185 Azione : vento -x
			D2 : 185 Azione : vento -x
			D2 : 186 Azione : vento -x
			D2 : 187 Azione : vento -x

CDC	Tipo	Sigla Id	Note
			D2 : 187 Azione : vento -x
			D2 : 229 Azione : vento -x
			D2 : 230 Azione : vento -x
			D2 : 230 Azione : vento -x
			D2 : 231 Azione : vento -x
			D2 : 232 Azione : vento -x
			D2 : 232 Azione : vento -x
			D2 : 259 Azione : vento -x
			D2 : 260 Azione : vento -x
			D2 : 260 Azione : vento -x
			D2 : 261 Azione : vento -x
			D2 : 262 Azione : vento -x
			D2 : 262 Azione : vento -x
			D2 : 293 Azione : vento -x
			D2 : 294 Azione : vento -x
			D2 : 294 Azione : vento -x
			D2 : 295 Azione : vento -x
			D2 : 296 Azione : vento -x
			D2 : 296 Azione : vento -x
			D2 : 330 Azione : vento -x
			D2 : 331 Azione : vento -x
			D2 : 331 Azione : vento -x
			D2 : 348 Azione : vento -x
			D2 : 354 Azione : vento -x
			D2 : 354 Azione : vento -x
			D2 : 362 Azione : vento -x
			D2 : 368 Azione : vento -x
			D2 : 368 Azione : vento -x
			D2 : 379 Azione : vento -x
			D2 : 380 Azione : vento -x
			D2 : 380 Azione : vento -x
			D2 : 434 Azione : vento -x
			D2 : 435 Azione : vento -x
			D2 : 435 Azione : vento -x
			D2 : 436 Azione : vento -x
			D2 : 437 Azione : vento -x
			D2 : 437 Azione : vento -x
			D2 : 447 Azione : vento -x
			D2 : 448 Azione : vento -x
			D2 : 448 Azione : vento -x
			D2 : 450 Azione : vento -x
			D2 : 451 Azione : vento -x
			D2 : 451 Azione : vento -x
			D2 : 480 Azione : vento -x
			D2 : 481 Azione : vento -x
			D2 : 481 Azione : vento -x
			D2 : 482 Azione : vento -x
			D2 : 483 Azione : vento -x
			D2 : 483 Azione : vento -x
			D2 : 517 Azione : vento -x
			D2 : 518 Azione : vento -x
			D2 : 518 Azione : vento -x
			D2 : 535 Azione : vento -x
			D2 : 541 Azione : vento -x
			D2 : 541 Azione : vento -x
			D2 : 549 Azione : vento -x
			D2 : 555 Azione : vento -x
			D2 : 555 Azione : vento -x
			D2 : 566 Azione : vento -x
			D2 : 567 Azione : vento -x
			D2 : 567 Azione : vento -x
			D2 : 621 Azione : vento -x
			D2 : 622 Azione : vento -x
			D2 : 622 Azione : vento -x
			D2 : 623 Azione : vento -x
			D2 : 624 Azione : vento -x
			D2 : 624 Azione : vento -x
			D2 : 634 Azione : vento -x
			D2 : 635 Azione : vento -x
			D2 : 635 Azione : vento -x
			D2 : 637 Azione : vento -x
			D2 : 638 Azione : vento -x
			D2 : 638 Azione : vento -x

CDC	Tipo	Sigla Id	Note
			D2 : 667 Azione : vento -x
			D2 : 668 Azione : vento -x
			D2 : 668 Azione : vento -x
			D2 : 669 Azione : vento -x
			D2 : 670 Azione : vento -x
			D2 : 670 Azione : vento -x
			D2 : 704 Azione : vento -x
			D2 : 705 Azione : vento -x
			D2 : 705 Azione : vento -x
			D2 : 720 Azione : vento -x
			D2 : 726 Azione : vento -x
			D2 : 726 Azione : vento -x
			D2 : 734 Azione : vento -x
			D2 : 740 Azione : vento -x
			D2 : 740 Azione : vento -x
			D2 : 751 Azione : vento -x
			D2 : 752 Azione : vento -x
			D2 : 752 Azione : vento -x
			Pannello: 78 Azione : QVK PAN -- vento*0.4
			Pannello: 79 Azione : QVK PAN -- vento*0.4
			Pannello: 79 Azione : QVK PAN -- vento*0.4
			Pannello: 83 Azione : QVK PAN -- vento*0.4
			Pannello: 84 Azione : QVK PAN -- vento*0.4
			Pannello: 84 Azione : QVK PAN -- vento*0.4
			Pannello: 86 Azione : QVK PAN -- vento*0.4
			Pannello: 87 Azione : QVK PAN -- vento*0.4
			Pannello: 87 Azione : QVK PAN -- vento*0.4
			Pannello: 90 Azione : QVK PAN -- vento*0.4
			Pannello: 91 Azione : QVK PAN -- vento*0.4
			Pannello: 91 Azione : QVK PAN -- vento*0.4
			Pannello: 94 Azione : QVK PAN -- vento*0.4
			Pannello: 95 Azione : QVK PAN -- vento*0.4
			Pannello: 95 Azione : QVK PAN -- vento*0.4
15	Qvk	CDC=Qvk (carico da vento) dir Y +	D2 : 150 Azione : vento +y
			D2 : 150 Azione : vento +y
			D2 : 151 Azione : vento +y
			D2 : 151 Azione : vento +y
			D2 : 152 Azione : vento +y
			D2 : 153 Azione : vento +y
			D2 : 184 Azione : vento +y
			D2 : 184 Azione : vento +y
			D2 : 185 Azione : vento +y
			D2 : 185 Azione : vento +y
			D2 : 186 Azione : vento +y
			D2 : 187 Azione : vento +y
			D2 :da 225 a 226 Azione : vento +y
			D2 :da 225 a 226 Azione : vento +y
			D2 :da 235 a 236 Azione : vento +y
			D2 : 259 Azione : vento +y
			D2 : 259 Azione : vento +y
			D2 : 260 Azione : vento +y
			D2 : 260 Azione : vento +y
			D2 : 261 Azione : vento +y
			D2 : 262 Azione : vento +y
			D2 : 293 Azione : vento +y
			D2 : 293 Azione : vento +y
			D2 : 294 Azione : vento +y
			D2 : 294 Azione : vento +y
			D2 : 295 Azione : vento +y
			D2 : 296 Azione : vento +y
			D2 :da 297 a 301 Azione : vento +y
			D2 :da 297 a 301 Azione : vento +y
			D2 :da 408 a 412 Azione : vento +y
			D2 : 434 Azione : vento +y
			D2 : 434 Azione : vento +y
			D2 : 435 Azione : vento +y
			D2 : 435 Azione : vento +y
			D2 : 436 Azione : vento +y
			D2 : 437 Azione : vento +y
			D2 :da 443 a 444 Azione : vento +y
			D2 :da 443 a 444 Azione : vento +y
			D2 :da 455 a 456 Azione : vento +y
			D2 : 480 Azione : vento +y

CDC	Tipo	Sigla Id	Note
			D2 : 480 Azione : vento +y
			D2 : 481 Azione : vento +y
			D2 : 481 Azione : vento +y
			D2 : 482 Azione : vento +y
			D2 : 483 Azione : vento +y
			D2 :da 484 a 488 Azione : vento +y
			D2 :da 484 a 488 Azione : vento +y
			D2 :da 595 a 599 Azione : vento +y
			D2 : 621 Azione : vento +y
			D2 : 621 Azione : vento +y
			D2 : 622 Azione : vento +y
			D2 : 622 Azione : vento +y
			D2 : 623 Azione : vento +y
			D2 : 624 Azione : vento +y
			D2 :da 630 a 631 Azione : vento +y
			D2 :da 630 a 631 Azione : vento +y
			D2 :da 642 a 643 Azione : vento +y
			D2 : 667 Azione : vento +y
			D2 : 667 Azione : vento +y
			D2 : 668 Azione : vento +y
			D2 : 668 Azione : vento +y
			D2 : 669 Azione : vento +y
			D2 : 670 Azione : vento +y
			D2 :da 671 a 675 Azione : vento +y
			D2 :da 671 a 675 Azione : vento +y
			D2 :da 780 a 784 Azione : vento +y
			Pannello: 80 Azione : QVK PAN ++ vento*0.4
			Pannello:da 81 a 82 Azione : QVK PAN ++ vento*0.4
			Pannello:da 81 a 82 Azione : QVK PAN ++ vento*0.4
			Pannello: 85 Azione : QVK PAN ++ vento*0.4
			Pannello: 88 Azione : QVK PAN ++ vento*0.4
			Pannello: 89 Azione : QVK PAN ++ vento*0.4
			Pannello: 89 Azione : QVK PAN ++ vento*0.4
			Pannello: 92 Azione : QVK PAN ++ vento*0.4
			Pannello: 93 Azione : QVK PAN ++ vento*0.4
			Pannello: 93 Azione : QVK PAN ++ vento*0.4
			Pannello: 96 Azione : QVK PAN ++ vento*0.4
			Pannello: 97 Azione : QVK PAN ++ vento*0.4
			Pannello: 97 Azione : QVK PAN ++ vento*0.4
16	Qvk	CDC=Qvk (carico da vento) dir Y -	D2 : 150 Azione : vento -y
			D2 : 151 Azione : vento -y
			D2 : 152 Azione : vento -y
			D2 : 152 Azione : vento -y
			D2 : 153 Azione : vento -y
			D2 : 153 Azione : vento -y
			D2 : 184 Azione : vento -y
			D2 : 185 Azione : vento -y
			D2 : 186 Azione : vento -y
			D2 : 186 Azione : vento -y
			D2 : 187 Azione : vento -y
			D2 : 187 Azione : vento -y
			D2 :da 225 a 226 Azione : vento -y
			D2 :da 235 a 236 Azione : vento -y
			D2 :da 235 a 236 Azione : vento -y
			D2 : 259 Azione : vento -y
			D2 : 260 Azione : vento -y
			D2 : 261 Azione : vento -y
			D2 : 261 Azione : vento -y
			D2 : 262 Azione : vento -y
			D2 : 262 Azione : vento -y
			D2 : 293 Azione : vento -y
			D2 : 294 Azione : vento -y
			D2 : 295 Azione : vento -y
			D2 : 295 Azione : vento -y
			D2 : 296 Azione : vento -y
			D2 : 296 Azione : vento -y
			D2 :da 297 a 301 Azione : vento -y
			D2 :da 408 a 412 Azione : vento -y
			D2 :da 408 a 412 Azione : vento -y
			D2 : 434 Azione : vento -y
			D2 : 435 Azione : vento -y
			D2 : 436 Azione : vento -y
			D2 : 436 Azione : vento -y

CDC	Tipo	Sigla Id	Note
			D2 : 437 Azione : vento -y
			D2 : 437 Azione : vento -y
			D2 :da 443 a 444 Azione : vento -y
			D2 :da 455 a 456 Azione : vento -y
			D2 :da 455 a 456 Azione : vento -y
			D2 : 480 Azione : vento -y
			D2 : 481 Azione : vento -y
			D2 : 482 Azione : vento -y
			D2 : 482 Azione : vento -y
			D2 : 483 Azione : vento -y
			D2 : 483 Azione : vento -y
			D2 :da 484 a 488 Azione : vento -y
			D2 :da 595 a 599 Azione : vento -y
			D2 :da 595 a 599 Azione : vento -y
			D2 : 621 Azione : vento -y
			D2 : 622 Azione : vento -y
			D2 : 623 Azione : vento -y
			D2 : 623 Azione : vento -y
			D2 : 624 Azione : vento -y
			D2 : 624 Azione : vento -y
			D2 :da 630 a 631 Azione : vento -y
			D2 :da 642 a 643 Azione : vento -y
			D2 :da 642 a 643 Azione : vento -y
			D2 : 667 Azione : vento -y
			D2 : 668 Azione : vento -y
			D2 : 669 Azione : vento -y
			D2 : 669 Azione : vento -y
			D2 : 670 Azione : vento -y
			D2 : 670 Azione : vento -y
			D2 :da 671 a 675 Azione : vento -y
			D2 :da 780 a 784 Azione : vento -y
			D2 :da 780 a 784 Azione : vento -y
			Pannello: 80 Azione : QVK PAN -- vento*0.4
			Pannello: 80 Azione : QVK PAN -- vento*0.4
			Pannello:da 81 a 82 Azione : QVK PAN -- vento*0.4
			Pannello: 85 Azione : QVK PAN -- vento*0.4
			Pannello: 85 Azione : QVK PAN -- vento*0.4
			Pannello: 88 Azione : QVK PAN -- vento*0.4
			Pannello: 88 Azione : QVK PAN -- vento*0.4
			Pannello: 89 Azione : QVK PAN -- vento*0.4
			Pannello: 92 Azione : QVK PAN -- vento*0.4
			Pannello: 92 Azione : QVK PAN -- vento*0.4
			Pannello: 93 Azione : QVK PAN -- vento*0.4
			Pannello: 96 Azione : QVK PAN -- vento*0.4
			Pannello: 96 Azione : QVK PAN -- vento*0.4
			Pannello: 97 Azione : QVK PAN -- vento*0.4

3.7 DEFINIZIONE DELLE COMBINAZIONI

LEGENDA TABELLA COMBINAZIONI DI CARICO

Il programma combina i diversi tipi di casi di carico (CDC) secondo le regole previste dalla normativa vigente.
Le combinazioni previste sono destinate al controllo di sicurezza della struttura ed alla verifica degli spostamenti e delle sollecitazioni.

La tabella delle combinazioni riportata di seguito comprende le seguenti informazioni: *Numero*, *Tipo*, *Sigla identificativa* e il *peso nella combinazione*, assunto per ogni caso di carico.

Ai fini delle verifiche degli stati limite si definiscono le seguenti combinazioni delle azioni:
Combinazione fondamentale SLU

$\gamma G1 \cdot G1 + \gamma G2 \cdot G2 + \gamma P \cdot P + \gamma Q1 \cdot Qk1 + \gamma Q2 \cdot \psi 02 \cdot Qk2 + \gamma Q3 \cdot \psi 03 \cdot Qk3 + \ldots$

Combinazione caratteristica (rara) SLE

$G1 + G2 + P + Qk1 + \psi 02 \cdot Qk2 + \psi 03 \cdot Qk3 + \ldots$

Combinazione sismica, impiegata per gli stati limite ultimi e di esercizio connessi all'azione sismica E

$E + G1 + G2 + P + \psi 21 \cdot Qk1 + \psi 22 \cdot Qk2 + \ldots$

Combinazione eccezionale, impiegata per gli stati limite connessi alle azioni eccezionali

$G1 + G2 + P + \psi 21 \cdot Qk1 + \psi 22 \cdot Qk2 + \ldots$

Dove:

NTC 2008 Tabella 2.5.I

Destinazione d'uso/azione	**ψ0**	**ψ1**	**ψ2**
Categoria A residenziali	0,70	0,50	0,30
Categoria B uffici	0,70	0,50	0,30
Categoria C ambienti suscettibili di affollamento	0,70	0,70	0,60
Categoria D ambienti ad uso commerciale	0,70	0,70	0,60
Categoria E biblioteche, archivi, magazzini,…	1,00	0,90	0,80
Categoria F Rimesse e parcheggi (autoveicoli <= 30kN)	0,70	0,70	0,60
Categoria G Rimesse e parcheggi (autoveicoli > 30kN)	0,70	0,50	0,30
Categoria H Coperture	0,00	0,00	0,00
Vento	0,60	0,20	0,00
Neve a quota <= 1000 m	0,50	0,20	0,00
Neve a quota > 1000 m	0,70	0,50	0,20
Variazioni Termiche	0,60	0,50	0,00

Nelle verifiche si adotta l'approccio 2 dove si definisce un'unica combinazione per le azioni, per la resistenza dei materiali e per la resistenza globale (con coefficienti A1).

NTC 2008 Tabella 2.6.I

		Coefficiente γf	**EQU**	**A1**	**A2**
Carichi permanenti	Favorevoli	γG1	0,9	1,0	1,0
	Sfavorevoli		1,1	1,3	1,0
Carichi permanenti non strutturali	Favorevoli	γG2	0,0	0,0	0,0
(Non compiutamente definiti)	Sfavorevoli		1,5	1,5	1,3
Carichi variabili	Favorevoli	γQi	0,0	0,0	0,0
	Sfavorevoli		1,5	1,5	1,3

TABELLA COMBINAZIONI DI CARICO

Cmb	Tipo	Sigla Id	effetto P-delta
1	SLU	Comb. SLU A1 1	Si
2	SLU	Comb. SLU A1 2	Si
3	SLU	Comb. SLU A1 3	Si
4	SLU	Comb. SLU A1 4	Si
5	SLU	Comb. SLU A1 5	Si
6	SLU	Comb. SLU A1 6	Si
7	SLU	Comb. SLU A1 7	Si
8	SLU	Comb. SLU A1 8	Si
9	SLU	Comb. SLU A1 9	Si
10	SLU	Comb. SLU A1 10	Si
11	SLU	Comb. SLU A1 11	Si
12	SLU	Comb. SLU A1 12	Si
13	SLU	Comb. SLU A1 13	Si
14	SLU	Comb. SLU A1 14	Si
15	SLU	Comb. SLU A1 15	Si
16	SLU	Comb. SLU A1 16	Si
17	SLU	Comb. SLU A1 17	Si
18	SLU	Comb. SLU A1 18	Si
19	SLU	Comb. SLU A1 19	Si
20	SLU	Comb. SLU A1 20	Si
21	SLU	Comb. SLU A1 21	Si
22	SLU	Comb. SLU A1 22	Si
23	SLU	Comb. SLU A1 23	Si
24	SLU	Comb. SLU A1 24	Si
25	SLU	Comb. SLU A1 25	Si
26	SLU	Comb. SLU A1 26	Si
27	SLU	Comb. SLU A1 27	Si
28	SLU	Comb. SLU A1 28	Si
29	SLU	Comb. SLU A1 29	Si
30	SLU	Comb. SLU A1 30	Si
31	SLU	Comb. SLU A1 31	Si
32	SLU	Comb. SLU A1 32	Si
33	SLU	Comb. SLU A1 33	Si
34	SLU	Comb. SLU A1 34	Si
35	SLU	Comb. SLU A1 35	Si
36	SLU	Comb. SLU A1 36	Si
37	SLU	Comb. SLU A1 37	Si
38	SLU	Comb. SLU A1 38	Si
39	SLU	Comb. SLU A1 39	Si
40	SLU	Comb. SLU A1 40	Si
41	SLU	Comb. SLU A1 41	
42	SLU	Comb. SLU A1 42	
43	SLU	Comb. SLU A1 43	
44	SLU	Comb. SLU A1 44	
45	SLU	Comb. SLU A1 45	
46	SLU	Comb. SLU A1 46	
47	SLU	Comb. SLU A1 (SLV sism.) 47	Si
48	SLU	Comb. SLU A1 (SLV sism.) 48	Si
49	SLU	Comb. SLU A1 (SLV sism.) 49	Si
50	SLU	Comb. SLU A1 (SLV sism.) 50	Si
51	SLU	Comb. SLU A1 (SLV sism.) 51	Si
52	SLU	Comb. SLU A1 (SLV sism.) 52	Si
53	SLU	Comb. SLU A1 (SLV sism.) 53	Si
54	SLU	Comb. SLU A1 (SLV sism.) 54	Si
55	SLU	Comb. SLU A1 (SLV sism.) 55	Si
56	SLU	Comb. SLU A1 (SLV sism.) 56	Si
57	SLU	Comb. SLU A1 (SLV sism.) 57	Si
58	SLU	Comb. SLU A1 (SLV sism.) 58	Si
59	SLU	Comb. SLU A1 (SLV sism.) 59	Si
60	SLU	Comb. SLU A1 (SLV sism.) 60	Si
61	SLU	Comb. SLU A1 (SLV sism.) 61	Si
62	SLU	Comb. SLU A1 (SLV sism.) 62	Si
63	SLU	Comb. SLU A1 (SLV sism.) 63	Si
64	SLU	Comb. SLU A1 (SLV sism.) 64	Si
65	SLU	Comb. SLU A1 (SLV sism.) 65	Si
66	SLU	Comb. SLU A1 (SLV sism.) 66	Si
67	SLU	Comb. SLU A1 (SLV sism.) 67	Si
68	SLU	Comb. SLU A1 (SLV sism.) 68	Si

Cmb	Tipo	Sigla Id	effetto P-delta
69	SLU	Comb. SLU A1 (SLV sism.) 69	Si
70	SLU	Comb. SLU A1 (SLV sism.) 70	Si
71	SLU	Comb. SLU A1 (SLV sism.) 71	Si
72	SLU	Comb. SLU A1 (SLV sism.) 72	Si
73	SLU	Comb. SLU A1 (SLV sism.) 73	Si
74	SLU	Comb. SLU A1 (SLV sism.) 74	Si
75	SLU	Comb. SLU A1 (SLV sism.) 75	Si
76	SLU	Comb. SLU A1 (SLV sism.) 76	Si
77	SLU	Comb. SLU A1 (SLV sism.) 77	Si
78	SLU	Comb. SLU A1 (SLV sism.) 78	Si
79	SLD(sis)	Comb. SLE (SLD Danno sism.) 79	Si
80	SLD(sis)	Comb. SLE (SLD Danno sism.) 80	Si
81	SLD(sis)	Comb. SLE (SLD Danno sism.) 81	Si
82	SLD(sis)	Comb. SLE (SLD Danno sism.) 82	Si
83	SLD(sis)	Comb. SLE (SLD Danno sism.) 83	Si
84	SLD(sis)	Comb. SLE (SLD Danno sism.) 84	Si
85	SLD(sis)	Comb. SLE (SLD Danno sism.) 85	Si
86	SLD(sis)	Comb. SLE (SLD Danno sism.) 86	Si
87	SLD(sis)	Comb. SLE (SLD Danno sism.) 87	Si
88	SLD(sis)	Comb. SLE (SLD Danno sism.) 88	Si
89	SLD(sis)	Comb. SLE (SLD Danno sism.) 89	Si
90	SLD(sis)	Comb. SLE (SLD Danno sism.) 90	Si
91	SLD(sis)	Comb. SLE (SLD Danno sism.) 91	Si
92	SLD(sis)	Comb. SLE (SLD Danno sism.) 92	Si
93	SLD(sis)	Comb. SLE (SLD Danno sism.) 93	Si
94	SLD(sis)	Comb. SLE (SLD Danno sism.) 94	Si
95	SLD(sis)	Comb. SLE (SLD Danno sism.) 95	Si
96	SLD(sis)	Comb. SLE (SLD Danno sism.) 96	Si
97	SLD(sis)	Comb. SLE (SLD Danno sism.) 97	Si
98	SLD(sis)	Comb. SLE (SLD Danno sism.) 98	Si
99	SLD(sis)	Comb. SLE (SLD Danno sism.) 99	Si
100	SLD(sis)	Comb. SLE (SLD Danno sism.) 100	Si
101	SLD(sis)	Comb. SLE (SLD Danno sism.) 101	Si
102	SLD(sis)	Comb. SLE (SLD Danno sism.) 102	Si
103	SLD(sis)	Comb. SLE (SLD Danno sism.) 103	Si
104	SLD(sis)	Comb. SLE (SLD Danno sism.) 104	Si
105	SLD(sis)	Comb. SLE (SLD Danno sism.) 105	Si
106	SLD(sis)	Comb. SLE (SLD Danno sism.) 106	Si
107	SLD(sis)	Comb. SLE (SLD Danno sism.) 107	Si
108	SLD(sis)	Comb. SLE (SLD Danno sism.) 108	Si
109	SLD(sis)	Comb. SLE (SLD Danno sism.) 109	Si
110	SLD(sis)	Comb. SLE (SLD Danno sism.) 110	Si
111	SLE(r)	Comb. SLE(rara) 111	Si
112	SLE(r)	Comb. SLE(rara) 112	Si
113	SLE(r)	Comb. SLE(rara) 113	Si
114	SLE(r)	Comb. SLE(rara) 114	Si
115	SLE(r)	Comb. SLE(rara) 115	Si
116	SLE(r)	Comb. SLE(rara) 116	Si
117	SLE(r)	Comb. SLE(rara) 117	Si
118	SLE(r)	Comb. SLE(rara) 118	Si
119	SLE(r)	Comb. SLE(rara) 119	Si
120	SLE(r)	Comb. SLE(rara) 120	Si
121	SLE(r)	Comb. SLE(rara) 121	Si
122	SLE(r)	Comb. SLE(rara) 122	Si
123	SLE(r)	Comb. SLE(rara) 123	Si
124	SLE(r)	Comb. SLE(rara) 124	Si
125	SLE(r)	Comb. SLE(rara) 125	Si
126	SLE(r)	Comb. SLE(rara) 126	Si
127	SLE(r)	Comb. SLE(rara) 127	Si
128	SLE(r)	Comb. SLE(rara) 128	Si
129	SLE(r)	Comb. SLE(rara) 129	Si
130	SLE(r)	Comb. SLE(rara) 130	Si
131	SLE(r)	Comb. SLE(rara) 131	
132	SLE(r)	Comb. SLE(rara) 132	
133	SLE(r)	Comb. SLE(rara) 133	

Cmb	CDC 1/15	CDC 2/16	CDC 3	CDC 4	CDC 5	CDC 6	CDC 7	CDC 8	CDC 9	CDC 10	CDC 11	CDC 12	CDC 13	CDC 14
1	1.30	1.30	1.50	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.90	0.0
	0.0	0.0												
2	1.30	1.30	1.50	1.50	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.90	0.0
	0.0	0.0												
3	1.00	1.00	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.90	0.0
	0.0	0.0												
4	1.00	1.00	0.0	1.50	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.90	0.0
	0.0	0.0												
5	1.30	1.30	1.50	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	1.50	0.0
	0.0	0.0												
6	1.30	1.30	1.50	1.05	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	1.50	0.0
	0.0	0.0												
7	1.00	1.00	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	1.50	0.0
	0.0	0.0												
8	1.00	1.00	0.0	1.05	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	1.50	0.0
	0.0	0.0												
9	1.30	1.30	1.50	1.05	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.90	0.0
	0.0	0.0												
10	1.00	1.00	0.0	1.05	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.90	0.0
	0.0	0.0												
11	1.30	1.30	1.50	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.90
	0.0	0.0												
12	1.30	1.30	1.50	1.50	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.90
	0.0	0.0												
13	1.00	1.00	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.90
	0.0	0.0												
14	1.00	1.00	0.0	1.50	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.90
	0.0	0.0												
15	1.30	1.30	1.50	1.05	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.90
	0.0	0.0												
16	1.00	1.00	0.0	1.05	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.90
	0.0	0.0												
17	1.30	1.30	1.50	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	1.50
	0.0	0.0												
18	1.30	1.30	1.50	1.05	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	1.50
	0.0	0.0												
19	1.00	1.00	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	1.50
	0.0	0.0												
20	1.00	1.00	0.0	1.05	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	1.50
	0.0	0.0												
21	1.30	1.30	1.50	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
	0.90	0.0												
22	1.30	1.30	1.50	1.50	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
	0.90	0.0												
23	1.00	1.00	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
	0.90	0.0												
24	1.00	1.00	0.0	1.50	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
	0.90	0.0												
25	1.30	1.30	1.50	1.05	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
	0.90	0.0												
26	1.00	1.00	0.0	1.05	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
	0.90	0.0												
27	1.30	1.30	1.50	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
	1.50	0.0												
28	1.30	1.30	1.50	1.05	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
	1.50	0.0												
29	1.00	1.00	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
	1.50	0.0												
30	1.00	1.00	0.0	1.05	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
	1.50	0.0												
31	1.30	1.30	1.50	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
	0.0	0.90												
32	1.30	1.30	1.50	1.50	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
	0.0	0.90												
33	1.00	1.00	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
	0.0	0.90												
34	1.00	1.00	0.0	1.50	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
	0.0	0.90												
35	1.30	1.30	1.50	1.05	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
	0.0	0.90												
36	1.00	1.00	0.0	1.05	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
	0.0	0.90												

Cmb	CDC 1/15	CDC 2/16	CDC 3	CDC 4	CDC 5	CDC 6	CDC 7	CDC 8	CDC 9	CDC 10	CDC 11	CDC 12	CDC 13	CDC 14
37	1.30	1.30	1.50	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
	0.0	1.50												
38	1.30	1.30	1.50	1.05	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
	0.0	1.50												
39	1.00	1.00	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
	0.0	1.50												
40	1.00	1.00	0.0	1.05	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
	0.0	1.50												
41	1.30	1.30	1.50	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
	0.0	0.0												
42	1.30	1.30	1.50	1.50	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
	0.0	0.0												
43	1.00	1.00	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
	0.0	0.0												
44	1.00	1.00	0.0	1.50	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
	0.0	0.0												
45	1.30	1.30	1.50	1.05	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
	0.0	0.0												
46	1.00	1.00	0.0	1.05	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
	0.0	0.0												
47	1.00	1.00	1.00	0.60	-1.00	0.0	-0.30	0.0	0.0	0.0	0.0	0.0	0.0	0.0
	0.0	0.0												
48	1.00	1.00	1.00	0.60	-1.00	0.0	0.30	0.0	0.0	0.0	0.0	0.0	0.0	0.0
	0.0	0.0												
49	1.00	1.00	1.00	0.60	1.00	0.0	-0.30	0.0	0.0	0.0	0.0	0.0	0.0	0.0
	0.0	0.0												
50	1.00	1.00	1.00	0.60	1.00	0.0	0.30	0.0	0.0	0.0	0.0	0.0	0.0	0.0
	0.0	0.0												
51	1.00	1.00	1.00	0.60	-1.00	0.0	0.0	-0.30	0.0	0.0	0.0	0.0	0.0	0.0
	0.0	0.0												
52	1.00	1.00	1.00	0.60	-1.00	0.0	0.0	0.30	0.0	0.0	0.0	0.0	0.0	0.0
	0.0	0.0												
53	1.00	1.00	1.00	0.60	1.00	0.0	0.0	-0.30	0.0	0.0	0.0	0.0	0.0	0.0
	0.0	0.0												
54	1.00	1.00	1.00	0.60	1.00	0.0	0.0	0.30	0.0	0.0	0.0	0.0	0.0	0.0
	0.0	0.0												
55	1.00	1.00	1.00	0.60	0.0	-1.00	-0.30	0.0	0.0	0.0	0.0	0.0	0.0	0.0
	0.0	0.0												
56	1.00	1.00	1.00	0.60	0.0	-1.00	0.30	0.0	0.0	0.0	0.0	0.0	0.0	0.0
	0.0	0.0												
57	1.00	1.00	1.00	0.60	0.0	1.00	-0.30	0.0	0.0	0.0	0.0	0.0	0.0	0.0
	0.0	0.0												
58	1.00	1.00	1.00	0.60	0.0	1.00	0.30	0.0	0.0	0.0	0.0	0.0	0.0	0.0
	0.0	0.0												
59	1.00	1.00	1.00	0.60	0.0	-1.00	0.0	-0.30	0.0	0.0	0.0	0.0	0.0	0.0
	0.0	0.0												
60	1.00	1.00	1.00	0.60	0.0	-1.00	0.0	0.30	0.0	0.0	0.0	0.0	0.0	0.0
	0.0	0.0												
61	1.00	1.00	1.00	0.60	0.0	1.00	0.0	-0.30	0.0	0.0	0.0	0.0	0.0	0.0
	0.0	0.0												
62	1.00	1.00	1.00	0.60	0.0	1.00	0.0	0.30	0.0	0.0	0.0	0.0	0.0	0.0
	0.0	0.0												
63	1.00	1.00	1.00	0.60	-0.30	0.0	-1.00	0.0	0.0	0.0	0.0	0.0	0.0	0.0
	0.0	0.0												
64	1.00	1.00	1.00	0.60	-0.30	0.0	1.00	0.0	0.0	0.0	0.0	0.0	0.0	0.0
	0.0	0.0												
65	1.00	1.00	1.00	0.60	0.30	0.0	-1.00	0.0	0.0	0.0	0.0	0.0	0.0	0.0
	0.0	0.0												
66	1.00	1.00	1.00	0.60	0.30	0.0	1.00	0.0	0.0	0.0	0.0	0.0	0.0	0.0
	0.0	0.0												
67	1.00	1.00	1.00	0.60	0.0	-0.30	-1.00	0.0	0.0	0.0	0.0	0.0	0.0	0.0
	0.0	0.0												
68	1.00	1.00	1.00	0.60	0.0	-0.30	1.00	0.0	0.0	0.0	0.0	0.0	0.0	0.0
	0.0	0.0												
69	1.00	1.00	1.00	0.60	0.0	0.30	-1.00	0.0	0.0	0.0	0.0	0.0	0.0	0.0
	0.0	0.0												
70	1.00	1.00	1.00	0.60	0.0	0.30	1.00	0.0	0.0	0.0	0.0	0.0	0.0	0.0
	0.0	0.0												
71	1.00	1.00	1.00	0.60	-0.30	0.0	0.0	-1.00	0.0	0.0	0.0	0.0	0.0	0.0
	0.0	0.0												
72	1.00	1.00	1.00	0.60	-0.30	0.0	0.0	1.00	0.0	0.0	0.0	0.0	0.0	0.0
	0.0	0.0												

Cmb	CDC 1/15	CDC 2/16	CDC 3	CDC 4	CDC 5	CDC 6	CDC 7	CDC 8	CDC 9	CDC 10	CDC 11	CDC 12	CDC 13	CDC 14
73	1.00	1.00	1.00	0.60	0.30	0.0	0.0	-1.00	0.0	0.0	0.0	0.0	0.0	0.0
	0.0	0.0												
74	1.00	1.00	1.00	0.60	0.30	0.0	0.0	1.00	0.0	0.0	0.0	0.0	0.0	0.0
	0.0	0.0												
75	1.00	1.00	1.00	0.60	0.0	-0.30	0.0	-1.00	0.0	0.0	0.0	0.0	0.0	0.0
	0.0	0.0												
76	1.00	1.00	1.00	0.60	0.0	-0.30	0.0	1.00	0.0	0.0	0.0	0.0	0.0	0.0
	0.0	0.0												
77	1.00	1.00	1.00	0.60	0.0	0.30	0.0	-1.00	0.0	0.0	0.0	0.0	0.0	0.0
	0.0	0.0												
78	1.00	1.00	1.00	0.60	0.0	0.30	0.0	1.00	0.0	0.0	0.0	0.0	0.0	0.0
	0.0	0.0												
79	1.00	1.00	1.00	0.60	0.0	0.0	0.0	0.0	-1.00	0.0	-0.30	0.0	0.0	0.0
	0.0	0.0												
80	1.00	1.00	1.00	0.60	0.0	0.0	0.0	0.0	-1.00	0.0	0.30	0.0	0.0	0.0
	0.0	0.0												
81	1.00	1.00	1.00	0.60	0.0	0.0	0.0	0.0	1.00	0.0	-0.30	0.0	0.0	0.0
	0.0	0.0												
82	1.00	1.00	1.00	0.60	0.0	0.0	0.0	0.0	1.00	0.0	0.30	0.0	0.0	0.0
	0.0	0.0												
83	1.00	1.00	1.00	0.60	0.0	0.0	0.0	0.0	-1.00	0.0	0.0	-0.30	0.0	0.0
	0.0	0.0												
84	1.00	1.00	1.00	0.60	0.0	0.0	0.0	0.0	-1.00	0.0	0.0	0.30	0.0	0.0
	0.0	0.0												
85	1.00	1.00	1.00	0.60	0.0	0.0	0.0	0.0	1.00	0.0	0.0	-0.30	0.0	0.0
	0.0	0.0												
86	1.00	1.00	1.00	0.60	0.0	0.0	0.0	0.0	1.00	0.0	0.0	0.30	0.0	0.0
	0.0	0.0												
87	1.00	1.00	1.00	0.60	0.0	0.0	0.0	0.0	0.0	-1.00	-0.30	0.0	0.0	0.0
	0.0	0.0												
88	1.00	1.00	1.00	0.60	0.0	0.0	0.0	0.0	0.0	-1.00	0.30	0.0	0.0	0.0
	0.0	0.0												
89	1.00	1.00	1.00	0.60	0.0	0.0	0.0	0.0	0.0	1.00	-0.30	0.0	0.0	0.0
	0.0	0.0												
90	1.00	1.00	1.00	0.60	0.0	0.0	0.0	0.0	0.0	1.00	0.30	0.0	0.0	0.0
	0.0	0.0												
91	1.00	1.00	1.00	0.60	0.0	0.0	0.0	0.0	0.0	-1.00	0.0	-0.30	0.0	0.0
	0.0	0.0												
92	1.00	1.00	1.00	0.60	0.0	0.0	0.0	0.0	0.0	-1.00	0.0	0.30	0.0	0.0
	0.0	0.0												
93	1.00	1.00	1.00	0.60	0.0	0.0	0.0	0.0	0.0	1.00	0.0	-0.30	0.0	0.0
	0.0	0.0												
94	1.00	1.00	1.00	0.60	0.0	0.0	0.0	0.0	0.0	1.00	0.0	0.30	0.0	0.0
	0.0	0.0												
95	1.00	1.00	1.00	0.60	0.0	0.0	0.0	0.0	-0.30	0.0	-1.00	0.0	0.0	0.0
	0.0	0.0												
96	1.00	1.00	1.00	0.60	0.0	0.0	0.0	0.0	-0.30	0.0	1.00	0.0	0.0	0.0
	0.0	0.0												
97	1.00	1.00	1.00	0.60	0.0	0.0	0.0	0.0	0.30	0.0	-1.00	0.0	0.0	0.0
	0.0	0.0												
98	1.00	1.00	1.00	0.60	0.0	0.0	0.0	0.0	0.30	0.0	1.00	0.0	0.0	0.0
	0.0	0.0												
99	1.00	1.00	1.00	0.60	0.0	0.0	0.0	0.0	0.0	-0.30	-1.00	0.0	0.0	0.0
	0.0	0.0												
100	1.00	1.00	1.00	0.60	0.0	0.0	0.0	0.0	0.0	-0.30	1.00	0.0	0.0	0.0
	0.0	0.0												
101	1.00	1.00	1.00	0.60	0.0	0.0	0.0	0.0	0.0	0.30	-1.00	0.0	0.0	0.0
	0.0	0.0												
102	1.00	1.00	1.00	0.60	0.0	0.0	0.0	0.0	0.0	0.30	1.00	0.0	0.0	0.0
	0.0	0.0												
103	1.00	1.00	1.00	0.60	0.0	0.0	0.0	0.0	-0.30	0.0	0.0	-1.00	0.0	0.0
	0.0	0.0												
104	1.00	1.00	1.00	0.60	0.0	0.0	0.0	0.0	-0.30	0.0	0.0	1.00	0.0	0.0
	0.0	0.0												
105	1.00	1.00	1.00	0.60	0.0	0.0	0.0	0.0	0.30	0.0	0.0	-1.00	0.0	0.0
	0.0	0.0												
106	1.00	1.00	1.00	0.60	0.0	0.0	0.0	0.0	0.30	0.0	0.0	1.00	0.0	0.0
	0.0	0.0												
107	1.00	1.00	1.00	0.60	0.0	0.0	0.0	0.0	0.0	-0.30	0.0	-1.00	0.0	0.0
	0.0	0.0												
108	1.00	1.00	1.00	0.60	0.0	0.0	0.0	0.0	0.0	-0.30	0.0	1.00	0.0	0.0
	0.0	0.0												

Cmb	CDC 1/15	CDC 2/16	CDC 3	CDC 4	CDC 5	CDC 6	CDC 7	CDC 8	CDC 9	CDC 10	CDC 11	CDC 12	CDC 13	CDC 14
109	1.00	1.00	1.00	0.60	0.0	0.0	0.0	0.0	0.0	0.30	0.0	-1.00	0.0	0.0
	0.0	0.0												
110	1.00	1.00	1.00	0.60	0.0	0.0	0.0	0.0	0.0	0.30	0.0	1.00	0.0	0.0
	0.0	0.0												
111	1.00	1.00	1.00	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.60	0.0
	0.0	0.0												
112	1.00	1.00	1.00	1.00	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.60	0.0
	0.0	0.0												
113	1.00	1.00	1.00	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	1.00	0.0
	0.0	0.0												
114	1.00	1.00	1.00	0.70	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	1.00	0.0
	0.0	0.0												
115	1.00	1.00	1.00	0.70	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.60	0.0
	0.0	0.0												
116	1.00	1.00	1.00	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.60
	0.0	0.0												
117	1.00	1.00	1.00	1.00	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.60
	0.0	0.0												
118	1.00	1.00	1.00	0.70	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.60
	0.0	0.0												
119	1.00	1.00	1.00	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	1.00
	0.0	0.0												
120	1.00	1.00	1.00	0.70	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	1.00
	0.0	0.0												
121	1.00	1.00	1.00	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
	0.60	0.0												
122	1.00	1.00	1.00	1.00	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
	0.60	0.0												
123	1.00	1.00	1.00	0.70	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
	0.60	0.0												
124	1.00	1.00	1.00	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
	1.00	0.0												
125	1.00	1.00	1.00	0.70	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
	1.00	0.0												
126	1.00	1.00	1.00	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
	0.0	0.60												
127	1.00	1.00	1.00	1.00	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
	0.0	0.60												
128	1.00	1.00	1.00	0.70	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
	0.0	0.60												
129	1.00	1.00	1.00	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
	0.0	1.00												
130	1.00	1.00	1.00	0.70	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
	0.0	1.00												
131	1.00	1.00	1.00	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
	0.0	0.0												
132	1.00	1.00	1.00	1.00	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
	0.0	0.0												
133	1.00	1.00	1.00	0.70	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
	0.0	0.0												

3.8 AZIONE SISMICA

VALUTAZIONE DELL' AZIONE SISMICA

L'azione sismica sulle costruzioni è valutata a partire dalla "pericolosità sismica di base", in condizioni ideali di sito di riferimento rigido con superficie topografica orizzontale.

Allo stato attuale, la pericolosità sismica su reticolo di riferimento nell'intervallo di riferimento è fornita dai dati pubblicati sul sito http://esse1.mi.ingv.it/. Per punti non coincidenti con il reticolo di riferimento e periodi di ritorno non contemplati direttamente si opera come indicato nell' allegato alle NTC (rispettivamente media pesata e interpolazione).

L' azione sismica viene definita in relazione ad un periodo di riferimento Vr che si ricava, per ciascun tipo di costruzione, moltiplicandone la vita nominale per il coefficiente d'uso (vedi tabella Parametri della struttura). Fissato il periodo di riferimento Vr e la probabilità di superamento Pver associata a ciascuno degli stati limite considerati, si ottiene il periodo di ritorno Tr e i relativi parametri di pericolosità sismica (vedi tabella successiva):

ag: accelerazione orizzontale massima del terreno;

Fo: valore massimo del fattore di amplificazione dello spettro in accelerazione orizzontale;

T*c: periodo di inizio del tratto a velocità costante dello spettro in accelerazione orizzontale;

Parametri della struttura					
Classe d'uso	Vita Vn [anni]	Coeff. Uso	Periodo Vr [anni]	Tipo di suolo	Categoria topografica
IV	100.0	2.0	200.0	C	T1

Individuati su reticolo di riferimento i parametri di pericolosità sismica si valutano i parametri spettrali riportati in tabella:

S è il coefficiente che tiene conto della categoria di sottosuolo e delle condizioni topografiche

mediante la relazione seguente S = Ss*St (3.2.5)

Fo è il fattore che quantifica l'amplificazione spettrale massima, su sito di riferimento rigido orizzontale

Fv è il fattore che quantifica l'amplificazione spettrale massima verticale, in termini di accelerazione orizzontale massima del terreno ag su sito di riferimento rigido orizzontale

Tb è il periodo corrispondente all'inizio del tratto dello spettro ad accelerazione costante.

Tc è il periodo corrispondente all'inizio del tratto dello spettro a velocità costante.

Td è il periodo corrispondente all'inizio del tratto dello spettro a spostamento costante.

Id nodo	Longitudine	Latitudine	Distanza
			Km
Loc.	8.872	44.410	
16917	8.872	44.395	1.662
16918	8.942	44.398	5.700
16696	8.938	44.448	6.710
16695	8.868	44.445	3.892

SL	Pver	Tr	ag	Fo	T*c
		Anni	g		sec
SLO	81.0	120.0	0.040	2.540	0.250
SLD	63.0	201.0	0.049	2.530	0.270
SLV	10.0	1898.0	0.105	2.540	0.310
SLC	5.0	2475.0	0.115	2.540	0.310

SL	ag	S	Fo	Fv	Tb	Tc	Td
	g				sec	sec	sec
SLO	0.040	1.500	2.540	0.689	0.138	0.415	1.762
SLD	0.049	1.500	2.530	0.758	0.146	0.437	1.797
SLV	0.105	1.500	2.540	1.111	0.160	0.479	2.020
SLC	0.115	1.500	2.540	1.161	0.160	0.479	2.059

3.9 RISULTATI ANALISI SISMICHE

LEGENDA TABELLA ANALISI SISMICHE

Il programma consente l'analisi di diverse configurazioni sismiche.

Sono previsti, infatti, i seguenti casi di carico:
9. Esk caso di carico sismico con analisi statica equivalente
10. Edk caso di carico sismico con analisi dinamica

Ciascun caso di carico è caratterizzato da un angolo di ingresso e da una configurazione di masse determinante la forza sismica complessiva (si rimanda al capitolo relativo ai casi di carico per chiarimenti inerenti questo aspetto).

Nella colonna Note, in funzione della norma in uso sono riportati i parametri fondamentali che caratterizzano l' azione sismica: in particolare possono essere presenti i seguenti valori:

Angolo di ingresso	Angolo di ingresso dell'azione sismica orizzontale
Fattore di importanza	Fattore di importanza dell'edificio, in base alla categoria di appartenenza
Zona sismica	Zona sismica
Accelerazione ag	Accelerazione orizzontale massima sul suolo
Categoria suolo	Categoria di profilo stratigrafico del suolo di fondazione
Fattore di struttura q	Fattore dipendente dalla tipologia strutturale
Fattore di sito S	Fattore dipendente dalla stratigrafia e dal profilo topografico
Classe di duttilità CD	Classe di duttilità della struttura – "A" duttilità alta, "B" duttilità bassa
Fattore riduz. SLD	Fattore di riduzione dello spettro elastico per lo stato limite di danno
Periodo proprio T1	Periodo proprio di vibrazione della struttura
Coefficiente Lambda	Coefficiente dipendente dal periodo proprio T1 e dal numero di piani della struttura
Ordinata spettro Sd(T1)	Valore delle ordinate dello spettro di progetto per lo stato limite ultimo, componente orizzontale (verticale Svd)
Ordinata spettro Se(T1)	Valore delle ordinate dello spettro elastico ridotta del fattore SLD per lo stato limite di danno, componente orizzontale (verticale Sve)
Ordinata spettro S (Tb-Tc)	Valore dell' ordinata dello spettro in uso nel tratto costante
numero di modi considerati	Numero di modi di vibrare della struttura considerati nell'analisi dinamica

Per ciascun caso di carico sismico viene riportato l'insieme di dati sotto riportati (le masse sono espresse in unità di forza):

c) **analisi sismica statica equivalente**:
- quota, posizione del centro di applicazione e azione orizzontale risultante, posizione del baricentro delle rigidezze, rapporto r/Ls (per strutture a nucleo), indici di regolarità e/r secondo EC8 4.2.3.2
- azione sismica complessiva

d) **analisi sismica dinamica con spettro di risposta**:
- quota, posizione del centro di massa e massa risultante, posizione del baricentro delle rigidezze, rapporto r/Ls (per strutture a nucleo) **,** indici di regolarità e/r secondo EC8 4.2.3.2
- frequenza, periodo, accelerazione spettrale, massa eccitata nelle tre direzioni globali per tutti i modi
- massa complessiva ed aliquota di massa complessiva eccitata.

TABELLA ANALISI SISMICHE

CDC	Tipo	Sigla Id	Note
5	Edk	CDC=Ed (dinamico SLU) alfa=0.0 (ecc. +)	
			categoria suolo: C
			fattore di sito S = 1.500
			ordinata spettro (tratto Tb-Tc) = 0.133 g
			angolo di ingresso:0.0
			eccentricità aggiuntiva: positiva
			periodo proprio T1: 0.875 sec.
			fattore di struttura q: 3.000
			fattore per spost. mu d: 3.000
			classe di duttilità CD: B
			numero di modi considerati: 9
			combinaz. modale: CQC

Quota	M Sismica x g	Pos. GX	Pos. GY	E agg. X-X	E agg. Y-Y	Pos. KX	Pos. KY	rapp. r/Ls	rapp. ex/rx	rapp. ey/ry
cm	daN	cm	cm	cm	cm	cm	cm			
2357.00	2628.89	97.00	105.43	0.0	-10.20	97.00	102.00	1.405	0.0	0.018
2171.00	1554.62	94.13	100.40	0.0	-10.20	97.00	102.00	1.405	0.025	0.008
1937.00	6.296e+04	-50.35	94.40	0.0	-47.20	36.15	104.92	0.709	0.122	0.021
1837.00	1338.62	97.00	102.00	0.0	-27.20	97.00	102.00	1.425	0.0	0.0
1775.00	2051.48	-56.56	271.31	0.0	-8.50	0.0	0.0	0.0	0.0	0.0
1685.00	1584.26	94.18	90.20	0.0	-10.20	97.00	102.00	1.405	0.025	0.061
1613.00	2044.04	250.77	271.55	0.0	-8.50	202.38	250.03	0.924	0.754	0.256
1451.00	6.495e+04	-54.98	91.47	0.0	-47.20	36.15	104.92	0.709	0.128	0.026
1351.00	1338.62	97.00	102.00	0.0	-27.20	97.00	102.00	1.425	0.0	0.0
1289.00	2051.48	-56.56	271.31	0.0	-8.50	0.0	0.0	0.0	0.0	0.0
1199.00	1584.26	94.18	90.20	0.0	-10.20	97.00	102.00	1.405	0.025	0.061
1127.00	2044.04	250.77	271.55	0.0	-8.50	202.38	250.03	0.924	0.754	0.256
965.00	6.739e+04	-54.75	91.73	0.0	-47.20	36.15	104.92	0.709	0.128	0.026
865.00	1338.62	97.00	102.00	0.0	-27.20	97.00	102.00	1.425	0.0	0.0
803.00	2047.34	-56.68	271.45	0.0	-8.50	0.0	0.0	0.0	0.0	0.0
723.00	1534.86	97.00	93.10	0.0	-10.20	97.00	102.00	1.405	0.0	0.046
641.00	2048.17	250.66	271.42	0.0	-8.50	202.38	250.03	0.924	0.753	0.254
479.00	1.017e+04	99.85	32.41	0.0	-27.20	93.91	109.03	1.341	0.017	0.260
379.00	1153.07	97.00	102.00	0.0	-27.20	97.00	102.00	1.425	0.0	0.0
317.00	2048.58	-56.64	271.40	0.0	-8.50	0.0	0.0	0.0	0.0	0.0
234.00	1569.63	94.34	90.45	0.0	-10.20	97.00	102.00	1.405	0.023	0.060
155.00	2023.14	250.43	271.87	0.0	-8.50	202.38	250.03	0.924	0.749	0.260
Risulta	2.375e+05									

Modo	Frequenza	Periodo	Acc. Spettrale	M efficace X x g	%	M efficace Y x g	%	M efficace Z x g	%	Energia	Energia x v
	Hz	sec	g	daN		daN		daN			
1	0.567	1.765	0.036	6773.11	2.9	1.347e+04	5.7	1.11	4.67e-04	0.0	0.0
2	1.142	0.875	0.073	1.605e+05	67.6	4.713e+04	19.8	4.88	2.06e-03	0.0	0.0
3	1.170	0.855	0.075	4.125e+04	17.4	1.426e+05	60.1	5.21	2.19e-03	0.0	0.0
4	2.264	0.442	0.133	1150.04	0.5	697.93	0.3	0.04	1.85e-05	0.0	0.0
5	4.124	0.242	0.133	1.419e+04	6.0	6794.86	2.9	7.44e-03	3.13e-06	0.0	0.0
6	4.337	0.231	0.133	5435.29	2.3	1.526e+04	6.4	2.94	1.24e-03	0.0	0.0
7	4.540	0.220	0.133	502.06	0.2	602.33	0.3	0.37	1.57e-04	0.0	0.0
8	5.534	0.181	0.133	10.21	4.30e-03	0.30	1.27e-04	1.054e+04	4.4	0.0	0.0
9	5.784	0.173	0.133	9.60	4.04e-03	0.04	1.57e-05	1.58	6.65e-04	0.0	0.0
Risulta				2.298e+05		2.266e+05		1.055e+04			
In percentuale				96.78		95.43		4.44			

CDC	Tipo	Sigla Id	Note
6	Edk	CDC=Ed (dinamico SLU) alfa=0.0 (ecc. -)	
			categoria suolo: C
			fattore di sito S = 1.500
			ordinata spettro (tratto Tb-Tc) = 0.133 g
			angolo di ingresso:0.0
			eccentricità aggiuntiva: negativa
			periodo proprio T1: 0.883 sec.
			fattore di struttura q: 3.000
			fattore per spost. mu d: 3.000
			classe di duttilità CD: B
			numero di modi considerati: 9
			combinaz. modale: CQC

Quota	M Sismica x g	Pos. GX	Pos. GY	E agg. X-X	E agg. Y-Y	Pos. KX	Pos. KY	rapp. r/Ls	rapp. ex/rx	rapp. ey/ry
cm	daN	cm	cm	cm	cm	cm	cm			
2357.00	2628.89	97.00	105.43	0.0	10.20	97.00	102.00	1.405	0.0	0.018
2171.00	1554.62	94.13	100.40	0.0	10.20	97.00	102.00	1.405	0.025	0.008
1937.00	6.296e+04	-50.35	94.40	0.0	47.20	36.15	104.92	0.709	0.122	0.021
1837.00	1338.62	97.00	102.00	0.0	27.20	97.00	102.00	1.425	0.0	0.0
1775.00	2051.48	-56.56	271.31	0.0	8.50	0.0	0.0	0.0	0.0	0.0
1685.00	1584.26	94.18	90.20	0.0	10.20	97.00	102.00	1.405	0.025	0.061
1613.00	2044.04	250.77	271.55	0.0	8.50	202.38	250.03	0.924	0.754	0.256
1451.00	6.495e+04	-54.98	91.47	0.0	47.20	36.15	104.92	0.709	0.128	0.026
1351.00	1338.62	97.00	102.00	0.0	27.20	97.00	102.00	1.425	0.0	0.0
1289.00	2051.48	-56.56	271.31	0.0	8.50	0.0	0.0	0.0	0.0	0.0
1199.00	1584.26	94.18	90.20	0.0	10.20	97.00	102.00	1.405	0.025	0.061
1127.00	2044.04	250.77	271.55	0.0	8.50	202.38	250.03	0.924	0.754	0.256
965.00	6.739e+04	-54.75	91.73	0.0	47.20	36.15	104.92	0.709	0.128	0.026
865.00	1338.62	97.00	102.00	0.0	27.20	97.00	102.00	1.425	0.0	0.0
803.00	2047.34	-56.68	271.45	0.0	8.50	0.0	0.0	0.0	0.0	0.0
723.00	1534.86	97.00	93.10	0.0	10.20	97.00	102.00	1.405	0.0	0.046
641.00	2048.17	250.66	271.42	0.0	8.50	202.38	250.03	0.924	0.753	0.254
479.00	1.017e+04	99.85	32.41	0.0	27.20	93.91	109.03	1.341	0.017	0.260
379.00	1153.07	97.00	102.00	0.0	27.20	97.00	102.00	1.425	0.0	0.0
317.00	2048.58	-56.64	271.40	0.0	8.50	0.0	0.0	0.0	0.0	0.0
234.00	1569.63	94.34	90.45	0.0	10.20	97.00	102.00	1.405	0.023	0.060
155.00	2023.14	250.43	271.87	0.0	8.50	202.38	250.03	0.924	0.749	0.260
Risulta	2.375e+05									

Modo	Frequenza	Periodo	Acc. Spettrale	M efficace X x g	%	M efficace Y x g	%	M efficace Z x g	%	Energia	Energia x v
	Hz	sec	g	daN		daN		daN			
1	0.573	1.746	0.037	5.07	2.13e-03	1.400e+04	5.9	1.40	5.90e-04	0.0	0.0
2	1.133	0.883	0.072	1.968e+05	82.9	1.045e+04	4.4	8.54	3.59e-03	0.0	0.0
3	1.166	0.858	0.074	1.203e+04	5.1	1.788e+05	75.3	0.06	2.57e-05	0.0	0.0
4	2.285	0.438	0.133	33.88	1.43e-02	840.73	0.4	0.11	4.61e-05	0.0	0.0
5	4.134	0.242	0.133	2.051e+04	8.6	70.22	2.96e-02	0.68	2.86e-04	0.0	0.0
6	4.286	0.233	0.133	113.57	4.78e-02	2.205e+04	9.3	1.93	8.12e-04	0.0	0.0
7	4.559	0.219	0.133	21.04	8.86e-03	394.87	0.2	0.03	1.05e-05	0.0	0.0
8	5.533	0.181	0.133	9.92	4.18e-03	0.18	7.66e-05	1.054e+04	4.4	0.0	0.0
9	5.784	0.173	0.133	8.71	3.67e-03	0.03	1.35e-05	0.18	7.70e-05	0.0	0.0
Risulta				2.295e+05		2.266e+05		1.055e+04			
In percentuale				96.65		95.43		4.44			

CDC	Tipo	Sigla Id	Note
7	Edk	CDC=Ed (dinamico SLU) alfa=90.00 (ecc. +)	
			categoria suolo: C
			fattore di sito S = 1.500
			ordinata spettro (tratto Tb-Tc) = 0.133 g
			angolo di ingresso:90.00
			eccentricità aggiuntiva: positiva
			periodo proprio T1: 0.884 sec.
			fattore di struttura q: 3.000
			fattore per spost. mu d: 3.000
			classe di duttilità CD: B
			numero di modi considerati: 9
			combinaz. modale: CQC

Quota	M Sismica x g	Pos. GX	Pos. GY	E agg. X-X	E agg. Y-Y	Pos. KX	Pos. KY	rapp. r/Ls	rapp. ex/rx	rapp. ey/ry
cm	daN	cm	cm	cm	cm	cm	cm			
2357.00	2628.89	97.00	105.43	9.70	0.0	97.00	102.00	1.405	0.0	0.018
2171.00	1554.62	94.13	100.40	9.70	0.0	97.00	102.00	1.405	0.025	0.008
1937.00	6.296e+04	-50.35	94.40	115.70	0.0	36.15	104.92	0.709	0.122	0.021
1837.00	1338.62	97.00	102.00	26.70	0.0	97.00	102.00	1.425	0.0	0.0
1775.00	2051.48	-56.56	271.31	8.50	0.0	0.0	0.0	0.0	0.0	0.0
1685.00	1584.26	94.18	90.20	9.70	0.0	97.00	102.00	1.405	0.025	0.061
1613.00	2044.04	250.77	271.55	8.50	0.0	202.38	250.03	0.924	0.754	0.256
1451.00	6.495e+04	-54.98	91.47	115.70	0.0	36.15	104.92	0.709	0.128	0.026
1351.00	1338.62	97.00	102.00	26.70	0.0	97.00	102.00	1.425	0.0	0.0
1289.00	2051.48	-56.56	271.31	8.50	0.0	0.0	0.0	0.0	0.0	0.0
1199.00	1584.26	94.18	90.20	9.70	0.0	97.00	102.00	1.405	0.025	0.061
1127.00	2044.04	250.77	271.55	8.50	0.0	202.38	250.03	0.924	0.754	0.256
965.00	6.739e+04	-54.75	91.73	115.70	0.0	36.15	104.92	0.709	0.128	0.026
865.00	1338.62	97.00	102.00	26.70	0.0	97.00	102.00	1.425	0.0	0.0
803.00	2047.34	-56.68	271.45	8.50	0.0	0.0	0.0	0.0	0.0	0.0
723.00	1534.86	97.00	93.10	9.70	0.0	97.00	102.00	1.405	0.0	0.046
641.00	2048.17	250.66	271.42	8.50	0.0	202.38	250.03	0.924	0.753	0.254
479.00	1.017e+04	99.85	32.41	26.70	0.0	93.91	109.03	1.341	0.017	0.260
379.00	1153.07	97.00	102.00	26.70	0.0	97.00	102.00	1.425	0.0	0.0
317.00	2048.58	-56.64	271.40	8.50	0.0	0.0	0.0	0.0	0.0	0.0
234.00	1569.63	94.34	90.45	9.70	0.0	97.00	102.00	1.405	0.023	0.060
155.00	2023.14	250.43	271.87	8.50	0.0	202.38	250.03	0.924	0.749	0.260
Risulta	2.375e+05									

Modo	Frequenza	Periodo	Acc. Spettrale	M efficace X x g	%	M efficace Y x g	%	M efficace Z x g	%	Energia	Energia x v
	Hz	sec	g	daN		daN		daN			
1	0.594	1.683	0.038	2099.42	0.9	531.61	0.2	1.45	6.09e-04	0.0	0.0
2	1.132	0.884	0.072	8.295e+04	34.9	1.195e+05	50.3	5.58	2.35e-03	0.0	0.0
3	1.144	0.874	0.073	1.237e+05	52.1	8.281e+04	34.9	3.31	1.39e-03	0.0	0.0
4	2.376	0.421	0.133	336.81	0.1	65.41	2.75e-02	0.16	6.66e-05	0.0	0.0
5	4.145	0.241	0.133	1.675e+04	7.1	3832.37	1.6	0.16	6.80e-05	0.0	0.0
6	4.193	0.238	0.133	3791.91	1.6	1.968e+04	8.3	2.00	8.40e-04	0.0	0.0
7	4.789	0.209	0.133	21.99	9.26e-03	2.54	1.07e-03	0.15	6.22e-05	0.0	0.0
8	5.534	0.181	0.133	9.93	4.18e-03	0.12	5.01e-05	1.060e+04	4.5	0.0	0.0
9	5.784	0.173	0.133	8.57	3.61e-03	5.76e-04	0.0	0.28	1.18e-04	0.0	0.0
Risulta				2.297e+05		2.265e+05		1.061e+04			
In percentuale				96.71		95.38		4.47			

CDC	Tipo	Sigla Id	Note
8	Edk	CDC=Ed (dinamico SLU) alfa=90.00 (ecc. -)	
			categoria suolo: C
			fattore di sito S = 1.500
			ordinata spettro (tratto Tb-Tc) = 0.133 g
			angolo di ingresso:90.00
			eccentricità aggiuntiva: negativa
			periodo proprio T1: 0.816 sec.
			fattore di struttura q: 3.000
			fattore per spost. mu d: 3.000
			classe di duttilità CD: B
			numero di modi considerati: 9
			combinaz. modale: CQC

Quota	M Sismica x g	Pos. GX	Pos. GY	E agg. X-X	E agg. Y-Y	Pos. KX	Pos. KY	rapp. r/Ls	rapp. ex/rx	rapp. ey/ry
cm	daN	cm	cm	cm	cm	cm	cm			
2357.00	2628.89	97.00	105.43	-9.70	0.0	97.00	102.00	1.405	0.0	0.018
2171.00	1554.62	94.13	100.40	-9.70	0.0	97.00	102.00	1.405	0.025	0.008
1937.00	6.296e+04	-50.35	94.40	-115.70	0.0	36.15	104.92	0.709	0.122	0.021
1837.00	1338.62	97.00	102.00	-26.70	0.0	97.00	102.00	1.425	0.0	0.0
1775.00	2051.48	-56.56	271.31	-8.50	0.0	0.0	0.0	0.0	0.0	0.0
1685.00	1584.26	94.18	90.20	-9.70	0.0	97.00	102.00	1.405	0.025	0.061
1613.00	2044.04	250.77	271.55	-8.50	0.0	202.38	250.03	0.924	0.754	0.256
1451.00	6.495e+04	-54.98	91.47	-115.70	0.0	36.15	104.92	0.709	0.128	0.026
1351.00	1338.62	97.00	102.00	-26.70	0.0	97.00	102.00	1.425	0.0	0.0
1289.00	2051.48	-56.56	271.31	-8.50	0.0	0.0	0.0	0.0	0.0	0.0
1199.00	1584.26	94.18	90.20	-9.70	0.0	97.00	102.00	1.405	0.025	0.061
1127.00	2044.04	250.77	271.55	-8.50	0.0	202.38	250.03	0.924	0.754	0.256
965.00	6.739e+04	-54.75	91.73	-115.70	0.0	36.15	104.92	0.709	0.128	0.026
865.00	1338.62	97.00	102.00	-26.70	0.0	97.00	102.00	1.425	0.0	0.0
803.00	2047.34	-56.68	271.45	-8.50	0.0	0.0	0.0	0.0	0.0	0.0
723.00	1534.86	97.00	93.10	-9.70	0.0	97.00	102.00	1.405	0.0	0.046
641.00	2048.17	250.66	271.42	-8.50	0.0	202.38	250.03	0.924	0.753	0.254
479.00	1.017e+04	99.85	32.41	-26.70	0.0	93.91	109.03	1.341	0.017	0.260
379.00	1153.07	97.00	102.00	-26.70	0.0	97.00	102.00	1.425	0.0	0.0
317.00	2048.58	-56.64	271.40	-8.50	0.0	0.0	0.0	0.0	0.0	0.0
234.00	1569.63	94.34	90.45	-9.70	0.0	97.00	102.00	1.405	0.023	0.060
155.00	2023.14	250.43	271.87	-8.50	0.0	202.38	250.03	0.924	0.749	0.260
Risulta	2.375e+05									

Modo	Frequenza	Periodo	Acc. Spettrale	M efficace X x g	%	M efficace Y x g	%	M efficace Z x g	%	Energia	Energia x v
	Hz	sec	g	daN		daN		daN			
1	0.545	1.834	0.035	1571.19	0.7	3.858e+04	16.2	1.08	4.54e-04	0.0	0.0
2	1.137	0.879	0.073	2.056e+05	86.6	2798.91	1.2	7.58	3.19e-03	0.0	0.0
3	1.225	0.816	0.078	1430.71	0.6	1.615e+05	68.0	2.26	9.51e-04	0.0	0.0
4	2.173	0.460	0.133	460.59	0.2	3513.26	1.5	0.02	6.88e-06	0.0	0.0
5	4.132	0.242	0.133	1.920e+04	8.1	1088.10	0.5	0.35	1.45e-04	0.0	0.0
6	4.259	0.235	0.133	222.56	9.37e-02	427.34	0.2	0.05	2.05e-05	0.0	0.0
7	4.566	0.219	0.133	1107.83	0.5	1.907e+04	8.0	3.84	1.62e-03	0.0	0.0
8	5.534	0.181	0.133	9.83	4.14e-03	0.33	1.39e-04	1.049e+04	4.4	0.0	0.0
9	5.784	0.173	0.133	9.01	3.79e-03	0.02	9.06e-06	1.28	5.40e-04	0.0	0.0
Risulta				2.297e+05		2.270e+05		1.050e+04			
In percentuale				96.72		95.58		4.42			

CDC	Tipo	Sigla Id	Note
9	Edk	CDC=Ed (dinamico SLD) alfa=0.0 (ecc. +)	
			categoria suolo: C
			fattore di sito S = 1.500
			ordinata spettro (tratto Tb-Tc) = 0.187 g
			angolo di ingresso:0.0
			eccentricità aggiuntiva: positiva
			periodo proprio T1: 0.875 sec.
			numero di modi considerati: 9
			combinaz. modale: CQC

Quota	M Sismica x g	Pos. GX	Pos. GY	E agg. X-X	E agg. Y-Y	Pos. KX	Pos. KY	rapp. r/Ls	rapp. ex/rx	rapp. ey/ry
cm	daN	cm	cm	cm	cm	cm	cm			
2357.00	2628.89	97.00	105.43	0.0	-10.20	97.00	102.00	1.405	0.0	0.018
2171.00	1554.62	94.13	100.40	0.0	-10.20	97.00	102.00	1.405	0.025	0.008
1937.00	6.296e+04	-50.35	94.40	0.0	-47.20	36.15	104.92	0.709	0.122	0.021
1837.00	1338.62	97.00	102.00	0.0	-27.20	97.00	102.00	1.425	0.0	0.0
1775.00	2051.48	-56.56	271.31	0.0	-8.50	0.0	0.0	0.0	0.0	0.0
1685.00	1584.26	94.18	90.20	0.0	-10.20	97.00	102.00	1.405	0.025	0.061
1613.00	2044.04	250.77	271.55	0.0	-8.50	202.38	250.03	0.924	0.754	0.256
1451.00	6.495e+04	-54.98	91.47	0.0	-47.20	36.15	104.92	0.709	0.128	0.026
1351.00	1338.62	97.00	102.00	0.0	-27.20	97.00	102.00	1.425	0.0	0.0
1289.00	2051.48	-56.56	271.31	0.0	-8.50	0.0	0.0	0.0	0.0	0.0
1199.00	1584.26	94.18	90.20	0.0	-10.20	97.00	102.00	1.405	0.025	0.061
1127.00	2044.04	250.77	271.55	0.0	-8.50	202.38	250.03	0.924	0.754	0.256
965.00	6.739e+04	-54.75	91.73	0.0	-47.20	36.15	104.92	0.709	0.128	0.026
865.00	1338.62	97.00	102.00	0.0	-27.20	97.00	102.00	1.425	0.0	0.0
803.00	2047.34	-56.68	271.45	0.0	-8.50	0.0	0.0	0.0	0.0	0.0
723.00	1534.86	97.00	93.10	0.0	-10.20	97.00	102.00	1.405	0.0	0.046
641.00	2048.17	250.66	271.42	0.0	-8.50	202.38	250.03	0.924	0.753	0.254
479.00	1.017e+04	99.85	32.41	0.0	-27.20	93.91	109.03	1.341	0.017	0.260
379.00	1153.07	97.00	102.00	0.0	-27.20	97.00	102.00	1.425	0.0	0.0
317.00	2048.58	-56.64	271.40	0.0	-8.50	0.0	0.0	0.0	0.0	0.0
234.00	1569.63	94.34	90.45	0.0	-10.20	97.00	102.00	1.405	0.023	0.060
155.00	2023.14	250.43	271.87	0.0	-8.50	202.38	250.03	0.924	0.749	0.260
Risulta	2.375e+05									

Modo	Frequenza	Periodo	Acc. Spettrale	M efficace X x g	%	M efficace Y x g	%	M efficace Z x g	%	Energia	Energia x v
	Hz	sec	g	daN		daN		daN			
1	0.567	1.765	0.046	6773.11	2.9	1.347e+04	5.7	1.11	4.67e-04	0.0	0.0
2	1.142	0.875	0.093	1.605e+05	67.6	4.713e+04	19.8	4.88	2.06e-03	0.0	0.0
3	1.170	0.855	0.095	4.125e+04	17.4	1.426e+05	60.1	5.21	2.19e-03	0.0	0.0
4	2.264	0.442	0.185	1150.04	0.5	697.93	0.3	0.04	1.85e-05	0.0	0.0
5	4.124	0.242	0.187	1.419e+04	6.0	6794.86	2.9	7.44e-03	3.13e-06	0.0	0.0
6	4.337	0.231	0.187	5435.29	2.3	1.526e+04	6.4	2.94	1.24e-03	0.0	0.0
7	4.540	0.220	0.187	502.06	0.2	602.33	0.3	0.37	1.57e-04	0.0	0.0
8	5.534	0.181	0.187	10.21	4.30e-03	0.30	1.27e-04	1.054e+04	4.4	0.0	0.0
9	5.784	0.173	0.187	9.60	4.04e-03	0.04	1.57e-05	1.58	6.65e-04	0.0	0.0
Risulta				2.298e+05		2.266e+05		1.055e+04			
In percentuale				96.78		95.43		4.44			

CDC	Tipo	Sigla Id	Note
10	Edk	CDC=Ed (dinamico SLD) alfa=0.0 (ecc. -)	
			categoria suolo: C
			fattore di sito S = 1.500
			ordinata spettro (tratto Tb-Tc) = 0.187 g
			angolo di ingresso:0.0
			eccentricità aggiuntiva: negativa
			periodo proprio T1: 0.883 sec.
			numero di modi considerati: 9
			combinaz. modale: CQC

Quota	M Sismica x g	Pos. GX	Pos. GY	E agg. X-X	E agg. Y-Y	Pos. KX	Pos. KY	rapp. r/Ls	rapp. ex/rx	rapp. ey/ry
cm	daN	cm	cm	cm	cm	cm	cm			
2357.00	2628.89	97.00	105.43	0.0	10.20	97.00	102.00	1.405	0.0	0.018
2171.00	1554.62	94.13	100.40	0.0	10.20	97.00	102.00	1.405	0.025	0.008
1937.00	6.296e+04	-50.35	94.40	0.0	47.20	36.15	104.92	0.709	0.122	0.021
1837.00	1338.62	97.00	102.00	0.0	27.20	97.00	102.00	1.425	0.0	0.0
1775.00	2051.48	-56.56	271.31	0.0	8.50	0.0	0.0	0.0	0.0	0.0
1685.00	1584.26	94.18	90.20	0.0	10.20	97.00	102.00	1.405	0.025	0.061
1613.00	2044.04	250.77	271.55	0.0	8.50	202.38	250.03	0.924	0.754	0.256
1451.00	6.495e+04	-54.98	91.47	0.0	47.20	36.15	104.92	0.709	0.128	0.026
1351.00	1338.62	97.00	102.00	0.0	27.20	97.00	102.00	1.425	0.0	0.0
1289.00	2051.48	-56.56	271.31	0.0	8.50	0.0	0.0	0.0	0.0	0.0
1199.00	1584.26	94.18	90.20	0.0	10.20	97.00	102.00	1.405	0.025	0.061
1127.00	2044.04	250.77	271.55	0.0	8.50	202.38	250.03	0.924	0.754	0.256
965.00	6.739e+04	-54.75	91.73	0.0	47.20	36.15	104.92	0.709	0.128	0.026
865.00	1338.62	97.00	102.00	0.0	27.20	97.00	102.00	1.425	0.0	0.0
803.00	2047.34	-56.68	271.45	0.0	8.50	0.0	0.0	0.0	0.0	0.0
723.00	1534.86	97.00	93.10	0.0	10.20	97.00	102.00	1.405	0.0	0.046
641.00	2048.17	250.66	271.42	0.0	8.50	202.38	250.03	0.924	0.753	0.254
479.00	1.017e+04	99.85	32.41	0.0	27.20	93.91	109.03	1.341	0.017	0.260
379.00	1153.07	97.00	102.00	0.0	27.20	97.00	102.00	1.425	0.0	0.0
317.00	2048.58	-56.64	271.40	0.0	8.50	0.0	0.0	0.0	0.0	0.0
234.00	1569.63	94.34	90.45	0.0	10.20	97.00	102.00	1.405	0.023	0.060
155.00	2023.14	250.43	271.87	0.0	8.50	202.38	250.03	0.924	0.749	0.260
Risulta	2.375e+05									

Modo	Frequenza	Periodo	Acc. Spettrale	M efficace X x g	%	M efficace Y x g	%	M efficace Z x g	%	Energia	Energia x v
	Hz	sec	g	daN		daN		daN			
1	0.573	1.746	0.047	5.07	2.13e-03	1.400e+04	5.9	1.40	5.90e-04	0.0	0.0
2	1.133	0.883	0.092	1.968e+05	82.9	1.045e+04	4.4	8.54	3.59e-03	0.0	0.0
3	1.166	0.858	0.095	1.203e+04	5.1	1.788e+05	75.3	0.06	2.57e-05	0.0	0.0
4	2.285	0.438	0.186	33.88	1.43e-02	840.73	0.4	0.11	4.61e-05	0.0	0.0
5	4.134	0.242	0.187	2.051e+04	8.6	70.22	2.96e-02	0.68	2.86e-04	0.0	0.0
6	4.286	0.233	0.187	113.57	4.78e-02	2.205e+04	9.3	1.93	8.12e-04	0.0	0.0
7	4.559	0.219	0.187	21.04	8.86e-03	394.87	0.2	0.03	1.05e-05	0.0	0.0
8	5.533	0.181	0.187	9.92	4.18e-03	0.18	7.66e-05	1.054e+04	4.4	0.0	0.0
9	5.784	0.173	0.187	8.71	3.67e-03	0.03	1.35e-05	0.18	7.70e-05	0.0	0.0
Risulta				2.295e+05		2.266e+05		1.055e+04			
In percentuale				96.65		95.43		4.44			

CDC	Tipo	Sigla Id	Note
11	Edk	CDC=Ed (dinamico SLD) alfa=90.00 (ecc. +)	
			categoria suolo: C
			fattore di sito S = 1.500
			ordinata spettro (tratto Tb-Tc) = 0.187 g
			angolo di ingresso:90.00
			eccentricità aggiuntiva: positiva
			periodo proprio T1: 0.884 sec.
			numero di modi considerati: 9
			combinaz. modale: CQC

Quota	M Sismica x g	Pos. GX	Pos. GY	E agg. X-X	E agg. Y-Y	Pos. KX	Pos. KY	rapp. r/Ls	rapp. ex/rx	rapp. ey/ry
cm	daN	cm	cm	cm	cm	cm	cm			
2357.00	2628.89	97.00	105.43	9.70	0.0	97.00	102.00	1.405	0.0	0.018
2171.00	1554.62	94.13	100.40	9.70	0.0	97.00	102.00	1.405	0.025	0.008
1937.00	6.296e+04	-50.35	94.40	115.70	0.0	36.15	104.92	0.709	0.122	0.021
1837.00	1338.62	97.00	102.00	26.70	0.0	97.00	102.00	1.425	0.0	0.0
1775.00	2051.48	-56.56	271.31	8.50	0.0	0.0	0.0	0.0	0.0	0.0
1685.00	1584.26	94.18	90.20	9.70	0.0	97.00	102.00	1.405	0.025	0.061
1613.00	2044.04	250.77	271.55	8.50	0.0	202.38	250.03	0.924	0.754	0.256
1451.00	6.495e+04	-54.98	91.47	115.70	0.0	36.15	104.92	0.709	0.128	0.026
1351.00	1338.62	97.00	102.00	26.70	0.0	97.00	102.00	1.425	0.0	0.0
1289.00	2051.48	-56.56	271.31	8.50	0.0	0.0	0.0	0.0	0.0	0.0
1199.00	1584.26	94.18	90.20	9.70	0.0	97.00	102.00	1.405	0.025	0.061
1127.00	2044.04	250.77	271.55	8.50	0.0	202.38	250.03	0.924	0.754	0.256
965.00	6.739e+04	-54.75	91.73	115.70	0.0	36.15	104.92	0.709	0.128	0.026
865.00	1338.62	97.00	102.00	26.70	0.0	97.00	102.00	1.425	0.0	0.0
803.00	2047.34	-56.68	271.45	8.50	0.0	0.0	0.0	0.0	0.0	0.0
723.00	1534.86	97.00	93.10	9.70	0.0	97.00	102.00	1.405	0.0	0.046
641.00	2048.17	250.66	271.42	8.50	0.0	202.38	250.03	0.924	0.753	0.254
479.00	1.017e+04	99.85	32.41	26.70	0.0	93.91	109.03	1.341	0.017	0.260
379.00	1153.07	97.00	102.00	26.70	0.0	97.00	102.00	1.425	0.0	0.0
317.00	2048.58	-56.64	271.40	8.50	0.0	0.0	0.0	0.0	0.0	0.0
234.00	1569.63	94.34	90.45	9.70	0.0	97.00	102.00	1.405	0.023	0.060
155.00	2023.14	250.43	271.87	8.50	0.0	202.38	250.03	0.924	0.749	0.260
Risulta	2.375e+05									

Modo	Frequenza	Periodo	Acc. Spettrale	M efficace X x g	%	M efficace Y x g	%	M efficace Z x g	%	Energia	Energia x v
	Hz	sec	g	daN		daN		daN			
1	0.594	1.683	0.048	2099.42	0.9	531.61	0.2	1.45	6.09e-04	0.0	0.0
2	1.132	0.884	0.092	8.295e+04	34.9	1.195e+05	50.3	5.58	2.35e-03	0.0	0.0
3	1.144	0.874	0.093	1.237e+05	52.1	8.281e+04	34.9	3.31	1.39e-03	0.0	0.0
4	2.376	0.421	0.187	336.81	0.1	65.41	2.75e-02	0.16	6.66e-05	0.0	0.0
5	4.145	0.241	0.187	1.675e+04	7.1	3832.37	1.6	0.16	6.80e-05	0.0	0.0
6	4.193	0.238	0.187	3791.91	1.6	1.968e+04	8.3	2.00	8.40e-04	0.0	0.0
7	4.789	0.209	0.187	21.99	9.26e-03	2.54	1.07e-03	0.15	6.22e-05	0.0	0.0
8	5.534	0.181	0.187	9.93	4.18e-03	0.12	5.01e-05	1.060e+04	4.5	0.0	0.0
9	5.784	0.173	0.187	8.57	3.61e-03	5.76e-04	0.0	0.28	1.18e-04	0.0	0.0
Risulta				2.297e+05		2.265e+05		1.061e+04			
In percentuale				96.71		95.38		4.47			

CDC	Tipo	Sigla Id	Note
12	Edk	CDC=Ed (dinamico SLD) alfa=90.00 (ecc. -)	
			categoria suolo: C
			fattore di sito S = 1.500
			ordinata spettro (tratto Tb-Tc) = 0.187 g
			angolo di ingresso:90.00
			eccentricità aggiuntiva: negativa
			periodo proprio T1: 0.816 sec.
			numero di modi considerati: 9
			combinaz. modale: CQC

Quota	M Sismica x g	Pos. GX	Pos. GY	E agg. X-X	E agg. Y-Y	Pos. KX	Pos. KY	rapp. r/Ls	rapp. ex/rx	rapp. ey/ry
cm	daN	cm	cm	cm	cm	cm	cm			
2357.00	2628.89	97.00	105.43	-9.70	0.0	97.00	102.00	1.405	0.0	0.018
2171.00	1554.62	94.13	100.40	-9.70	0.0	97.00	102.00	1.405	0.025	0.008
1937.00	6.296e+04	-50.35	94.40	-115.70	0.0	36.15	104.92	0.709	0.122	0.021
1837.00	1338.62	97.00	102.00	-26.70	0.0	97.00	102.00	1.425	0.0	0.0
1775.00	2051.48	-56.56	271.31	-8.50	0.0	0.0	0.0	0.0	0.0	0.0
1685.00	1584.26	94.18	90.20	-9.70	0.0	97.00	102.00	1.405	0.025	0.061
1613.00	2044.04	250.77	271.55	-8.50	0.0	202.38	250.03	0.924	0.754	0.256
1451.00	6.495e+04	-54.98	91.47	-115.70	0.0	36.15	104.92	0.709	0.128	0.026
1351.00	1338.62	97.00	102.00	-26.70	0.0	97.00	102.00	1.425	0.0	0.0
1289.00	2051.48	-56.56	271.31	-8.50	0.0	0.0	0.0	0.0	0.0	0.0
1199.00	1584.26	94.18	90.20	-9.70	0.0	97.00	102.00	1.405	0.025	0.061
1127.00	2044.04	250.77	271.55	-8.50	0.0	202.38	250.03	0.924	0.754	0.256
965.00	6.739e+04	-54.75	91.73	-115.70	0.0	36.15	104.92	0.709	0.128	0.026
865.00	1338.62	97.00	102.00	-26.70	0.0	97.00	102.00	1.425	0.0	0.0
803.00	2047.34	-56.68	271.45	-8.50	0.0	0.0	0.0	0.0	0.0	0.0
723.00	1534.86	97.00	93.10	-9.70	0.0	97.00	102.00	1.405	0.0	0.046
641.00	2048.17	250.66	271.42	-8.50	0.0	202.38	250.03	0.924	0.753	0.254
479.00	1.017e+04	99.85	32.41	-26.70	0.0	93.91	109.03	1.341	0.017	0.260
379.00	1153.07	97.00	102.00	-26.70	0.0	97.00	102.00	1.425	0.0	0.0
317.00	2048.58	-56.64	271.40	-8.50	0.0	0.0	0.0	0.0	0.0	0.0
234.00	1569.63	94.34	90.45	-9.70	0.0	97.00	102.00	1.405	0.023	0.060
155.00	2023.14	250.43	271.87	-8.50	0.0	202.38	250.03	0.924	0.749	0.260
Risulta	2.375e+05									

Modo	Frequenza	Periodo	Acc. Spettrale	M efficace X x g	%	M efficace Y x g	%	M efficace Z x g	%	Energia	Energia x v
	Hz	sec	g	daN		daN		daN			
1	0.545	1.834	0.044	1571.19	0.7	3.858e+04	16.2	1.08	4.54e-04	0.0	0.0
2	1.137	0.879	0.093	2.056e+05	86.6	2798.91	1.2	7.58	3.19e-03	0.0	0.0
3	1.225	0.816	0.100	1430.71	0.6	1.615e+05	68.0	2.26	9.51e-04	0.0	0.0
4	2.173	0.460	0.177	460.59	0.2	3513.26	1.5	0.02	6.88e-06	0.0	0.0
5	4.132	0.242	0.187	1.920e+04	8.1	1088.10	0.5	0.35	1.45e-04	0.0	0.0
6	4.259	0.235	0.187	222.56	9.37e-02	427.34	0.2	0.05	2.05e-05	0.0	0.0
7	4.566	0.219	0.187	1107.83	0.5	1.907e+04	8.0	3.84	1.62e-03	0.0	0.0
8	5.534	0.181	0.187	9.83	4.14e-03	0.33	1.39e-04	1.049e+04	4.4	0.0	0.0
9	5.784	0.173	0.187	9.01	3.79e-03	0.02	9.06e-06	1.28	5.40e-04	0.0	0.0
Risulta				2.297e+05		2.270e+05		1.050e+04			
In percentuale				96.72		95.58		4.42			

Per ciascuna combinazione sismica definita SLD viene riportato il livello di deformazione etaT (dr) degli elementi strutturali verticali. Per semplicità di consultazione il livello è espresso anche in unità 1000*etaT/h da confrontare direttamente con i valori forniti nella norma (es. 5 per edifici con tamponamenti collegati rigidamente alla struttura).

Cmb	Pilas.	1000 etaT/h	etaT	inter. h	Pilas.	1000 etaT/h	etaT	inter. h	Pilas.	1000 etaT/h	etaT	inter. h
			cm	cm			cm	cm			cm	cm
79	131	0.65	0.10	155.0	132	0.80	0.12	155.0	133	1.91	0.30	155.0
	134	1.19	0.28	234.0	135	1.19	0.28	234.0	138	0.53	0.12	234.0
	150	0.94	0.36	379.0	151	1.14	0.43	379.0	152	0.91	0.34	379.0
	153	1.25	0.48	379.0	154	0.73	0.06	79.0	161	0.71	0.06	83.0
	172	0.75	0.18	245.0	174	0.84	0.20	245.0	178	1.03	0.25	245.0
	181	1.00	0.16	162.0	182	1.35	0.22	162.0	183	2.23	0.36	162.0
	184	1.32	0.13	100.0	185	1.22	0.12	100.0	186	1.24	0.12	100.0
	187	0.85	0.09	100.0	225	1.17	1.13	965.0	226	1.31	1.27	965.0
	227	1.36	1.31	965.0	228	1.53	1.48	965.0	229	1.65	1.59	965.0
	230	1.84	1.78	965.0	231	1.70	1.64	965.0	232	1.90	1.83	965.0
	233	1.44	1.39	965.0	234	1.60	1.54	965.0	235	1.31	1.26	965.0
	236	1.43	1.38	965.0	239	1.24	0.20	162.0	240	1.33	0.22	162.0
	241	1.88	0.30	162.0	242	0.94	0.23	244.0	244	1.07	0.26	244.0
	247	1.10	0.27	244.0	259	1.20	0.46	386.0	260	1.36	0.52	386.0
	261	1.45	0.56	386.0	262	1.56	0.60	386.0	263	1.15	0.09	82.0
	270	1.14	0.09	80.0	281	1.10	0.27	242.0	283	1.24	0.30	242.0
	287	1.35	0.33	242.0	290	1.28	0.21	162.0	291	2.03	0.33	162.0
	292	2.04	0.33	162.0	293	0.41	0.04	100.0	294	0.77	0.08	100.0
	295	0.59	0.06	100.0	296	0.84	0.08	100.0	415	1.31	0.21	162.0
	416	1.23	0.20	162.0	417	1.78	0.29	162.0	418	1.32	0.31	234.0
	419	1.43	0.33	234.0	422	1.18	0.28	234.0	434	1.21	0.47	386.0
	435	1.40	0.54	386.0	436	1.26	0.49	386.0	437	1.45	0.56	386.0
	438	1.20	0.09	72.0	443	1.09	0.53	486.0	444	1.27	0.62	486.0
	445	1.10	0.54	486.0	446	1.35	0.65	486.0	447	1.11	0.54	486.0
	448	1.41	0.69	486.0	450	1.14	0.56	486.0	451	1.44	0.70	486.0
	453	1.13	0.55	486.0	454	1.37	0.66	486.0	455	1.12	0.54	486.0
	456	1.30	0.63	486.0	457	1.19	0.11	90.0	468	1.07	0.27	252.0
	470	1.20	0.30	252.0	474	1.30	0.33	252.0	477	1.17	0.19	162.0
	478	1.90	0.31	162.0	479	1.87	0.30	162.0	480	0.69	0.07	100.0
	481	0.78	0.08	100.0	482	0.68	0.07	100.0	483	0.71	0.07	100.0
	602	1.21	0.20	162.0	603	1.12	0.18	162.0	604	1.47	0.24	162.0
	605	1.00	0.23	234.0	606	1.13	0.26	234.0	609	1.44	0.34	234.0
	621	1.20	0.46	386.0	622	1.24	0.48	386.0	623	1.21	0.47	386.0
	624	1.28	0.49	386.0	625	2.25	0.16	72.0	630	0.95	0.46	486.0
	631	1.10	0.54	486.0	632	0.94	0.46	486.0	633	1.13	0.55	486.0
	634	0.94	0.45	486.0	635	1.18	0.57	486.0	637	0.97	0.47	486.0
	638	1.20	0.58	486.0	640	0.96	0.47	486.0	641	1.16	0.56	486.0
	642	0.96	0.47	486.0	643	1.12	0.55	486.0	644	1.15	0.10	90.0
	655	1.02	0.26	252.0	657	1.14	0.29	252.0	661	1.22	0.31	252.0
	664	1.08	0.17	162.0	665	1.01	0.16	162.0	666	1.36	0.22	162.0
	667	0.13	0.01	100.0	668	0.54	0.05	100.0	669	0.47	0.05	100.0
	670	0.53	0.05	100.0	785	1.14	0.27	234.0	786	1.24	0.29	234.0
	789	1.10	0.26	234.0	791	1.21	0.28	234.0	796	1.02	0.19	186.0
	798	1.14	0.21	186.0	801	1.11	0.21	186.0	803	1.22	0.23	186.0
80	131	0.67	0.10	155.0	132	0.85	0.13	155.0	133	1.59	0.25	155.0
	134	1.23	0.29	234.0	135	1.21	0.28	234.0	138	0.74	0.17	234.0
	150	1.18	0.45	379.0	151	1.07	0.41	379.0	152	0.93	0.35	379.0
	153	0.97	0.37	379.0	154	0.68	0.05	79.0	161	0.93	0.08	83.0
	172	1.12	0.27	245.0	174	0.73	0.18	245.0	178	0.97	0.24	245.0
	181	1.16	0.19	162.0	182	1.38	0.22	162.0	183	2.03	0.33	162.0
	184	1.28	0.13	100.0	185	0.95	0.10	100.0	186	1.54	0.15	100.0
	187	0.86	0.09	100.0	225	1.65	1.59	965.0	226	1.13	1.09	965.0
	227	1.90	1.83	965.0	228	1.18	1.14	965.0	229	2.25	2.17	965.0
	230	1.37	1.32	965.0	231	2.23	2.16	965.0	232	1.34	1.30	965.0
	233	1.88	1.82	965.0	234	1.15	1.11	965.0	235	1.63	1.57	965.0
	236	1.10	1.07	965.0	239	1.19	0.19	162.0	240	1.36	0.22	162.0
	241	1.66	0.27	162.0	242	1.12	0.27	244.0	244	0.98	0.24	244.0
	247	1.27	0.31	244.0	259	1.52	0.59	386.0	260	1.20	0.46	386.0
	261	1.68	0.65	386.0	262	1.28	0.49	386.0	263	1.05	0.09	82.0
	270	1.30	0.10	80.0	281	1.23	0.30	242.0	283	1.14	0.28	242.0
	287	1.25	0.30	242.0	290	1.37	0.22	162.0	291	1.42	0.23	162.0
	292	2.03	0.33	162.0	293	0.88	0.09	100.0	294	0.70	0.07	100.0
	295	0.49	0.05	100.0	296	0.70	0.07	100.0	415	1.23	0.20	162.0
	416	1.26	0.20	162.0	417	1.61	0.26	162.0	418	1.45	0.34	234.0
	419	1.37	0.32	234.0	422	1.30	0.30	234.0	434	1.39	0.54	386.0
	435	1.27	0.49	386.0	436	1.34	0.52	386.0	437	1.19	0.46	386.0
	438	1.09	0.08	72.0	443	1.29	0.63	486.0	444	1.16	0.56	486.0
	445	1.34	0.65	486.0	446	1.15	0.56	486.0	447	1.37	0.66	486.0
	448	1.15	0.56	486.0	450	1.31	0.64	486.0	451	1.08	0.53	486.0
	453	1.27	0.62	486.0	454	1.07	0.52	486.0	455	1.22	0.59	486.0
	456	1.07	0.52	486.0	457	1.31	0.12	90.0	468	1.19	0.30	252.0
	470	1.09	0.28	252.0	474	1.20	0.30	252.0	477	1.27	0.21	162.0
	478	1.00	0.16	162.0	479	1.86	0.30	162.0	480	0.83	0.08	100.0
	481	0.71	0.07	100.0	482	0.66	0.07	100.0	483	0.63	0.06	100.0

Cmb	Pilas.	1000 etaT/h	etaT	inter. h	Pilas.	1000 etaT/h	etaT	inter. h	Pilas.	1000 etaT/h	etaT	inter. h
			cm	cm			cm	cm			cm	cm
602	1.12	0.18	162.0	603	1.08	0.18	162.0	604	1.28	0.21	162.0	
	605	1.15	0.27	234.0	606	1.05	0.24	234.0	609	0.89	0.21	234.0
	621	1.32	0.51	386.0	622	1.15	0.44	386.0	623	1.28	0.50	386.0
	624	1.03	0.40	386.0	625	0.30	0.02	72.0	630	1.11	0.54	486.0
	631	1.03	0.50	486.0	632	1.11	0.54	486.0	633	1.02	0.49	486.0
	634	1.11	0.54	486.0	635	1.01	0.49	486.0	637	1.04	0.51	486.0
	638	0.93	0.45	486.0	640	1.03	0.50	486.0	641	0.93	0.45	486.0
	642	1.00	0.49	486.0	643	0.90	0.44	486.0	644	1.17	0.11	90.0
	655	1.16	0.29	252.0	657	1.07	0.27	252.0	661	1.03	0.26	252.0
	664	1.11	0.18	162.0	665	0.95	0.15	162.0	666	1.37	0.22	162.0
	667	0.59	0.06	100.0	668	0.50	0.05	100.0	669	0.04	4.45e-03	100.0
	670	0.51	0.05	100.0	785	1.29	0.30	234.0	786	1.20	0.28	234.0
	789	1.13	0.27	234.0	791	1.03	0.24	234.0	796	1.18	0.22	186.0
	798	1.08	0.20	186.0	801	1.13	0.21	186.0	803	1.03	0.19	186.0
81	131	0.76	0.12	155.0	132	0.83	0.13	155.0	133	0.86	0.13	155.0
	134	1.47	0.34	234.0	135	1.46	0.34	234.0	138	0.84	0.20	234.0
	150	1.06	0.40	379.0	151	0.91	0.35	379.0	152	1.33	0.50	379.0
	153	1.19	0.45	379.0	154	0.95	0.07	79.0	161	1.02	0.08	83.0
	172	1.01	0.25	245.0	174	0.72	0.18	245.0	178	1.19	0.29	245.0
	181	1.40	0.23	162.0	182	2.04	0.33	162.0	183	1.90	0.31	162.0
	184	1.14	0.11	100.0	185	1.31	0.13	100.0	186	1.08	0.11	100.0
	187	1.34	0.13	100.0	225	1.31	1.27	965.0	226	1.00	0.96	965.0
	227	1.49	1.44	965.0	228	1.05	1.02	965.0	229	1.68	1.62	965.0
	230	1.12	1.08	965.0	231	1.80	1.74	965.0	232	1.30	1.25	965.0
	233	1.71	1.65	965.0	234	1.34	1.29	965.0	235	1.75	1.68	965.0
	236	1.52	1.47	965.0	239	1.40	0.23	162.0	240	1.50	0.24	162.0
	241	1.82	0.29	162.0	242	1.13	0.28	244.0	244	1.03	0.25	244.0
	247	1.43	0.35	244.0	259	1.42	0.55	386.0	260	1.25	0.48	386.0
	261	1.69	0.65	386.0	262	1.66	0.64	386.0	263	1.27	0.10	82.0
	270	1.44	0.12	80.0	281	1.30	0.31	242.0	283	1.22	0.29	242.0
	287	1.48	0.36	242.0	290	1.60	0.26	162.0	291	1.87	0.30	162.0
	292	2.53	0.41	162.0	293	1.21	0.12	100.0	294	0.74	0.07	100.0
	295	1.57	0.16	100.0	296	0.85	0.09	100.0	415	1.42	0.23	162.0
	416	1.32	0.21	162.0	417	1.39	0.22	162.0	418	1.69	0.40	234.0
	419	1.64	0.38	234.0	422	1.48	0.35	234.0	434	1.45	0.56	386.0
	435	1.39	0.54	386.0	436	1.45	0.56	386.0	437	1.45	0.56	386.0
	438	1.31	0.09	72.0	443	1.33	0.65	486.0	444	1.25	0.61	486.0
	445	1.38	0.67	486.0	446	1.27	0.62	486.0	447	1.40	0.68	486.0
	448	1.30	0.63	486.0	450	1.40	0.68	486.0	451	1.29	0.63	486.0
	453	1.39	0.68	486.0	454	1.28	0.62	486.0	455	1.39	0.68	486.0
	456	1.32	0.64	486.0	457	1.46	0.13	90.0	468	1.28	0.32	252.0
	470	1.18	0.30	252.0	474	1.40	0.35	252.0	477	1.50	0.24	162.0
	478	1.35	0.22	162.0	479	2.08	0.34	162.0	480	1.09	0.11	100.0
	481	0.95	0.09	100.0	482	1.14	0.11	100.0	483	0.79	0.08	100.0
	602	1.29	0.21	162.0	603	1.17	0.19	162.0	604	1.34	0.22	162.0
	605	1.36	0.32	234.0	606	1.28	0.30	234.0	609	1.04	0.24	234.0
	621	1.33	0.51	386.0	622	1.33	0.51	386.0	623	1.19	0.46	386.0
	624	1.28	0.49	386.0	625	0.24	0.02	72.0	630	1.24	0.60	486.0
	631	1.19	0.58	486.0	632	1.24	0.60	486.0	633	1.20	0.58	486.0
	634	1.24	0.60	486.0	635	1.20	0.58	486.0	637	1.18	0.57	486.0
	638	1.13	0.55	486.0	640	1.18	0.57	486.0	641	1.14	0.55	486.0
	642	1.17	0.57	486.0	643	1.12	0.55	486.0	644	1.31	0.12	90.0
	655	1.28	0.32	252.0	657	1.18	0.30	252.0	661	1.21	0.30	252.0
	664	1.30	0.21	162.0	665	1.29	0.21	162.0	666	1.68	0.27	162.0
	667	1.13	0.11	100.0	668	0.66	0.07	100.0	669	1.28	0.13	100.0
	670	0.59	0.06	100.0	785	1.37	0.32	234.0	786	1.28	0.30	234.0
	789	1.26	0.30	234.0	791	1.17	0.27	234.0	796	1.30	0.24	186.0
	798	1.20	0.22	186.0	801	1.27	0.24	186.0	803	1.16	0.22	186.0
82	131	0.69	0.11	155.0	132	0.77	0.12	155.0	133	1.17	0.18	155.0
	134	1.43	0.34	234.0	135	1.41	0.33	234.0	138	0.67	0.16	234.0
	150	0.97	0.37	379.0	151	1.00	0.38	379.0	152	1.29	0.49	379.0
	153	1.27	0.48	379.0	154	0.98	0.08	79.0	161	0.79	0.07	83.0
	172	0.71	0.17	245.0	174	0.77	0.19	245.0	178	1.19	0.29	245.0
	181	1.28	0.21	162.0	182	2.01	0.33	162.0	183	2.14	0.35	162.0
	184	0.81	0.08	100.0	185	1.16	0.12	100.0	186	1.13	0.11	100.0
	187	1.54	0.15	100.0	225	0.93	0.90	965.0	226	1.06	1.02	965.0
	227	1.07	1.03	965.0	228	1.22	1.18	965.0	229	1.20	1.16	965.0
	230	1.39	1.34	965.0	231	1.47	1.42	965.0	232	1.63	1.57	965.0
	233	1.47	1.42	965.0	234	1.58	1.53	965.0	235	1.62	1.56	965.0
	236	1.70	1.64	965.0	239	1.36	0.22	162.0	240	1.46	0.24	162.0
	241	1.98	0.32	162.0	242	0.97	0.24	244.0	244	1.05	0.26	244.0
	247	1.30	0.32	244.0	259	1.03	0.40	386.0	260	1.28	0.49	386.0
	261	1.62	0.62	386.0	262	1.82	0.70	386.0	263	1.33	0.11	82.0
	270	1.25	0.10	80.0	281	1.15	0.28	242.0	283	1.25	0.30	242.0

	Cmb	Pilas.1000	etaT/h	etaT	inter. h	Pilas.1000	etaT/h	etaT	inter. h	Pilas.1000	etaT/h	etaT	in
			cm	cm			cm	cm			cm	cm	
287	1.51	0.36	242.0	290	1.52	0.25	162.0	291	2.48	0.40	162.0		
	292	2.50	0.41	162.0	293	1.18	0.12	100.0	294	0.77	0.08	100.0	
	295	1.38	0.14	100.0	296	0.93	0.09	100.0	415	1.42	0.23	162.0	
	416	1.29	0.21	162.0	417	1.51	0.24	162.0	418	1.57	0.37	234.0	
	419	1.63	0.38	234.0	422	1.36	0.32	234.0	434	1.28	0.49	386.0	
	435	1.44	0.56	386.0	436	1.43	0.55	386.0	437	1.57	0.61	386.0	
	438	1.39	0.10	72.0	443	1.17	0.57	486.0	444	1.28	0.62	486.0	
	445	1.21	0.59	486.0	446	1.36	0.66	486.0	447	1.22	0.59	486.0	
	448	1.40	0.68	486.0	450	1.32	0.64	486.0	451	1.48	0.72	486.0	
	453	1.33	0.64	486.0	454	1.46	0.71	486.0	455	1.36	0.66	486.0	
	456	1.45	0.71	486.0	457	1.28	0.12	90.0	468	1.12	0.28	252.0	
	470	1.22	0.31	252.0	474	1.44	0.36	252.0	477	1.40	0.23	162.0	
	478	2.24	0.36	162.0	479	2.02	0.33	162.0	480	1.08	0.11	100.0	
	481	0.89	0.09	100.0	482	1.03	0.10	100.0	483	0.90	0.09	100.0	
	602	1.30	0.21	162.0	603	1.21	0.20	162.0	604	1.46	0.24	162.0	
	605	1.21	0.28	234.0	606	1.29	0.30	234.0	609	1.60	0.38	234.0	
	621	1.08	0.42	386.0	622	1.38	0.53	386.0	623	1.21	0.47	386.0	
	624	1.39	0.54	386.0	625	2.44	0.18	72.0	630	1.08	0.52	486.0	
	631	1.19	0.58	486.0	632	1.09	0.53	486.0	633	1.22	0.59	486.0	
	634	1.09	0.53	486.0	635	1.25	0.61	486.0	637	1.14	0.56	486.0	
	638	1.29	0.63	486.0	640	1.15	0.56	486.0	641	1.27	0.62	486.0	
	642	1.15	0.56	486.0	643	1.25	0.61	486.0	644	1.23	0.11	90.0	
…													
110	131	0.59	0.09	155.0	132	0.46	0.07	155.0	133	0.73	0.11	155.0	
	134	0.52	0.12	234.0	135	0.58	0.13	234.0	138	0.54	0.13	234.0	
	150	0.92	0.35	379.0	151	1.21	0.46	379.0	152	1.13	0.43	379.0	
	153	1.31	0.50	379.0	154	1.05	0.08	79.0	161	0.77	0.06	83.0	
	172	0.81	0.20	245.0	174	0.93	0.23	245.0	178	1.33	0.33	245.0	
	181	1.58	0.26	162.0	182	1.13	0.18	162.0	183	1.41	0.23	162.0	
	184	0.61	0.06	100.0	185	0.58	0.06	100.0	186	1.46	0.15	100.0	
	187	1.59	0.16	100.0	225	1.87	1.80	965.0	226	1.72	1.66	965.0	
	227	2.32	2.24	965.0	228	2.12	2.05	965.0	229	3.03	2.92	965.0	
	230	2.81	2.71	965.0	231	3.13	3.02	965.0	232	2.91	2.81	965.0	
	233	2.51	2.42	965.0	234	2.32	2.24	965.0	235	2.25	2.17	965.0	
	236	2.11	2.04	965.0	239	1.19	0.19	162.0	240	0.79	0.13	162.0	
	241	1.54	0.25	162.0	242	1.05	0.26	244.0	244	1.06	0.26	244.0	
	247	1.23	0.30	244.0	259	1.31	0.51	386.0	260	1.41	0.55	386.0	
	261	1.81	0.70	386.0	262	1.85	0.71	386.0	263	1.34	0.11	82.0	
	270	1.25	0.10	80.0	281	1.14	0.28	242.0	283	1.24	0.30	242.0	
	287	1.39	0.34	242.0	290	1.30	0.21	162.0	291	1.25	0.20	162.0	
	292	2.24	0.36	162.0	293	1.18	0.12	100.0	294	0.69	0.07	100.0	
	295	1.05	0.10	100.0	296	0.83	0.08	100.0	415	1.24	0.20	162.0	
	416	0.49	0.08	162.0	417	1.12	0.18	162.0	418	0.93	0.22	234.0	
	419	1.17	0.27	234.0	422	1.07	0.25	234.0	434	0.96	0.37	386.0	
	435	1.13	0.44	386.0	436	1.21	0.47	386.0	437	1.52	0.58	386.0	
	438	1.38	0.10	72.0	443	0.79	0.38	486.0	444	0.60	0.29	486.0	
	445	0.86	0.42	486.0	446	1.41	0.68	486.0	447	0.98	0.47	486.0	
	448	1.57	0.76	486.0	450	1.10	0.54	486.0	451	1.66	0.81	486.0	
	453	1.04	0.51	486.0	454	1.53	0.74	486.0	455	1.10	0.54	486.0	
	456	1.16	0.56	486.0	457	1.24	0.11	90.0	468	1.14	0.29	252.0	
	470	0.93	0.23	252.0	474	1.05	0.26	252.0	477	1.22	0.20	162.0	
	478	0.87	0.14	162.0	479	1.60	0.26	162.0	480	0.93	0.09	100.0	
	481	0.62	0.06	100.0	482	0.79	0.08	100.0	483	0.55	0.06	100.0	
	602	1.12	0.18	162.0	603	0.78	0.13	162.0	604	1.05	0.17	162.0	
	605	1.12	0.26	234.0	606	1.07	0.25	234.0	609	1.20	0.28	234.0	
	621	1.01	0.39	386.0	622	1.25	0.48	386.0	623	1.27	0.49	386.0	
	624	1.29	0.50	386.0	625	1.24	0.09	72.0	630	0.78	0.38	486.0	
	631	1.07	0.52	486.0	632	0.73	0.36	486.0	633	1.52	0.74	486.0	
	634	0.72	0.35	486.0	635	1.59	0.77	486.0	637	0.84	0.41	486.0	
	638	1.65	0.80	486.0	640	0.86	0.42	486.0	641	1.59	0.77	486.0	
	642	0.96	0.47	486.0	643	1.01	0.49	486.0	644	1.17	0.11	90.0	
	655	1.08	0.27	252.0	657	1.12	0.28	252.0	661	1.19	0.30	252.0	
	664	1.13	0.18	162.0	665	0.67	0.11	162.0	666	1.34	0.22	162.0	
	667	1.18	0.12	100.0	668	0.35	0.04	100.0	669	0.73	0.07	100.0	
	670	0.64	0.06	100.0	785	1.08	0.25	234.0	786	1.07	0.25	234.0	
	789	1.13	0.27	234.0	791	1.12	0.26	234.0	796	1.07	0.20	186.0	
	798	1.08	0.20	186.0	801	1.13	0.21	186.0	803	1.14	0.21	186.0	

	1000 etaT/h
Max	4.59

3.10 RISULTATI NODALI

LEGENDA RISULTATI NODALI

Il controllo dei risultati delle analisi condotte, per quanto concerne i nodi strutturali, è possibile in relazione alle tabelle sotto riportate.

La prima tabella riporta per ogni nodo a cui sia associato un vincolo rigido e per ogni combinazione i valori delle azioni esercitate dalla struttura sui vincoli (reazioni vincolari cambiate di segno).

La seconda tabella riassume per ogni nodo le sei combinazioni in cui si attingono i valori minimi e massimi della reazione Fz, della reazione Mx e della reazione My.

RISULTATI AZIONI NODALI

Nodo	Cmb	Azione X	Azione Y	Azione Z	Azione RX	Azione RY	Azione RZ
		daN	daN	daN	daN cm	daN cm	daN cm
1	1	-3349.92	-859.20	-2.087e+04	0.0	0.0	0.0
1	2	-7189.78	-4821.76	-6.804e+04	0.0	0.0	0.0
1	3	-1201.95	1359.34	-6755.53	0.0	0.0	0.0
1	4	-5041.81	-2603.22	-5.393e+04	0.0	0.0	0.0
1	5	-462.26	3788.75	1076.57	0.0	0.0	0.0
1	6	-3150.16	1014.96	-3.195e+04	0.0	0.0	0.0
1	7	1685.71	6007.29	1.519e+04	0.0	0.0	0.0
1	8	-1002.19	3233.50	-1.783e+04	0.0	0.0	0.0
1	9	-6037.82	-3632.99	-5.389e+04	0.0	0.0	0.0
1	10	-3889.85	-1414.45	-3.978e+04	0.0	0.0	0.0
1	11	-1.203e+04	-1.479e+04	-8.670e+04	0.0	0.0	0.0
1	12	-1.587e+04	-1.875e+04	-1.339e+05	0.0	0.0	0.0
1	13	-9880.73	-1.257e+04	-7.259e+04	0.0	0.0	0.0
1	14	-1.372e+04	-1.653e+04	-1.198e+05	0.0	0.0	0.0
1	15	-1.472e+04	-1.756e+04	-1.197e+05	0.0	0.0	0.0
1	16	-1.257e+04	-1.535e+04	-1.056e+05	0.0	0.0	0.0
1	17	-1.493e+04	-1.943e+04	-1.086e+05	0.0	0.0	0.0
1	18	-1.761e+04	-2.220e+04	-1.417e+05	0.0	0.0	0.0
1	19	-1.278e+04	-1.721e+04	-9.454e+04	0.0	0.0	0.0
1	20	-1.547e+04	-1.999e+04	-1.276e+05	0.0	0.0	0.0
1	21	101.36	-2171.63	-8953.36	0.0	0.0	0.0
1	22	-3738.50	-6134.19	-5.613e+04	0.0	0.0	0.0
1	23	2249.33	46.91	5158.00	0.0	0.0	0.0
1	24	-1590.54	-3915.65	-4.202e+04	0.0	0.0	0.0
1	25	-2586.55	-4945.43	-4.198e+04	0.0	0.0	0.0
1	26	-438.58	-2726.88	-2.786e+04	0.0	0.0	0.0
1	27	5289.87	1601.36	2.093e+04	0.0	0.0	0.0
1	28	2601.96	-1172.44	-1.209e+04	0.0	0.0	0.0
1	29	7437.83	3819.90	3.504e+04	0.0	0.0	0.0
1	30	4749.93	1046.10	2021.68	0.0	0.0	0.0
1	31	-1.584e+04	-1.370e+04	-1.005e+05	0.0	0.0	0.0
1	32	-1.968e+04	-1.766e+04	-1.476e+05	0.0	0.0	0.0
1	33	-1.370e+04	-1.148e+04	-8.636e+04	0.0	0.0	0.0
1	34	-1.754e+04	-1.544e+04	-1.335e+05	0.0	0.0	0.0
1	35	-1.853e+04	-1.647e+04	-1.335e+05	0.0	0.0	0.0
1	36	-1.638e+04	-1.425e+04	-1.194e+05	0.0	0.0	0.0
1	37	-2.129e+04	-1.761e+04	-1.316e+05	0.0	0.0	0.0
1	38	-2.397e+04	-2.038e+04	-1.646e+05	0.0	0.0	0.0
1	39	-1.914e+04	-1.539e+04	-1.175e+05	0.0	0.0	0.0
1	40	-2.183e+04	-1.816e+04	-1.505e+05	0.0	0.0	0.0
1	41	-7681.41	-7831.12	-5.378e+04	0.0	0.0	0.0
1	42	-1.152e+04	-1.179e+04	-1.010e+05	0.0	0.0	0.0
1	43	-5533.44	-5612.58	-3.967e+04	0.0	0.0	0.0
1	44	-9373.30	-9575.14	-8.685e+04	0.0	0.0	0.0
1	45	-1.037e+04	-1.060e+04	-8.680e+04	0.0	0.0	0.0
1	46	-8221.34	-8386.37	-7.269e+04	0.0	0.0	0.0
1	47	-1599.65	1169.52	-9066.88	0.0	0.0	0.0
1	48	-6117.82	-1071.39	-3.609e+04	0.0	0.0	0.0
1	49	-8671.53	-1.404e+04	-8.394e+04	0.0	0.0	0.0
1	50	-1.319e+04	-1.628e+04	-1.110e+05	0.0	0.0	0.0
1	51	-1630.37	1047.81	-1.084e+04	0.0	0.0	0.0
1	52	-6087.10	-949.68	-3.432e+04	0.0	0.0	0.0

Nodo	Cmb	Azione X	Azione Y	Azione Z	Azione RX	Azione RY	Azione RZ
		daN	daN	daN	daN cm	daN cm	daN cm
1	53	-8702.25	-1.416e+04	-8.571e+04	0.0	0.0	0.0
1	54	-1.316e+04	-1.616e+04	-1.092e+05	0.0	0.0	0.0
1	55	-1718.72	707.99	-1.111e+04	0.0	0.0	0.0
1	56	-6236.90	-1532.92	-3.814e+04	0.0	0.0	0.0
1	57	-8552.45	-1.358e+04	-8.189e+04	0.0	0.0	0.0
1	58	-1.307e+04	-1.582e+04	-1.089e+05	0.0	0.0	0.0
1	59	-1749.44	586.28	-1.289e+04	0.0	0.0	0.0
1	60	-6206.18	-1411.21	-3.636e+04	0.0	0.0	0.0
1	61	-8583.17	-1.370e+04	-8.367e+04	0.0	0.0	0.0
1	62	-1.304e+04	-1.569e+04	-1.071e+05	0.0	0.0	0.0
1	63	1196.40	-1538.30	-3743.29	0.0	0.0	0.0
1	64	-1.386e+04	-9008.01	-9.382e+04	0.0	0.0	0.0
1	65	-925.17	-6100.21	-2.620e+04	0.0	0.0	0.0
1	66	-1.599e+04	-1.357e+04	-1.163e+05	0.0	0.0	0.0
1	67	1160.67	-1676.76	-4357.13	0.0	0.0	0.0
1	68	-1.390e+04	-9146.47	-9.444e+04	0.0	0.0	0.0
1	69	-889.44	-5961.75	-2.559e+04	0.0	0.0	0.0
1	70	-1.595e+04	-1.343e+04	-1.157e+05	0.0	0.0	0.0
1	71	1093.99	-1944.00	-9659.13	0.0	0.0	0.0
1	72	-1.376e+04	-8602.31	-8.791e+04	0.0	0.0	0.0
1	73	-1027.57	-6505.91	-3.212e+04	0.0	0.0	0.0
1	74	-1.588e+04	-1.316e+04	-1.104e+05	0.0	0.0	0.0
1	75	1058.27	-2082.46	-1.027e+04	0.0	0.0	0.0
1	76	-1.380e+04	-8740.77	-8.852e+04	0.0	0.0	0.0
1	77	-991.85	-6367.45	-3.151e+04	0.0	0.0	0.0
1	78	-1.585e+04	-1.303e+04	-1.098e+05	0.0	0.0	0.0
1	79	24.56	3597.39	5080.81	0.0	0.0	0.0
1	80	-5749.76	725.74	-2.944e+04	0.0	0.0	0.0
1	81	-9039.59	-1.583e+04	-9.058e+04	0.0	0.0	0.0
1	82	-1.481e+04	-1.871e+04	-1.251e+05	0.0	0.0	0.0
1	83	-17.44	3428.93	2805.01	0.0	0.0	0.0
1	84	-5707.77	894.20	-2.717e+04	0.0	0.0	0.0
1	85	-9081.58	-1.600e+04	-9.286e+04	0.0	0.0	0.0
1	86	-1.477e+04	-1.854e+04	-1.228e+05	0.0	0.0	0.0
1	87	-126.02	3006.17	2469.32	0.0	0.0	0.0
1	88	-5900.34	134.53	-3.206e+04	0.0	0.0	0.0
1	89	-8889.01	-1.524e+04	-8.797e+04	0.0	0.0	0.0
1	90	-1.466e+04	-1.811e+04	-1.225e+05	0.0	0.0	0.0
1	91	-168.02	2837.71	193.52	0.0	0.0	0.0
1	92	-5858.34	302.98	-2.978e+04	0.0	0.0	0.0
1	93	-8931.01	-1.541e+04	-9.025e+04	0.0	0.0	0.0
1	94	-1.462e+04	-1.795e+04	-1.202e+05	0.0	0.0	0.0
1	95	3588.81	146.66	1.188e+04	0.0	0.0	0.0
1	96	-1.566e+04	-9425.48	-1.032e+05	0.0	0.0	0.0
1	97	869.57	-5682.75	-1.682e+04	0.0	0.0	0.0
1	98	-1.838e+04	-1.525e+04	-1.319e+05	0.0	0.0	0.0
1	99	3543.64	-30.70	1.109e+04	0.0	0.0	0.0
1	100	-1.570e+04	-9602.84	-1.040e+05	0.0	0.0	0.0
1	101	914.74	-5505.38	-1.604e+04	0.0	0.0	0.0
1	102	-1.833e+04	-1.508e+04	-1.311e+05	0.0	0.0	0.0
1	103	3448.82	-414.86	4291.03	0.0	0.0	0.0
1	104	-1.552e+04	-8863.95	-9.562e+04	0.0	0.0	0.0
1	105	729.58	-6244.27	-2.441e+04	0.0	0.0	0.0
1	106	-1.824e+04	-1.469e+04	-1.243e+05	0.0	0.0	0.0
1	107	3403.65	-592.23	3507.58	0.0	0.0	0.0
1	108	-1.556e+04	-9041.32	-9.640e+04	0.0	0.0	0.0
1	109	774.75	-6066.90	-2.362e+04	0.0	0.0	0.0
1	110	-1.819e+04	-1.452e+04	-1.235e+05	0.0	0.0	0.0
1	111	-2971.07	-1321.14	-1.920e+04	0.0	0.0	0.0
1	112	-5530.98	-3962.85	-5.065e+04	0.0	0.0	0.0
1	113	-1045.97	1777.49	-4571.72	0.0	0.0	0.0
1	114	-2837.90	-71.71	-2.659e+04	0.0	0.0	0.0
1	115	-4763.01	-3170.34	-4.122e+04	0.0	0.0	0.0
1	116	-8756.92	-1.061e+04	-6.309e+04	0.0	0.0	0.0
1	117	-1.132e+04	-1.325e+04	-9.454e+04	0.0	0.0	0.0
1	118	-1.055e+04	-1.246e+04	-8.510e+04	0.0	0.0	0.0
1	119	-1.069e+04	-1.370e+04	-7.772e+04	0.0	0.0	0.0
1	120	-1.248e+04	-1.555e+04	-9.974e+04	0.0	0.0	0.0
1	121	-670.22	-2196.10	-1.126e+04	0.0	0.0	0.0
1	122	-3230.13	-4837.81	-4.271e+04	0.0	0.0	0.0
1	123	-2462.16	-4045.29	-3.327e+04	0.0	0.0	0.0
1	124	2788.78	319.23	8665.54	0.0	0.0	0.0
1	125	996.85	-1529.97	-1.335e+04	0.0	0.0	0.0
1	126	-1.130e+04	-9879.67	-7.227e+04	0.0	0.0	0.0

Nodo	Cmb	Azione X	Azione Y	Azione Z	Azione RX	Azione RY	Azione RZ
		daN	daN	daN	daN cm	daN cm	daN cm
1	127	-1.386e+04	-1.252e+04	-1.037e+05	0.0	0.0	0.0
1	128	-1.309e+04	-1.173e+04	-9.428e+04	0.0	0.0	0.0
1	129	-1.493e+04	-1.249e+04	-9.302e+04	0.0	0.0	0.0
1	130	-1.672e+04	-1.434e+04	-1.150e+05	0.0	0.0	0.0
1	131	-5858.73	-5969.09	-4.114e+04	0.0	0.0	0.0
1	132	-8418.64	-8610.79	-7.259e+04	0.0	0.0	0.0
1	133	-7650.67	-7818.28	-6.316e+04	0.0	0.0	0.0
5	1	1.133e+04	-1.398e+04	-7.465e+04	0.0	0.0	0.0
5	2	1.517e+04	-1.582e+04	-1.017e+05	0.0	0.0	0.0
5	3	9202.50	-1.196e+04	-6.274e+04	0.0	0.0	0.0
5	4	1.304e+04	-1.380e+04	-8.977e+04	0.0	0.0	0.0
5	5	1.380e+04	-1.872e+04	-9.519e+04	0.0	0.0	0.0
5	6	1.648e+04	-2.001e+04	-1.141e+05	0.0	0.0	0.0
5	7	1.167e+04	-1.670e+04	-8.329e+04	0.0	0.0	0.0
5	8	1.436e+04	-1.799e+04	-1.022e+05	0.0	0.0	0.0
5	9	1.402e+04	-1.527e+04	-9.357e+04	0.0	0.0	0.0
5	10	1.189e+04	-1.325e+04	-8.166e+04	0.0	0.0	0.0
5	11	3946.68	285.96	-1.298e+04	0.0	0.0	0.0
5	12	7780.43	-1557.57	-4.001e+04	0.0	0.0	0.0
5	13	1817.57	2305.55	-1076.37	0.0	0.0	0.0
5	14	5651.32	462.01	-2.811e+04	0.0	0.0	0.0
5	15	6630.31	-1004.51	-3.191e+04	0.0	0.0	0.0
5	16	4501.19	1015.07	-2.000e+04	0.0	0.0	0.0
5	17	1492.82	5045.52	7579.53	0.0	0.0	0.0
5	18	4176.44	3755.04	-1.134e+04	0.0	0.0	0.0
5	19	-636.30	7065.10	1.949e+04	0.0	0.0	0.0
5	20	2047.33	5774.63	563.15	0.0	0.0	0.0
5	21	-2342.21	-3062.37	270.93	0.0	0.0	0.0
5	22	1491.55	-4905.90	-2.676e+04	0.0	0.0	0.0
5	23	-4471.32	-1042.78	1.218e+04	0.0	0.0	0.0
5	24	-637.57	-2886.31	-1.486e+04	0.0	0.0	0.0
5	25	341.42	-4352.84	-1.865e+04	0.0	0.0	0.0
5	26	-1787.70	-2333.25	-6745.46	0.0	0.0	0.0
5	27	-8988.66	-535.03	2.967e+04	0.0	0.0	0.0
5	28	-6305.04	-1825.50	1.075e+04	0.0	0.0	0.0
5	29	-1.112e+04	1484.56	4.157e+04	0.0	0.0	0.0
5	30	-8434.15	194.08	2.265e+04	0.0	0.0	0.0
5	31	1.798e+04	-1.089e+04	-8.990e+04	0.0	0.0	0.0
5	32	2.181e+04	-1.273e+04	-1.169e+05	0.0	0.0	0.0
5	33	1.585e+04	-8868.69	-7.799e+04	0.0	0.0	0.0
5	34	1.968e+04	-1.071e+04	-1.050e+05	0.0	0.0	0.0
5	35	2.066e+04	-1.218e+04	-1.088e+05	0.0	0.0	0.0
5	36	1.853e+04	-1.016e+04	-9.692e+04	0.0	0.0	0.0
5	37	2.487e+04	-1.358e+04	-1.206e+05	0.0	0.0	0.0
5	38	2.756e+04	-1.487e+04	-1.395e+05	0.0	0.0	0.0
5	39	2.274e+04	-1.156e+04	-1.087e+05	0.0	0.0	0.0
5	40	2.543e+04	-1.285e+04	-1.276e+05	0.0	0.0	0.0
5	41	7627.48	-6853.37	-4.383e+04	0.0	0.0	0.0
5	42	1.146e+04	-8696.90	-7.086e+04	0.0	0.0	0.0
5	43	5498.36	-4833.78	-3.192e+04	0.0	0.0	0.0
5	44	9332.12	-6677.32	-5.895e+04	0.0	0.0	0.0
5	45	1.031e+04	-8143.84	-6.275e+04	0.0	0.0	0.0
5	46	8181.99	-6124.26	-5.084e+04	0.0	0.0	0.0
5	47	7624.47	-1.211e+04	-6.245e+04	0.0	0.0	0.0
5	48	1.215e+04	-1.459e+04	-8.923e+04	0.0	0.0	0.0
5	49	2552.23	2684.46	660.08	0.0	0.0	0.0
5	50	7078.74	208.09	-2.612e+04	0.0	0.0	0.0
5	51	7941.21	-1.195e+04	-6.368e+04	0.0	0.0	0.0
5	52	1.183e+04	-1.475e+04	-8.800e+04	0.0	0.0	0.0
5	53	2868.98	2843.53	-575.21	0.0	0.0	0.0
5	54	6761.99	49.02	-2.489e+04	0.0	0.0	0.0
5	55	8140.09	-1.215e+04	-6.513e+04	0.0	0.0	0.0
5	56	1.267e+04	-1.463e+04	-9.192e+04	0.0	0.0	0.0
5	57	2036.60	2729.20	3343.61	0.0	0.0	0.0
5	58	6563.11	252.82	-2.344e+04	0.0	0.0	0.0
5	59	8456.84	-1.200e+04	-6.637e+04	0.0	0.0	0.0
5	60	1.235e+04	-1.479e+04	-9.068e+04	0.0	0.0	0.0
5	61	2353.35	2888.27	2108.31	0.0	0.0	0.0
5	62	6246.37	93.76	-2.220e+04	0.0	0.0	0.0
5	63	568.25	-4042.67	-9114.67	0.0	0.0	0.0
5	64	1.566e+04	-1.230e+04	-9.839e+04	0.0	0.0	0.0
5	65	-953.42	395.59	9818.19	0.0	0.0	0.0
5	66	1.413e+04	-7858.99	-7.946e+04	0.0	0.0	0.0
5	67	722.94	-4056.09	-9919.73	0.0	0.0	0.0

Nodo	Cmb	Azione X	Azione Y	Azione Z	Azione RX	Azione RY	Azione RZ
		daN	daN	daN	daN cm	daN cm	daN cm
5	68	1.581e+04	-1.231e+04	-9.920e+04	0.0	0.0	0.0
5	69	-1108.11	409.02	1.062e+04	0.0	0.0	0.0
5	70	1.398e+04	-7845.57	-7.865e+04	0.0	0.0	0.0
5	71	1624.08	-3512.44	-1.323e+04	0.0	0.0	0.0
5	72	1.460e+04	-1.283e+04	-9.427e+04	0.0	0.0	0.0
5	73	102.41	925.82	5700.53	0.0	0.0	0.0
5	74	1.308e+04	-8389.22	-7.534e+04	0.0	0.0	0.0
5	75	1778.77	-3525.86	-1.404e+04	0.0	0.0	0.0
5	76	1.476e+04	-1.284e+04	-9.508e+04	0.0	0.0	0.0
5	77	-52.28	939.24	6505.59	0.0	0.0	0.0
5	78	1.292e+04	-8375.80	-7.453e+04	0.0	0.0	0.0
5	79	7708.69	-1.382e+04	-6.750e+04	0.0	0.0	0.0
5	80	1.349e+04	-1.699e+04	-1.017e+05	0.0	0.0	0.0
5	81	1210.35	5091.27	1.315e+04	0.0	0.0	0.0
5	82	6994.52	1913.97	-2.107e+04	0.0	0.0	0.0
5	83	8120.08	-1.362e+04	-6.908e+04	0.0	0.0	0.0
5	84	1.308e+04	-1.719e+04	-1.001e+05	0.0	0.0	0.0
5	85	1621.74	5289.73	1.157e+04	0.0	0.0	0.0
5	86	6583.12	1715.51	-1.949e+04	0.0	0.0	0.0
5	87	8364.08	-1.387e+04	-7.090e+04	0.0	0.0	0.0
5	88	1.415e+04	-1.705e+04	-1.051e+05	0.0	0.0	0.0
5	89	554.95	5145.64	1.655e+04	0.0	0.0	0.0
5	90	6339.12	1968.33	-1.767e+04	0.0	0.0	0.0
5	91	8775.48	-1.367e+04	-7.249e+04	0.0	0.0	0.0
5	92	1.374e+04	-1.725e+04	-1.035e+05	0.0	0.0	0.0
5	93	966.35	5344.09	1.497e+04	0.0	0.0	0.0
5	94	5927.73	1769.88	-1.609e+04	0.0	0.0	0.0
5	95	-1313.93	-3491.36	653.45	0.0	0.0	0.0
5	96	1.797e+04	-1.408e+04	-1.134e+05	0.0	0.0	0.0
5	97	-3263.43	2180.71	2.485e+04	0.0	0.0	0.0
5	98	1.602e+04	-8410.30	-8.923e+04	0.0	0.0	0.0
5	99	-1117.31	-3507.67	-368.35	0.0	0.0	0.0
5	100	1.816e+04	-1.410e+04	-1.144e+05	0.0	0.0	0.0
5	101	-3460.05	2197.02	2.587e+04	0.0	0.0	0.0
5	102	1.582e+04	-8393.99	-8.820e+04	0.0	0.0	0.0
5	103	57.39	-2829.84	-4620.04	0.0	0.0	0.0
5	104	1.660e+04	-1.474e+04	-1.081e+05	0.0	0.0	0.0
5	105	-1892.11	2842.23	1.957e+04	0.0	0.0	0.0
5	106	1.465e+04	-9071.82	-8.395e+04	0.0	0.0	0.0
5	107	254.01	-2846.15	-5641.83	0.0	0.0	0.0
5	108	1.679e+04	-1.476e+04	-1.092e+05	0.0	0.0	0.0
5	109	-2088.73	2858.54	2.060e+04	0.0	0.0	0.0
5	110	1.445e+04	-9055.51	-8.293e+04	0.0	0.0	0.0
5	111	8287.53	-9961.53	-5.402e+04	0.0	0.0	0.0
5	112	1.084e+04	-1.119e+04	-7.204e+04	0.0	0.0	0.0
5	113	9933.81	-1.313e+04	-6.772e+04	0.0	0.0	0.0
5	114	1.172e+04	-1.399e+04	-8.033e+04	0.0	0.0	0.0
5	115	1.008e+04	-1.082e+04	-6.664e+04	0.0	0.0	0.0
5	116	3364.24	-453.86	-1.291e+04	0.0	0.0	0.0
5	117	5920.07	-1682.89	-3.093e+04	0.0	0.0	0.0
5	118	5153.32	-1314.18	-2.553e+04	0.0	0.0	0.0
5	119	1728.33	2719.17	797.08	0.0	0.0	0.0
5	120	3517.41	1858.86	-1.182e+04	0.0	0.0	0.0
5	121	-828.35	-2686.08	-4075.32	0.0	0.0	0.0
5	122	1727.48	-3915.10	-2.210e+04	0.0	0.0	0.0
5	123	960.73	-3546.40	-1.669e+04	0.0	0.0	0.0
5	124	-5259.33	-1001.19	1.552e+04	0.0	0.0	0.0
5	125	-3470.24	-1861.51	2908.14	0.0	0.0	0.0
5	126	1.272e+04	-7903.36	-6.419e+04	0.0	0.0	0.0
5	127	1.527e+04	-9132.38	-8.221e+04	0.0	0.0	0.0
5	128	1.451e+04	-8763.67	-7.680e+04	0.0	0.0	0.0
5	129	1.732e+04	-9696.65	-8.467e+04	0.0	0.0	0.0
5	130	1.910e+04	-1.056e+04	-9.728e+04	0.0	0.0	0.0
5	131	5818.10	-5213.42	-3.347e+04	0.0	0.0	0.0
5	132	8373.94	-6442.44	-5.149e+04	0.0	0.0	0.0
5	133	7607.19	-6073.73	-4.609e+04	0.0	0.0	0.0
…							
249	133	-5.02	0.97	-3804.61	0.0	0.0	0.0

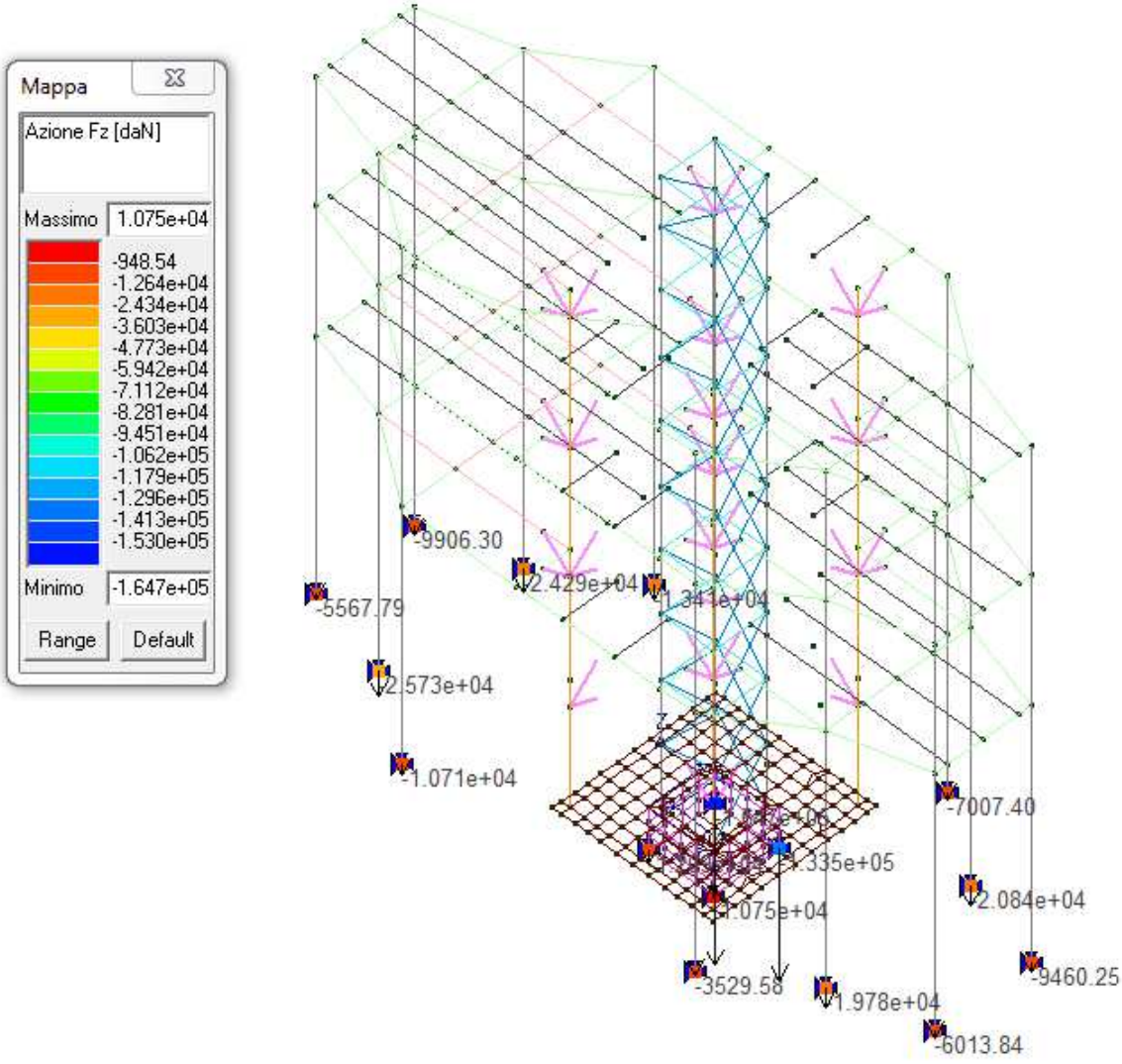
	Azione X	Azione Y	Azione Z	Azione RX	Azione RY	Azione RZ
Min	-2.397e+04	-2.220e+04	-1.647e+05	0.0	0.0	0.0
Max	2.759e+04	2.274e+04	4.275e+04	0.0	0.0	0.0

INVILUPPO AZIONI NODALI

Nodo	Cmb	Azione X	Azione Y	Azione Z	Azione RX	Azione RY	Azione RZ
		daN	daN	daN	daN cm	daN cm	daN cm
1	38	-2.397e+04	-2.038e+04	-1.646e+05	0.0	0.0	0.0
	29	7437.83	3819.90	3.504e+04	0.0	0.0	0.0
	1	-3349.92	-859.20	-2.087e+04	0.0	0.0	0.0
5	38	2.756e+04	-1.487e+04	-1.395e+05	0.0	0.0	0.0
	29	-1.112e+04	1484.56	4.157e+04	0.0	0.0	0.0
	1	1.133e+04	-1.398e+04	-7.465e+04	0.0	0.0	0.0
21	28	-2.365e+04	2.015e+04	-1.647e+05	0.0	0.0	0.0
	39	7730.83	-3873.05	3.738e+04	0.0	0.0	0.0
	1	-3267.78	854.35	-1.620e+04	0.0	0.0	0.0
25	28	2.759e+04	1.329e+04	-1.335e+05	0.0	0.0	0.0
	39	-1.136e+04	-962.62	4.275e+04	0.0	0.0	0.0
	1	1.251e+04	1.399e+04	-8.450e+04	0.0	0.0	0.0
58	32	29.38	-284.88	-1.537e+04	0.0	0.0	0.0
	29	-32.66	581.59	-3585.88	0.0	0.0	0.0
	1	15.32	-33.09	-6355.50	0.0	0.0	0.0
59	38	42.32	-286.94	-6987.89	0.0	0.0	0.0
	29	-32.83	586.00	-1111.41	0.0	0.0	0.0
	1	15.23	4.50	-3813.67	0.0	0.0	0.0
73	12	-178.82	-2.59	-3.190e+04	0.0	0.0	0.0
	7	32.51	-7.91	-7103.97	0.0	0.0	0.0
	1	-3.47	-6.58	-1.042e+04	0.0	0.0	0.0
87	2	95.17	8.64	-2.722e+04	0.0	0.0	0.0
	19	-62.48	-7.22	-3534.08	0.0	0.0	0.0
	1	66.03	6.79	-1.201e+04	0.0	0.0	0.0
101	32	12.24	-73.14	-1.073e+04	0.0	0.0	0.0
	29	-14.58	63.77	-1223.91	0.0	0.0	0.0
	1	363.14	-23.71	-4979.99	0.0	0.0	0.0
102	32	14.03	0.71	-9839.03	0.0	0.0	0.0
	29	-14.29	-6.79	-1883.84	0.0	0.0	0.0
	1	185.73	12.03	-4295.62	0.0	0.0	0.0
204	22	-0.31	43.74	-1.033e+04	0.0	0.0	0.0
	39	-6.33	-74.44	-1028.50	0.0	0.0	0.0
	1	355.14	-14.16	-4083.22	0.0	0.0	0.0
205	22	0.81	22.27	-1.026e+04	0.0	0.0	0.0
	39	-5.40	13.88	-1955.20	0.0	0.0	0.0
	1	177.80	21.57	-4767.58	0.0	0.0	0.0
219	12	-180.87	-2.56	-3.175e+04	0.0	0.0	0.0
	7	4.39	-7.81	-7613.34	0.0	0.0	0.0
	1	-25.29	-6.51	-1.077e+04	0.0	0.0	0.0
234	2	63.55	8.61	-2.672e+04	0.0	0.0	0.0
	19	-48.54	-7.09	-3604.25	0.0	0.0	0.0
	1	45.29	6.73	-1.175e+04	0.0	0.0	0.0
248	22	5.43	270.75	-1.519e+04	0.0	0.0	0.0
	39	-26.94	-587.49	-3477.27	0.0	0.0	0.0
	1	-5.55	15.21	-5941.75	0.0	0.0	0.0
249	28	15.80	290.09	-7007.40	0.0	0.0	0.0
	39	-26.56	-583.88	-890.35	0.0	0.0	0.0
	1	-5.53	4.58	-4078.26	0.0	0.0	0.0

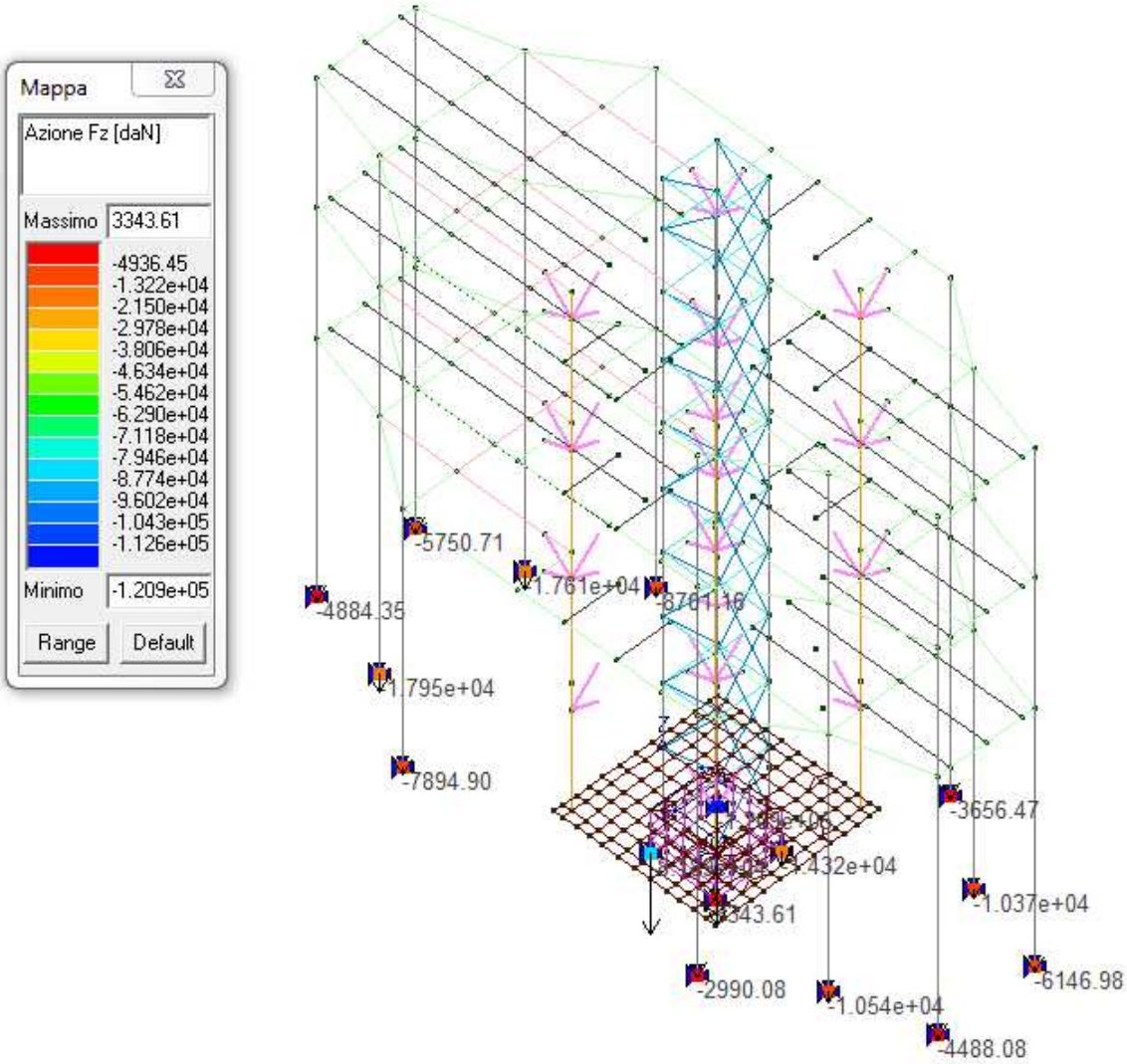
AZIONI VERTICALI VINCOLI

Azione massima combinazioni SLU STR A1 (CMB 28)



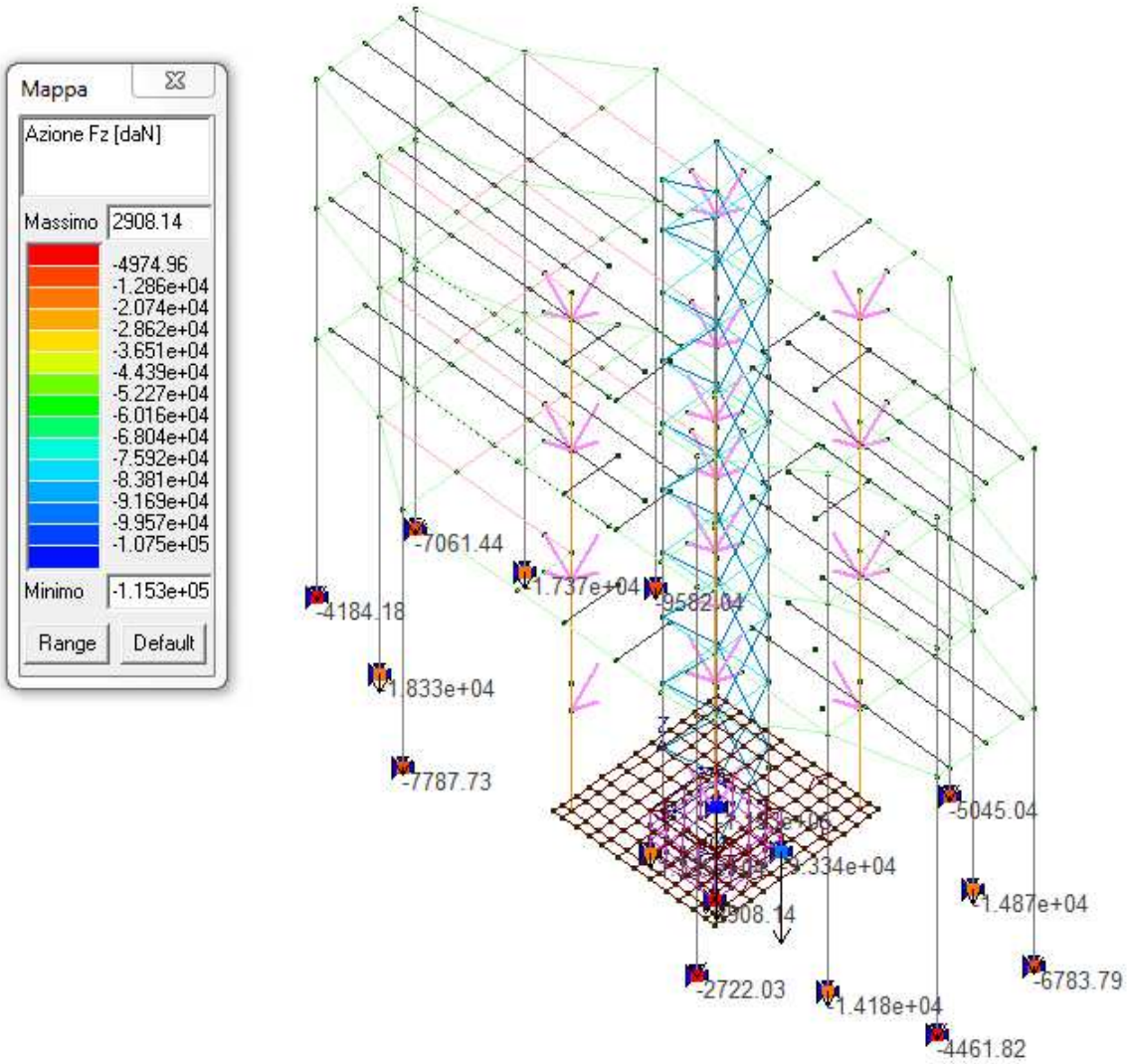
Azione massima 164700 daN

Azione massima combinazioni SLV sismiche (CMB 57)



Azione massima 120900 daN (compressione) e minima 3344 daN (trazione)

Azione massima combinazioni SLE (rara) (CMB 125)



Azione massima 115300 daN

3.12 COLONNE

Si riportano di seguito i dati ed i risultati relative alle colonne di sostegno delle passerelle ed al nucleo del montacarichi.

3.12.1 MODELLAZIONE STRUTTURA: NODI

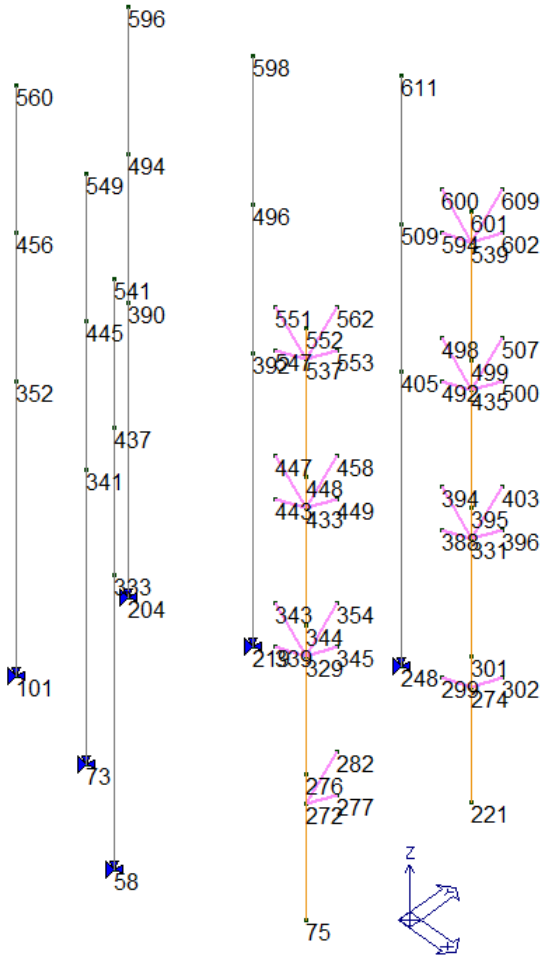
TABELLA DATI NODI

Nodo	X	Y	Z	Nodo	X	Y	Z	Nodo	X	Y	Z
	cm	cm	cm		cm	cm	cm		cm	cm	cm
75	-170.0	-170.0	0.0	85	364.0	-170.0	0.0	131	0.0	0.0	0.0
135	194.0	0.0	0.0	172	0.0	204.0	0.0	176	194.0	204.0	0.0
221	-170.0	374.0	0.0	232	364.0	374.0	0.0	250	194.0	204.0	155.0
259	0.0	0.0	234.0	260	194.0	0.0	234.0	261	0.0	204.0	234.0
262	194.0	204.0	234.0	263	0.0	204.0	317.0	272	-170.0	-170.0	379.0
273	364.0	-170.0	379.0	274	-170.0	374.0	379.0	275	364.0	374.0	379.0
276	-170.0	-170.0	479.0	277	-70.0	-170.0	479.0	280	264.0	-170.0	479.0
281	364.0	-170.0	479.0	282	-170.0	-70.0	479.0	283	364.0	-70.0	479.0
292	0.0	0.0	479.0	293	194.0	0.0	479.0	294	0.0	204.0	479.0
295	194.0	204.0	479.0	299	-170.0	274.0	479.0	300	364.0	274.0	479.0
301	-170.0	374.0	479.0	302	-70.0	374.0	479.0	305	264.0	374.0	479.0
306	364.0	374.0	479.0	307	194.0	204.0	641.0	316	0.0	0.0	723.0
317	194.0	0.0	723.0	318	0.0	204.0	723.0	319	194.0	204.0	723.0
320	0.0	204.0	803.0	329	-170.0	-170.0	865.0	330	364.0	-170.0	865.0
331	-170.0	374.0	865.0	332	364.0	374.0	865.0	333	-600.0	-370.0	965.0
338	494.0	-370.0	965.0	339	-170.0	-270.0	965.0	340	364.0	-270.0	965.0
341	-890.0	-170.0	965.0	343	-270.0	-170.0	965.0	344	-170.0	-170.0	965.0
345	-70.0	-170.0	965.0	348	264.0	-170.0	965.0	349	364.0	-170.0	965.0
350	464.0	-170.0	965.0	351	784.0	-170.0	965.0	352	-1210.0	-80.0	965.0
353	1104.0	-80.0	965.0	354	-170.0	-70.0	965.0	355	364.0	-70.0	965.0
369	0.0	0.0	965.0	370	194.0	0.0	965.0	378	0.0	204.0	965.0
379	194.0	204.0	965.0	388	-170.0	274.0	965.0	389	364.0	274.0	965.0
390	-1210.0	284.0	965.0	391	1104.0	284.0	965.0	392	-890.0	374.0	965.0
394	-270.0	374.0	965.0	395	-170.0	374.0	965.0	396	-70.0	374.0	965.0
399	264.0	374.0	965.0	400	364.0	374.0	965.0	401	464.0	374.0	965.0
402	784.0	374.0	965.0	403	-170.0	474.0	965.0	404	364.0	474.0	965.0
405	-600.0	574.0	965.0	410	494.0	574.0	965.0	411	194.0	204.0	1127.0
420	0.0	0.0	1199.0	421	194.0	0.0	1199.0	422	0.0	204.0	1199.0
423	194.0	204.0	1199.0	424	0.0	204.0	1289.0	433	-170.0	-170.0	1351.0
434	364.0	-170.0	1351.0	435	-170.0	374.0	1351.0	436	364.0	374.0	1351.0
437	-600.0	-370.0	1451.0	442	494.0	-370.0	1451.0	443	-170.0	-270.0	1451.0
444	364.0	-270.0	1451.0	445	-890.0	-170.0	1451.0	447	-270.0	-170.0	1451.0
448	-170.0	-170.0	1451.0	449	-70.0	-170.0	1451.0	452	264.0	-170.0	1451.0
453	364.0	-170.0	1451.0	454	464.0	-170.0	1451.0	455	784.0	-170.0	1451.0
456	-1210.0	-80.0	1451.0	457	1104.0	-80.0	1451.0	458	-170.0	-70.0	1451.0
459	364.0	-70.0	1451.0	473	0.0	0.0	1451.0	474	194.0	0.0	1451.0
482	0.0	204.0	1451.0	483	194.0	204.0	1451.0	492	-170.0	274.0	1451.0
493	364.0	274.0	1451.0	494	-1210.0	284.0	1451.0	495	1104.0	284.0	1451.0
496	-890.0	374.0	1451.0	498	-270.0	374.0	1451.0	499	-170.0	374.0	1451.0
500	-70.0	374.0	1451.0	503	264.0	374.0	1451.0	504	364.0	374.0	1451.0
505	464.0	374.0	1451.0	506	784.0	374.0	1451.0	507	-170.0	474.0	1451.0
508	364.0	474.0	1451.0	509	-600.0	574.0	1451.0	514	494.0	574.0	1451.0
515	194.0	204.0	1613.0	524	0.0	0.0	1685.0	525	194.0	0.0	1685.0
526	0.0	204.0	1685.0	527	194.0	204.0	1685.0	528	0.0	204.0	1775.0
537	-170.0	-170.0	1837.0	538	364.0	-170.0	1837.0	539	-170.0	374.0	1837.0
540	364.0	374.0	1837.0	541	-600.0	-370.0	1937.0	546	494.0	-370.0	1937.0
547	-170.0	-270.0	1937.0	548	364.0	-270.0	1937.0	549	-890.0	-170.0	1937.0
551	-270.0	-170.0	1937.0	552	-170.0	-170.0	1937.0	553	-70.0	-170.0	1937.0
556	264.0	-170.0	1937.0	557	364.0	-170.0	1937.0	558	464.0	-170.0	1937.0
559	784.0	-170.0	1937.0	560	-1210.0	-80.0	1937.0	561	1104.0	-80.0	1937.0
562	-170.0	-70.0	1937.0	563	364.0	-70.0	1937.0	575	0.0	0.0	1937.0
576	194.0	0.0	1937.0	584	0.0	204.0	1937.0	585	194.0	204.0	1937.0
594	-170.0	274.0	1937.0	595	364.0	274.0	1937.0	596	-1210.0	284.0	1937.0
597	1104.0	284.0	1937.0	598	-890.0	374.0	1937.0	600	-270.0	374.0	1937.0
601	-170.0	374.0	1937.0	602	-70.0	374.0	1937.0	605	264.0	374.0	1937.0
606	364.0	374.0	1937.0	607	464.0	374.0	1937.0	608	784.0	374.0	1937.0
609	-170.0	474.0	1937.0	610	364.0	474.0	1937.0	611	-600.0	574.0	1937.0

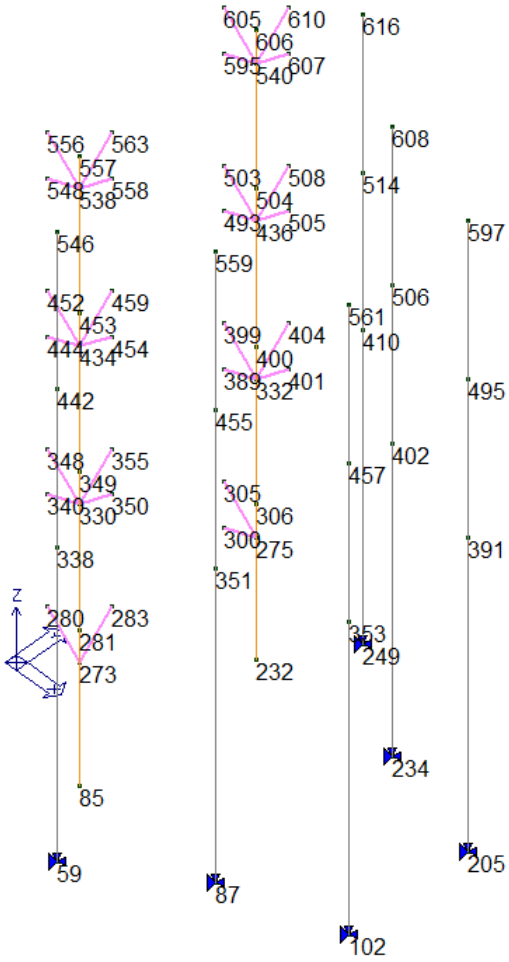
Nodo	X	Y	Z	Nodo	X	Y	Z	Nodo	X	Y	Z
	cm	cm	cm		cm	cm	cm		cm	cm	cm
616	494.0	574.0	1937.0	617	0.0	0.0	2171.0	618	194.0	0.0	2171.0
619	0.0	204.0	2171.0	620	194.0	204.0	2171.0	621	0.0	0.0	2357.0
622	194.0	0.0	2357.0	623	0.0	204.0	2357.0	624	194.0	204.0	2357.0

Nodo	X	Y	Z	Note	Rig. TX	Rig. TY	Rig. TZ	Rig. RX	Rig. RY	Rig. RZ
	cm	cm	cm		daN/cm	daN/cm	daN/cm	daN cm/rad	daN cm/rad	daN cm/rad
58	-600.0	-370.0	0.0	v=111000						
59	494.0	-370.0	0.0	v=111000						
73	-890.0	-170.0	0.0	v=111000						
87	784.0	-170.0	0.0	v=111000						
101	-1210.0	-80.0	0.0	v=111000						
102	1104.0	-80.0	0.0	v=111000						
204	-1210.0	284.0	0.0	v=111000						
205	1104.0	284.0	0.0	v=111000						
219	-890.0	374.0	0.0	v=111000						
234	784.0	374.0	0.0	v=111000						
248	-600.0	574.0	0.0	v=111000						
249	494.0	574.0	0.0	v=111000						

Numerazione nodi montanti a sinistra



Numerazione nodi montanti a destra



3.12.2 MODELLAZIONE STRUTTURA: ELEMENTI TRAVE

TABELLA DATI TRAVI

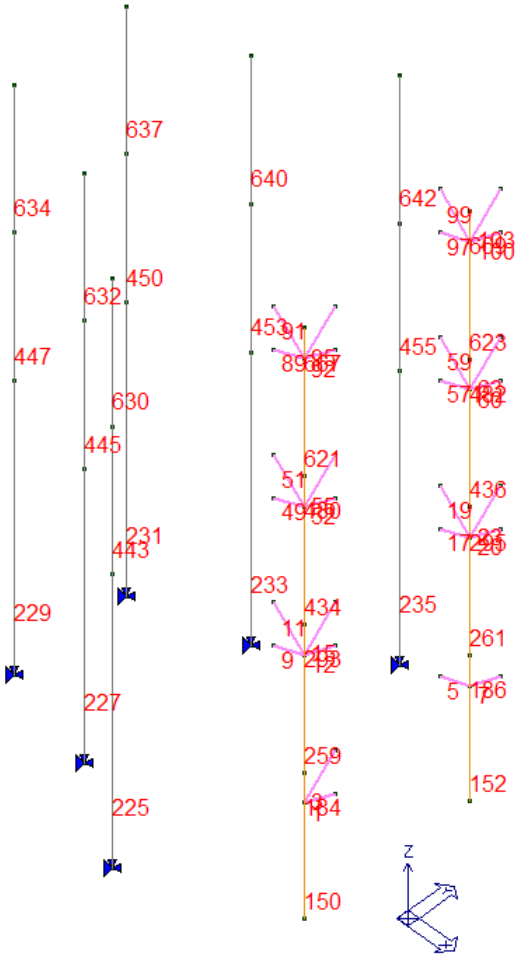
Elem.	Note	Nodo I	Nodo J	Mat.	Sez.	Rotaz. gradi	Svincolo I	Svincolo J	Wink V daN/cm3	Wink O daN/cm3
1	Asta	272	277	11	7					
2	Asta	280	273	11	7					
3	Asta	272	282	11	7					
4	Asta	273	283	11	7					
5	Asta	299	274	11	7					
6	Asta	300	275	11	7					
7	Asta	274	302	11	7					
8	Asta	305	275	11	7					
9	Asta	339	329	11	7					
10	Asta	340	330	11	7					
11	Asta	343	329	11	7					
12	Asta	329	345	11	7					
13	Asta	348	330	11	7					
14	Asta	330	350	11	7					
15	Asta	329	354	11	7					
16	Asta	330	355	11	7					
17	Asta	388	331	11	7					
18	Asta	389	332	11	7					
19	Asta	394	331	11	7					
20	Asta	331	396	11	7					
21	Asta	399	332	11	7					
22	Asta	332	401	11	7					
23	Asta	331	403	11	7					
24	Asta	332	404	11	7					
49	Asta	443	433	11	7					
50	Asta	444	434	11	7					
51	Asta	447	433	11	7					
52	Asta	433	449	11	7					
53	Asta	452	434	11	7					
54	Asta	434	454	11	7					
55	Asta	433	458	11	7					
56	Asta	434	459	11	7					
57	Asta	492	435	11	7					
58	Asta	493	436	11	7					
59	Asta	498	435	11	7					
60	Asta	435	500	11	7					
61	Asta	503	436	11	7					
62	Asta	436	505	11	7					
63	Asta	435	507	11	7					
64	Asta	436	508	11	7					
89	Asta	547	537	11	7					
90	Asta	548	538	11	7					
91	Asta	551	537	11	7					
92	Asta	537	553	11	7					
93	Asta	556	538	11	7					
94	Asta	538	558	11	7					
95	Asta	537	562	11	7					
96	Asta	538	563	11	7					
97	Asta	594	539	11	7					
98	Asta	595	540	11	7					
99	Asta	600	539	11	7					
100	Asta	539	602	11	7					
101	Asta	605	540	11	7					
102	Asta	540	607	11	7					
103	Asta	539	609	11	7					
104	Asta	540	610	11	7					
131	Pilas.	176	250	11	1	90.00				
134	Pilas.	131	259	11	1	90.00				
135	Pilas.	135	260	11	1	90.00				
136	Trave	259	172	11	2					
137	Trave	135	262	11	2					
138	Pilas.	172	261	11	1	90.00				
139	Trave	261	176	11	2					
150	Pilas.	75	272	11	10					
151	Pilas.	85	273	11	10					

Elem.	Note	Nodo I	Nodo J	Mat.	Sez.	Rotaz. gradi	Svincolo I	Svincolo J	Wink V daN/cm3	Wink O daN/cm3
152	Pilas.	221	274	11	10					
153	Pilas.	232	275	11	10					
154	Pilas.	250	262	11	1	90.00				
155	Trave	259	260	11	13					
156	Trave	259	261	11	13					
157	Trave	260	262	11	13					
158	Trave	261	262	11	13					
161	Pilas.	261	263	11	1	90.00				
172	Pilas.	259	292	11	1	90.00				
173	Trave	259	293	11	2					
174	Pilas.	260	293	11	1	90.00				
175	Trave	292	261	11	2					
176	Trave	260	295	11	2					
177	Trave	294	262	11	2					
178	Pilas.	262	295	11	1	90.00				
181	Pilas.	263	294	11	1	90.00				
184	Pilas.	272	276	11	10					
185	Pilas.	273	281	11	10					
186	Pilas.	274	301	11	10					
187	Pilas.	275	306	11	10					
207	Trave	292	293	11	13					
209	Trave	292	294	11	13					
210	Trave	293	295	11	13					
212	Trave	294	295	11	13					
225	Pilas.	58	333	11	1					
226	Pilas.	59	338	11	1					
227	Pilas.	73	341	11	1					
228	Pilas.	87	351	11	1					
229	Pilas.	101	352	11	1					
230	Pilas.	102	353	11	1					
231	Pilas.	204	390	11	1					
232	Pilas.	205	391	11	1					
233	Pilas.	219	392	11	1					
234	Pilas.	234	402	11	1					
235	Pilas.	248	405	11	1					
236	Pilas.	249	410	11	1					
239	Pilas.	295	307	11	1	90.00				
242	Pilas.	292	316	11	1	90.00				
243	Trave	292	317	11	2					
244	Pilas.	293	317	11	1	90.00				
245	Trave	316	294	11	2					
246	Trave	293	319	11	2					
247	Pilas.	294	318	11	1	90.00				
248	Trave	318	295	11	2					
259	Pilas.	276	329	11	10					
260	Pilas.	281	330	11	10					
261	Pilas.	301	331	11	10					
262	Pilas.	306	332	11	10					
263	Pilas.	307	319	11	1	90.00				
266	Trave	316	317	11	13					
267	Trave	316	318	11	13					
268	Trave	317	319	11	13					
269	Trave	318	319	11	13					
270	Pilas.	318	320	11	1	90.00				
281	Pilas.	316	369	11	1	90.00				
282	Trave	316	370	11	2					
283	Pilas.	317	370	11	1	90.00				
284	Trave	369	318	11	2					
285	Trave	317	379	11	2					
286	Trave	378	319	11	2					
287	Pilas.	319	379	11	1	90.00				
290	Pilas.	320	378	11	1	90.00				
293	Pilas.	329	344	11	10					
294	Pilas.	330	349	11	10					
295	Pilas.	331	395	11	10					
296	Pilas.	332	400	11	10					
347	Trave	369	370	11	13					
358	Trave	369	378	11	13					
359	Trave	370	379	11	13					
369	Trave	378	379	11	13					
415	Pilas.	379	411	11	1	90.00				
418	Pilas.	369	420	11	1	90.00				
419	Pilas.	370	421	11	1	90.00				
420	Trave	420	378	11	2					

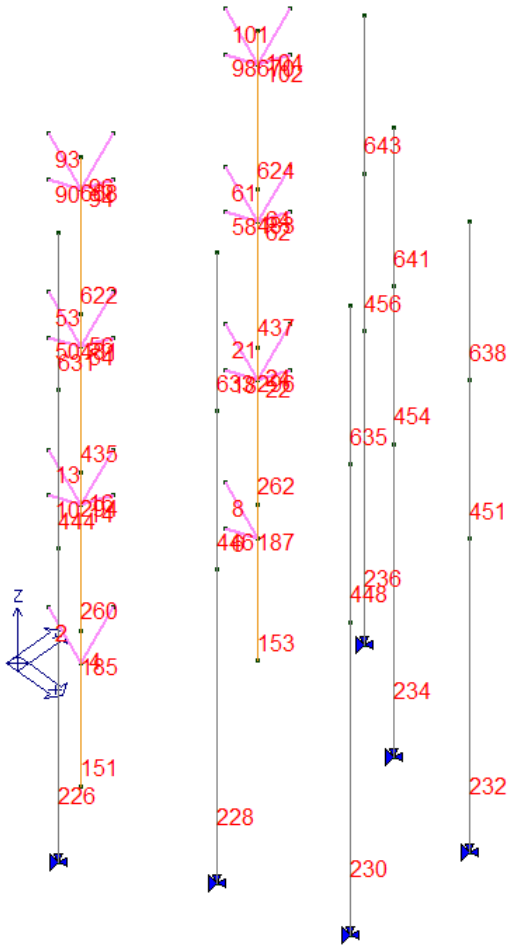
Elem.	Note	Nodo I	Nodo J	Mat.	Sez.	Rotaz. gradi	Svincolo I	Svincolo J	Wink V daN/cm3	Wink O daN/cm3
421	Trave	370	423	11	2					
422	Pilas.	378	422	11	1	90.00				
423	Trave	422	379	11	2					
434	Pilas.	344	433	11	10					
435	Pilas.	349	434	11	10					
436	Pilas.	395	435	11	10					
437	Pilas.	400	436	11	10					
438	Pilas.	411	423	11	1	90.00				
439	Trave	420	421	11	13					
440	Trave	420	422	11	13					
441	Trave	421	423	11	13					
442	Trave	422	423	11	13					
443	Pilas.	333	437	11	1					
444	Pilas.	338	442	11	1					
445	Pilas.	341	445	11	1					
446	Pilas.	351	455	11	1					
447	Pilas.	352	456	11	1					
448	Pilas.	353	457	11	1					
450	Pilas.	390	494	11	1					
451	Pilas.	391	495	11	1					
453	Pilas.	392	496	11	1					
454	Pilas.	402	506	11	1					
455	Pilas.	405	509	11	1					
456	Pilas.	410	514	11	1					
457	Pilas.	422	424	11	1	90.00				
468	Pilas.	420	473	11	1	90.00				
469	Trave	420	474	11	2					
470	Pilas.	421	474	11	1	90.00				
471	Trave	473	422	11	2					
472	Trave	421	483	11	2					
473	Trave	482	423	11	2					
474	Pilas.	423	483	11	1	90.00				
477	Pilas.	424	482	11	1	90.00				
480	Pilas.	433	448	11	10					
481	Pilas.	434	453	11	10					
482	Pilas.	435	499	11	10					
483	Pilas.	436	504	11	10					
534	Trave	473	474	11	13					
545	Trave	473	482	11	13					
546	Trave	474	483	11	13					
556	Trave	482	483	11	13					
602	Pilas.	483	515	11	1	90.00				
605	Pilas.	473	524	11	1	90.00				
606	Pilas.	474	525	11	1	90.00				
607	Trave	524	482	11	2					
608	Trave	474	527	11	2					
609	Pilas.	482	526	11	1	90.00				
610	Trave	526	483	11	2					
621	Pilas.	448	537	11	10					
622	Pilas.	453	538	11	10					
623	Pilas.	499	539	11	10					
624	Pilas.	504	540	11	10					
625	Pilas.	515	527	11	1	90.00				
626	Trave	524	525	11	13					
627	Trave	524	526	11	13					
628	Trave	525	527	11	13					
629	Trave	526	527	11	13					
630	Pilas.	437	541	11	1					
631	Pilas.	442	546	11	1					
632	Pilas.	445	549	11	1					
633	Pilas.	455	559	11	1					
634	Pilas.	456	560	11	1					
635	Pilas.	457	561	11	1					
637	Pilas.	494	596	11	1					
638	Pilas.	495	597	11	1					
640	Pilas.	496	598	11	1					
641	Pilas.	506	608	11	1					
642	Pilas.	509	611	11	1					
643	Pilas.	514	616	11	1					
644	Pilas.	526	528	11	1	90.00				
655	Pilas.	524	575	11	1	90.00				
656	Trave	524	576	11	2					
657	Pilas.	525	576	11	1	90.00				
658	Trave	575	526	11	2					

Elem.	Note	Nodo I	Nodo J	Mat.	Sez.	Rotaz. gradi	Svincolo I	Svincolo J	Wink V daN/cm3	Wink O daN/cm3
659	Trave	525	585	11	2					
660	Trave	584	527	11	2					
661	Pilas.	527	585	11	1	90.00				
664	Pilas.	528	584	11	1	90.00				
667	Pilas.	537	552	11	10					
668	Pilas.	538	557	11	10					
669	Pilas.	539	601	11	10					
670	Pilas.	540	606	11	10					
719	Trave	575	576	11	13					
730	Trave	575	584	11	13					
731	Trave	576	585	11	13					
741	Trave	584	585	11	13					
785	Pilas.	575	617	11	1	90.00				
786	Pilas.	576	618	11	1	90.00				
787	Trave	617	584	11	2					
788	Trave	576	620	11	2					
789	Pilas.	584	619	11	1	90.00				
790	Trave	619	585	11	2					
791	Pilas.	585	620	11	1	90.00				
792	Trave	617	618	11	13					
793	Trave	617	619	11	13					
794	Trave	618	620	11	13					
795	Trave	619	620	11	13					
796	Pilas.	617	621	11	1	90.00				
797	Trave	617	622	11	2					
798	Pilas.	618	622	11	1	90.00				
799	Trave	621	619	11	2					
800	Trave	618	624	11	2					
801	Pilas.	619	623	11	1	90.00				
802	Trave	623	620	11	2					
803	Pilas.	620	624	11	1	90.00				
804	Trave	621	622	11	13					
805	Trave	621	623	11	13					
806	Trave	622	624	11	13					
807	Trave	623	624	11	13					

Numerazione elementi montanti a sinistra



Numerazione elementi montanti a destra



3.12.3 VERIFICHE PER ELEMENTI IN ACCIAIO

LEGENDA TABELLA VERIFICHE PER ELEMENTI IN ACCIAIO

Il programma consente la verifica dei seguenti tipi di elementi:

1. **aste** 2. **travi** 3. **pilastri**

L'esito delle verifiche è espresso con un codice come di seguito indicato

Ok: verifica con esito positivo

NV: verifica con esito negativo

Nr: verifica non richiesta.

Per comodità gli elementi vengono raggruppati in tabelle in relazione al tipo.

Ai fini delle verifiche (come da D.M. 14 Gennaio 2008 e circ. 2 Febbraio 2009 n.617) i tipi elementi differiscono per i seguenti aspetti:

Verifica		**Aste**	**Travi**	**Pilastri**
4.2.3.1	Classificazione	X	X	X
4.2.4.1.2	Trazione, Compressione	X	X	X
	Taglio, Torsione		X	X
	Flessione,taglio e forza assiale		X	X
4.2.4.1.3.1	Aste compresse	X	X	X
4.2.4.1.3.2	Instabilità flesso-torsionale		X	X
4.2.4.1.3.3	Membrature inflesse e compresse		X	X

L' insieme delle verifiche sopra riportate è condotto sugli elementi purché dotati di sezione idonea come da tabella seguente:

	Azione	SEZIONI GENERICHE	PROFILI SEMPLICI	PROFILI ACCOPPIATI
4.2.3.1	Classificazione automatica	L, doppio T, C, rettangolare cava, circolare cava	Tutti	Da profilo semplice
4.2.3.1	Classificazione di default 2	Circolare		
4.2.3.1	Classificazione di default 3	restanti		
4.2.4.1.2	Trazione	si	si	si
4.2.4.1.2	Compressione	si	si	si
4.2.4.1.2	Taglio, Torsione	si	si	si
4.2.4.1.2	Flessione,taglio e forza assiale	si	si	si
4.2.4.1.3.1	Aste compresse	si	si	per elementi ravvicinati e a croce o coppie calastrellate
4.2.4.1.3.2	Travi inflesse	doppio T simmetrica	doppio T	no

Le verifiche sono riportate in tabelle con il significato sotto indicato; le verifiche sono espresse dal rapporto tra l' azione di progetto e la capacità ultima, pertanto la verifica ha esito positivo per rapporti non superiori all' unità.

Asta **Trave** **Pilastro**	numero dell'elemento
Stato	codice di verifica per resistenza, stabilità, svergolamento
Note	sezione e materiali adottati per l'elemento
V N	(ASTE) verifica come da par. 4.2.4.1.2 per punto (4.2.6) e (4.2.10)
V V/T	(TRAVI E PILASTRI) verifica di resistenza come da par. 4.2.4.1.2 per azioni taglio-torsione (4.2.17 e 4.2.29)
V N/M	(TRAVI E PILASTRI) verifica di resistenza come da par. 4.2.4.1.2 per azioni composte (4.2.34) con riduzione per taglio (4.2.41) ove richiesto
N **M3** **M2** **V2** **V3** **T**	sollecitazioni di interesse per la verifica
V stab	(ASTE) verifica come da par. 4.2.4.1.3 per punto (4.2.42)
V stab	(TRAVI E PILASTRI) verifica come da par. 4.2.4.1.3 per punti (C4.2.32) o (C4.2.36) (membrature inflesse e compresse senza/con presenza di instabilità flesso-torsionale
BetaxL **B22xL** **B33xL**	lunghezze libere di inflessione (se indicato riferiti al piano di normale 22 o 33 rispettivamente)
Snellezza	snellezza massima
Classe	classe del profilo
Chi mn	coefficiente di riduzione (della capacità) per la modalità di instabilità pertinente
Rif. cmb	combinazioni in cui si sono rispettivamente attinti i valori di verifica più elevati
V flst	(TRAVI E PILASTRI) verifica di stabilità come da par. 4.2.4.1.3.2 per punto (4.2.49)
B1-1 x L	Beta1-1 x L: interasse tra i ritegni torsionali
Chi LT	coefficiente di riduzione (della capacità) per la modalità di instabilità flesso-torsionale
Snell adim	Valore della snellezza adimensionale, utilizzato per il controllo previsto al par. 7.5.5
v.Omeg	Valore del rapporto capacità/domanda per l' azione di interesse (momento per travi e azione assiale per aste) utilizzato per l' amplificazione delle azioni
f.Om. N	Fattore di amplificazione delle azioni assiali per travi e colonne (prodotto di 1.1 x Omega x gamma rd materiale); utilizzato come specificato al par. 7.5.5
f.Om. T	Fattore di amplificazione delle azioni (assiali, flettenti e taglianti) per colonne (prodotto di 1.1 x Omega x gamma rd materiale); utilizzato come specificato al par. 7.5.4
V.7.5.3 M Ed	Verifica come prevista al punto 7.5.3 e valore dell' azione flettente
V.7.5.4 N Ed	Verifica come prevista al punto 7.5.4 e valore dell' azione assiale
V.7.5.5 V Ed,G V Ed,M	Verifica come prevista al punto 7.5.5 e valore dei tagli dovuti ai carichi e alla capacità
V.7.5.9 V Ed	Verifica come prevista al punto 7.5.9 e valore dell' azione di taglio
sovr. Xi (Xf, Yi, Yf)	Valore della sovraresistenza come prevista al par. 7.5.4.3 (i valori non sono normalizzati pertanto saranno maggiori uguali a gamma rd classe di duttilità)

TABELLA VERIFICHE PER ELEMENTI N ACCIAIO

Asta	Stato	Note	V N	N	V stab	N	Cl.	Beta x L	Snell.	Lamb	DaS	Chi mn	v.Omeg	Rif. cmb
				daN		daN		cm						
1	ok	s=7,m=11	0.10	1.027e+04			1	113.1	28.4	0.33	0.94	0.0		6,0
2	ok	s=7,m=11	0.08	7961.2			1	113.1	28.4	0.33	0.94	0.0		17,0
3	ok	s=7,m=11	0.05	-5181.0			1	113.1	28.4	0.33	0.94	0.0		38,0
4	ok	s=7,m=11	0.03	-3067.6			1	113.1	28.4	0.33	0.94	0.0		73,0
5	ok	s=7,m=11	0.05	-4943.7			1	113.1	28.4	0.33	0.94	0.0		28,0
6	ok	s=7,m=11	0.04	-4094.1			1	113.1	28.4	0.33	0.94	0.0		72,0
7	ok	s=7,m=11	0.07	6747.9			1	113.1	28.4	0.33	0.94	0.0		6,0
8	ok	s=7,m=11	0.08	8558.4			1	113.1	28.4	0.33	0.94	0.0		18,0
9	ok	s=7,m=11	0.10	-9721.9			1	113.1	28.4	0.33	0.94	0.0		32,0
10	ok	s=7,m=11	0.07	-7234.9			1	113.1	28.4	0.33	0.94	0.0		22,0
11	ok	s=7,m=11	0.13	-1.313e+04			1	113.1	28.4	0.33	0.94	0.0		2,0
12	ok	s=7,m=11	0.05	-5256.3			1	113.1	28.4	0.33	0.94	0.0		18,0
13	ok	s=7,m=11	0.05	-5321.8			1	113.1	28.4	0.33	0.94	0.0		38,0
14	ok	s=7,m=11	0.06	-5765.6			1	113.1	28.4	0.33	0.94	0.0		20,0
15	ok	s=7,m=11	0.11	-1.089e+04			1	113.1	28.4	0.33	0.94	0.0		38,0
16	ok	s=7,m=11	0.08	-7629.8			1	113.1	28.4	0.33	0.94	0.0		32,0
17	ok	s=7,m=11	0.11	-1.076e+04			1	113.1	28.4	0.33	0.94	0.0		28,0
18	ok	s=7,m=11	0.08	-8498.5			1	113.1	28.4	0.33	0.94	0.0		22,0
19	ok	s=7,m=11	0.13	-1.294e+04			1	113.1	28.4	0.33	0.94	0.0		2,0
20	ok	s=7,m=11	0.06	-5960.4			1	113.1	28.4	0.33	0.94	0.0		18,0
21	ok	s=7,m=11	0.05	4933.4			1	113.1	28.4	0.33	0.94	0.0		37,0
22	ok	s=7,m=11	0.06	-5802.9			1	113.1	28.4	0.33	0.94	0.0		18,0
23	ok	s=7,m=11	0.10	-9743.6			1	113.1	28.4	0.33	0.94	0.0		22,0
24	ok	s=7,m=11	0.07	-7328.4			1	113.1	28.4	0.33	0.94	0.0		32,0
49	ok	s=7,m=11	0.10	-9827.8			1	113.1	28.4	0.33	0.94	0.0		32,0
50	ok	s=7,m=11	0.07	-7365.7			1	113.1	28.4	0.33	0.94	0.0		22,0
51	ok	s=7,m=11	0.11	-1.155e+04			1	113.1	28.4	0.33	0.94	0.0		2,0
52	ok	s=7,m=11	0.04	-3649.4			1	113.1	28.4	0.33	0.94	0.0		50,0
53	ok	s=7,m=11	0.05	-4761.9			1	113.1	28.4	0.33	0.94	0.0		6,0
54	ok	s=7,m=11	0.06	-5748.3			1	113.1	28.4	0.33	0.94	0.0		20,0
55	ok	s=7,m=11	0.09	-9246.7			1	113.1	28.4	0.33	0.94	0.0		32,0
56	ok	s=7,m=11	0.08	-7841.1			1	113.1	28.4	0.33	0.94	0.0		32,0
57	ok	s=7,m=11	0.09	-9262.3			1	113.1	28.4	0.33	0.94	0.0		22,0
58	ok	s=7,m=11	0.09	-8679.6			1	113.1	28.4	0.33	0.94	0.0		22,0
59	ok	s=7,m=11	0.11	-1.161e+04			1	113.1	28.4	0.33	0.94	0.0		2,0
60	ok	s=7,m=11	0.04	-4029.3			1	113.1	28.4	0.33	0.94	0.0		61,0
61	ok	s=7,m=11	0.04	4339.8			1	113.1	28.4	0.33	0.94	0.0		50,0
62	ok	s=7,m=11	0.06	-5667.0			1	113.1	28.4	0.33	0.94	0.0		18,0
63	ok	s=7,m=11	0.10	-9806.9			1	113.1	28.4	0.33	0.94	0.0		22,0
64	ok	s=7,m=11	0.07	-7596.9			1	113.1	28.4	0.33	0.94	0.0		32,0
89	ok	s=7,m=11	0.10	-9693.4			1	113.1	28.4	0.33	0.94	0.0		32,0
90	ok	s=7,m=11	0.07	-7304.6			1	113.1	28.4	0.33	0.94	0.0		22,0
91	ok	s=7,m=11	0.12	-1.215e+04			1	113.1	28.4	0.33	0.94	0.0		2,0
92	ok	s=7,m=11	0.04	-4510.7			1	113.1	28.4	0.33	0.94	0.0		38,0
93	ok	s=7,m=11	0.03	-3100.3			1	113.1	28.4	0.33	0.94	0.0		38,0
94	ok	s=7,m=11	0.04	-3669.4			1	113.1	28.4	0.33	0.94	0.0		18,0
95	ok	s=7,m=11	0.09	-8667.2			1	113.1	28.4	0.33	0.94	0.0		32,0
96	ok	s=7,m=11	0.07	-7409.8			1	113.1	28.4	0.33	0.94	0.0		32,0
97	ok	s=7,m=11	0.09	-8706.7			1	113.1	28.4	0.33	0.94	0.0		22,0
98	ok	s=7,m=11	0.08	-7906.8			1	113.1	28.4	0.33	0.94	0.0		22,0
99	ok	s=7,m=11	0.12	-1.232e+04			1	113.1	28.4	0.33	0.94	0.0		2,0
100	ok	s=7,m=11	0.04	-4191.4			1	113.1	28.4	0.33	0.94	0.0		18,0
101	ok	s=7,m=11	0.02	-2321.5			1	113.1	28.4	0.33	0.94	0.0		28,0
102	ok	s=7,m=11	0.04	-4193.3			1	113.1	28.4	0.33	0.94	0.0		18,0
103	ok	s=7,m=11	0.10	-9660.9			1	113.1	28.4	0.33	0.94	0.0		22,0
104	ok	s=7,m=11	0.08	-7803.2			1	113.1	28.4	0.33	0.94	0.0		32,0

	V N	N	V stab	N	Beta x L	Snell.	Lamb	DaS	Chi mn	v.Omeg
Min		-1.313e+04						0.33	0.94	0.0
Max	0.13	1.027e+04			113.14	28.39		0.33		0.0

Trave	Stato	Note	V V/T	V N/M	V stab	Cl.	LamS 22	LamS 33	Snell.	Chi mn	V flst	LamS LT	Chi LT	Rif. cmb
136	ok	s=2,m=11	6.82e-03	0.22	0.41	1	0.9	0.5	77.9	0.60	0.04	0.5	0.99	18,28,28,38
137	ok	s=2,m=11	6.99e-03	0.14	0.26	1	0.9	0.5	77.9	0.60	0.03	0.5	0.99	6,38,38,28
139	ok	s=2,m=11	9.46e-03	0.19	0.35	1	0.9	0.5	76.3	0.61	0.05	0.5	1.00	18,6,6,18
155	oks	=13,m=11	0.08	0.29		1					0.17	0.2	1.00	18,18,0,18
156	oks	=13,m=11	0.06	0.15		1					0.13	0.2	1.00	37,28,0,38
157	oks	=13,m=11	0.04	0.16		1					0.09	0.2	1.00	28,18,0,28
158	oks	=13,m=11	0.04	0.18		1					0.08	0.2	1.00	18,18,0,18
173	ok	s=2,m=11	8.06e-03	0.14	0.27	1	0.9	0.5	78.4	0.60	0.04	0.4	1.00	18,18,18,18
175	ok	s=2,m=11	8.28e-03	0.20	0.37	1	0.9	0.6	80.0	0.59	0.04	0.5	1.00	38,28,28,6
176	ok	s=2,m=11	6.99e-03	0.17	0.31	1	0.9	0.6	80.0	0.59	0.03	0.5	1.00	18,38,38,18
177	ok	s=2,m=11	4.22e-03	0.18	0.32	1	0.9	0.5	78.4	0.60	0.01	0.5	1.00	28,5,5,39
207	oks	=13,m=11	0.04	0.07		1					0.05	0.2	1.00	38,6,0,38
209	oks	=13,m=11	0.06	0.16		1					0.13	0.2	1.00	38,38,0,38
210	oks	=13,m=11	0.02	0.14		1					0.06	0.3	1.00	5,18,0,18
212	oks	=13,m=11	0.04	0.14		1					0.08	0.2	1.00	18,18,0,18
243	ok	s=2,m=11	3.58e-03	0.14	0.25	1	0.9	0.5	78.2	0.60	0.01	0.5	1.00	37,18,18,27
245	ok	s=2,m=11	5.67e-03	0.19	0.34	1	0.9	0.6	79.8	0.59	0.02	0.4	1.00	28,28,28,28
246	ok	s=2,m=11	9.03e-03	0.12	0.24	1	0.9	0.6	79.8	0.59	0.05	0.4	1.00	12,38,38,12
248	ok	s=2,m=11	3.56e-03	0.13	0.23	1	0.9	0.5	78.2	0.60	0.01	0.5	1.00	12,6,6,18
266	oks	=13,m=11	0.02	0.07		1					0.05	0.2	1.00	6,18,0,6
267	oks	=13,m=11	0.05	0.11		1					0.10	0.2	1.00	28,28,0,30
268	oks	=13,m=11	0.04	0.09		1					0.08	0.2	1.00	28,28,0,28
269	oks	=13,m=11	0.02	0.07		1					0.04	0.2	1.00	18,18,0,18
282	ok	s=2,m=11	3.81e-03	0.15	0.27	1	0.9	0.5	77.8	0.60	0.01	0.4	1.00	12,18,18,2
284	ok	s=2,m=11	6.62e-03	0.15	0.29	1	0.9	0.6	79.4	0.59	0.03	0.5	1.00	2,28,28,2
285	ok	s=2,m=11	7.04e-03	0.13	0.26	1	0.9	0.6	79.4	0.59	0.03	0.4	1.00	12,38,38,32
286	ok	s=2,m=11	3.34e-03	0.12	0.20	1	0.9	0.5	77.8	0.60	0.01	0.6	0.97	18,5,5,74
347	oks	=13,m=11	0.04	0.12		1					0.07	0.2	1.00	18,18,0,18
358	oks	=13,m=11	0.04	0.12		1					0.08	0.2	1.00	32,6,0,32
359	oks	=13,m=11	0.02	0.10		1					0.05	0.3	1.00	28,38,0,18
369	oks	=13,m=11	0.03	0.09		1					0.05	0.2	1.00	18,54,0,18
420	ok	s=2,m=11	5.76e-03	0.09	0.17	1	0.9	0.5	77.9	0.60	0.02	0.4	1.00	28,28,28,30
421	ok	s=2,m=11	9.19e-03	0.06		1					0.04	0.4	1.00	12,18,0,12
423	ok	s=2,m=11	3.30e-03	0.06	0.11	1	0.9	0.5	76.3	0.61	9.62e-03	0.4	1.00	2,51,51,8
439	oks	=13,m=11	0.02	0.07		1					0.04	0.2	1.00	18,18,0,18
440	oks	=13,m=11	0.03	0.08		1					0.06	0.2	1.00	28,28,0,28
441	oks	=13,m=11	0.02	0.07		1					0.05	0.2	1.00	28,73,0,28
442	oks	=13,m=11	0.01	0.05		1					0.02	0.2	1.00	18,18,0,61
469	ok	s=2,m=11	4.33e-03	0.04		1					0.02	0.5	1.00	28,28,0,18
471	ok	s=2,m=11	7.37e-03	0.06	0.14	1	0.9	0.6	81.4	0.58	0.04	0.5	1.00	22,28,28,22
472	ok	s=2,m=11	7.31e-03	0.06	0.14	1	0.9	0.6	81.4	0.58	0.04	0.5	1.00	32,74,38,38
473	ok	s=2,m=11	2.74e-03	0.05		1					8.11e-03	0.6	0.96	17,54,0,74
534	oks	=13,m=11	0.02	0.04		1					0.02	0.3	1.00	22,28,0,28
545	oks	=13,m=11	0.04	0.10		1					0.09	0.3	1.00	22,6,0,22
546	oks	=13,m=11	0.03	0.10		1					0.07	0.3	1.00	28,38,0,28
556	oks	=13,m=11	0.01	0.04		1					0.02	0.2	1.00	54,62,0,54
607	ok	s=2,m=11	4.84e-03	0.03		1					0.01	0.4	1.00	28,28,0,30
608	ok	s=2,m=11	9.54e-03	0.05		1					0.05	0.4	1.00	12,12,0,12
610	ok	s=2,m=11	3.14e-03	0.02		1					8.29e-03	0.4	1.00	38,2,0,40
626	oks	=13,m=11	0.01	0.04		1					0.02	0.2	1.00	28,73,0,73
627	oks	=13,m=11	0.01	0.05		1					0.03	0.2	1.00	63,75,0,28
628	oks	=13,m=11	0.01	0.05		1					0.03	0.2	1.00	65,73,0,65
629	oks	=13,m=11	5.13e-03	0.03		1					8.49e-03	0.3	1.00	61,73,0,61
656	ok	s=2,m=11	3.29e-03	0.03		1					0.01	0.5	1.00	28,22,0,28
658	ok	s=2,m=11	7.19e-03	0.04		1					0.04	0.5	1.00	22,22,0,28
659	ok	s=2,m=11	8.00e-03	0.05		1					0.04	0.4	1.00	32,38,0,32
660	ok	s=2,m=11	2.55e-03	0.02		1					5.88e-03	0.5	1.00	27,62,0,27
719	oks	=13,m=11	0.02	0.07		1					0.02	0.3	1.00	2,6,0,6
730	oks	=13,m=11	0.03	0.09		1					0.08	0.3	1.00	28,28,0,28
731	oks	=13,m=11	0.03	0.09		1					0.07	0.3	1.00	28,38,0,28
741	oks	=13,m=11	0.01	0.04		1					0.01	0.3	1.00	38,17,0,38
787	ok	s=2,m=11	3.33e-03	0.01		1					7.81e-03	0.4	1.00	28,28,0,28
788	ok	s=2,m=11	8.32e-03	0.05		1					0.04	0.4	1.00	12,12,0,22
790	ok	s=2,m=11	2.20e-03	0.03		1					3.93e-03	0.6	0.98	28,18,0,22
792	oks	=13,m=11	0.01	0.02		1					0.02	0.2	1.00	6,6,0,6
793	oks	=13,m=11	5.28e-03	0.01		1					9.56e-03	0.3	1.00	28,22,0,30
794	oks	=13,m=11	6.19e-03	0.02		1					0.01	0.3	1.00	28,40,0,28
795	oks	=13,m=11	3.43e-03	9.20e-03		1					4.59e-03	0.3	1.00	18,38,0,18
797	ok	s=2,m=11	3.18e-03	0.01		1					7.80e-03	0.4	1.00	12,28,0,18
799	ok	s=2,m=11	2.60e-03	9.00e-03		1					5.25e-03	0.5	1.00	28,12,0,28
800	ok	s=2,m=11	3.52e-03	0.01		1					7.81e-03	0.4	1.00	12,38,0,12
802	ok	s=2,m=11	3.00e-03	9.18e-03		1					5.97e-03	0.4	1.00	2,28,0,2
804	oks	=13,m=11	0.02	0.02		1					0.01	0.4	1.00	2,6,0,2
805	oks	=13,m=11	3.90e-03	0.02		1					2.90e-03	0.3	1.00	8,6,0,32

Trave	Stato	Note	V V/T	V N/M	V stab	Cl.	LamS 22	LamS 33	Snell.	Chi mn	V flst	LamS LT	Chi LT	Rif. cmb
806	oks=13,m=11		3.77e-03	0.02		1					4.38e-03	0.3	1.00	17,38,0,32
807	oks=13,m=11		0.02	0.02		1					0.01	0.4	1.00	12,38,0,22
			V V/T	**V N/M**	**V stab**		**LamS 22**	**LamS 33**	**Snell.**	**Chi mn**	**V flst**	**LamS LT**	**Chi LT**	
										0.58			0.96	
Max			0.08	0.29	0.41		0.94	0.57	81.37		0.17	0.60		

Pilas.	Stato	Note	V V/T	V N/M	V stab	Cl.	LamS 22	LamS 33	Snell.	Chi mn	V flst	LamS LT	Chi LT	Rif. cmb
131	ok	s=1,m=11	0.02	0.24	0.37	1	0.6	0.3	51.0	0.79	0.07	0.2	1.00	6,28,28,28
134	ok	s=1,m=11	0.03	0.30	0.54	1	0.9	0.5	76.9	0.61	0.10	0.3	1.00	38,18,38,30
135	ok	s=1,m=11	0.02	0.33	0.45	1	0.9	0.5	76.9	0.61	0.08	0.3	1.00	18,18,38,28
138	ok	s=1,m=11	0.03	0.27	0.50	1	0.9	0.5	76.9	0.61	0.12	0.3	1.00	38,18,18,38
150	oks=10,m=11		0.05	0.26	0.68	1	1.6	0.9	138.3	0.29	0.22	0.7	1.00	6,6,32,6
151	oks=10,m=11		0.05	0.22	0.48	1	1.6	0.9	138.3	0.29	0.19	0.7	1.00	18,18,12,18
152	oks=10,m=11		0.04	0.22	0.64	1	1.6	0.9	138.3	0.29	0.15	0.7	1.00	6,2,22,6
153	oks=10,m=11		0.04	0.20	0.44	1	1.6	0.9	138.3	0.29	0.16	0.7	1.00	18,18,22,18
154	ok	s=1,m=11	0.06	0.23		1					0.07	0.1	1.00	38,28,0,38
161	ok	s=1,m=11	0.08	0.21		1					0.06	0.1	1.00	38,18,0,28
172	ok	s=1,m=11	0.03	0.23	0.42	1	0.9	0.5	80.5	0.58	0.08	0.2	1.00	28,38,38,28
174	ok	s=1,m=11	0.03	0.18	0.35	1	0.9	0.5	80.5	0.58	0.08	0.2	1.00	28,38,38,28
178	ok	s=1,m=11	0.02	0.19	0.35	1	0.9	0.5	80.5	0.58	0.06	0.2	1.00	38,28,28,38
181	ok	s=1,m=11	0.02	0.19	0.29	1	0.6	0.4	53.3	0.78	0.05	0.2	1.00	22,18,18,2
184	oks=10,m=11		0.07	0.14	0.60	1	1.6	0.9	138.3	0.29	0.07	0.6	1.00	6,32,32,6
185	oks=10,m=11		0.07	0.11	0.38	1	1.6	0.9	138.3	0.29	0.07	0.6	1.00	6,38,32,6
186	oks=10,m=11		0.05	0.13	0.56	1	1.6	0.9	138.3	0.29	0.05	0.7	1.00	8,22,22,54
187	oks=10,m=11		0.07	0.12	0.39	1	1.6	0.9	138.3	0.29	0.06	0.6	1.00	18,28,22,18
225	ok	s=1,m=11	7.41e-03	0.15	0.34	1	1.9	1.1	161.1	0.22	0.02	0.8	0.95	28,28,32,38
226	ok	s=1,m=11	6.98e-03	0.11	0.17	1	1.9	1.1	161.1	0.22	0.02	0.8	0.95	29,29,38,38
227	ok	s=1,m=11	3.56e-03	0.11	0.56	1	1.9	1.1	161.1	0.22	0.07	0.8	0.95	12,12,12,12
228	ok	s=1,m=11	2.33e-03	0.10	0.47	1	1.9	1.1	161.1	0.22	0.04	0.8	0.95	6,2,2,6
229	ok	s=1,m=11	0.02	0.08	0.22	1	1.9	1.1	161.1	0.22	0.05	0.8	0.87	7,38,38,6
230	ok	s=1,m=11	0.02	0.06	0.18	1	1.9	1.1	161.1	0.22	0.05	0.8	0.87	18,20,12,18
231	ok	s=1,m=11	0.02	0.06	0.20	1	1.9	1.1	161.1	0.22	0.05	0.8	0.87	6,5,28,6
232	ok	s=1,m=11	0.02	0.05	0.18	1	1.9	1.1	161.1	0.22	0.05	0.8	0.87	19,19,2,19
233	ok	s=1,m=11	3.60e-03	0.11	0.56	1	1.9	1.1	161.1	0.22	0.07	0.8	0.95	12,12,32,12
234	ok	s=1,m=11	1.61e-03	0.10	0.45	1	1.9	1.1	161.1	0.22	0.03	0.8	0.95	6,2,2,6
235	ok	s=1,m=11	7.31e-03	0.14	0.32	1	1.9	1.1	161.1	0.22	0.01	0.8	0.95	38,38,22,72
236	ok	s=1,m=11	7.01e-03	0.11	0.16	1	1.9	1.1	161.1	0.22	0.01	0.8	0.95	38,38,28,72
239	ok	s=1,m=11	0.04	0.14	0.19	1	0.6	0.4	53.3	0.78	0.09	0.2	1.00	38,28,28,38
242	ok	s=1,m=11	0.03	0.16	0.30	1	0.9	0.5	80.2	0.59	0.10	0.3	1.00	28,38,38,28
244	ok	s=1,m=11	0.02	0.13	0.24	1	0.9	0.5	80.2	0.59	0.08	0.3	1.00	28,38,6,28
247	ok	s=1,m=11	0.01	0.13	0.25	1	0.9	0.5	80.2	0.59	0.04	0.3	1.00	40,18,18,40
259	oks=10,m=11		0.03	0.14	0.63	1	1.6	0.9	138.3	0.29	0.11	0.7	1.00	6,28,32,6
260	oks=10,m=11		0.02	0.12	0.39	1	1.6	0.9	138.3	0.29	0.08	0.6	1.00	6,38,32,6
261	oks=10,m=11		0.03	0.15	0.59	1	1.6	0.9	138.3	0.29	0.10	0.6	1.00	6,38,22,6
262	oks=10,m=11		0.03	0.13	0.39	1	1.6	0.9	138.3	0.29	0.08	0.6	0.96	18,28,22,18
263	ok	s=1,m=11	0.05	0.13		1					0.06	0.1	1.00	38,28,0,38
270	ok	s=1,m=11	0.09	0.12		1					0.08	8.91e-02	1.00	38,38,0,38
281	ok	s=1,m=11	0.03	0.11	0.21	1	0.9	0.5	79.6	0.59	0.09	0.3	1.00	28,38,38,28
283	ok	s=1,m=11	0.03	0.09	0.17	1	0.9	0.5	79.6	0.59	0.09	0.3	1.00	28,28,6,28
287	ok	s=1,m=11	0.03	0.09	0.16	1	0.9	0.5	79.6	0.59	0.08	0.3	1.00	38,40,28,38
290	ok	s=1,m=11	0.02	0.09		1					0.04	0.2	1.00	2,18,0,2
293	oks=10,m=11		0.15	0.18	0.32	1	1.6	0.9	138.3	0.29	0.12	0.6	1.00	6,28,2,6
294	oks=10,m=11		0.10	0.11	0.26	1	1.6	0.9	138.3	0.29	0.08	0.6	1.00	6,27,38,18
295	oks=10,m=11		0.14	0.18	0.30	1	1.6	0.9	138.3	0.29	0.12	0.6	1.00	6,38,32,6
296	oks=10,m=11		0.10	0.13	0.25	1	1.6	0.9	138.3	0.29	0.08	0.6	1.00	18,39,28,18
415	ok	s=1,m=11	0.03	0.07		1					0.07	0.2	1.00	18,38,0,38
418	ok	s=1,m=11	0.02	0.13	0.14	1	0.9	0.5	76.9	0.61	0.07	0.3	1.00	28,28,12,28
419	ok	s=1,m=11	0.02	0.12	0.11	1	0.9	0.5	76.9	0.61	0.06	0.3	1.00	28,18,38,28
422	ok	s=1,m=11	3.50e-03	0.06	0.10	1	0.9	0.5	76.9	0.61	0.01	0.3	1.00	27,22,22,27
434	oks=10,m=11		0.04	0.18	0.39	1	1.6	0.9	138.3	0.29	0.11	0.6	1.00	6,28,2,6
435	oks=10,m=11		0.03	0.11	0.27	1	1.6	0.9	138.3	0.29	0.08	0.6	1.00	19,38,32,20
436	oks=10,m=11		0.04	0.18	0.38	1	1.6	0.9	138.3	0.29	0.12	0.6	1.00	6,38,2,6
437	oks=10,m=11		0.03	0.13	0.27	1	1.6	0.9	138.3	0.29	0.08	0.6	1.00	20,39,28,20
438	ok	s=1,m=11	0.05	0.08		1					0.06	9.28e-02	1.00	38,38,0,38
443	ok	s=1,m=11	0.01	0.27		1					0.01	0.5	1.00	38,38,0,38
444	ok	s=1,m=11	4.96e-03	0.11		1					0.01	0.5	1.00	29,29,0,38
445	ok	s=1,m=11	0.04	0.19	0.21	1	0.9	0.5	80.5	0.58	0.19	0.4	1.00	12,12,12,12
446	ok	s=1,m=11	0.02	0.11	0.15	1	0.9	0.5	80.5	0.58	0.10	0.4	1.00	6,6,2,6
447	ok	s=1,m=11	0.01	0.12		1					0.04	0.5	1.00	7,38,0,7
448	ok	s=1,m=11	0.01	0.08		1					0.04	0.5	1.00	18,38,0,18

Pilas.	Stato	Note	V V/T	V N/M	V stab	Cl.	LamS 22	LamS 33	Snell.	Chi mn	V flst	LamS LT	Chi LT	Rif. cmb
450	ok	s=1,m=11	0.01	0.10		1					0.05	0.5	1.00	6,28,0,6
451	ok	s=1,m=11	0.01	0.09		1					0.05	0.5	1.00	19,71,0,19
453	ok	s=1,m=11	0.04	0.19	0.21	1	0.9	0.5	80.5	0.58	0.19	0.4	1.00	12,12,12,12
454	ok	s=1,m=11	0.02	0.10	0.14	1	0.9	0.5	80.5	0.58	0.10	0.4	1.00	6,6,2,6
455	ok	s=1,m=11	0.01	0.26		1					0.01	0.5	1.00	28,22,0,72
456	ok	s=1,m=11	5.00e-03	0.11		1					0.01	0.5	1.00	38,38,0,72
457	ok	s=1,m=11	0.06	0.11		1					0.08	0.1	1.00	38,38,0,38
468	ok	s=1,m=11	0.02	0.09		1					0.08	0.3	1.00	28,28,0,28
470	ok	s=1,m=11	0.02	0.09		1					0.08	0.3	1.00	28,28,0,28
474	ok	s=1,m=11	0.02	0.07		1					0.07	0.3	1.00	38,40,0,38
477	ok	s=1,m=11	0.02	0.06		1					0.05	0.2	1.00	2,2,0,2
480	oks	=10,m=11	0.13	0.18	0.18	1	1.6	0.9	138.3	0.29	0.12	0.6	1.00	6,28,22,6
481	oks	=10,m=11	0.09	0.11	0.16	1	1.6	0.9	138.3	0.29	0.08	0.6	1.00	6,38,38,6
482	oks	=10,m=11	0.13	0.17	0.18	1	1.6	0.9	138.3	0.29	0.12	0.6	1.00	6,38,32,6
483	oks	=10,m=11	0.09	0.12	0.16	1	1.6	0.9	138.3	0.29	0.07	0.6	1.00	20,28,28,18
602	ok	s=1,m=11	0.04	0.08		1					0.07	0.2	1.00	12,54,0,32
605	ok	s=1,m=11	0.02	0.11		1					0.07	0.3	1.00	28,28,0,28
606	ok	s=1,m=11	0.02	0.09		1					0.07	0.3	1.00	12,28,0,12
609	ok	s=1,m=11	1.49e-03	0.03		1					4.62e-03	0.3	1.00	38,2,0,64
621	oks	=10,m=11	0.04	0.20	0.28	1	1.6	0.9	138.3	0.29	0.13	0.6	1.00	6,28,2,2
622	oks	=10,m=11	0.03	0.11	0.17	1	1.6	0.9	138.3	0.29	0.07	0.6	0.98	20,38,38,20
623	oks	=10,m=11	0.04	0.19	0.27	1	1.6	0.9	138.3	0.29	0.13	0.6	1.00	6,38,2,6
624	oks	=10,m=11	0.03	0.12	0.17	1	1.6	0.9	138.3	0.29	0.07	0.6	0.98	20,28,28,20
625	ok	s=1,m=11	0.05	0.08		1					0.06	9.49e-02	1.00	38,38,0,38
630	ok	s=1,m=11	0.01	0.28		1					6.90e-03	0.5	1.00	32,32,0,6
631	ok	s=1,m=11	3.16e-03	0.03		1					6.95e-03	0.5	1.00	29,29,0,6
632	ok	s=1,m=11	0.04	0.22		1					0.22	0.4	1.00	12,12,0,12
633	ok	s=1,m=11	0.02	0.10		1					0.10	0.4	1.00	6,6,0,6
634	ok	s=1,m=11	7.46e-03	0.10		1					0.02	0.5	0.98	6,38,0,6
635	ok	s=1,m=11	7.39e-03	0.10		1					0.02	0.5	0.98	19,38,0,19
637	ok	s=1,m=11	7.33e-03	0.09		1					0.02	0.5	0.98	8,28,0,8
638	ok	s=1,m=11	7.33e-03	0.10		1					0.02	0.5	0.98	17,28,0,17
640	ok	s=1,m=11	0.04	0.22		1					0.22	0.4	1.00	12,12,0,12
641	ok	s=1,m=11	0.02	0.10		1					0.10	0.4	1.00	6,6,0,6
642	ok	s=1,m=11	0.01	0.27		1					4.80e-03	0.5	1.00	22,22,0,54
643	ok	s=1,m=11	3.17e-03	0.03		1					4.91e-03	0.5	1.00	38,37,0,54
644	ok	s=1,m=11	0.04	0.08		1					0.06	0.1	1.00	38,38,0,38
655	ok	s=1,m=11	0.01	0.06		1					0.06	0.3	1.00	28,22,0,28
657	ok	s=1,m=11	0.02	0.07		1					0.06	0.3	1.00	28,28,0,28
661	ok	s=1,m=11	0.02	0.06		1					0.06	0.3	1.00	38,38,0,38
664	ok	s=1,m=11	0.02	0.06		1					0.05	0.2	1.00	2,2,0,2
667	oks	=10,m=11	0.09	0.20		1					0.13	0.7	0.97	6,28,0,2
668	oks	=10,m=11	0.05	0.11		1					0.07	0.7	0.97	20,38,0,20
669	oks	=10,m=11	0.09	0.19		1					0.13	0.7	0.97	6,38,0,6
670	oks	=10,m=11	0.04	0.11		1					0.07	0.7	0.97	20,28,0,20
785	ok	s=1,m=11	0.02	0.08		1					0.07	0.3	1.00	28,28,0,28
786	ok	s=1,m=11	0.02	0.08		1					0.07	0.3	1.00	22,18,0,22
789	ok	s=1,m=11	1.48e-03	8.82e-03		1					4.17e-03	0.3	1.00	30,18,0,37
791	ok	s=1,m=11	0.02	0.06		1					0.06	0.3	1.00	32,38,0,38
796	ok	s=1,m=11	4.55e-03	0.02		1					0.01	0.2	1.00	28,2,0,28
798	ok	s=1,m=11	4.90e-03	0.02		1					0.01	0.2	1.00	12,18,0,12
801	ok	s=1,m=11	1.95e-03	0.01		1					5.27e-03	0.2	1.00	28,12,0,28
803	ok	s=1,m=11	4.57e-03	0.02		1					0.01	0.2	1.00	12,32,0,32

	V V/T	V N/M	V stab	LamS 22	LamS 33	Snell.	Chi mn	V flst	LamS LT	Chi LT
							0.22			0.87
Max	0.15	0.33	0.68	1.86	1.10	161.09		0.22	0.77	

3.13 TRAVI PRIMO PIANO

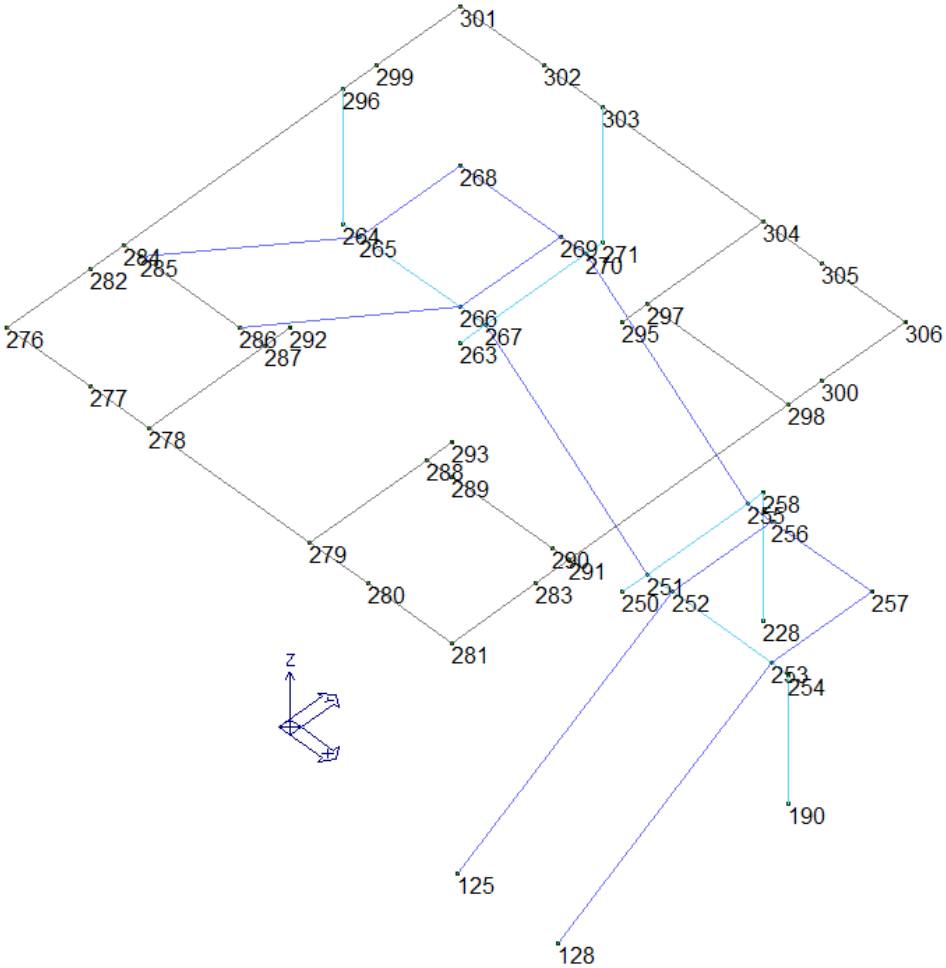
Si riportano di seguito i dati ed i risultati relativi alle travi ed ai controventi del 1° piano (solo nucleo scala).

3.13.1 MODELLAZIONE STRUTTURA: NODI

TABELLA DATI NODI

Nodo	X	Y	Z	Nodo	X	Y	Z	Nodo	X	Y	Z
	cm	cm	cm		cm	cm	cm		cm	cm	cm
125	224.0	-23.0	0.0	128	344.0	-23.0	0.0	190	364.0	234.0	0.0
228	194.0	374.0	0.0	250	194.0	204.0	155.0	251	194.0	234.0	155.0
252	224.0	234.0	155.0	253	344.0	234.0	155.0	254	364.0	234.0	155.0
255	194.0	354.0	155.0	256	224.0	354.0	155.0	257	344.0	354.0	155.0
258	194.0	374.0	155.0	263	0.0	204.0	317.0	264	-170.0	234.0	317.0
265	-150.0	234.0	317.0	266	-30.0	234.0	317.0	267	0.0	234.0	317.0
268	-150.0	354.0	317.0	269	-30.0	354.0	317.0	270	0.0	354.0	317.0
271	0.0	374.0	317.0	276	-170.0	-170.0	479.0	277	-70.0	-170.0	479.0
278	0.0	-170.0	479.0	279	194.0	-170.0	479.0	280	264.0	-170.0	479.0
281	364.0	-170.0	479.0	282	-170.0	-70.0	479.0	283	364.0	-70.0	479.0
284	-170.0	-30.0	479.0	285	-150.0	-30.0	479.0	286	-30.0	-30.0	479.0
287	0.0	-30.0	479.0	288	194.0	-30.0	479.0	289	224.0	-30.0	479.0
290	344.0	-30.0	479.0	291	364.0	-30.0	479.0	292	0.0	0.0	479.0
293	194.0	0.0	479.0	295	194.0	204.0	479.0	296	-170.0	234.0	479.0
297	194.0	234.0	479.0	298	364.0	234.0	479.0	299	-170.0	274.0	479.0
300	364.0	274.0	479.0	301	-170.0	374.0	479.0	302	-70.0	374.0	479.0
303	0.0	374.0	479.0	304	194.0	374.0	479.0	305	264.0	374.0	479.0
306	364.0	374.0	479.0								

Numerazione nodi

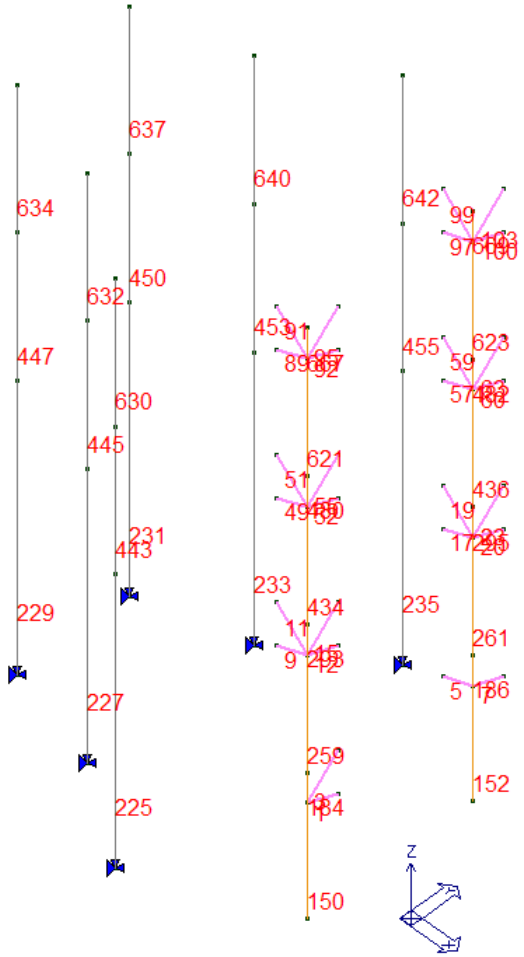


3.13.2 MODELLAZIONE STRUTTURA: ELEMENTI TRAVE

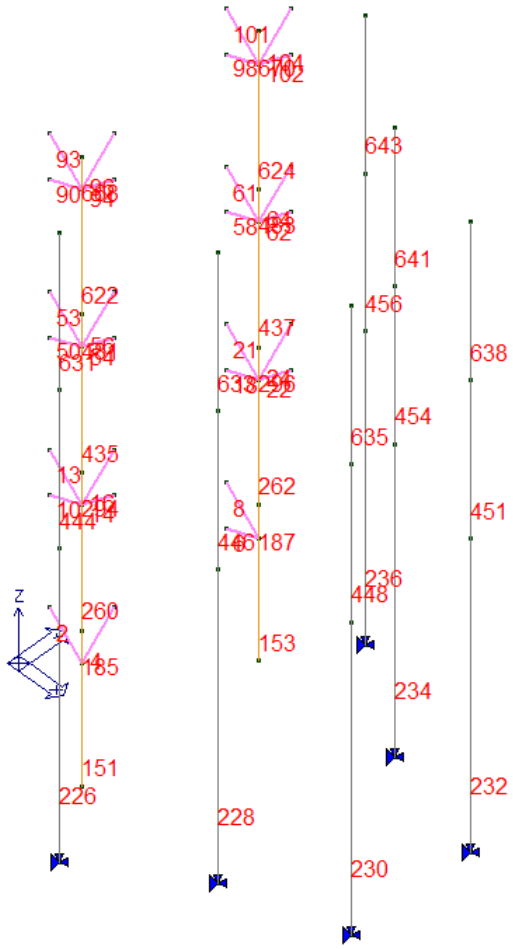
TABELLA DATI TRAVI

Elem.	Note	Nodo I	Nodo J	Mat.	Sez.	Rotaz. gradi	Svincolo I	Svincolo J	Wink V daN/cm3	Wink O daN/cm3
129	Trave	125	252	11	6	180.00				
130	Trave	128	253	11	6					
132	Pilas.	190	254	11	5					
133	Pilas.	228	258	11	5					
140	Trave	250	251	11	5					
141	Trave	251	252	11	5					
142	Trave	252	253	11	5					
143	Trave	253	254	11	5					
144	Trave	251	255	11	5					
145	Trave	252	256	11	6	180.00				
146	Trave	253	257	11	6					
147	Trave	255	256	11	6	180.00				
148	Trave	256	257	11	6	180.00				
149	Trave	255	258	11	5					
159	Trave	267	251	11	6					
160	Trave	270	255	11	6	180.00				
162	Trave	263	267	11	5					
163	Trave	264	265	11	5					
164	Trave	265	266	11	5					
165	Trave	266	267	11	5					
166	Trave	265	268	11	6	180.00				
167	Trave	266	269	11	6					
168	Trave	267	270	11	5					
169	Trave	268	269	11	6	180.00				
170	Trave	269	270	11	6	180.00				
171	Trave	270	271	11	5					
179	Trave	285	265	11	6	180.00				
180	Trave	286	266	11	6					
182	Pilas.	264	296	11	5					
183	Pilas.	271	303	11	5					
188	Trave	276	277	11	12					
189	Trave	277	278	11	12					
190	Trave	278	279	11	12					
191	Trave	279	280	11	12					
192	Trave	280	281	11	12					
193	Trave	276	282	11	12					
194	Trave	281	283	11	12					
195	Trave	278	287	11	12		000011			
196	Trave	279	288	11	12		000011			
197	Trave	282	284	11	12					
198	Trave	283	291	11	12					
199	Trave	284	285	11	12		000011			
200	Trave	285	286	11	12					
201	Trave	286	287	11	12			000011		
202	Trave	288	289	11	12		000011			
203	Trave	289	290	11	12					
204	Trave	290	291	11	12			000011		
205	Trave	287	292	11	12					
206	Trave	288	293	11	12					
208	Trave	284	296	11	12					
211	Trave	291	298	11	12					
213	Trave	295	297	11	12					
214	Trave	297	298	11	12		000011	000011		
215	Trave	296	299	11	12					
216	Trave	298	300	11	12					
217	Trave	297	304	11	12			000011		
218	Trave	299	301	11	12					
219	Trave	300	306	11	12					
220	Trave	301	302	11	12					
221	Trave	302	303	11	12					
222	Trave	303	304	11	12					
223	Trave	304	305	11	12					
224	Trave	305	306	11	12					

Numerazione elementi montanti a sinistra



Numerazione elementi montanti a destra



3.13.3 VERIFICHE PER ELEMENTI IN ACCIAIO

TABELLA VERIFICHE PER ELEMENTI N ACCIAIO

Trave	Stato	Note	V V/T	V N/M	V stab	Cl.	LamS 22	LamS 33	Snell.	Chi mn	V flst	LamS LT	Chi LT	Rif. cmb
129	ok	s=6,m=11	0.03	0.13	0.22	1	1.7	0.5	148.7	0.25				22,22,73,0
130	ok	s=6,m=11	0.03	0.15		1								22,22,0,0
140	ok	s=5,m=11	0.04	0.15		1					0.14	7.85e-02	1.00	22,38,0,38
141	ok	s=5,m=11	0.06	0.18		1					0.07	6.66e-02	1.00	18,6,0,18
142	ok	s=5,m=11	0.05	0.12		1					0.12	0.2	1.00	18,18,0,18
143	ok	s=5,m=11	0.04	0.12		1					0.12	5.40e-02	1.00	6,18,0,18
144	ok	s=5,m=11	0.05	0.16		1					0.12	0.2	1.00	38,38,0,38
145	ok	s=6,m=11	9.75e-03	0.10		1								38,12,0,0
146	ok	s=6,m=11	9.91e-03	0.16		1								28,28,0,0
147	ok	s=6,m=11	0.03	0.21		1								22,12,0,0
148	ok	s=6,m=11	0.03	0.17		1								22,28,0,0
149	ok	s=5,m=11	0.12	0.08		1					0.07	5.12e-02	1.00	28,6,0,38
159	ok	s=6,m=11	0.04	0.31	0.18	1	1.4	0.4	125.3	0.33				2,2,7,0
160	ok	s=6,m=11	0.03	0.19	0.19	1	1.4	0.4	125.3	0.33				22,2,22,0
162	ok	s=5,m=11	0.27	0.44		1					0.44	7.03e-02	1.00	2,32,0,32
163	ok	s=5,m=11	0.06	0.20		1					0.20	5.38e-02	1.00	30,6,0,6
164	ok	s=5,m=11	0.08	0.21		1					0.20	0.2	1.00	6,6,0,6
165	ok	s=5,m=11	0.17	0.37		1					0.20	6.59e-02	1.00	22,38,0,2
166	ok	s=6,m=11	0.02	0.21		1								28,28,0,0
167	ok	s=6,m=11	0.03	0.25		1								2,28,0,0
168	ok	s=5,m=11	0.08	0.27		1					0.22	0.2	1.00	38,38,0,38
169	ok	s=6,m=11	0.02	0.10		1								32,28,0,0
170	ok	s=6,m=11	0.05	0.27		1								28,28,0,0
171	ok	s=5,m=11	0.11	0.10		1					0.10	4.95e-02	1.00	6,32,0,32
179	ok	s=6,m=11	0.03	0.17		1								22,28,0,0
180	ok	s=6,m=11	0.03	0.26	0.30	1	1.8	0.5	153.5	0.24				2,2,28,0
188	oks	=12,m=11	0.11	0.23		1					0.23	0.2	1.00	6,6,0,6
189	oks	=12,m=11	0.10	0.23		1					0.23	0.3	1.00	6,6,0,6
190	oks	=12,m=11	0.06	0.13		1					0.11	0.2	1.00	6,6,0,6
191	oks	=12,m=11	0.08	0.18		1					0.18	0.3	1.00	18,6,0,6
192	oks	=12,m=11	0.10	0.18		1					0.18	0.2	1.00	6,6,0,6
193	oks	=12,m=11	0.04	0.11		1					0.10	0.2	1.00	37,37,0,30
194	oks	=12,m=11	0.04	0.09		1					0.08	0.2	1.00	72,72,0,72
195	oks	=12,m=11	0.08	0.27		1					0.26	0.2	1.00	22,22,0,22
196	oks	=12,m=11	0.08	0.27		1					0.24	0.2	1.00	28,28,0,28
197	oks	=12,m=11	0.06	0.11		1					0.10	0.3	1.00	38,28,0,30
198	oks	=12,m=11	0.04	0.10		1					0.08	0.2	1.00	73,77,0,72
199	oks	=12,m=11	0.04	0.03		1					0.01	3.24e-02	1.00	38,38,0,38
200	oks	=12,m=11	0.01	0.11		1					0.03	0.2	1.00	38,38,0,38
201	oks	=12,m=11	0.05	0.12		1					0.03	4.85e-02	1.00	38,38,0,38
202	oks	=12,m=11	0.05	0.06		1					0.02	4.85e-02	1.00	22,71,0,71
203	oks	=12,m=11	0.01	0.06		1					0.02	0.2	1.00	22,74,0,32
204	oks	=12,m=11	0.03	0.02		1					0.01	3.24e-02	1.00	32,73,0,22
205	oks	=12,m=11	0.10	0.34		1					0.31	6.13e-02	1.00	2,22,0,22
206	oks	=12,m=11	0.09	0.33		1					0.30	6.13e-02	1.00	22,28,0,28
208	oks	=12,m=11	0.02	0.11		1					0.09	0.4	1.00	28,28,0,28
211	oks	=12,m=11	0.02	0.10		1					0.08	0.3	1.00	28,77,0,28
213	oks	=12,m=11	0.07	0.32		1					0.26	6.14e-02	1.00	38,18,0,38
214	oks	=12,m=11	8.88e-03	7.32e-03		1					1.70e-03	0.3	1.00	22,18,0,17
215	oks	=12,m=11	0.06	0.13		1					0.12	8.02e-02	1.00	28,38,0,38
216	oks	=12,m=11	0.05	0.08		1					0.08	7.47e-02	1.00	72,72,0,72
217	oks	=12,m=11	0.07	0.22		1					0.21	0.2	1.00	38,38,0,38
218	oks	=12,m=11	0.04	0.13		1					0.12	0.2	1.00	38,38,0,38
219	oks	=12,m=11	0.03	0.09		1					0.08	0.2	1.00	72,28,0,72
220	oks	=12,m=11	0.04	0.13		1					0.12	0.2	1.00	6,6,0,6
221	oks	=12,m=11	0.09	0.13		1					0.12	0.1	1.00	6,6,0,6
222	oks	=12,m=11	0.04	0.10		1					0.08	0.2	1.00	6,6,0,6
223	oks	=12,m=11	0.11	0.16		1					0.14	0.1	1.00	18,18,0,18
224	oks	=12,m=11	0.05	0.16		1					0.14	0.2	1.00	18,18,0,18
			V V/T	**V N/M**	**V stab**		**LamS 22**	**LamS 33**	**Snell.**	**Chi mn**	**V flst**	**LamS LT**	**Chi LT**	
											0.24		1.00	
Max				0.27	0.44	0.30		1.77	0.51	153.51		0.44	0.36	

Pilas.	Stato	Note	V V/T	V N/M	V stab	Cl.LamS 22LamS 33	Snell.	Chi mn	V flstLamS LT		Chi LT	Rif. cmb
132	ok	s=5,m=11	0.06	0.23		1			0.19	0.2	1.00	18,18,0,18
133	ok	s=5,m=11	0.03	0.23		1			0.13	0.3	1.00	8,38,0,8
182	ok	s=5,m=11	0.04	0.20		1			0.20	0.3	1.00	6,6,0,6
183	ok	s=5,m=11	0.05	0.24		1			0.24	0.3	1.00	6,6,0,6
			V V/T	V N/M	V stab	LamS 22LamS 33	Snell.	Chi mn	V flstLamS LT		Chi LT	
											1.00	
Max			0.06	0.24					0.24	0.31		

3.14 TRAVI SECONDO PIANO

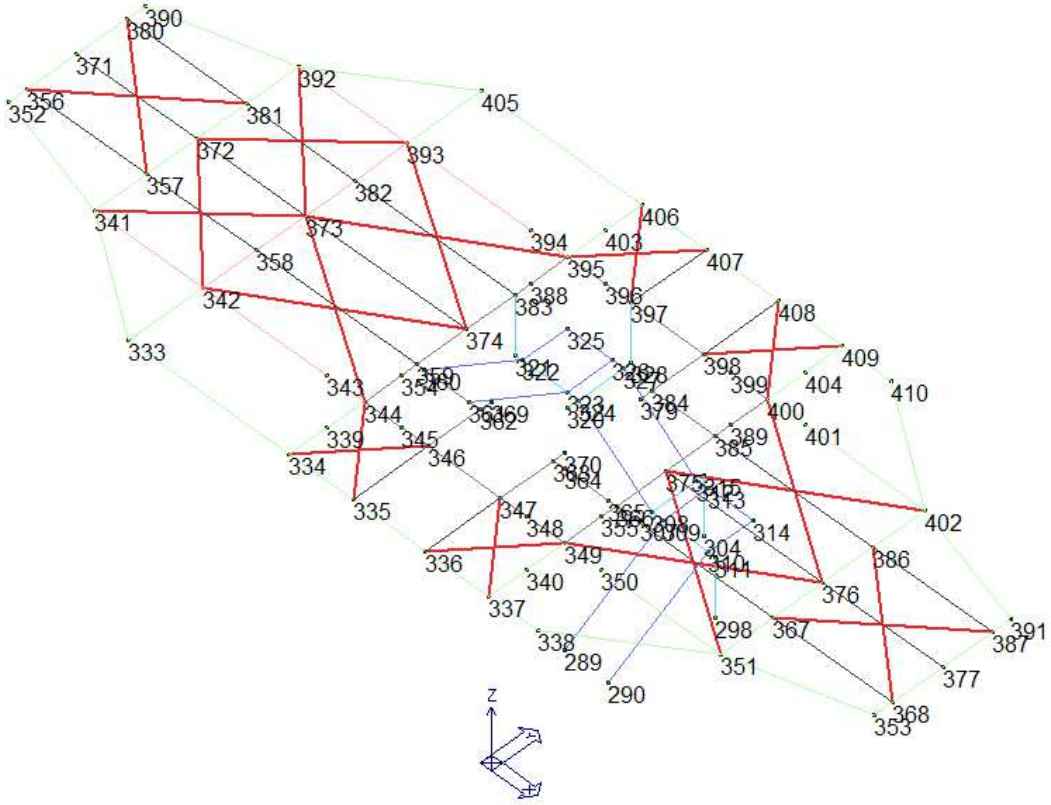
Si riportano di seguito i dati ed i risultati relativi alle travi ed ai controventi del 2° piano (nucleo scala e passerelle).

3.14.1 MODELLAZIONE STRUTTURA: NODI

TABELLA DATI NODI

Nodo	X	Y	Z	Nodo	X	Y	Z	Nodo	X	Y	Z
	cm	cm	cm		cm	cm	cm		cm	cm	cm
289	224.0	-30.0	479.0	290	344.0	-30.0	479.0	298	364.0	234.0	479.0
304	194.0	374.0	479.0	307	194.0	204.0	641.0	308	194.0	234.0	641.0
309	224.0	234.0	641.0	310	344.0	234.0	641.0	311	364.0	234.0	641.0
312	194.0	354.0	641.0	313	224.0	354.0	641.0	314	344.0	354.0	641.0
315	194.0	374.0	641.0	320	0.0	204.0	803.0	321	-170.0	234.0	803.0
322	-150.0	234.0	803.0	323	-30.0	234.0	803.0	324	0.0	234.0	803.0
325	-150.0	354.0	803.0	326	-30.0	354.0	803.0	327	0.0	354.0	803.0
328	0.0	374.0	803.0	333	-600.0	-370.0	965.0	334	-170.0	-370.0	965.0
335	0.0	-370.0	965.0	336	194.0	-370.0	965.0	337	364.0	-370.0	965.0
338	494.0	-370.0	965.0	339	-170.0	-270.0	965.0	340	364.0	-270.0	965.0
341	-890.0	-170.0	965.0	342	-600.0	-170.0	965.0	343	-270.0	-170.0	965.0
344	-170.0	-170.0	965.0	345	-70.0	-170.0	965.0	346	0.0	-170.0	965.0
347	194.0	-170.0	965.0	348	264.0	-170.0	965.0	349	364.0	-170.0	965.0
350	464.0	-170.0	965.0	351	784.0	-170.0	965.0	352	-1210.0	-80.0	965.0
353	1104.0	-80.0	965.0	354	-170.0	-70.0	965.0	355	364.0	-70.0	965.0
356	-1210.0	-30.0	965.0	357	-890.0	-30.0	965.0	358	-600.0	-30.0	965.0
359	-170.0	-30.0	965.0	360	-150.0	-30.0	965.0	361	-30.0	-30.0	965.0
362	0.0	-30.0	965.0	363	194.0	-30.0	965.0	364	224.0	-30.0	965.0
365	344.0	-30.0	965.0	366	364.0	-30.0	965.0	367	784.0	-30.0	965.0
368	1104.0	-30.0	965.0	369	0.0	0.0	965.0	370	194.0	0.0	965.0
371	-1210.0	102.0	965.0	372	-890.0	102.0	965.0	373	-600.0	102.0	965.0
374	-170.0	102.0	965.0	375	364.0	102.0	965.0	376	784.0	102.0	965.0
377	1104.0	102.0	965.0	379	194.0	204.0	965.0	380	-1210.0	234.0	965.0
381	-890.0	234.0	965.0	382	-600.0	234.0	965.0	383	-170.0	234.0	965.0
384	194.0	234.0	965.0	385	364.0	234.0	965.0	386	784.0	234.0	965.0
387	1104.0	234.0	965.0	388	-170.0	274.0	965.0	389	364.0	274.0	965.0
390	-1210.0	284.0	965.0	391	1104.0	284.0	965.0	392	-890.0	374.0	965.0
393	-600.0	374.0	965.0	394	-270.0	374.0	965.0	395	-170.0	374.0	965.0
396	-70.0	374.0	965.0	397	0.0	374.0	965.0	398	194.0	374.0	965.0
399	264.0	374.0	965.0	400	364.0	374.0	965.0	401	464.0	374.0	965.0
402	784.0	374.0	965.0	403	-170.0	474.0	965.0	404	364.0	474.0	965.0
405	-600.0	574.0	965.0	406	-170.0	574.0	965.0	407	0.0	574.0	965.0
408	194.0	574.0	965.0	409	364.0	574.0	965.0	410	494.0	574.0	965.0

Numerazione nodi



3.14.2 MODELLAZIONE STRUTTURA: ELEMENTI TRAVE

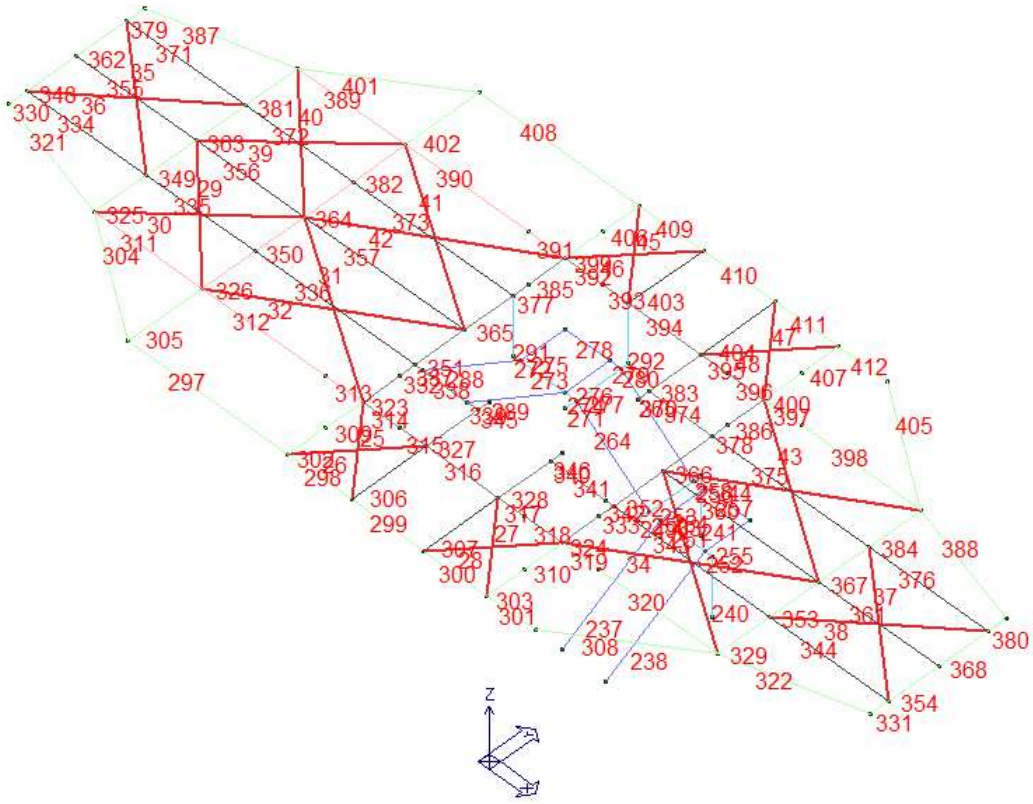
TABELLA DATI TRAVI

Elem.	Note	Nodo I	Nodo J	Mat.	Sez.	Rotaz. gradi	Svincolo I	Svincolo J	Wink V daN/cm3	Wink O daN/cm3
25	Asta	344	335	11	9					
26	Asta	334	346	11	9					
27	Asta	347	337	11	9					
28	Asta	336	349	11	9					
29	Asta	372	342	11	9					
30	Asta	341	373	11	9					
31	Asta	373	344	11	9					
32	Asta	342	374	11	9					
33	Asta	375	351	11	9					
34	Asta	349	376	11	9					
35	Asta	380	357	11	9					
36	Asta	356	381	11	9					
37	Asta	386	368	11	9					
38	Asta	367	387	11	9					
39	Asta	372	393	11	9					
40	Asta	392	373	11	9					
41	Asta	393	374	11	9					
42	Asta	373	395	11	9					
43	Asta	400	376	11	9					
44	Asta	375	402	11	9					
45	Asta	406	397	11	9					
46	Asta	395	407	11	9					
47	Asta	408	400	11	9					
48	Asta	398	409	11	9					
237	Trave	289	309	11	6	180.00				

238	Trave	290	310	11	6			
240	Pilas.	298	311	11	5			
241	Pilas.	304	315	11	5			
249	Trave	307	308	11	5			
250	Trave	308	309	11	5			
251	Trave	309	310	11	5			
252	Trave	310	311	11	5			
253	Trave	308	312	11	5			
254	Trave	309	313	11	6	180.00		
255	Trave	310	314	11	6			
256	Trave	312	313	11	6	180.00		
257	Trave	313	314	11	6	180.00		
258	Trave	312	315	11	5			
264	Trave	324	308	11	6			
265	Trave	327	312	11	6	180.00		
271	Trave	320	324	11	5			
272	Trave	321	322	11	5			
273	Trave	322	323	11	5			
274	Trave	323	324	11	5			
275	Trave	322	325	11	6	180.00		
276	Trave	323	326	11	6			
277	Trave	324	327	11	5			
278	Trave	325	326	11	6	180.00		
279	Trave	326	327	11	6	180.00		
280	Trave	327	328	11	5			
288	Trave	360	322	11	6	180.00		
289	Trave	361	323	11	6			
291	Pilas.	321	383	11	5			
292	Pilas.	328	397	11	5			
297	Trave	333	334	11	4		000011	000011
298	Trave	334	335	11	4			
299	Trave	335	336	11	4			
300	Trave	336	337	11	4			
301	Trave	337	338	11	4			000011
302	Trave	334	339	11	4		000011	
303	Trave	337	340	11	4		000011	
304	Trave	341	333	11	4		000011	000011
305	Trave	333	342	11	4			000011
306	Trave	335	346	11	11		000011	000011
307	Trave	336	347	11	11		000011	000011
308	Trave	338	351	11	4		000011	000011
309	Trave	339	344	11	4			000011
310	Trave	340	349	11	4			000011
311	Trave	341	342	11	8			
312	Trave	342	343	11	8			
313	Trave	343	344	11	8			000011
314	Trave	344	345	11	12		000011	
315	Trave	345	346	11	12			
316	Trave	346	347	11	12			
317	Trave	347	348	11	12			
318	Trave	348	349	11	12			000011
319	Trave	349	350	11	4		000011	
320	Trave	350	351	11	4			
321	Trave	352	341	11	4		000011	000011
322	Trave	351	353	11	4		000011	000011
323	Trave	344	354	11	12		000011	
324	Trave	349	355	11	12		000011	
325	Trave	341	357	11	4		000011	
326	Trave	342	358	11	8		000011	
327	Trave	346	362	11	12		000011	
328	Trave	347	363	11	12		000011	
329	Trave	351	367	11	4		000011	
330	Trave	352	356	11	4			
331	Trave	353	368	11	4			
332	Trave	354	359	11	12			
333	Trave	355	366	11	12			
334	Trave	356	357	11	11		000011	000011
335	Trave	357	358	11	11		000011	000011
336	Trave	358	359	11	11		000011	000011
337	Trave	359	360	11	12		000011	
338	Trave	360	361	11	12			
339	Trave	361	362	11	12			000011
340	Trave	363	364	11	12		000011	
341	Trave	364	365	11	12			
342	Trave	365	366	11	12			000011
343	Trave	366	367	11	11		000011	000011

344	Trave	367	368	11	11	000011	000011
345	Trave	362	369	11	12		
346	Trave	363	370	11	12		
348	Trave	356	371	11	4		
349	Trave	357	372	11	4		
350	Trave	358	373	11	8		
351	Trave	359	374	11	12		
352	Trave	366	375	11	12		
353	Trave	367	376	11	4		
354	Trave	368	377	11	4		
355	Trave	371	372	11	11	000011	000011
356	Trave	372	373	11	11	000011	000011
357	Trave	373	374	11	11	000011	000011
360	Trave	375	376	11	11	000011	000011
361	Trave	376	377	11	11	000011	000011
362	Trave	371	380	11	4		
363	Trave	372	381	11	4		
364	Trave	373	382	11	8		
365	Trave	374	383	11	12		
366	Trave	375	385	11	12		
367	Trave	376	386	11	4		
368	Trave	377	387	11	4		
370	Trave	379	384	11	12		
371	Trave	380	381	11	11	000011	000011
372	Trave	381	382	11	11	000011	000011
373	Trave	382	383	11	11	000011	000011
374	Trave	384	385	11	12	000011	000011
375	Trave	385	386	11	11	000011	000011
376	Trave	386	387	11	11	000011	000011
377	Trave	383	388	11	12		
378	Trave	385	389	11	12		
379	Trave	380	390	11	4		
380	Trave	387	391	11	4		
381	Trave	381	392	11	4		000011
382	Trave	382	393	11	8		000011
383	Trave	384	398	11	12		000011
384	Trave	386	402	11	4		000011
385	Trave	388	395	11	12		000011
386	Trave	389	400	11	12		000011
387	Trave	390	392	11	4	000011	000011
388	Trave	402	391	11	4	000011	000011
389	Trave	392	393	11	8		
390	Trave	393	394	11	8		
391	Trave	394	395	11	8		000011
392	Trave	395	396	11	12	000011	
393	Trave	396	397	11	12		
394	Trave	397	398	11	12		
395	Trave	398	399	11	12		
396	Trave	399	400	11	12		000011
397	Trave	400	401	11	4	000011	
398	Trave	401	402	11	4		
399	Trave	395	403	11	4	000011	
400	Trave	400	404	11	4	000011	
401	Trave	392	405	11	4	000011	000011
402	Trave	393	405	11	4	000011	
403	Trave	397	407	11	11	000011	000011
404	Trave	398	408	11	11	000011	000011
405	Trave	410	402	11	4	000011	000011
406	Trave	403	406	11	4		000011
407	Trave	404	409	11	4		000011
408	Trave	405	406	11	4	000011	000011
409	Trave	406	407	11	4		
410	Trave	407	408	11	4		
411	Trave	408	409	11	4		
412	Trave	409	410	11	4		000011

Numerazione elementi



3.14.3 VERIFICHE PER ELEMENTI IN ACCIAIO

TABELLA VERIFICHE PER ELEMENTI N ACCIAIO

Asta	Stato	Note	V N	N	V stab	N	Cl.	Beta x L	Snell.	LambDaS	Chi mn	v.Omeg	Rif. cmb
				daN		daN		cm					
25	ok	s=9,m=11	0.08	2227.9	0.32	-2143.3	1	210.0	158.1	1.82	0.23	0.0	28,39
26	ok	s=9,m=11	0.09	2511.7	0.35	-2322.5	1	210.0	158.1	1.82	0.23	0.0	40,27
27	ok	s=9,m=11	0.09	-2482.2	0.37	-2482.2	1	210.0	158.1	1.82	0.23	0.0	28,28
28	ok	s=9,m=11	0.09	2574.5	0.31	-2065.3	1	210.0	158.1	1.82	0.23	0.0	28,39
29	ok	s=9,m=11	9.87e-03	-284.2	0.09	-284.2	1	318.1	239.5	2.76	0.11	0.0	20,20
30	ok	s=9,m=11	0.01	328.8	0.07	-233.4	1	318.1	239.5	2.76	0.11	0.0	18,7
31	ok	s=9,m=11	0.07	1961.0	0.89	-1795.0	1	407.0	306.5	3.53	0.07	0.0	28,39
32	ok	s=9,m=11	0.06	1641.9	0.75	-1529.2	1	407.0	306.5	3.53	0.07	0.0	38,29
33	ok	s=9,m=11	0.03	-923.0	0.44	-923.0	1	400.3	301.4	3.47	0.07	0.0	18,18
34	ok	s=9,m=11	0.04	1167.0	0.49	-1029.6	1	400.3	301.4	3.47	0.07	0.0	18,7
35	ok	s=9,m=11	0.02	516.4	0.15	-458.0	1	331.9	249.9	2.88	0.10	0.0	28,39
36	ok	s=9,m=11	0.02	-446.1	0.15	-446.1	1	331.9	249.9	2.88	0.10	0.0	30,30
37	ok	s=9,m=11	0.02	-705.1	0.24	-705.1	1	331.9	249.9	2.88	0.10	0.0	74,74
38	ok	s=9,m=11	0.02	672.7	0.22	-638.0	1	331.9	249.9	2.88	0.10	0.0	72,73
39	ok	s=9,m=11	0.02	-435.4	0.14	-435.4	1	318.1	239.5	2.76	0.11	0.0	18,18
40	ok	s=9,m=11	0.02	520.9	0.10	-323.2	1	318.1	239.5	2.76	0.11	0.0	18,7
41	ok	s=9,m=11	0.06	1856.8	0.89	-1807.8	1	407.0	306.5	3.53	0.07	0.0	28,39
42	ok	s=9,m=11	0.07	1952.2	0.85	-1727.2	1	407.0	306.5	3.53	0.07	0.0	38,29
43	ok	s=9,m=11	0.06	1679.1	0.72	-1504.0	1	400.3	301.4	3.47	0.07	0.0	38,29
44	ok	s=9,m=11	0.04	-1194.9	0.57	-1194.9	1	400.3	301.4	3.47	0.07	0.0	40,40
45	ok	s=9,m=11	0.02	522.2			1	210.0	158.1	1.82	0.23	0.0	74,0
46	ok	s=9,m=11	0.01	425.3			1	210.0	158.1	1.82	0.23	0.0	75,0
47	ok	s=9,m=11	0.07	2143.7	0.24	-1556.9	1	210.0	158.1	1.82	0.23	0.0	38,29
48	ok	s=9,m=11	0.07	-2007.3	0.30	-2007.3	1	210.0	158.1	1.82	0.23	0.0	38,38

	V N	N	V stab	N	Beta x L	Snell.	LambDaS	Chi mn	v.Omeg
Min		-2482.19		-2482.19			1.82	0.07	0.0
Max	0.09	2574.49	0.89		407.05	306.51	3.53		0.0

Trave	Stato	Note	V V/T	V N/M	V stab	Cl.	LamS 22	LamS 33	Snell.	Chi mn	V flst	LamS LT	Chi LT	Rif. cmb
237	ok	s=6,m=11	0.03	0.19	0.14	1	1.8	0.5	153.5	0.24				32,12,64,0
238	ok	s=6,m=11	0.03	0.09		1								22,72,0,0
249	ok	s=5,m=11	0.23	0.39		1					0.38	7.26e-02	1.00	12,38,0,38
250	ok	s=5,m=11	0.15	0.24		1					0.17	6.57e-02	1.00	12,54,0,18
251	ok	s=5,m=11	0.06	0.17		1					0.16	0.2	1.00	18,18,0,18
252	ok	s=5,m=11	0.05	0.16		1					0.16	5.40e-02	1.00	6,18,0,18
253	ok	s=5,m=11	0.08	0.23		1					0.22	0.2	1.00	38,38,0,38
254	ok	s=6,m=11	0.02	0.17		1								32,38,0,0
255	ok	s=6,m=11	9.74e-03	0.12		1								22,72,0,0
256	ok	s=6,m=11	0.02	0.11		1								72,6,0,0
257	ok	s=6,m=11	0.02	0.11		1								32,38,0,0
258	ok	s=5,m=11	0.09	0.11		1					0.11	4.75e-02	1.00	38,38,0,38
264	ok	s=6,m=11	0.03	0.29		1								18,6,0,0
265	ok	s=6,m=11	0.02	0.13		1								2,38,0,0
271	ok	s=5,m=11	0.24	0.43		1					0.42	7.37e-02	1.00	2,38,0,38
272	ok	s=5,m=11	0.07	0.19		1					0.19	5.36e-02	1.00	28,6,0,6
273	ok	s=5,m=11	0.08	0.20		1					0.19	0.2	1.00	6,6,0,6
274	ok	s=5,m=11	0.14	0.36		1					0.17	6.65e-02	1.00	2,38,0,6
275	ok	s=6,m=11	0.01	0.17		1								28,28,0,0
276	ok	s=6,m=11	0.03	0.30		1								32,38,0,0
277	ok	s=5,m=11	0.10	0.35		1					0.26	0.2	1.00	38,38,0,38
278	ok	s=6,m=11	0.02	0.13		1								32,38,0,0
279	ok	s=6,m=11	0.04	0.22		1								30,38,0,0
280	ok	s=5,m=11	0.08	0.13		1					0.13	5.15e-02	1.00	6,38,0,38
288	ok	s=6,m=11	0.03	0.16		1								22,28,0,0
289	ok	s=6,m=11	0.03	0.22	0.27	1	1.8	0.5	153.5	0.24				32,2,28,0
297	ok	s=4,m=11	0.04	0.10		1					0.09	0.7	0.91	22,22,0,2
298	ok	s=4,m=11	0.05	0.15		1					0.12	0.2	1.00	32,38,0,32
299	ok	s=4,m=11	0.02	0.15		1					0.14	0.3	1.00	32,38,0,32
300	ok	s=4,m=11	0.05	0.15		1					0.13	0.2	1.00	22,38,0,32
301	ok	s=4,m=11	0.03	0.10		1					0.04	0.2	1.00	38,30,0,38
302	ok	s=4,m=11	0.09	0.17		1					0.17	0.1	1.00	32,32,0,32
303	ok	s=4,m=11	0.07	0.13		1					0.13	0.1	1.00	22,22,0,22
304	ok	s=4,m=11	0.02	0.03		1					0.03	0.6	0.96	32,2,0,2
305	ok	s=4,m=11	0.06	0.21		1					0.21	0.3	1.00	32,32,0,32
306	oks	=11,m=11	3.26e-03	0.03		1					2.75e-03	0.7	0.82	22,28,0,32
307	oks	=11,m=11	5.13e-03	0.01		1					2.75e-03	0.7	0.82	12,28,0,37
308	ok	s=4,m=11	0.02	0.03		1					0.03	0.6	0.96	22,12,0,12
309	ok	s=4,m=11	0.09	0.17		1					0.17	0.1	1.00	32,32,0,32
310	ok	s=4,m=11	0.07	0.13		1					0.13	0.1	1.00	22,22,0,22
311	ok	s=8,m=11	0.12	0.29		1					0.29	0.3	1.00	12,12,0,12
312	ok	s=8,m=11	0.11	0.21		1					0.21	0.4	1.00	2,22,0,22
313	ok	s=8,m=11	0.11	0.18		1					0.18	0.1	1.00	6,6,0,6
314	oks	=12,m=11	0.06	0.11		1					0.11	0.2	1.00	18,18,0,18
315	oks	=12,m=11	0.05	0.12		1					0.11	0.3	1.00	28,28,0,18
316	oks	=12,m=11	0.05	0.12		1					0.08	0.3	1.00	12,28,0,28
317	oks	=12,m=11	0.06	0.10		1					0.10	0.3	1.00	28,6,0,6
318	oks	=12,m=11	0.06	0.10		1					0.10	0.2	1.00	6,6,0,6
319	ok	s=4,m=11	0.09	0.15		1					0.15	0.1	1.00	6,6,0,6
320	ok	s=4,m=11	0.08	0.21		1					0.21	0.3	1.00	6,6,0,6
321	ok	s=4,m=11	0.02	0.02		1					0.03	0.5	0.97	32,32,0,2
322	ok	s=4,m=11	0.02	0.02		1					0.03	0.5	0.97	32,12,0,2
323	oks	=12,m=11	0.09	0.19		1					0.19	0.2	1.00	38,38,0,38
324	oks	=12,m=11	0.04	0.09		1					0.09	0.2	1.00	32,12,0,32
325	ok	s=4,m=11	0.10	0.29		1					0.27	0.2	1.00	32,12,0,32
326	ok	s=8,m=11	0.11	0.29		1					0.27	0.2	1.00	22,12,0,2
327	oks	=12,m=11	0.09	0.27		1					0.27	0.2	1.00	28,28,0,28
328	oks	=12,m=11	0.08	0.27		1					0.26	0.2	1.00	28,28,0,28
329	ok	s=4,m=11	0.12	0.35		1					0.33	0.2	1.00	2,12,0,32
330	ok	s=4,m=11	0.07	0.13		1					0.13	7.88e-02	1.00	38,38,0,38
331	ok	s=4,m=11	0.05	0.08		1					0.07	7.83e-02	1.00	32,72,0,73
332	oks	=12,m=11	0.12	0.19		1					0.19	0.2	1.00	32,38,0,38
333	oks	=12,m=11	0.10	0.09		1					0.09	0.2	1.00	32,12,0,32
334	oks	=11,m=11	0.05	0.12		1					0.19	1.1	0.62	32,2,0,2
335	oks	=11,m=11	0.05	0.12	0.18	1	1.3	1.5	132.8	0.36	0.17	1.0	0.67	12,2,6,2
336	oks	=11,m=11	0.07	0.25	0.53	1	2.0	1.5	173.6	0.21	0.52	1.3	0.49	32,2,2,2
337	oks	=12,m=11	0.04	0.04	0.06	1	4.55e-02	1.6	141.7	0.30	0.02	3.24e-02	1.00	38,38,7,38
338	oks	=12,m=11	0.02	0.13	0.06	1	0.3	1.6	141.7	0.30	0.04	0.2	1.00	38,38,7,38
339	oks	=12,m=11	0.06	0.13	0.06	1	6.82e-02	1.6	141.7	0.30	0.04	4.85e-02	1.00	38,38,5,38
340	oks	=12,m=11	0.06	0.05		1					0.02	4.85e-02	1.00	22,72,0,32
341	oks	=12,m=11	0.01	0.05		1					0.02	0.2	1.00	38,72,0,32
342	oks	=12,m=11	0.03	0.02		1					0.01	3.24e-02	1.00	2,72,0,2

Trave	Stato	Note	V V/T	V N/M	V stab	Cl.	LamS 22	LamS 33	Snell.	Chi mn	V flst	LamS LT	Chi LT	Rif. cmb
343	oks	=11,m=11	0.07	0.24	0.52	1	2.0	1.2	169.5	0.22	0.48	1.3	0.50	32,2,12,2
344	oks	=11,m=11	0.05	0.12	0.19	1	1.5	1.2	129.2	0.35	0.19	1.1	0.62	32,2,18,2
345	oks	=12,m=11	0.09	0.38		1					0.32	6.18e-02	1.00	2,28,0,28
346	oks	=12,m=11	0.10	0.37		1					0.32	6.12e-02	1.00	22,28,0,28
348	ok	s=4,m=11	0.04	0.08		1					0.07	0.2	1.00	38,38,0,30
349	ok	s=4,m=11	0.04	0.37		1					0.36	0.2	1.00	32,12,0,22
350	ok	s=8,m=11	0.04	0.37		1					0.35	0.2	1.00	22,12,0,22
351	oks	=12,m=11	0.04	0.08		1					0.08	0.2	1.00	38,38,0,38
352	oks	=12,m=11	0.02	0.11		1					0.08	0.2	1.00	32,6,0,2
353	ok	s=4,m=11	0.04	0.45		1					0.44	0.2	1.00	2,12,0,2
354	ok	s=4,m=11	0.03	0.08		1					0.06	0.2	1.00	73,72,0,32
355	oks	=11,m=11	0.05	0.14		1					0.22	1.1	0.62	32,22,0,2
356	oks	=11,m=11	0.05	0.11		1					0.17	1.0	0.67	2,2,0,2
357	oks	=11,m=11	0.07	0.25		1					0.50	1.3	0.49	22,2,0,2
360	oks	=11,m=11	0.07	0.24		1					0.47	1.3	0.50	32,2,0,2
361	oks	=11,m=11	0.05	0.14		1					0.22	1.1	0.62	22,2,0,2
362	ok	s=4,m=11	0.04	0.11		1					0.08	0.2	1.00	28,38,0,38
363	ok	s=4,m=11	0.04	0.37		1					0.36	0.2	1.00	32,12,0,32
364	ok	s=8,m=11	0.04	0.37		1					0.35	0.2	1.00	22,12,0,12
365	oks	=12,m=11	0.04	0.08		1					0.08	0.2	1.00	28,28,0,28
366	oks	=12,m=11	0.04	0.11		1					0.08	0.2	1.00	22,6,0,2
367	ok	s=4,m=11	0.04	0.45		1					0.44	0.2	1.00	2,12,0,2
368	ok	s=4,m=11	0.03	0.10		1					0.06	0.2	1.00	72,40,0,32
370	oks	=12,m=11	0.08	0.39		1					0.29	6.14e-02	1.00	38,38,0,38
371	oks	=11,m=11	0.05	0.12		1					0.19	1.1	0.62	22,22,0,2
372	oks	=11,m=11	0.05	0.12		1					0.17	1.0	0.67	2,22,0,2
373	oks	=11,m=11	0.07	0.25		1					0.52	1.3	0.49	22,2,0,2
374	oks	=12,m=11	9.46e-03	0.02		1					1.70e-03	0.3	1.00	22,18,0,18
375	oks	=11,m=11	0.07	0.24	0.53	1	2.0	0.9	169.5	0.22	0.48	1.3	0.50	22,2,12,2
376	oks	=11,m=11	0.05	0.12	0.20	1	1.5	0.9	129.2	0.35	0.19	1.1	0.62	22,2,18,2
377	oks	=12,m=11	0.12	0.19		1					0.18	7.34e-02	1.00	22,28,0,28
378	oks	=12,m=11	0.11	0.13		1					0.11	6.72e-02	1.00	22,28,0,22
379	ok	s=4,m=11	0.06	0.11		1					0.10	7.77e-02	1.00	28,38,0,28
380	ok	s=4,m=11	0.06	0.10		1					0.09	7.92e-02	1.00	22,40,0,72
381	ok	s=4,m=11	0.10	0.28		1					0.27	0.2	1.00	32,32,0,22
382	ok	s=8,m=11	0.11	0.28		1					0.27	0.2	1.00	22,32,0,12
383	oks	=12,m=11	0.08	0.25		1					0.23	0.2	1.00	38,38,0,38
384	ok	s=4,m=11	0.12	0.35		1					0.33	0.2	1.00	2,12,0,22
385	oks	=12,m=11	0.08	0.19		1					0.18	0.2	1.00	28,28,0,28
386	oks	=12,m=11	0.05	0.13		1					0.11	0.2	1.00	22,28,0,22
387	ok	s=4,m=11	0.02	0.02		1					0.03	0.5	0.97	32,22,0,32
388	ok	s=4,m=11	0.02	0.02		1					0.03	0.5	0.97	22,2,0,2
389	ok	s=8,m=11	0.12	0.28		1					0.28	0.3	1.00	12,12,0,12
390	ok	s=8,m=11	0.11	0.22		1					0.22	0.4	1.00	2,2,0,2
391	ok	s=8,m=11	0.10	0.17		1					0.17	0.1	1.00	2,6,0,6
392	oks	=12,m=11	0.05	0.09		1					0.09	0.2	1.00	18,18,0,18
393	oks	=12,m=11	0.07	0.09		1					0.09	0.1	1.00	18,18,0,18
394	oks	=12,m=11	0.03	0.08		1					0.06	0.3	1.00	6,72,0,18
395	oks	=12,m=11	0.09	0.08		1					0.07	9.11e-02	1.00	38,78,0,38
396	oks	=12,m=11	0.04	0.08		1					0.07	0.2	1.00	18,62,0,54
397	ok	s=4,m=11	0.07	0.12		1					0.12	0.1	1.00	6,6,0,6
398	ok	s=4,m=11	0.07	0.18		1					0.18	0.3	1.00	6,6,0,6
399	ok	s=4,m=11	0.09	0.17		1					0.17	0.1	1.00	22,22,0,22
400	ok	s=4,m=11	0.07	0.13		1					0.13	0.1	1.00	32,32,0,32
401	ok	s=4,m=11	0.02	0.03		1					0.03	0.6	0.96	22,32,0,2
402	ok	s=4,m=11	0.05	0.20		1					0.20	0.3	1.00	22,22,0,22
403	oks	=11,m=11	3.44e-03	6.90e-03		1					2.75e-03	0.7	0.82	32,38,0,5
404	oks	=11,m=11	5.22e-03	0.02		1					2.75e-03	0.7	0.82	22,39,0,38
405	ok	s=4,m=11	0.02	0.03		1					0.03	0.6	0.96	32,12,0,12
406	ok	s=4,m=11	0.09	0.17		1					0.17	0.1	1.00	22,22,0,22
407	ok	s=4,m=11	0.07	0.13		1					0.13	0.1	1.00	32,32,0,32
408	ok	s=4,m=11	0.04	0.10		1					0.09	0.7	0.91	32,32,0,2
409	ok	s=4,m=11	0.05	0.13		1					0.12	0.2	1.00	22,22,0,22
410	ok	s=4,m=11	0.02	0.15		1					0.14	0.3	1.00	22,22,0,22
411	ok	s=4,m=11	0.05	0.14		1					0.13	0.2	1.00	32,22,0,22
412	ok	s=4,m=11	0.03	0.09		1					0.05	0.2	1.00	28,40,0,28
			V V/T	**V N/M**	**V stab**		**LamS 22**	**LamS 33**	**Snell.**	**Chi mn**	**V flst**	**LamS LT**	**Chi LT**	
										0.21			0.49	
Max			0.24	0.45	0.53		2.00	1.63	173.57		0.52	1.28		

Pilas.	Stato	Note	V V/T	V N/M	V stab	Cl.	LamS 22	LamS 33	Snell.	Chi mn	V flst	LamS LT	Chi LT	Rif. cmb
240	ok	s=5,m=11	0.03	0.16		1					0.16	0.3	1.00	18,18,0,18
241	ok	s=5,m=11	0.03	0.23		1					0.17	0.3	1.00	54,38,0,54
291	ok	s=5,m=11	0.04	0.19		1					0.19	0.3	1.00	6,6,0,6
292	ok	s=5,m=11	0.04	0.26		1					0.19	0.3	1.00	18,38,0,18

Pilas.	V V/T	V N/M	V stab	LamS 22	LamS 33	Snell.	Chi mn	V flst	LamS LT	Chi LT
										1.00
	0.04	0.26						0.19	0.31	

3.15 TRAVI TERZO PIANO

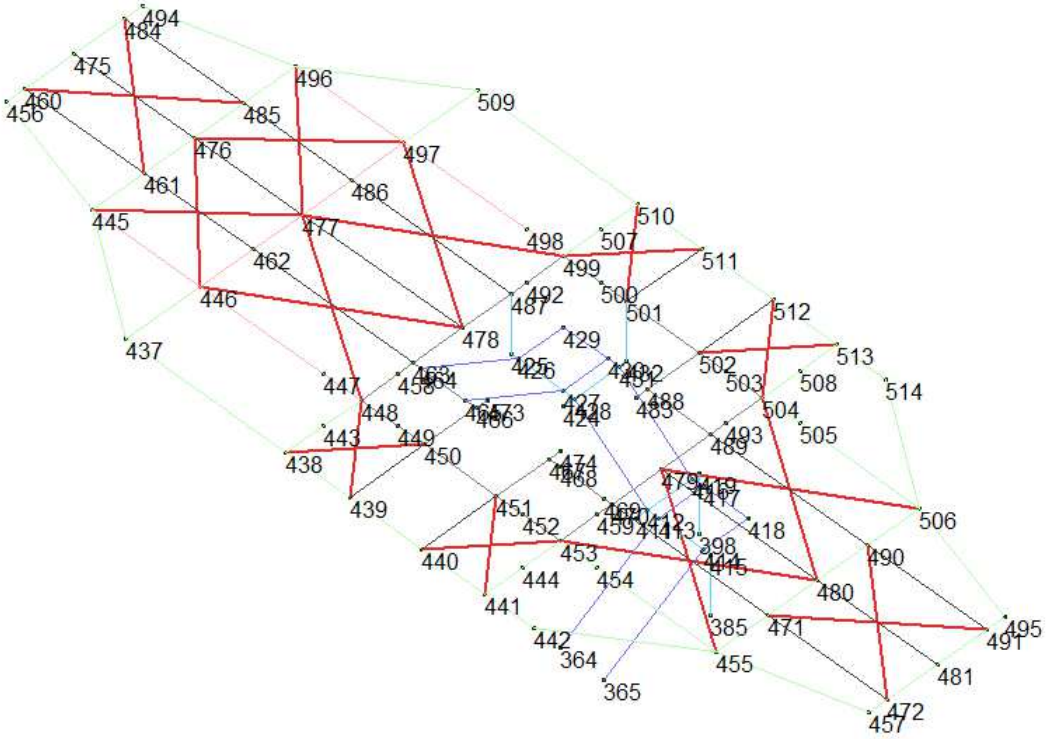
Si riportano di seguito i dati ed i risultati relativi alle travi ed ai controventi del 3° piano (nucleo scala e passerelle).

3.15.1 MODELLAZIONE STRUTTURA: NODI

TABELLA DATI NODI

Nodo	X	Y	Z	Nodo	X	Y	Z	Nodo	X	Y	Z
	cm	cm	cm		cm	cm	cm		cm	cm	cm
364	224.0	-30.0	965.0	365	344.0	-30.0	965.0	385	364.0	234.0	965.0
398	194.0	374.0	965.0	411	194.0	204.0	1127.0	412	194.0	234.0	1127.0
413	224.0	234.0	1127.0	414	344.0	234.0	1127.0	415	364.0	234.0	1127.0
416	194.0	354.0	1127.0	417	224.0	354.0	1127.0	418	344.0	354.0	1127.0
419	194.0	374.0	1127.0	424	0.0	204.0	1289.0	425	-170.0	234.0	1289.0
426	-150.0	234.0	1289.0	427	-30.0	234.0	1289.0	428	0.0	234.0	1289.0
429	-150.0	354.0	1289.0	430	-30.0	354.0	1289.0	431	0.0	354.0	1289.0
432	0.0	374.0	1289.0	437	-600.0	-370.0	1451.0	438	-170.0	-370.0	1451.0
439	0.0	-370.0	1451.0	440	194.0	-370.0	1451.0	441	364.0	-370.0	1451.0
442	494.0	-370.0	1451.0	443	-170.0	-270.0	1451.0	444	364.0	-270.0	1451.0
445	-890.0	-170.0	1451.0	446	-600.0	-170.0	1451.0	447	-270.0	-170.0	1451.0
448	-170.0	-170.0	1451.0	449	-70.0	-170.0	1451.0	450	0.0	-170.0	1451.0
451	194.0	-170.0	1451.0	452	264.0	-170.0	1451.0	453	364.0	-170.0	1451.0
454	464.0	-170.0	1451.0	455	784.0	-170.0	1451.0	456	-1210.0	-80.0	1451.0
457	1104.0	-80.0	1451.0	458	-170.0	-70.0	1451.0	459	364.0	-70.0	1451.0
460	-1210.0	-30.0	1451.0	461	-890.0	-30.0	1451.0	462	-600.0	-30.0	1451.0
463	-170.0	-30.0	1451.0	464	-150.0	-30.0	1451.0	465	-30.0	-30.0	1451.0
466	0.0	-30.0	1451.0	467	194.0	-30.0	1451.0	468	224.0	-30.0	1451.0
469	344.0	-30.0	1451.0	470	364.0	-30.0	1451.0	471	784.0	-30.0	1451.0
472	1104.0	-30.0	1451.0	473	0.0	0.0	1451.0	474	194.0	0.0	1451.0
475	-1210.0	102.0	1451.0	476	-890.0	102.0	1451.0	477	-600.0	102.0	1451.0
478	-170.0	102.0	1451.0	479	364.0	102.0	1451.0	480	784.0	102.0	1451.0
481	1104.0	102.0	1451.0	483	194.0	204.0	1451.0	484	-1210.0	234.0	1451.0
485	-890.0	234.0	1451.0	486	-600.0	234.0	1451.0	487	-170.0	234.0	1451.0
488	194.0	234.0	1451.0	489	364.0	234.0	1451.0	490	784.0	234.0	1451.0
491	1104.0	234.0	1451.0	492	-170.0	274.0	1451.0	493	364.0	274.0	1451.0
494	-1210.0	284.0	1451.0	495	1104.0	284.0	1451.0	496	-890.0	374.0	1451.0
497	-600.0	374.0	1451.0	498	-270.0	374.0	1451.0	499	-170.0	374.0	1451.0
500	-70.0	374.0	1451.0	501	0.0	374.0	1451.0	502	194.0	374.0	1451.0
503	264.0	374.0	1451.0	504	364.0	374.0	1451.0	505	464.0	374.0	1451.0
506	784.0	374.0	1451.0	507	-170.0	474.0	1451.0	508	364.0	474.0	1451.0
509	-600.0	574.0	1451.0	510	-170.0	574.0	1451.0	511	0.0	574.0	1451.0
512	194.0	574.0	1451.0	513	364.0	574.0	1451.0	514	494.0	574.0	1451.0

Numerazione nodi



3.15.2 MODELLAZIONE STRUTTURA: ELEMENTI TRAVE

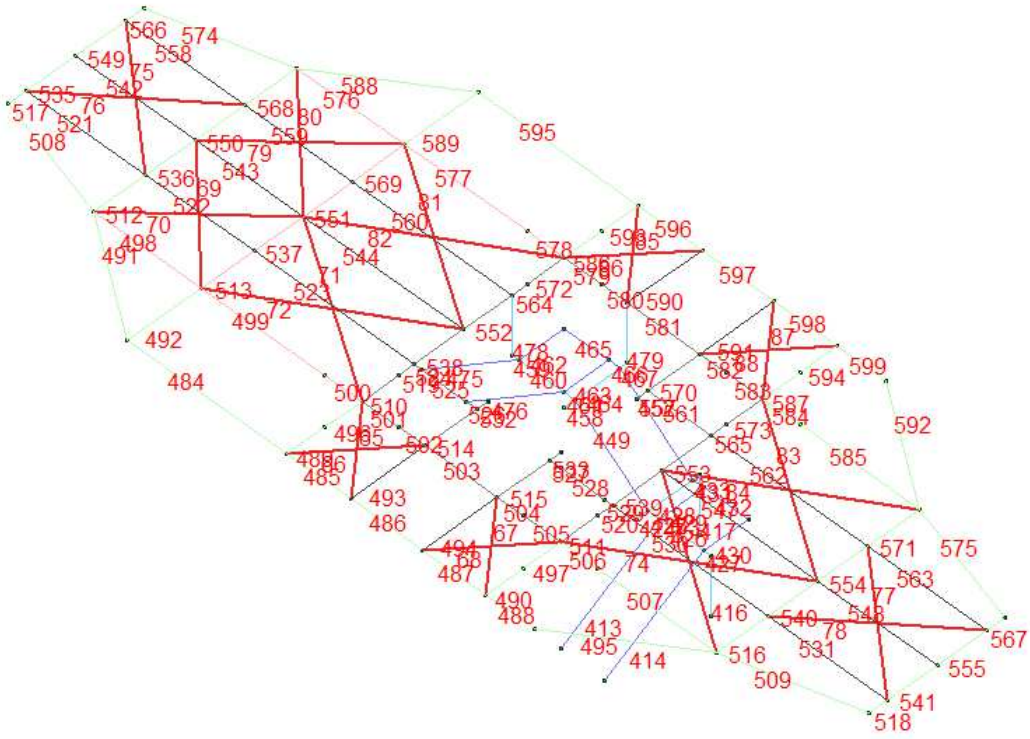
TABELLA DATI TRAVI

Elem.	Note	Nodo I	Nodo J	Mat.	Sez.	Rotaz. gradi	Svincolo I	Svincolo J	Wink V daN/cm3	Wink O daN/cm3
65	Asta	448	439	11	9					
66	Asta	438	450	11	9					
67	Asta	451	441	11	9					
68	Asta	440	453	11	9					
69	Asta	476	446	11	9					
70	Asta	445	477	11	9					
71	Asta	477	448	11	9					
72	Asta	446	478	11	9					
73	Asta	479	455	11	9					
74	Asta	453	480	11	9					
75	Asta	484	461	11	9					
76	Asta	460	485	11	9					
77	Asta	490	472	11	9					
78	Asta	471	491	11	9					
79	Asta	476	497	11	9					
80	Asta	496	477	11	9					
81	Asta	497	478	11	9					
82	Asta	477	499	11	9					
83	Asta	504	480	11	9					
84	Asta	479	506	11	9					
85	Asta	510	501	11	9					
86	Asta	499	511	11	9					
87	Asta	512	504	11	9					
88	Asta	502	513	11	9					
413	Trave	364	413	11	6	180.00				

Elem.	Note	Nodo I	Nodo J	Mat.	Sez.	Rotaz. gradi	Svincolo I	Svincolo J	Wink V daN/cm3	Wink O daN/cm3
414	Trave	365	414	11	6					
416	Pilas.	385	415	11	5					
417	Pilas.	398	419	11	5					
424	Trave	411	412	11	5					
425	Trave	412	413	11	5					
426	Trave	413	414	11	5					
427	Trave	414	415	11	5					
428	Trave	412	416	11	5					
429	Trave	413	417	11	6	180.00				
430	Trave	414	418	11	6					
431	Trave	416	417	11	6	180.00				
432	Trave	417	418	11	6	180.00				
433	Trave	416	419	11	5					
449	Trave	428	412	11	6					
452	Trave	431	416	11	6	180.00				
458	Trave	424	428	11	5					
459	Trave	425	426	11	5					
460	Trave	426	427	11	5					
461	Trave	427	428	11	5					
462	Trave	426	429	11	6	180.00				
463	Trave	427	430	11	6					
464	Trave	428	431	11	5					
465	Trave	429	430	11	6	180.00				
466	Trave	430	431	11	6	180.00				
467	Trave	431	432	11	5					
475	Trave	464	426	11	6	180.00				
476	Trave	465	427	11	6					
478	Pilas.	425	487	11	5					
479	Pilas.	432	501	11	5					
484	Trave	437	438	11	4		000011	000011		
485	Trave	438	439	11	4					
486	Trave	439	440	11	4					
487	Trave	440	441	11	4					
488	Trave	441	442	11	4			000011		
489	Trave	438	443	11	4		000011			
490	Trave	441	444	11	4		000011			
491	Trave	445	437	11	4		000011	000011		
492	Trave	437	446	11	4			000011		
493	Trave	439	450	11	11		000011	000011		
494	Trave	440	451	11	11		000011	000011		
495	Trave	442	455	11	4		000011	000011		
496	Trave	443	448	11	4			000011		
497	Trave	444	453	11	4			000011		
498	Trave	445	446	11	8					
499	Trave	446	447	11	8					
500	Trave	447	448	11	8			000011		
501	Trave	448	449	11	12		000011			
502	Trave	449	450	11	12					
503	Trave	450	451	11	12					
504	Trave	451	452	11	12					
505	Trave	452	453	11	12			000011		
506	Trave	453	454	11	4		000011			
507	Trave	454	455	11	4					
508	Trave	456	445	11	4		000011	000011		
509	Trave	455	457	11	4		000011	000011		
510	Trave	448	458	11	12		000011			
511	Trave	453	459	11	12		000011			
512	Trave	445	461	11	4		000011			
513	Trave	446	462	11	8		000011			
514	Trave	450	466	11	12		000011			
515	Trave	451	467	11	12		000011			
516	Trave	455	471	11	4		000011			
517	Trave	456	460	11	4					
518	Trave	457	472	11	4					
519	Trave	458	463	11	12					
520	Trave	459	470	11	12					
521	Trave	460	461	11	11		000011	000011		
522	Trave	461	462	11	11		000011	000011		
523	Trave	462	463	11	11		000011	000011		
524	Trave	463	464	11	12		000011			
525	Trave	464	465	11	12					
526	Trave	465	466	11	12			000011		
527	Trave	467	468	11	12		000011			
528	Trave	468	469	11	12					

Elem.	Note	Nodo I	Nodo J	Mat.	Sez.	Rotaz. gradi	Svincolo I	Svincolo J	Wink V daN/cm3	Wink O daN/cm3
529	Trave	469	470	11	12			000011		
530	Trave	470	471	11	11		000011	000011		
531	Trave	471	472	11	11		000011	000011		
532	Trave	466	473	11	12					
533	Trave	467	474	11	12					
535	Trave	460	475	11	4					
536	Trave	461	476	11	4					
537	Trave	462	477	11	8					
538	Trave	463	478	11	12					
539	Trave	470	479	11	12					
540	Trave	471	480	11	4					
541	Trave	472	481	11	4					
542	Trave	475	476	11	11		000011	000011		
543	Trave	476	477	11	11		000011	000011		
544	Trave	477	478	11	11		000011	000011		
547	Trave	479	480	11	11		000011	000011		
548	Trave	480	481	11	11		000011	000011		
549	Trave	475	484	11	4					
550	Trave	476	485	11	4					
551	Trave	477	486	11	8					
552	Trave	478	487	11	12					
553	Trave	479	489	11	12					
554	Trave	480	490	11	4					
555	Trave	481	491	11	4					
557	Trave	483	488	11	12					
558	Trave	484	485	11	11		000011	000011		
559	Trave	485	486	11	11		000011	000011		
560	Trave	486	487	11	11		000011	000011		
561	Trave	488	489	11	12		000011	000011		
562	Trave	489	490	11	11		000011	000011		
563	Trave	490	491	11	11		000011	000011		
564	Trave	487	492	11	12					
565	Trave	489	493	11	12					
566	Trave	484	494	11	4					
567	Trave	491	495	11	4					
568	Trave	485	496	11	4			000011		
569	Trave	486	497	11	8			000011		
570	Trave	488	502	11	12			000011		
571	Trave	490	506	11	4			000011		
572	Trave	492	499	11	12			000011		
573	Trave	493	504	11	12			000011		
574	Trave	494	496	11	4		000011	000011		
575	Trave	506	495	11	4		000011	000011		
576	Trave	496	497	11	8					
577	Trave	497	498	11	8					
578	Trave	498	499	11	8			000011		
579	Trave	499	500	11	12		000011			
580	Trave	500	501	11	12					
581	Trave	501	502	11	12					
582	Trave	502	503	11	12					
583	Trave	503	504	11	12			000011		
584	Trave	504	505	11	4		000011			
585	Trave	505	506	11	4					
586	Trave	499	507	11	4		000011			
587	Trave	504	508	11	4		000011			
588	Trave	496	509	11	4		000011	000011		
589	Trave	497	509	11	4		000011			
590	Trave	501	511	11	11		000011	000011		
591	Trave	502	512	11	11		000011	000011		
592	Trave	514	506	11	4		000011	000011		
593	Trave	507	510	11	4			000011		
594	Trave	508	513	11	4			000011		
595	Trave	509	510	11	4		000011	000011		
596	Trave	510	511	11	4					
597	Trave	511	512	11	4					
598	Trave	512	513	11	4					
599	Trave	513	514	11	4			000011		

Numerazione elementi



3.15.3 VERIFICHE PER ELEMENTI IN ACCIAIO

TABELLA VERIFICHE PER ELEMENTI N ACCIAIO

Asta	Stato	Note	V N	N	V stab	N	Cl.	Beta x L	Snell.	LambDaS	Chi mn	v.Omeg	Rif. cmb
				daN		daN		cm					
65	ok	s=9,m=11	0.04	1242.1	0.17	-1139.2	1	210.0	158.1	1.82	0.23	0.0	28,39
66	ok	s=9,m=11	0.05	1469.0	0.20	-1355.5	1	210.0	158.1	1.82	0.23	0.0	40,27
67	ok	s=9,m=11	0.04	-1202.1	0.18	-1202.1	1	210.0	158.1	1.82	0.23	0.0	29,29
68	ok	s=9,m=11	0.04	1207.4	0.15	-1010.7	1	210.0	158.1	1.82	0.23	0.0	28,39
69	ok	s=9,m=11	2.91e-03	-83.7			1	318.1	239.5	2.76	0.11	0.0	18,0
70	ok	s=9,m=11	3.54e-03	101.9			1	318.1	239.5	2.76	0.11	0.0	54,0
71	ok	s=9,m=11	0.03	751.5	0.26	-535.1	1	407.0	306.5	3.53	0.07	0.0	28,39
72	ok	s=9,m=11	0.02	-517.3	0.26	-517.3	1	407.0	306.5	3.53	0.07	0.0	63,63
73	ok	s=9,m=11	0.02	500.0	0.23	-477.8	1	400.3	301.4	3.47	0.07	0.0	64,65
74	ok	s=9,m=11	0.02	573.9	0.25	-530.5	1	400.3	301.4	3.47	0.07	0.0	65,64
75	ok	s=9,m=11	7.31e-03	210.7			1	331.9	249.9	2.88	0.10	0.0	38,0
76	ok	s=9,m=11	7.42e-03	-213.7	0.07	-213.7	1	331.9	249.9	2.88	0.10	0.0	38,38
77	ok	s=9,m=11	9.85e-03	283.9	0.08	-246.9	1	331.9	249.9	2.88	0.10	0.0	6,19
78	ok	s=9,m=11	7.40e-03	-213.1	0.07	-213.1	1	331.9	249.9	2.88	0.10	0.0	64,64
79	ok	s=9,m=11	5.82e-03	-167.7	0.05	-167.7	1	318.1	239.5	2.76	0.11	0.0	51,51
80	ok	s=9,m=11	6.16e-03	177.5			1	318.1	239.5	2.76	0.11	0.0	51,0
81	ok	s=9,m=11	0.02	591.8	0.27	-541.4	1	407.0	306.5	3.53	0.07	0.0	63,39
82	ok	s=9,m=11	0.02	624.3	0.23	-468.0	1	407.0	306.5	3.53	0.07	0.0	66,29
83	ok	s=9,m=11	0.03	736.8	0.32	-666.8	1	400.3	301.4	3.47	0.07	0.0	70,67
84	ok	s=9,m=11	0.02	583.8	0.27	-574.6	1	400.3	301.4	3.47	0.07	0.0	67,70
85	ok	s=9,m=11	0.01	343.9			1	210.0	158.1	1.82	0.23	0.0	62,0
86	ok	s=9,m=11	0.01	353.8			1	210.0	158.1	1.82	0.23	0.0	75,0
87	ok	s=9,m=11	0.03	872.3	0.10	-676.2	1	210.0	158.1	1.82	0.23	0.0	38,29
88	ok	s=9,m=11	0.03	-837.8	0.13	-837.8	1	210.0	158.1	1.82	0.23	0.0	39,39

Asta	V N	N	V stab	N	Beta x L	Snell.	LambDaS	Chi mn	v.Omeg
		-1202.12		-1355.52			1.82	0.07	0.0
	0.05	1469.03	0.32		407.05	306.51	3.53		0.0

Trave	Stato	Note	V V/T	V N/M	V stab	Cl.	LamS 22	LamS 33	Snell.	Chi mn	V flst	LamS LT	Chi LT	Rif. cmb
413	ok	s=6,m=11	0.03	0.20	0.14	1	1.8	0.5	153.5	0.24				32,12,72,0
414	ok	s=6,m=11	0.03	0.09		1								22,22,0,0
424	ok	s=5,m=11	0.22	0.39		1					0.39	7.26e-02	1.00	12,38,0,38
425	ok	s=5,m=11	0.14	0.20		1					0.16	6.54e-02	1.00	12,54,0,18
426	ok	s=5,m=11	0.06	0.16		1					0.14	0.2	1.00	18,18,0,18
427	ok	s=5,m=11	0.04	0.14		1					0.13	5.42e-02	1.00	28,18,0,18
428	ok	s=5,m=11	0.08	0.24		1					0.22	0.2	1.00	38,38,0,38
429	ok	s=6,m=11	0.02	0.16		1								32,38,0,0
430	ok	s=6,m=11	8.50e-03	0.09		1								22,71,0,0
431	ok	s=6,m=11	0.01	0.10		1								77,77,0,0
432	ok	s=6,m=11	0.02	0.07		1								32,48,0,0
433	ok	s=5,m=11	0.07	0.11		1					0.11	4.95e-02	1.00	37,38,0,38
449	ok	s=6,m=11	0.04	0.32		1								6,6,0,0
452	ok	s=6,m=11	0.02	0.14		1								2,2,0,0
458	ok	s=5,m=11	0.28	0.45		1					0.45	7.14e-02	1.00	2,32,0,32
459	ok	s=5,m=11	0.05	0.18		1					0.18	5.38e-02	1.00	28,6,0,6
460	ok	s=5,m=11	0.08	0.21		1					0.18	0.2	1.00	6,6,0,6
461	ok	s=5,m=11	0.16	0.27		1					0.19	6.67e-02	1.00	2,38,0,6
462	ok	s=6,m=11	0.01	0.15		1								22,28,0,0
463	ok	s=6,m=11	0.03	0.24		1								32,38,0,0
464	ok	s=5,m=11	0.09	0.30		1					0.25	0.2	1.00	38,38,0,38
465	ok	s=6,m=11	0.02	0.08		1								32,38,0,0
466	ok	s=6,m=11	0.03	0.16		1								28,28,0,0
467	ok	s=5,m=11	0.10	0.13		1					0.13	4.96e-02	1.00	6,38,0,38
475	ok	s=6,m=11	0.03	0.14		1								22,28,0,0
476	ok	s=6,m=11	0.04	0.24	0.20	1	1.8	0.5	153.5	0.24				32,2,28,0
484	ok	s=4,m=11	0.04	0.10		1					0.09	0.7	0.91	32,22,0,2
485	ok	s=4,m=11	0.05	0.13		1					0.12	0.2	1.00	32,32,0,32
486	ok	s=4,m=11	0.02	0.15		1					0.15	0.3	1.00	32,32,0,32
487	ok	s=4,m=11	0.05	0.14		1					0.14	0.2	1.00	22,32,0,32
488	ok	s=4,m=11	0.03	0.07		1					0.06	0.2	1.00	38,37,0,38
489	ok	s=4,m=11	0.09	0.18		1					0.18	0.1	1.00	32,32,0,32
490	ok	s=4,m=11	0.07	0.13		1					0.13	0.1	1.00	22,22,0,22
491	ok	s=4,m=11	0.02	0.03		1					0.03	0.6	0.96	32,22,0,2
492	ok	s=4,m=11	0.08	0.29		1					0.29	0.3	1.00	32,32,0,32
493	oks	=11,m=11	3.42e-03	0.02		1					2.75e-03	0.7	0.82	22,28,0,37
494	oks	=11,m=11	4.45e-03	8.71e-03		1					2.75e-03	0.7	0.82	12,29,0,5
495	ok	s=4,m=11	0.02	0.03		1					0.03	0.6	0.96	2,2,0,22
496	ok	s=4,m=11	0.09	0.18		1					0.18	0.1	1.00	32,32,0,32
497	ok	s=4,m=11	0.07	0.13		1					0.13	0.1	1.00	22,22,0,22
498	ok	s=8,m=11	0.11	0.33		1					0.33	0.3	1.00	12,12,0,12
499	ok	s=8,m=11	0.09	0.18		1					0.18	0.4	1.00	2,22,0,22
500	ok	s=8,m=11	0.10	0.16		1					0.16	0.1	1.00	6,6,0,6
501	oks	=12,m=11	0.05	0.08		1					0.08	0.2	1.00	6,5,0,5
502	oks	=12,m=11	0.06	0.08		1					0.08	0.3	1.00	28,5,0,5
503	oks	=12,m=11	0.04	0.07		1					0.05	0.4	1.00	2,28,0,28
504	oks	=12,m=11	0.06	0.09		1					0.09	0.3	1.00	28,6,0,6
505	oks	=12,m=11	0.05	0.09		1					0.09	0.2	1.00	6,6,0,6
506	ok	s=4,m=11	0.08	0.14		1					0.14	0.1	1.00	6,6,0,6
507	ok	s=4,m=11	0.08	0.23		1					0.23	0.3	1.00	6,6,0,6
508	ok	s=4,m=11	0.02	0.02		1					0.03	0.5	0.97	32,32,0,22
509	ok	s=4,m=11	0.02	0.02		1					0.03	0.5	0.97	32,2,0,2
510	oks	=12,m=11	0.07	0.14		1					0.14	0.2	1.00	38,38,0,38
511	oks	=12,m=11	0.04	0.10		1					0.10	0.2	1.00	38,38,0,38
512	ok	s=4,m=11	0.10	0.27		1					0.27	0.2	1.00	22,12,0,2
513	ok	s=8,m=11	0.11	0.27		1					0.27	0.2	1.00	32,12,0,32
514	oks	=12,m=11	0.09	0.30		1					0.29	0.2	1.00	28,28,0,28
515	oks	=12,m=11	0.08	0.27		1					0.26	0.2	1.00	28,28,0,28
516	ok	s=4,m=11	0.12	0.33		1					0.33	0.2	1.00	2,12,0,32
517	ok	s=4,m=11	0.07	0.13		1					0.13	7.94e-02	1.00	38,38,0,38
518	ok	s=4,m=11	0.06	0.10		1					0.10	7.79e-02	1.00	32,38,0,38
519	oks	=12,m=11	0.11	0.14		1					0.14	0.2	1.00	32,38,0,38
520	oks	=12,m=11	0.10	0.10		1					0.10	0.2	1.00	32,38,0,38
521	oks	=11,m=11	0.05	0.12		1					0.19	1.1	0.62	32,22,0,2
522	oks	=11,m=11	0.05	0.12		1					0.17	1.0	0.67	22,22,0,2
523	oks	=11,m=11	0.07	0.25		1					0.52	1.3	0.49	32,2,0,2
524	oks	=12,m=11	0.03	0.03		1					0.01	3.24e-02	1.00	32,38,0,32
525	oks	=12,m=11	0.01	0.08		1					0.03	0.2	1.00	38,38,0,38
526	oks	=12,m=11	0.06	0.08		1					0.03	4.85e-02	1.00	22,38,0,38
527	oks	=12,m=11	0.06	0.04		1					0.02	4.85e-02	1.00	22,68,0,32
528	oks	=12,m=11	0.01	0.03		1					0.02	0.2	1.00	38,68,0,32
529	oks	=12,m=11	0.03	0.02		1					0.01	3.24e-02	1.00	32,68,0,32
530	oks	=11,m=11	0.07	0.24		1					0.48	1.3	0.50	32,2,0,2
531	oks	=11,m=11	0.05	0.12		1					0.19	1.1	0.62	32,2,0,2

Trave	Stato	Note	V V/T	V N/M	V stab	Cl.	LamS 22	LamS 33	Snell.	Chi mn	V flst	LamS LT	Chi LT	Rif. cmb
532	oks=12,m=11		0.10	0.37		1					0.35	6.14e-02	1.00	22,28,0,28
533	oks=12,m=11		0.10	0.34		1					0.32	6.12e-02	1.00	22,28,0,28
535	ok s=4,m=11		0.04	0.07		1					0.07	0.2	1.00	38,30,0,37
536	ok s=4,m=11		0.04	0.36		1					0.36	0.2	1.00	22,2,0,22
537	ok s=8,m=11		0.04	0.36		1					0.35	0.2	1.00	32,2,0,12
538	oks=12,m=11		0.04	0.07		1					0.07	0.2	1.00	38,12,0,12
539	oks=12,m=11		0.03	0.09		1					0.08	0.2	1.00	38,2,0,2
540	ok s=4,m=11		0.04	0.44		1					0.44	0.2	1.00	2,12,0,22
541	ok s=4,m=11		0.03	0.07		1					0.06	0.2	1.00	38,71,0,71
542	oks=11,m=11		0.05	0.14		1					0.22	1.1	0.62	32,22,0,2
543	oks=11,m=11		0.05	0.11		1					0.17	1.0	0.67	22,22,0,2
544	oks=11,m=11		0.07	0.25		1					0.50	1.3	0.49	2,2,0,2
547	oks=11,m=11		0.07	0.24		1					0.47	1.3	0.50	12,2,0,2
548	oks=11,m=11		0.05	0.14		1					0.22	1.1	0.62	22,2,0,2
549	ok s=4,m=11		0.04	0.07		1					0.07	0.2	1.00	28,38,0,38
550	ok s=4,m=11		0.04	0.36		1					0.36	0.2	1.00	22,2,0,32
551	ok s=8,m=11		0.04	0.36		1					0.35	0.2	1.00	22,2,0,12
552	oks=12,m=11		0.04	0.07		1					0.07	0.2	1.00	28,12,0,12
553	oks=12,m=11		0.04	0.09		1					0.08	0.2	1.00	22,2,0,2
554	ok s=4,m=11		0.04	0.44		1					0.44	0.2	1.00	2,12,0,2
555	ok s=4,m=11		0.04	0.08		1					0.06	0.2	1.00	28,71,0,71
557	oks=12,m=11		0.08	0.33		1					0.29	6.14e-02	1.00	38,38,0,38
558	oks=11,m=11		0.05	0.12		1					0.19	1.1	0.62	22,32,0,2
559	oks=11,m=11		0.05	0.12		1					0.17	1.0	0.67	32,22,0,2
560	oks=11,m=11		0.07	0.25		1					0.52	1.3	0.49	22,2,0,2
561	oks=12,m=11		0.01	0.01		1					1.70e-03	0.3	1.00	22,54,0,12
562	oks=11,m=11		0.07	0.24	0.40	1	2.0	0.9	169.5	0.22	0.48	1.3	0.50	22,2,18,2
563	oks=11,m=11		0.05	0.12		1					0.19	1.1	0.62	22,2,0,2
564	oks=12,m=11		0.11	0.15		1					0.15	7.18e-02	1.00	22,28,0,28
565	oks=12,m=11		0.11	0.12		1					0.11	6.87e-02	1.00	22,28,0,28
566	ok s=4,m=11		0.06	0.12		1					0.12	7.89e-02	1.00	28,28,0,28
567	ok s=4,m=11		0.06	0.11		1					0.11	7.85e-02	1.00	22,28,0,28
568	ok s=4,m=11		0.10	0.27		1					0.27	0.2	1.00	22,2,0,12
569	ok s=8,m=11		0.11	0.27		1					0.27	0.2	1.00	32,2,0,22
570	oks=12,m=11		0.08	0.25		1					0.24	0.2	1.00	38,38,0,38
571	ok s=4,m=11		0.12	0.34		1					0.33	0.2	1.00	2,12,0,22
572	oks=12,m=11		0.07	0.15		1					0.15	0.2	1.00	28,28,0,28
573	oks=12,m=11		0.05	0.12		1					0.11	0.2	1.00	28,28,0,28
574	ok s=4,m=11		0.02	0.02		1					0.03	0.5	0.97	22,2,0,2
575	ok s=4,m=11		0.02	0.02		1					0.03	0.5	0.97	22,22,0,2
576	ok s=8,m=11		0.11	0.32		1					0.32	0.3	1.00	12,12,0,12
577	ok s=8,m=11		0.09	0.18		1					0.18	0.4	1.00	2,32,0,32
578	ok s=8,m=11		0.10	0.16		1					0.16	0.1	1.00	6,6,0,6
579	oks=12,m=11		0.03	0.06		1					0.05	0.2	1.00	6,52,0,60
580	oks=12,m=11		0.06	0.06		1					0.05	9.58e-02	1.00	60,52,0,60
581	oks=12,m=11		0.04	0.07		1					0.06	0.3	1.00	6,72,0,38
582	oks=12,m=11		0.08	0.08		1					0.08	0.1	1.00	38,38,0,38
583	oks=12,m=11		0.03	0.06		1					0.06	0.2	1.00	6,62,0,55
584	ok s=4,m=11		0.08	0.13		1					0.13	0.1	1.00	6,6,0,6
585	ok s=4,m=11		0.08	0.21		1					0.21	0.3	1.00	6,6,0,6
586	ok s=4,m=11		0.09	0.18		1					0.18	0.1	1.00	22,22,0,22
587	ok s=4,m=11		0.07	0.14		1					0.14	0.1	1.00	32,32,0,32
588	ok s=4,m=11		0.02	0.03		1					0.03	0.6	0.96	22,2,0,12
589	ok s=4,m=11		0.08	0.29		1					0.29	0.3	1.00	22,22,0,22
590	oks=11,m=11		3.40e-03	5.52e-03		1					2.75e-03	0.7	0.82	32,38,0,28
591	oks=11,m=11		4.57e-03	9.28e-03		1					2.75e-03	0.7	0.82	22,39,0,1
592	ok s=4,m=11		0.02	0.03		1					0.03	0.6	0.96	22,2,0,12
593	ok s=4,m=11		0.09	0.18		1					0.18	0.1	1.00	22,22,0,22
594	ok s=4,m=11		0.07	0.14		1					0.14	0.1	1.00	32,32,0,32
595	ok s=4,m=11		0.04	0.10		1					0.09	0.7	0.91	22,32,0,2
596	ok s=4,m=11		0.05	0.13		1					0.12	0.2	1.00	22,22,0,22
597	ok s=4,m=11		0.02	0.15		1					0.14	0.3	1.00	22,22,0,22
598	ok s=4,m=11		0.05	0.15		1					0.13	0.2	1.00	32,22,0,22
599	ok s=4,m=11		0.03	0.06		1					0.06	0.2	1.00	28,40,0,28
			V V/T	V N/M	V stab		LamS 22	LamS 33	Snell.	Chi mn	V flst	LamS LT	Chi LT	
										0.22			0.49	
Max			0.28	0.45	0.40		1.95	0.94	169.53		0.52	1.28		

Pilas.	Stato	Note	V V/T	V N/M	V stab	Cl.LamS 22LamS 33	Snell.	Chi mn	V flstLamS LT	Chi LT	Rif. cmb
416	ok	s=5,m=11	0.03	0.13		1			0.13 0.3	1.00	18,18,0,18
417	ok	s=5,m=11	0.03	0.22		1			0.15 0.3	1.00	47,38,0,47
478	ok	s=5,m=11	0.04	0.18		1			0.18 0.3	1.00	6,6,0,6
479	ok	s=5,m=11	0.04	0.27		1			0.18 0.3	1.00	6,38,0,6

Pilas.	V V/T	V N/M	V stab	LamS 22LamS 33	Snell.	Chi mn	V flstLamS LT	Chi LT
								1.00
	0.04	0.27					0.18 0.31	

3.16 TRAVI QUARTO PIANO

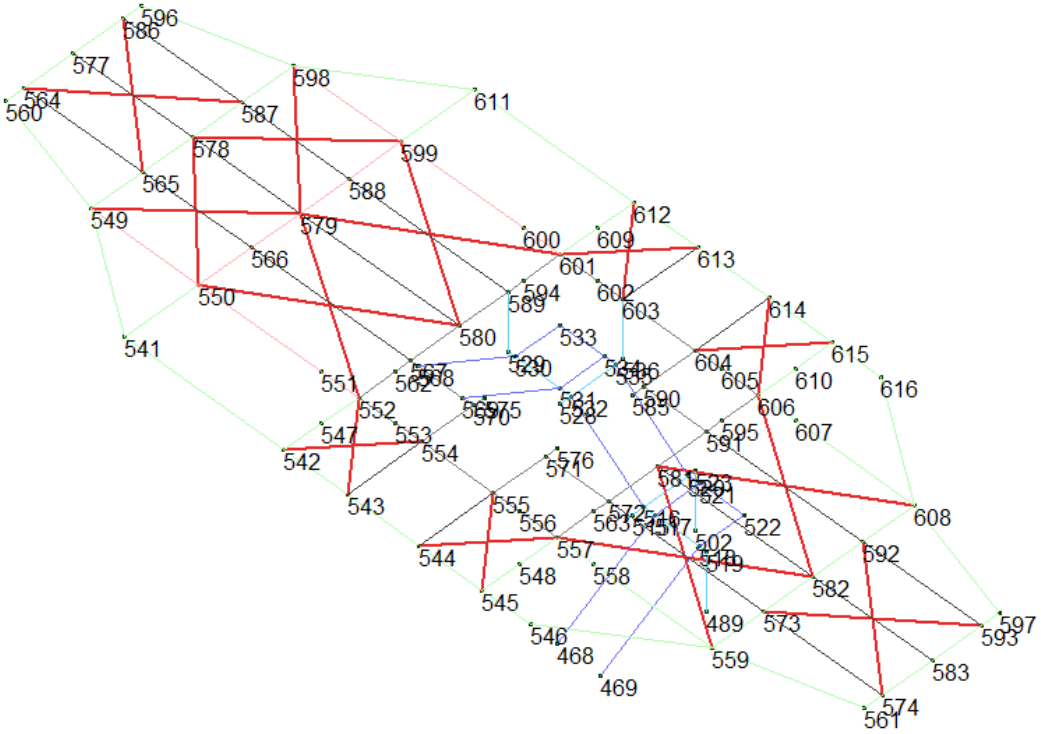
Si riportano di seguito i dati ed i risultati relativi alle travi ed ai controventi del 4° piano (nucleo scala e passerelle).

3.16.1 MODELLAZIONE STRUTTURA: NODI

TABELLA DATI NODI

Nodo	X	Y	Z	Nodo	X	Y	Z	Nodo	X	Y	Z
	cm	cm	cm		cm	cm	cm		cm	cm	cm
468	224.0	-30.0	1451.0	469	344.0	-30.0	1451.0	489	364.0	234.0	1451.0
502	194.0	374.0	1451.0	515	194.0	204.0	1613.0	516	194.0	234.0	1613.0
517	224.0	234.0	1613.0	518	344.0	234.0	1613.0	519	364.0	234.0	1613.0
520	194.0	354.0	1613.0	521	224.0	354.0	1613.0	522	344.0	354.0	1613.0
523	194.0	374.0	1613.0	528	0.0	204.0	1775.0	529	-170.0	234.0	1775.0
530	-150.0	234.0	1775.0	531	-30.0	234.0	1775.0	532	0.0	234.0	1775.0
533	-150.0	354.0	1775.0	534	-30.0	354.0	1775.0	535	0.0	354.0	1775.0
536	0.0	374.0	1775.0	541	-600.0	-370.0	1937.0	542	-170.0	-370.0	1937.0
543	0.0	-370.0	1937.0	544	194.0	-370.0	1937.0	545	364.0	-370.0	1937.0
546	494.0	-370.0	1937.0	547	-170.0	-270.0	1937.0	548	364.0	-270.0	1937.0
549	-890.0	-170.0	1937.0	550	-600.0	-170.0	1937.0	551	-270.0	-170.0	1937.0
552	-170.0	-170.0	1937.0	553	-70.0	-170.0	1937.0	554	0.0	-170.0	1937.0
555	194.0	-170.0	1937.0	556	264.0	-170.0	1937.0	557	364.0	-170.0	1937.0
558	464.0	-170.0	1937.0	559	784.0	-170.0	1937.0	560	-1210.0	-80.0	1937.0
561	1104.0	-80.0	1937.0	562	-170.0	-70.0	1937.0	563	364.0	-70.0	1937.0
564	-1210.0	-30.0	1937.0	565	-890.0	-30.0	1937.0	566	-600.0	-30.0	1937.0
567	-170.0	-30.0	1937.0	568	-150.0	-30.0	1937.0	569	-30.0	-30.0	1937.0
570	0.0	-30.0	1937.0	571	194.0	-30.0	1937.0	572	364.0	-30.0	1937.0
573	784.0	-30.0	1937.0	574	1104.0	-30.0	1937.0	575	0.0	0.0	1937.0
576	194.0	0.0	1937.0	577	-1210.0	102.0	1937.0	578	-890.0	102.0	1937.0
579	-600.0	102.0	1937.0	580	-170.0	102.0	1937.0	581	364.0	102.0	1937.0
582	784.0	102.0	1937.0	583	1104.0	102.0	1937.0	585	194.0	204.0	1937.0
586	-1210.0	234.0	1937.0	587	-890.0	234.0	1937.0	588	-600.0	234.0	1937.0
589	-170.0	234.0	1937.0	590	194.0	234.0	1937.0	591	364.0	234.0	1937.0
592	784.0	234.0	1937.0	593	1104.0	234.0	1937.0	594	-170.0	274.0	1937.0
595	364.0	274.0	1937.0	596	-1210.0	284.0	1937.0	597	1104.0	284.0	1937.0
598	-890.0	374.0	1937.0	599	-600.0	374.0	1937.0	600	-270.0	374.0	1937.0
601	-170.0	374.0	1937.0	602	-70.0	374.0	1937.0	603	0.0	374.0	1937.0
604	194.0	374.0	1937.0	605	264.0	374.0	1937.0	606	364.0	374.0	1937.0
607	464.0	374.0	1937.0	608	784.0	374.0	1937.0	609	-170.0	474.0	1937.0
610	364.0	474.0	1937.0	611	-600.0	574.0	1937.0	612	-170.0	574.0	1937.0
613	0.0	574.0	1937.0	614	194.0	574.0	1937.0	615	364.0	574.0	1937.0
616	494.0	574.0	1937.0								

Numerazione nodi



3.16.2 MODELLAZIONE STRUTTURA: ELEMENTI TRAVE

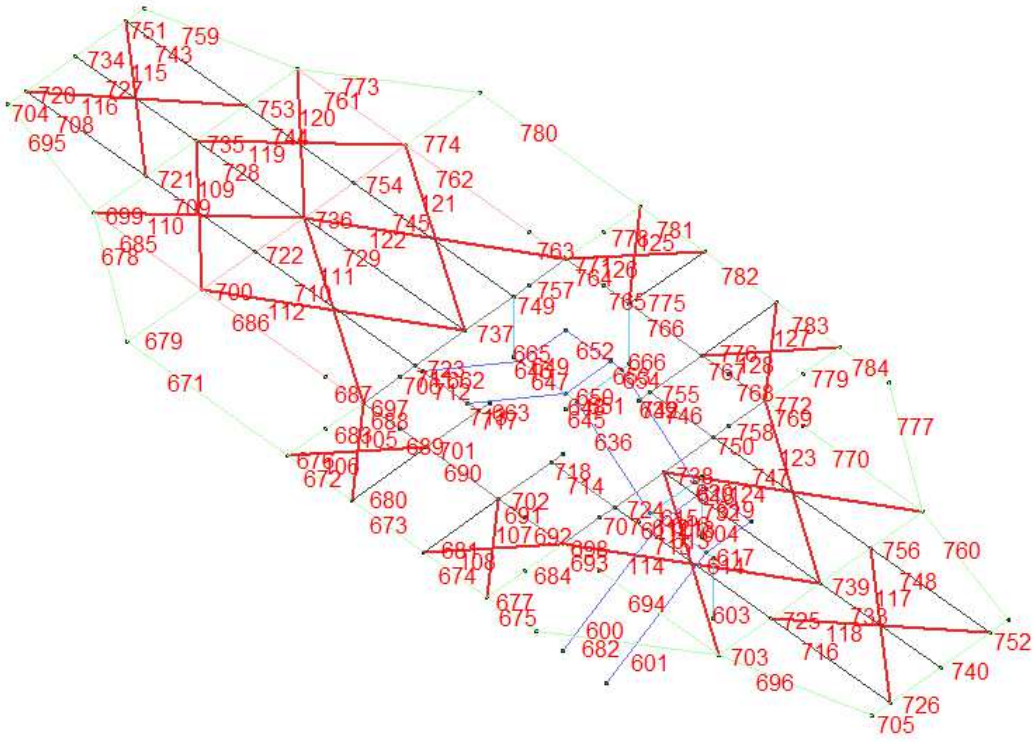
TABELLA DATI TRAVI

Elem.	Note	Nodo I	Nodo J	Mat.	Sez.	Rotaz. gradi	Svincolo I	Svincolo J	Wink V daN/cm3	Wink O daN/cm3
105	Asta	552	543	11	9					
106	Asta	542	554	11	9					
107	Asta	555	545	11	9					
108	Asta	544	557	11	9					
109	Asta	578	550	11	9					
110	Asta	549	579	11	9					
111	Asta	579	552	11	9					
112	Asta	550	580	11	9					
113	Asta	581	559	11	9					
114	Asta	557	582	11	9					
115	Asta	586	565	11	9					
116	Asta	564	587	11	9					
117	Asta	592	574	11	9					
118	Asta	573	593	11	9					
119	Asta	578	599	11	9					
120	Asta	598	579	11	9					
121	Asta	599	580	11	9					
122	Asta	579	601	11	9					
123	Asta	606	582	11	9					
124	Asta	581	608	11	9					
125	Asta	612	603	11	9					
126	Asta	601	613	11	9					
127	Asta	614	606	11	9					
128	Asta	604	615	11	9					
600	Trave	468	517	11	6	180.00				
601	Trave	469	518	11	6					
603	Pilas.	489	519	11	5					
604	Pilas.	502	523	11	5					

Elem.	Note	Nodo I	Nodo J	Mat.	Sez.	Rotaz. gradi	Svincolo I	Svincolo J	Wink V daN/cm3	Wink O daN/cm3
611	Trave	515	516	11	5					
612	Trave	516	517	11	5					
613	Trave	517	518	11	5					
614	Trave	518	519	11	5					
615	Trave	516	520	11	5					
616	Trave	517	521	11	6	180.00				
617	Trave	518	522	11	6					
618	Trave	520	521	11	6	180.00				
619	Trave	521	522	11	6	180.00				
620	Trave	520	523	11	5					
636	Trave	532	516	11	6					
639	Trave	535	520	11	6	180.00				
645	Trave	528	532	11	5					
646	Trave	529	530	11	5					
647	Trave	530	531	11	5					
648	Trave	531	532	11	5					
649	Trave	530	533	11	6	180.00				
650	Trave	531	534	11	6					
651	Trave	532	535	11	5					
652	Trave	533	534	11	6	180.00				
653	Trave	534	535	11	6	180.00				
654	Trave	535	536	11	5					
662	Trave	568	530	11	6	180.00				
663	Trave	569	531	11	6					
665	Pilas.	529	589	11	5					
666	Pilas.	536	603	11	5					
671	Trave	541	542	11	4		000011	000011		
672	Trave	542	543	11	4					
673	Trave	543	544	11	4					
674	Trave	544	545	11	4					
675	Trave	545	546	11	4			000011		
676	Trave	542	547	11	4		000011			
677	Trave	545	548	11	4		000011			
678	Trave	549	541	11	4		000001	000001		
679	Trave	541	550	11	4			000011		
680	Trave	543	554	11	11		000011	000011		
681	Trave	544	555	11	11		000011	000011		
682	Trave	546	559	11	4		000001	000001		
683	Trave	547	552	11	4			000011		
684	Trave	548	557	11	4			000011		
685	Trave	549	550	11	8					
686	Trave	550	551	11	8					
687	Trave	551	552	11	8			000011		
688	Trave	552	553	11	12		000011			
689	Trave	553	554	11	12					
690	Trave	554	555	11	12					
691	Trave	555	556	11	12					
692	Trave	556	557	11	12			000011		
693	Trave	557	558	11	4		000011			
694	Trave	558	559	11	4					
695	Trave	560	549	11	4		000011	000011		
696	Trave	559	561	11	4		000011	000011		
697	Trave	552	562	11	12		000011			
698	Trave	557	563	11	12		000011			
699	Trave	549	565	11	4		000011			
700	Trave	550	566	11	8		000011			
701	Trave	554	570	11	12		000011			
702	Trave	555	571	11	12		000011			
703	Trave	559	573	11	4		000011			
704	Trave	560	564	11	4					
705	Trave	561	574	11	4					
706	Trave	562	567	11	12					
707	Trave	563	572	11	12					
708	Trave	564	565	11	11		000011	000011		
709	Trave	565	566	11	11		000011	000011		
710	Trave	566	567	11	11		000011	000011		
711	Trave	567	568	11	12		000011			
712	Trave	568	569	11	12					
713	Trave	569	570	11	12			000011		
714	Trave	571	572	11	12		000011	000011		
715	Trave	572	573	11	11		000011	000011		
716	Trave	573	574	11	11		000011	000011		
717	Trave	570	575	11	12					
718	Trave	571	576	11	12					

Elem.	Note	Nodo I	Nodo J	Mat.	Sez.	Rotaz. gradi	Svincolo I	Svincolo J	Wink V daN/cm3	Wink O daN/cm3
720	Trave	564	577	11	4					
721	Trave	565	578	11	4					
722	Trave	566	579	11	8					
723	Trave	567	580	11	12					
724	Trave	572	581	11	12					
725	Trave	573	582	11	4					
726	Trave	574	583	11	4					
727	Trave	577	578	11	11		000011	000011		
728	Trave	578	579	11	11		000011	000011		
729	Trave	579	580	11	11		000011	000011		
732	Trave	581	582	11	11		000011	000011		
733	Trave	582	583	11	11		000011	000011		
734	Trave	577	586	11	4					
735	Trave	578	587	11	4					
736	Trave	579	588	11	8					
737	Trave	580	589	11	12					
738	Trave	581	591	11	12					
739	Trave	582	592	11	4					
740	Trave	583	593	11	4					
742	Trave	585	590	11	12					
743	Trave	586	587	11	11		000011	000011		
744	Trave	587	588	11	11		000011	000011		
745	Trave	588	589	11	11		000011	000011		
746	Trave	590	591	11	12		000011	000011		
747	Trave	591	592	11	11		000011	000011		
748	Trave	592	593	11	11		000011	000011		
749	Trave	589	594	11	12					
750	Trave	591	595	11	12					
751	Trave	586	596	11	4					
752	Trave	593	597	11	4					
753	Trave	587	598	11	4			000011		
754	Trave	588	599	11	8			000011		
755	Trave	590	604	11	12			000011		
756	Trave	592	608	11	4			000011		
757	Trave	594	601	11	12			000011		
758	Trave	595	606	11	12			000011		
759	Trave	596	598	11	4		000011	000011		
760	Trave	608	597	11	4		000011	000011		
761	Trave	598	599	11	8					
762	Trave	599	600	11	8					
763	Trave	600	601	11	8			000011		
764	Trave	601	602	11	12		000011			
765	Trave	602	603	11	12					
766	Trave	603	604	11	12					
767	Trave	604	605	11	12					
768	Trave	605	606	11	12			000011		
769	Trave	606	607	11	4		000011			
770	Trave	607	608	11	4					
771	Trave	601	609	11	4		000011			
772	Trave	606	610	11	4		000011			
773	Trave	598	611	11	4		000001	000001		
774	Trave	599	611	11	4		000011			
775	Trave	603	613	11	11		000011	000011		
776	Trave	604	614	11	11		000011	000011		
777	Trave	616	608	11	4		000001	000001		
778	Trave	609	612	11	4			000011		
779	Trave	610	615	11	4			000011		
780	Trave	611	612	11	4		000011	000011		
781	Trave	612	613	11	4					
782	Trave	613	614	11	4					
783	Trave	614	615	11	4					
784	Trave	615	616	11	4			000011		

Numerazione elementi



3.16.3 VERIFICHE PER ELEMENTI IN ACCIAIO

TABELLA VERIFICHE PER ELEMENTI N ACCIAIO

Asta	Stato	Note	V N	N	V stab	N	Cl.	Beta x L	Snell.	LambDaS	Chi mn	v.Omeg	Rif. cmb
				daN		daN		cm					
105	ok	s=9,m=11	0.03	720.6	0.07	-492.6	1	210.0	158.1	1.82	0.23	0.0	63,66
106	ok	s=9,m=11	0.02	702.8	0.10	-645.3	1	210.0	158.1	1.82	0.23	0.0	66,63
107	ok	s=9,m=11	0.02	681.8	0.06	-384.8	1	210.0	158.1	1.82	0.23	0.0	64,65
108	ok	s=9,m=11	0.02	-578.5	0.09	-578.5	1	210.0	158.1	1.82	0.23	0.0	64,64
109	ok	s=9,m=11	7.56e-03	-217.8	0.07	-217.8	1	318.1	239.5	2.76	0.11	0.0	60,60
110	ok	s=9,m=11	5.77e-03	-166.1	0.05	-166.1	1	318.1	239.5	2.76	0.11	0.0	61,61
111	ok	s=9,m=11	0.02	475.9	0.20	-410.4	1	407.0	306.5	3.53	0.07	0.0	71,74
112	ok	s=9,m=11	0.01	396.9	0.19	-390.9	1	407.0	306.5	3.53	0.07	0.0	66,63
113	ok	s=9,m=11	0.02	-571.3	0.27	-571.3	1	400.3	301.4	3.47	0.07	0.0	67,67
114	ok	s=9,m=11	0.02	628.4	0.25	-528.1	1	400.3	301.4	3.47	0.07	0.0	67,19
115	ok	s=9,m=11	0.01	400.6	0.12	-344.4	1	331.9	249.9	2.88	0.10	0.0	38,29
116	ok	s=9,m=11	0.01	-430.9	0.15	-430.9	1	331.9	249.9	2.88	0.10	0.0	38,38
117	ok	s=9,m=11	0.01	-426.0	0.14	-426.0	1	331.9	249.9	2.88	0.10	0.0	40,40
118	ok	s=9,m=11	0.02	-444.8	0.15	-444.8	1	331.9	249.9	2.88	0.10	0.0	28,28
119	ok	s=9,m=11	0.01	-347.8	0.11	-347.8	1	318.1	239.5	2.76	0.11	0.0	51,51
120	ok	s=9,m=11	9.99e-03	-287.8	0.09	-287.8	1	318.1	239.5	2.76	0.11	0.0	54,54
121	ok	s=9,m=11	0.02	508.5	0.24	-480.7	1	407.0	306.5	3.53	0.07	0.0	63,66
122	ok	s=9,m=11	0.02	523.6	0.23	-458.5	1	407.0	306.5	3.53	0.07	0.0	66,63
123	ok	s=9,m=11	0.02	666.3	0.24	-507.0	1	400.3	301.4	3.47	0.07	0.0	64,65
124	ok	s=9,m=11	0.02	-590.5	0.28	-590.5	1	400.3	301.4	3.47	0.07	0.0	64,64
125	ok	s=9,m=11	9.46e-03	-272.6			1	210.0	158.1	1.82	0.23	0.0	59,0
126	ok	s=9,m=11	0.01	361.9			1	210.0	158.1	1.82	0.23	0.0	75,0
127	ok	s=9,m=11	0.02	-445.5	0.07	-445.5	1	210.0	158.1	1.82	0.23	0.0	67,67
128	ok	s=9,m=11	0.02	535.9			1	210.0	158.1	1.82	0.23	0.0	67,0

Asta			V N	N	V stab	N		Beta x L	Snell.	LambDaS	Chi mn	v.Omeg	
				-590.50		-645.35				1.82	0.07	0.0	
			0.03	720.64	0.28			407.05	306.51	3.53		0.0	

Trave	Stato	Note	V V/T	V N/M	V stab	Cl.	LamS 22	LamS 33	Snell.	Chi mn	V flst	LamS LT	Chi LT	Rif. cmb
600	ok	s=6,m=11	0.03	0.21		1								32,12,0,0
601	ok	s=6,m=11	0.03	0.11		1								22,22,0,0
611	ok	s=5,m=11	0.24	0.40		1					0.40	7.17e-02	1.00	12,38,0,38
612	ok	s=5,m=11	0.15	0.19		1					0.16	6.52e-02	1.00	12,18,0,18
613	ok	s=5,m=11	0.06	0.16		1					0.13	0.2	1.00	18,18,0,18
614	ok	s=5,m=11	0.05	0.14		1					0.13	5.41e-02	1.00	28,12,0,18
615	ok	s=5,m=11	0.08	0.22		1					0.21	0.2	1.00	38,38,0,38
616	ok	s=6,m=11	0.03	0.17		1								32,38,0,0
617	ok	s=6,m=11	0.01	0.10		1								22,28,0,0
618	ok	s=6,m=11	0.02	0.11		1								28,28,0,0
619	ok	s=6,m=11	0.02	0.07		1								32,38,0,0
620	ok	s=5,m=11	0.06	0.10		1					0.10	4.97e-02	1.00	38,38,0,38
636	ok	s=6,m=11	0.03	0.28		1								6,6,0,0
639	ok	s=6,m=11	0.02	0.13		1								12,32,0,0
645	ok	s=5,m=11	0.25	0.39		1					0.38	7.10e-02	1.00	2,32,0,32
646	ok	s=5,m=11	0.04	0.14		1					0.14	5.35e-02	1.00	28,2,0,2
647	ok	s=5,m=11	0.06	0.17		1					0.14	0.2	1.00	6,6,0,2
648	ok	s=5,m=11	0.14	0.20		1					0.17	6.67e-02	1.00	2,38,0,6
649	ok	s=6,m=11	9.82e-03	0.10		1								22,28,0,0
650	ok	s=6,m=11	0.03	0.19		1								32,38,0,0
651	ok	s=5,m=11	0.08	0.24		1					0.21	0.2	1.00	38,38,0,38
652	ok	s=6,m=11	0.02	0.07		1								32,38,0,0
653	ok	s=6,m=11	0.02	0.12		1								28,28,0,0
654	ok	s=5,m=11	0.07	0.11		1					0.10	4.97e-02	1.00	56,38,0,38
662	ok	s=6,m=11	0.03	0.11		1								22,22,0,0
663	ok	s=6,m=11	0.03	0.21	0.13	1	1.8	0.5	153.5	0.24				32,2,30,0
671	ok	s=4,m=11	0.04	0.10		1					0.09	0.7	0.91	32,22,0,22
672	ok	s=4,m=11	0.05	0.12		1					0.12	0.2	1.00	32,32,0,32
673	ok	s=4,m=11	0.02	0.14		1					0.14	0.3	1.00	32,32,0,32
674	ok	s=4,m=11	0.05	0.13		1					0.13	0.2	1.00	22,32,0,32
675	ok	s=4,m=11	0.03	0.05		1					0.04	0.2	1.00	38,37,0,37
676	ok	s=4,m=11	0.09	0.17		1					0.17	0.1	1.00	32,32,0,32
677	ok	s=4,m=11	0.07	0.13		1					0.13	0.1	1.00	22,22,0,22
678	ok	s=4,m=11	0.02	0.03		1					0.03	0.6	0.96	32,32,0,2
679	ok	s=4,m=11	0.05	0.19		1					0.19	0.3	1.00	32,32,0,32
680	oks	=11,m=11	2.87e-03	8.01e-03		1					2.75e-03	0.7	0.82	22,63,0,22
681	oks	=11,m=11	5.29e-03	5.48e-03		1					2.75e-03	0.7	0.82	22,64,0,37
682	ok	s=4,m=11	0.02	0.03		1					0.03	0.6	0.96	22,22,0,12
683	ok	s=4,m=11	0.09	0.17		1					0.17	0.1	1.00	32,32,0,32
684	ok	s=4,m=11	0.07	0.13		1					0.13	0.1	1.00	22,22,0,22
685	ok	s=8,m=11	0.11	0.26		1					0.26	0.3	1.00	12,12,0,12
686	ok	s=8,m=11	0.10	0.23		1					0.23	0.4	1.00	2,22,0,22
687	ok	s=8,m=11	0.09	0.15		1					0.15	0.1	1.00	2,2,0,2
688	oks	=12,m=11	0.05	0.07		1					0.07	0.2	1.00	12,18,0,18
689	oks	=12,m=11	0.04	0.07		1					0.07	0.3	1.00	38,18,0,18
690	oks	=12,m=11	0.04	0.07		1					0.07	0.3	1.00	12,28,0,28
691	oks	=12,m=11	0.05	0.05		1					0.05	0.2	1.00	28,53,0,61
692	oks	=12,m=11	0.03	0.05		1					0.05	0.2	1.00	18,53,0,61
693	ok	s=4,m=11	0.06	0.09		1					0.09	0.1	1.00	6,6,0,6
694	ok	s=4,m=11	0.06	0.14		1					0.14	0.3	1.00	6,6,0,6
695	ok	s=4,m=11	0.02	0.02		1					0.03	0.5	0.97	22,32,0,12
696	ok	s=4,m=11	0.02	0.02		1					0.03	0.5	0.97	32,32,0,2
697	oks	=12,m=11	0.05	0.12		1					0.12	0.2	1.00	32,32,0,32
698	oks	=12,m=11	0.04	0.08		1					0.08	0.2	1.00	32,32,0,32
699	ok	s=4,m=11	0.10	0.28		1					0.27	0.2	1.00	2,2,0,32
700	ok	s=8,m=11	0.11	0.28		1					0.27	0.2	1.00	32,2,0,32
701	oks	=12,m=11	0.08	0.25		1					0.25	0.2	1.00	28,28,0,28
702	oks	=12,m=11	0.08	0.24		1					0.23	0.2	1.00	28,28,0,28
703	ok	s=4,m=11	0.12	0.34		1					0.33	0.2	1.00	32,2,0,32
704	ok	s=4,m=11	0.06	0.07		1					0.07	7.35e-02	1.00	32,38,0,38
705	ok	s=4,m=11	0.06	0.06		1					0.06	7.33e-02	1.00	32,38,0,38
706	oks	=12,m=11	0.11	0.12		1					0.12	0.2	1.00	32,32,0,32
707	oks	=12,m=11	0.10	0.08		1					0.08	0.2	1.00	32,32,0,32
708	oks	=11,m=11	0.05	0.12		1					0.19	1.1	0.62	32,22,0,2
709	oks	=11,m=11	0.05	0.12		1					0.17	1.0	0.67	32,22,0,2
710	oks	=11,m=11	0.07	0.25	0.17	1	2.0	1.5	173.6	0.21	0.52	1.3	0.49	32,2,17,2
711	oks	=12,m=11	0.03	0.02		1					0.01	3.24e-02	1.00	32,38,0,32
712	oks	=12,m=11	0.01	0.05		1					0.02	0.2	1.00	38,38,0,32
713	oks	=12,m=11	0.05	0.05		1					0.02	4.85e-02	1.00	22,38,0,32
714	oks	=12,m=11	0.03	0.03		1					0.03	0.3	1.00	32,22,0,32
715	oks	=11,m=11	0.07	0.24		1					0.48	1.3	0.50	32,2,0,2
716	oks	=11,m=11	0.05	0.12		1					0.19	1.1	0.62	32,32,0,2
717	oks	=12,m=11	0.10	0.32		1					0.31	6.12e-02	1.00	22,28,0,28
718	oks	=12,m=11	0.10	0.31		1					0.30	6.08e-02	1.00	22,28,0,28

Trave	Stato	Note	V V/T	V N/M	V stab	Cl.	LamS 22	LamS 33	Snell.	Chi mn	V flst	LamS LT	Chi LT	Rif. cmb
720	ok	s=4,m=11	0.03	0.07		1					0.07	0.2	1.00	38,2,0,2
721	ok	s=4,m=11	0.04	0.36		1					0.36	0.2	1.00	2,2,0,22
722	ok	s=8,m=11	0.04	0.36		1					0.35	0.2	1.00	32,12,0,12
723	oks	=12,m=11	0.03	0.07		1					0.06	0.2	1.00	32,12,0,12
724	oks	=12,m=11	0.03	0.11		1					0.09	0.2	1.00	32,2,0,2
725	ok	s=4,m=11	0.04	0.45		1					0.44	0.2	1.00	32,2,0,2
726	ok	s=4,m=11	0.03	0.08		1					0.07	0.2	1.00	38,2,0,12
727	oks	=11,m=11	0.05	0.14		1					0.22	1.1	0.62	22,32,0,2
728	oks	=11,m=11	0.05	0.11		1					0.17	1.0	0.67	32,22,0,2
729	oks	=11,m=11	0.07	0.25		1					0.50	1.3	0.49	32,32,0,2
732	oks	=11,m=11	0.07	0.24		1					0.47	1.3	0.50	32,2,0,2
733	oks	=11,m=11	0.05	0.14		1					0.22	1.1	0.62	32,2,0,2
734	ok	s=4,m=11	0.03	0.07		1					0.07	0.2	1.00	28,2,0,2
735	ok	s=4,m=11	0.04	0.36		1					0.36	0.2	1.00	22,2,0,32
736	ok	s=8,m=11	0.04	0.36		1					0.35	0.2	1.00	32,12,0,12
737	oks	=12,m=11	0.03	0.07		1					0.06	0.2	1.00	22,12,0,12
738	oks	=12,m=11	0.03	0.11		1					0.09	0.2	1.00	22,2,0,2
739	ok	s=4,m=11	0.04	0.45		1					0.44	0.2	1.00	32,2,0,2
740	ok	s=4,m=11	0.03	0.08		1					0.07	0.2	1.00	28,2,0,12
742	oks	=12,m=11	0.10	0.28		1					0.28	6.08e-02	1.00	32,38,0,38
743	oks	=11,m=11	0.05	0.12		1					0.19	1.1	0.62	22,22,0,2
744	oks	=11,m=11	0.05	0.12		1					0.17	1.0	0.67	22,22,0,2
745	oks	=11,m=11	0.07	0.25		1					0.52	1.3	0.49	22,2,0,2
746	oks	=12,m=11	0.03	0.03		1					0.03	0.3	1.00	12,32,0,12
747	oks	=11,m=11	0.07	0.24	0.49	1	2.0	1.2	169.5	0.22	0.48	1.3	0.50	22,2,2,2
748	oks	=11,m=11	0.05	0.12		1					0.19	1.1	0.62	22,32,0,2
749	oks	=12,m=11	0.11	0.13		1					0.13	6.98e-02	1.00	22,22,0,22
750	oks	=12,m=11	0.11	0.10		1					0.09	0.2	1.00	22,12,0,22
751	ok	s=4,m=11	0.06	0.06		1					0.06	7.30e-02	1.00	22,28,0,28
752	ok	s=4,m=11	0.06	0.07		1					0.07	7.37e-02	1.00	22,28,0,28
753	ok	s=4,m=11	0.10	0.28		1					0.27	0.2	1.00	22,22,0,22
754	ok	s=8,m=11	0.11	0.27		1					0.27	0.2	1.00	32,22,0,22
755	oks	=12,m=11	0.07	0.24		1					0.22	0.2	1.00	38,38,0,38
756	ok	s=4,m=11	0.12	0.34		1					0.33	0.2	1.00	32,2,0,22
757	oks	=12,m=11	0.06	0.13		1					0.13	0.2	1.00	22,22,0,22
758	oks	=12,m=11	0.04	0.10		1					0.09	0.2	1.00	22,12,0,22
759	ok	s=4,m=11	0.02	0.02		1					0.03	0.5	0.97	32,32,0,2
760	ok	s=4,m=11	0.02	0.02		1					0.03	0.5	0.97	22,22,0,2
761	ok	s=8,m=11	0.11	0.25		1					0.25	0.3	1.00	12,12,0,12
762	ok	s=8,m=11	0.10	0.23		1					0.23	0.4	1.00	2,32,0,32
763	ok	s=8,m=11	0.10	0.15		1					0.15	0.1	1.00	2,2,0,2
764	oks	=12,m=11	0.04	0.06		1					0.06	0.2	1.00	12,12,0,12
765	oks	=12,m=11	0.05	0.06		1					0.06	0.1	1.00	57,12,0,12
766	oks	=12,m=11	0.02	0.05		1					0.04	0.3	1.00	22,38,0,38
767	oks	=12,m=11	0.05	0.05		1					0.04	0.2	1.00	38,38,0,38
768	oks	=12,m=11	0.02	0.04		1					0.04	0.2	1.00	62,62,0,62
769	ok	s=4,m=11	0.06	0.09		1					0.09	0.1	1.00	6,6,0,6
770	ok	s=4,m=11	0.06	0.14		1					0.13	0.3	1.00	6,6,0,6
771	ok	s=4,m=11	0.09	0.17		1					0.17	0.1	1.00	22,22,0,22
772	ok	s=4,m=11	0.07	0.14		1					0.14	0.1	1.00	32,32,0,32
773	ok	s=4,m=11	0.02	0.03		1					0.03	0.6	0.96	22,22,0,12
774	ok	s=4,m=11	0.05	0.18		1					0.18	0.3	1.00	22,22,0,22
775	oks	=11,m=11	2.50e-03	4.77e-03		1					2.75e-03	0.7	0.82	32,38,0,37
776	oks	=11,m=11	5.21e-03	5.17e-03		1					2.75e-03	0.7	0.82	22,63,0,37
777	ok	s=4,m=11	0.02	0.03		1					0.03	0.6	0.96	32,32,0,22
778	ok	s=4,m=11	0.09	0.17		1					0.17	0.1	1.00	22,22,0,22
779	ok	s=4,m=11	0.07	0.14		1					0.14	0.1	1.00	32,32,0,32
780	ok	s=4,m=11	0.04	0.10		1					0.09	0.7	0.91	22,32,0,2
781	ok	s=4,m=11	0.05	0.12		1					0.12	0.2	1.00	22,22,0,22
782	ok	s=4,m=11	0.02	0.14		1					0.14	0.3	1.00	22,22,0,22
783	ok	s=4,m=11	0.05	0.13		1					0.13	0.2	1.00	32,22,0,22
784	ok	s=4,m=11	0.03	0.06		1					0.05	0.2	1.00	28,40,0,27

Trave	V V/T	V N/M	V stab	LamS 22	LamS 33	Snell.	Chi mn	V flst	LamS LT	Chi LT
							0.21			0.49
	0.25	0.45	0.49	2.00	1.53	173.57		0.52	1.28	

Pilas.	Stato	Note	V V/T	V N/M	V stab	Cl.	LamS 22	LamS 33	Snell.	Chi mn	V flst	LamS LT	Chi LT	Rif. cmb
603	ok	s=5,m=11	0.03	0.13		1					0.13	0.3	1.00	18,18,0,18
604	ok	s=5,m=11	0.03	0.22		1					0.13	0.3	1.00	55,38,0,55
665	ok	s=5,m=11	0.03	0.14		1					0.13	0.3	1.00	6,6,0,6
666	ok	s=5,m=11	0.02	0.22		1					0.12	0.3	1.00	56,38,0,56

Pilas.	V V/T	V N/M	V stab	LamS 22	LamS 33	Snell.	Chi mn	V flst	LamS LT	Chi LT	
										1.00	
	0.03	0.22						0.13	0.31		

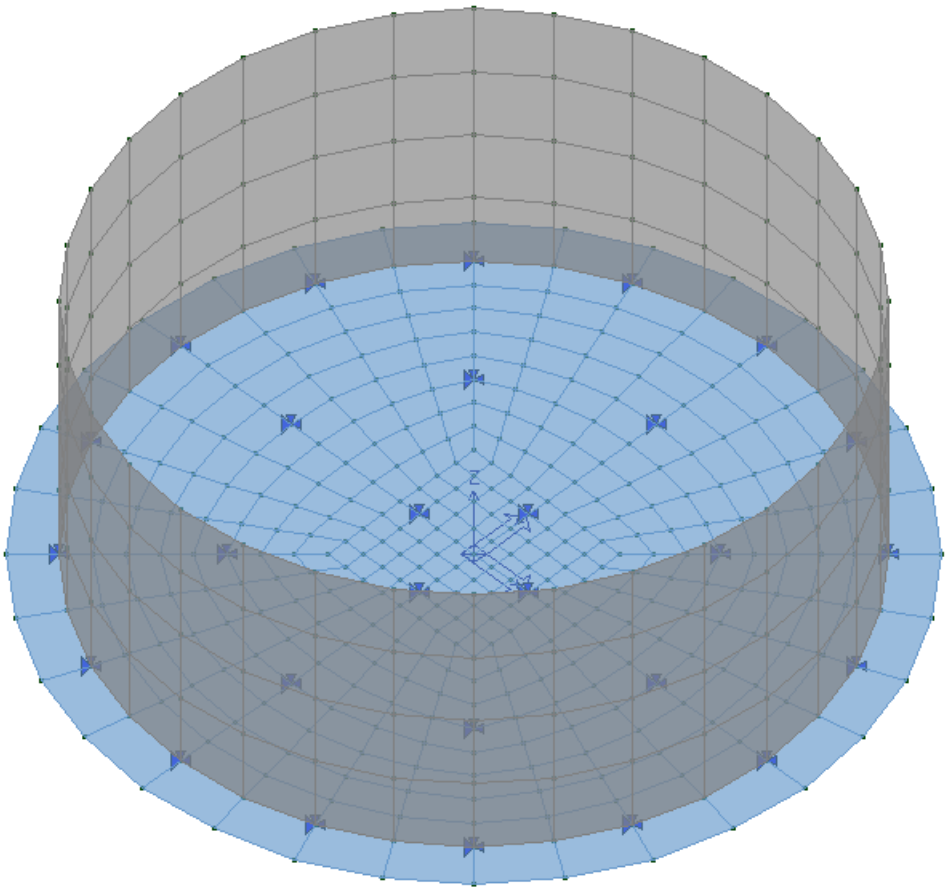
4. FONDAZIONE GASOMETRO

Il basamento utilizzato per sostenere il gasometro è realizzato con una soletta circolare di diametro 21 m circa e spessore 70 cm, sostenuta da 28 pali di diametro 50 cm.

Nel modello di calcolo i pali sono stati schematizzati come vincoli rigidi, senza attribuire alcun contributo portante al terreno.

Per applicare i carichi nel modo più realistico possibile, è stato schematizzato il serbatoio metallico a cui sono stati applicati i carichi di competenza.

Per progettare e verificare l'armatura, sia in condizione statica sia in condizione sismica, con le assunzioni descritte nella relazione generale sulle strutture, è stato realizzato un modello agli elementi finiti, le cui immagini sono di seguito riportate.



Si riportano di seguito i tabulati relativi ai dati inseriti, ai principali risultati ottenuti ed alla progettazione degli elementi portanti.

4.1 DESCRIZIONE DELLA MODELLAZIONE

Tipo di analisi strutturale	
Statica lineare	SI
Statica non lineare	NO
Sismica statica lineare	NO
Sismica dinamica lineare	SI

Modellazione della geometria e proprietà meccaniche:	
nodi	497
elementi D2 (per aste, travi, pilastri…)	0
elementi D3 (per pareti, platee, gusci…)	480
elementi solaio	0
elementi solidi	0
Dimensione del modello strutturale [cm]:	
X min =	-1050.00
Xmax =	1050.00
Ymin =	-1050.00
Ymax =	1050.00
Zmin =	0.00
Zmax =	800.00
Strutture verticali:	
Elementi di tipo asta	NO
Pilastri	NO
Pareti	SI
Setti (a comportamento membranale)	NO
Strutture non verticali:	
Elementi di tipo asta	NO
Travi	NO
Gusci	SI
Membrane	NO
Orizzontamenti:	
Solai con la proprietà piano rigido	NO
Solai senza la proprietà piano rigido	NO
Tipo di vincoli:	
Nodi vincolati rigidamente	SI
Nodi vincolati elasticamente	NO

Nodi con isolatori sismici	NO
Fondazioni puntuali (plinti/plinti su palo)	NO
Fondazioni di tipo trave	NO
Fondazioni di tipo platea	NO

4.2 CARATTERISTICHE MATERIALI UTILIZZATI

TABELLA DATI MATERIALI

Id	Tipo / Note		Young	Poisson	G	Gamma	Alfa
		daN/cm2	daN/cm2		daN/cm2	daN/cm3	
4	Calcestruzzo Classe C32/40		3.360e+05	0.20	1.400e+05	2.50e-03	1.00e-05
	Rck	400.0					
	fctm	31.0					
12	acciaio Fe510 - S355		2.100e+06	0.30	8.077e+05	7.80e-03	1.20e-05
	ft	5100.0					
	fy	3550.0					
	fd	3550.0					
	fdt	3150.0					
	sadm	2400.0					
	sadmt	2100.0					

Di seguito si riportano i dati di progettazione degli elementi di fondazione in calcestruzzo armato.

Gusci c.a.	**1**
Armatura	
Inclinazione Ax [gradi]	0.0
Angolo Ax-Ay [gradi]	90.00
Minima tesa	0.20
Massima tesa	0.78
Maglia unica centrale	No
Copriferro [cm]	4.00
Maglia x	
diametro	20
passo	20
diametro aggiuntivi	20
Maglia y	
diametro	20
passo	20
diametro aggiuntivi	20
Stati limite ultimi	
Tensione fy [daN/cm2]	4500.00
Tipo acciaio	tipo C
Coefficiente gamma s	1.15
Coefficiente gamma c	1.50
Fattore di confidenza FC	0.0
Verifiche con N costante	Si
Applica SLU da DIN	No

4.3 MODELLAZIONE STRUTTURA: NODI

TABELLA DATI NODI

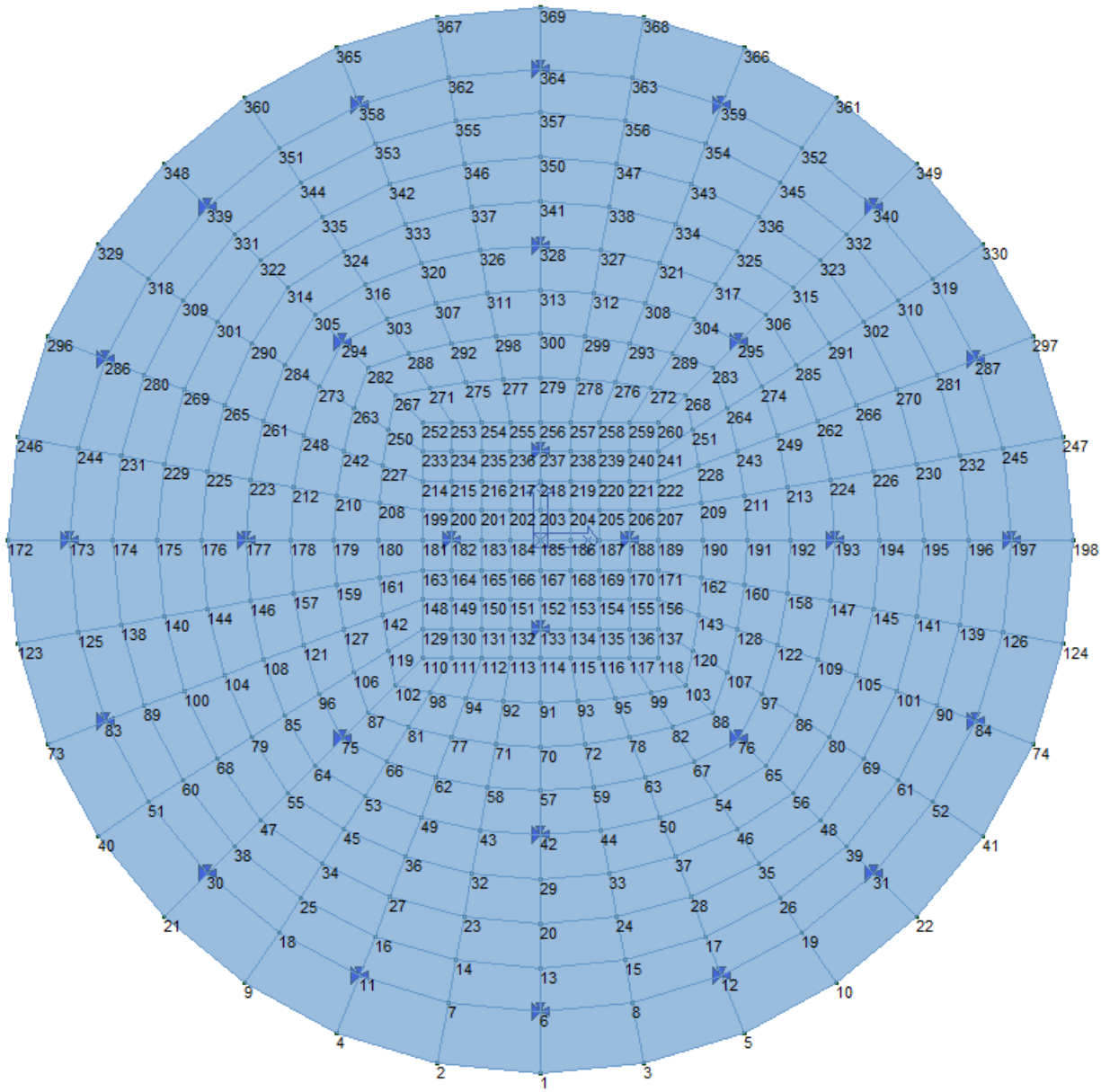
Nodo	X	Y	Z	Nodo	X	Y	Z	Nodo	X	Y	Z
	cm	cm	cm		cm	cm	cm		cm	cm	cm
1	0.0	-1050.0	0.0	2	-204.8	-1029.8	0.0	3	204.8	-1029.8	0.0
4	-401.8	-970.1	0.0	5	401.8	-970.1	0.0	7	-181.4	-912.1	0.0
8	181.4	-912.1	0.0	9	-583.3	-873.0	0.0	10	583.3	-873.0	0.0
13	0.0	-842.8	0.0	14	-166.0	-827.2	0.0	15	166.0	-827.2	0.0
16	-325.9	-780.9	0.0	17	325.9	-780.9	0.0	18	-516.7	-773.3	0.0
19	516.7	-773.3	0.0	20	0.0	-755.6	0.0	21	-742.5	-742.5	0.0
22	742.5	-742.5	0.0	23	-150.6	-742.2	0.0	24	150.6	-742.2	0.0
25	-473.9	-705.7	0.0	26	473.9	-705.7	0.0	27	-296.0	-702.5	0.0
28	296.0	-702.5	0.0	29	0.0	-668.4	0.0	32	-135.2	-657.3	0.0
33	135.2	-657.3	0.0	34	-431.1	-638.1	0.0	35	431.1	-638.1	0.0
36	-266.0	-624.2	0.0	37	266.0	-624.2	0.0	38	-604.5	-604.5	0.0
39	604.5	-604.5	0.0	40	-873.0	-583.3	0.0	41	873.0	-583.3	0.0
43	-119.8	-572.3	0.0	44	119.8	-572.3	0.0	45	-388.3	-570.5	0.0
46	388.3	-570.5	0.0	47	-551.3	-551.3	0.0	48	551.3	-551.3	0.0
49	-236.1	-545.9	0.0	50	236.1	-545.9	0.0	51	-773.3	-516.7	0.0
52	773.3	-516.7	0.0	53	-345.5	-502.9	0.0	54	345.5	-502.9	0.0
55	-498.2	-498.2	0.0	56	498.2	-498.2	0.0	57	0.0	-494.1	0.0
58	-104.4	-487.4	0.0	59	104.4	-487.4	0.0	60	-705.7	-473.9	0.0
61	705.7	-473.9	0.0	62	-206.1	-467.5	0.0	63	206.1	-467.5	0.0
64	-445.1	-445.1	0.0	65	445.1	-445.1	0.0	66	-302.7	-435.3	0.0
67	302.7	-435.3	0.0	68	-638.1	-431.1	0.0	69	638.1	-431.1	0.0
70	0.0	-406.9	0.0	71	-89.0	-402.4	0.0	72	89.0	-402.4	0.0
73	-970.1	-401.8	0.0	74	970.1	-401.8	0.0	77	-176.2	-389.2	0.0
78	176.2	-389.2	0.0	79	-570.5	-388.3	0.0	80	570.5	-388.3	0.0
81	-260.0	-367.7	0.0	82	260.0	-367.7	0.0	85	-502.9	-345.5	0.0
86	502.9	-345.5	0.0	87	-338.8	-338.8	0.0	88	338.8	-338.8	0.0
89	-780.9	-325.9	0.0	90	780.9	-325.9	0.0	91	0.0	-319.7	0.0
92	-73.5	-317.5	0.0	93	73.5	-317.5	0.0	94	-146.2	-310.8	0.0
95	146.2	-310.8	0.0	96	-435.3	-302.7	0.0	97	435.3	-302.7	0.0
98	-217.2	-300.1	0.0	99	217.2	-300.1	0.0	100	-702.5	-296.0	0.0
101	702.5	-296.0	0.0	102	-285.6	-285.6	0.0	103	285.6	-285.6	0.0
104	-624.2	-266.0	0.0	105	624.2	-266.0	0.0	106	-367.7	-260.0	0.0
107	367.7	-260.0	0.0	108	-545.9	-236.1	0.0	109	545.9	-236.1	0.0
110	-232.5	-232.5	0.0	111	-174.4	-232.5	0.0	112	-116.3	-232.5	0.0
113	-58.1	-232.5	0.0	114	0.0	-232.5	0.0	115	58.1	-232.5	0.0
116	116.3	-232.5	0.0	117	174.4	-232.5	0.0	118	232.5	-232.5	0.0
119	-300.1	-217.2	0.0	120	300.1	-217.2	0.0	121	-467.5	-206.1	0.0
122	467.5	-206.1	0.0	123	-1029.8	-204.8	0.0	124	1029.8	-204.8	0.0
125	-912.1	-181.4	0.0	126	912.1	-181.4	0.0	127	-389.2	-176.2	0.0
128	389.2	-176.2	0.0	129	-232.5	-174.4	0.0	130	-174.4	-174.4	0.0
131	-116.3	-174.4	0.0	132	-58.1	-174.4	0.0	134	58.1	-174.4	0.0
135	116.3	-174.4	0.0	136	174.4	-174.4	0.0	137	232.5	-174.4	0.0
138	-827.2	-166.0	0.0	139	827.2	-166.0	0.0	140	-742.2	-150.6	0.0
141	742.2	-150.6	0.0	142	-310.8	-146.2	0.0	143	310.8	-146.2	0.0
144	-657.3	-135.2	0.0	145	657.3	-135.2	0.0	146	-572.3	-119.8	0.0
147	572.3	-119.8	0.0	148	-232.5	-116.3	0.0	149	-174.4	-116.3	0.0
150	-116.3	-116.3	0.0	151	-58.1	-116.3	0.0	152	0.0	-116.3	0.0
153	58.1	-116.3	0.0	154	116.3	-116.3	0.0	155	174.4	-116.3	0.0
156	232.5	-116.3	0.0	157	-487.4	-104.4	0.0	158	487.4	-104.4	0.0
159	-402.4	-89.0	0.0	160	402.4	-89.0	0.0	161	-317.5	-73.5	0.0
162	317.5	-73.5	0.0	163	-232.5	-58.1	0.0	164	-174.4	-58.1	0.0
165	-116.3	-58.1	0.0	166	-58.1	-58.1	0.0	167	0.0	-58.1	0.0
168	58.1	-58.1	0.0	169	116.3	-58.1	0.0	170	174.4	-58.1	0.0
171	232.5	-58.1	0.0	172	-1050.0	0.0	0.0	174	-842.8	0.0	0.0
175	-755.6	0.0	0.0	176	-668.4	0.0	0.0	178	-494.1	0.0	0.0
179	-406.9	0.0	0.0	180	-319.7	0.0	0.0	181	-232.5	0.0	0.0
183	-116.3	0.0	0.0	184	-58.1	0.0	0.0	185	0.0	0.0	0.0
186	58.1	0.0	0.0	187	116.3	0.0	0.0	189	232.5	0.0	0.0
190	319.7	0.0	0.0	191	406.9	0.0	0.0	192	494.1	0.0	0.0
194	668.4	0.0	0.0	195	755.6	0.0	0.0	196	842.8	0.0	0.0
198	1050.0	0.0	0.0	199	-232.5	58.1	0.0	200	-174.4	58.1	0.0
201	-116.3	58.1	0.0	202	-58.1	58.1	0.0	203	0.0	58.1	0.0
204	58.1	58.1	0.0	205	116.3	58.1	0.0	206	174.4	58.1	0.0
207	232.5	58.1	0.0	208	-317.5	73.5	0.0	209	317.5	73.5	0.0
210	-402.4	89.0	0.0	211	402.4	89.0	0.0	212	-487.4	104.4	0.0
213	487.4	104.4	0.0	214	-232.5	116.3	0.0	215	-174.4	116.3	0.0
216	-116.3	116.3	0.0	217	-58.1	116.3	0.0	218	0.0	116.3	0.0

Nodo	X	Y	Z	Nodo	X	Y	Z	Nodo	X	Y	Z
	cm	cm	cm		cm	cm	cm		cm	cm	cm
219	58.1	116.3	0.0	220	116.3	116.3	0.0	221	174.4	116.3	0.0
222	232.5	116.3	0.0	223	-572.3	119.8	0.0	224	572.3	119.8	0.0
225	-657.3	135.2	0.0	226	657.3	135.2	0.0	227	-310.8	146.2	0.0
228	310.8	146.2	0.0	229	-742.2	150.6	0.0	230	742.2	150.6	0.0
231	-827.2	166.0	0.0	232	827.2	166.0	0.0	233	-232.5	174.4	0.0
234	-174.4	174.4	0.0	235	-116.3	174.4	0.0	236	-58.1	174.4	0.0
238	58.1	174.4	0.0	239	116.3	174.4	0.0	240	174.4	174.4	0.0
241	232.5	174.4	0.0	242	-389.2	176.2	0.0	243	389.2	176.2	0.0
244	-912.1	181.4	0.0	245	912.1	181.4	0.0	246	-1029.8	204.8	0.0
247	1029.8	204.8	0.0	248	-467.5	206.1	0.0	249	467.5	206.1	0.0
250	-300.1	217.2	0.0	251	300.1	217.2	0.0	252	-232.5	232.5	0.0
253	-174.4	232.5	0.0	254	-116.3	232.5	0.0	255	-58.1	232.5	0.0
256	0.0	232.5	0.0	257	58.1	232.5	0.0	258	116.3	232.5	0.0
259	174.4	232.5	0.0	260	232.5	232.5	0.0	261	-545.9	236.1	0.0
262	545.9	236.1	0.0	263	-367.7	260.0	0.0	264	367.7	260.0	0.0
265	-624.2	266.0	0.0	266	624.2	266.0	0.0	267	-285.6	285.6	0.0
268	285.6	285.6	0.0	269	-702.5	296.0	0.0	270	702.5	296.0	0.0
271	-217.2	300.1	0.0	272	217.2	300.1	0.0	273	-435.3	302.7	0.0
274	435.3	302.7	0.0	275	-146.2	310.8	0.0	276	146.2	310.8	0.0
277	-73.5	317.5	0.0	278	73.5	317.5	0.0	279	0.0	319.7	0.0
280	-780.9	325.9	0.0	281	780.9	325.9	0.0	282	-338.8	338.8	0.0
283	338.8	338.8	0.0	284	-502.9	345.5	0.0	285	502.9	345.5	0.0
288	-260.0	367.7	0.0	289	260.0	367.7	0.0	290	-570.5	388.3	0.0
291	570.5	388.3	0.0	292	-176.2	389.2	0.0	293	176.2	389.2	0.0
296	-970.1	401.8	0.0	297	970.1	401.8	0.0	298	-89.0	402.4	0.0
299	89.0	402.4	0.0	300	0.0	406.9	0.0	301	-638.1	431.1	0.0
302	638.1	431.1	0.0	303	-302.7	435.3	0.0	304	302.7	435.3	0.0
305	-445.1	445.1	0.0	306	445.1	445.1	0.0	307	-206.1	467.5	0.0
308	206.1	467.5	0.0	309	-705.7	473.9	0.0	310	705.7	473.9	0.0
311	-104.4	487.4	0.0	312	104.4	487.4	0.0	313	0.0	494.1	0.0
314	-498.2	498.2	0.0	315	498.2	498.2	0.0	316	-345.5	502.9	0.0
317	345.5	502.9	0.0	318	-773.3	516.7	0.0	319	773.3	516.7	0.0
320	-236.1	545.9	0.0	321	236.1	545.9	0.0	322	-551.3	551.3	0.0
323	551.3	551.3	0.0	324	-388.3	570.5	0.0	325	388.3	570.5	0.0
326	-119.8	572.3	0.0	327	119.8	572.3	0.0	329	-873.0	583.3	0.0
330	873.0	583.3	0.0	331	-604.5	604.5	0.0	332	604.5	604.5	0.0
333	-266.0	624.2	0.0	334	266.0	624.2	0.0	335	-431.1	638.1	0.0
336	431.1	638.1	0.0	337	-135.2	657.3	0.0	338	135.2	657.3	0.0
341	0.0	668.4	0.0	342	-296.0	702.5	0.0	343	296.0	702.5	0.0
344	-473.9	705.7	0.0	345	473.9	705.7	0.0	346	-150.6	742.2	0.0
347	150.6	742.2	0.0	348	-742.5	742.5	0.0	349	742.5	742.5	0.0
350	0.0	755.6	0.0	351	-516.7	773.3	0.0	352	516.7	773.3	0.0
353	-325.9	780.9	0.0	354	325.9	780.9	0.0	355	-166.0	827.2	0.0
356	166.0	827.2	0.0	357	0.0	842.8	0.0	360	-583.3	873.0	0.0
361	583.3	873.0	0.0	362	-181.4	912.1	0.0	363	181.4	912.1	0.0
365	-401.8	970.1	0.0	366	401.8	970.1	0.0	367	-204.8	1029.8	0.0
368	204.8	1029.8	0.0	369	0.0	1050.0	0.0				

Nodo	X	Y	Z	Note	Rig. TX	Rig. TY	Rig. TZ	Rig. RX	Rig. RY	Rig. RZ
	cm	cm	cm		daN/cm	daN/cm	daN/cm	daN cm/rad	daN cm/rad	daN cm/rad
6	0.0	-930.0	0.0	v=111000						
11	-355.9	-859.2	0.0	v=111000						
12	355.9	-859.2	0.0	v=111000						
30	-657.6	-657.6	0.0	v=111000						
31	657.6	-657.6	0.0	v=111000						
42	0.0	-581.3	0.0	v=111000						
75	-391.9	-391.9	0.0	v=111000						
76	391.9	-391.9	0.0	v=111000						
83	-859.2	-355.9	0.0	v=111000						
84	859.2	-355.9	0.0	v=111000						
133	0.0	-174.4	0.0	v=111000						
173	-930.0	0.0	0.0	v=111000						
177	-581.3	0.0	0.0	v=111000						
182	-174.4	0.0	0.0	v=111000						
188	174.4	0.0	0.0	v=111000						
193	581.3	0.0	0.0	v=111000						
197	930.0	0.0	0.0	v=111000						
237	0.0	174.4	0.0	v=111000						
349	-581.3	0.0	0.0	v=111000						
378	-391.9	-391.9	0.0	v=111000						
409	0.0	-581.3	0.0	v=111000						
438	391.9	-391.9	0.0	v=111000						

Nodo	X	Y	Z	Note	Rig. TX	Rig. TY	Rig. TZ	Rig. RX	Rig. RY	Rig. RZ
	cm	cm	cm		daN/cm	daN/cm	daN/cm	daN cm/rad	daN cm/rad	daN cm/rad
286	-859.2	355.9	0.0	v=111000						
287	859.2	355.9	0.0	v=111000						
294	-391.9	391.9	0.0	v=111000						
295	391.9	391.9	0.0	v=111000						
328	0.0	581.3	0.0	v=111000						
339	-657.6	657.6	0.0	v=111000						
340	657.6	657.6	0.0	v=111000						
358	-355.9	859.2	0.0	v=111000						
359	355.9	859.2	0.0	v=111000						
364	0.0	930.0	0.0	v=111000						

Numerazione nodi



4.4 MODELLAZIONE STRUTTURA: ELEMENTI SHELL

TABELLA DATI SHELL

Elem.	Note	Nodo I	Nodo J	Nodo K	Nodo L	Mat.	Spessore	Wink V	Wink O
							cm	daN/cm3	daN/cm3
1	Guscio	2	1	6	7	4	70.0		
2	Guscio	1	3	8	6	4	70.0		
3	Guscio	4	2	7	11	4	70.0		
4	Guscio	3	5	12	8	4	70.0		
5	Guscio	7	6	13	14	4	70.0		
6	Guscio	6	8	15	13	4	70.0		
7	Guscio	9	4	11	18	4	70.0		
8	Guscio	5	10	19	12	4	70.0		
9	Guscio	11	7	14	16	4	70.0		
10	Guscio	8	12	17	15	4	70.0		
11	Guscio	14	13	20	23	4	70.0		
12	Guscio	13	15	24	20	4	70.0		
13	Guscio	18	11	16	25	4	70.0		
14	Guscio	12	19	26	17	4	70.0		
15	Guscio	16	14	23	27	4	70.0		
16	Guscio	15	17	28	24	4	70.0		
17	Guscio	21	9	18	30	4	70.0		
18	Guscio	10	22	31	19	4	70.0		
19	Guscio	25	16	27	34	4	70.0		
20	Guscio	17	26	35	28	4	70.0		
21	Guscio	23	20	29	32	4	70.0		
22	Guscio	20	24	33	29	4	70.0		
23	Guscio	30	18	25	38	4	70.0		
24	Guscio	19	31	39	26	4	70.0		
25	Guscio	27	23	32	36	4	70.0		
26	Guscio	24	28	37	33	4	70.0		
27	Guscio	34	27	36	45	4	70.0		
28	Guscio	28	35	46	37	4	70.0		
29	Guscio	21	30	51	40	4	70.0		
30	Guscio	31	22	41	52	4	70.0		
31	Guscio	38	25	34	47	4	70.0		
32	Guscio	26	39	48	35	4	70.0		
33	Guscio	32	29	42	43	4	70.0		
34	Guscio	29	33	44	42	4	70.0		
35	Guscio	36	32	43	49	4	70.0		
36	Guscio	33	37	50	44	4	70.0		
37	Guscio	47	34	45	55	4	70.0		
38	Guscio	35	48	56	46	4	70.0		
39	Guscio	30	38	60	51	4	70.0		
40	Guscio	39	31	52	61	4	70.0		
41	Guscio	45	36	49	53	4	70.0		
42	Guscio	37	46	54	50	4	70.0		
43	Guscio	43	42	57	58	4	70.0		
44	Guscio	42	44	59	57	4	70.0		
45	Guscio	49	43	58	62	4	70.0		
46	Guscio	44	50	63	59	4	70.0		
47	Guscio	38	47	68	60	4	70.0		
48	Guscio	48	39	61	69	4	70.0		
49	Guscio	55	45	53	64	4	70.0		
50	Guscio	46	56	65	54	4	70.0		
51	Guscio	53	49	62	66	4	70.0		
52	Guscio	50	54	67	63	4	70.0		
53	Guscio	47	55	79	68	4	70.0		
54	Guscio	56	48	69	80	4	70.0		
55	Guscio	40	51	83	73	4	70.0		
56	Guscio	52	41	74	84	4	70.0		
57	Guscio	58	57	70	71	4	70.0		
58	Guscio	57	59	72	70	4	70.0		
59	Guscio	64	53	66	75	4	70.0		
60	Guscio	54	65	76	67	4	70.0		
61	Guscio	62	58	71	77	4	70.0		
62	Guscio	59	63	78	72	4	70.0		
63	Guscio	55	64	85	79	4	70.0		
64	Guscio	65	56	80	86	4	70.0		
65	Guscio	51	60	89	83	4	70.0		

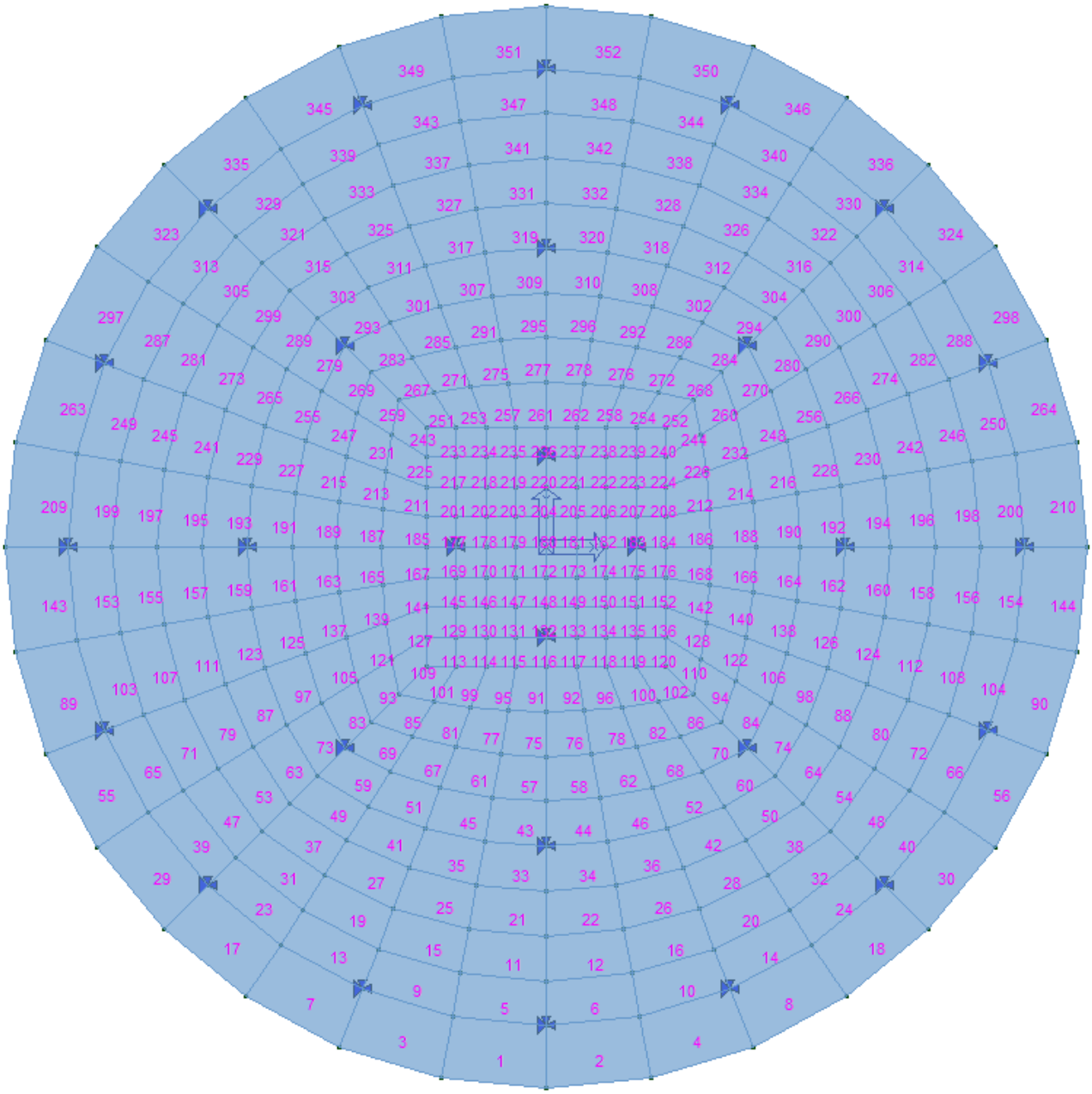
Elem.	Note	Nodo I	Nodo J	Nodo K	Nodo L	Mat.	Spessore	Wink V	Wink O
							cm	daN/cm3	daN/cm3
66	Guscio	61	52	84	90	4	70.0		
67	Guscio	66	62	77	81	4	70.0		
68	Guscio	63	67	82	78	4	70.0		
69	Guscio	75	66	81	87	4	70.0		
70	Guscio	67	76	88	82	4	70.0		
71	Guscio	60	68	100	89	4	70.0		
72	Guscio	69	61	90	101	4	70.0		
73	Guscio	64	75	96	85	4	70.0		
74	Guscio	76	65	86	97	4	70.0		
75	Guscio	71	70	91	92	4	70.0		
76	Guscio	70	72	93	91	4	70.0		
77	Guscio	77	71	92	94	4	70.0		
78	Guscio	72	78	95	93	4	70.0		
79	Guscio	68	79	104	100	4	70.0		
80	Guscio	80	69	101	105	4	70.0		
81	Guscio	81	77	94	98	4	70.0		
82	Guscio	78	82	99	95	4	70.0		
83	Guscio	75	87	106	96	4	70.0		
84	Guscio	88	76	97	107	4	70.0		
85	Guscio	87	81	98	102	4	70.0		
86	Guscio	82	88	103	99	4	70.0		
87	Guscio	79	85	108	104	4	70.0		
88	Guscio	86	80	105	109	4	70.0		
89	Guscio	73	83	125	123	4	70.0		
90	Guscio	84	74	124	126	4	70.0		
91	Guscio	92	91	114	113	4	70.0		
92	Guscio	91	93	115	114	4	70.0		
93	Guscio	87	102	119	106	4	70.0		
94	Guscio	103	88	107	120	4	70.0		
95	Guscio	94	92	113	112	4	70.0		
96	Guscio	93	95	116	115	4	70.0		
97	Guscio	85	96	121	108	4	70.0		
98	Guscio	97	86	109	122	4	70.0		
99	Guscio	98	94	112	111	4	70.0		
100	Guscio	95	99	117	116	4	70.0		
101	Guscio	102	98	111	110	4	70.0		
102	Guscio	99	103	118	117	4	70.0		
103	Guscio	83	89	138	125	4	70.0		
104	Guscio	90	84	126	139	4	70.0		
105	Guscio	96	106	127	121	4	70.0		
106	Guscio	107	97	122	128	4	70.0		
107	Guscio	89	100	140	138	4	70.0		
108	Guscio	101	90	139	141	4	70.0		
109	Guscio	102	110	129	119	4	70.0		
110	Guscio	118	103	120	137	4	70.0		
111	Guscio	100	104	144	140	4	70.0		
112	Guscio	105	101	141	145	4	70.0		
113	Guscio	110	111	130	129	4	70.0		
114	Guscio	111	112	131	130	4	70.0		
115	Guscio	112	113	132	131	4	70.0		
116	Guscio	113	114	133	132	4	70.0		
117	Guscio	114	115	134	133	4	70.0		
118	Guscio	115	116	135	134	4	70.0		
119	Guscio	116	117	136	135	4	70.0		
120	Guscio	117	118	137	136	4	70.0		
121	Guscio	106	119	142	127	4	70.0		
122	Guscio	120	107	128	143	4	70.0		
123	Guscio	104	108	146	144	4	70.0		
124	Guscio	109	105	145	147	4	70.0		
125	Guscio	108	121	157	146	4	70.0		
126	Guscio	122	109	147	158	4	70.0		
127	Guscio	119	129	148	142	4	70.0		
128	Guscio	137	120	143	156	4	70.0		
129	Guscio	129	130	149	148	4	70.0		
130	Guscio	130	131	150	149	4	70.0		
131	Guscio	131	132	151	150	4	70.0		
132	Guscio	132	133	152	151	4	70.0		
133	Guscio	133	134	153	152	4	70.0		
134	Guscio	134	135	154	153	4	70.0		
135	Guscio	135	136	155	154	4	70.0		
136	Guscio	136	137	156	155	4	70.0		
137	Guscio	121	127	159	157	4	70.0		
138	Guscio	128	122	158	160	4	70.0		
139	Guscio	127	142	161	159	4	70.0		

Elem.	Note	Nodo I	Nodo J	Nodo K	Nodo L	Mat.	Spessore	Wink V	Wink O
							cm	daN/cm3	daN/cm3
140	Guscio	143	128	160	162	4	70.0		
141	Guscio	142	148	163	161	4	70.0		
142	Guscio	156	143	162	171	4	70.0		
143	Guscio	123	125	173	172	4	70.0		
144	Guscio	126	124	198	197	4	70.0		
145	Guscio	148	149	164	163	4	70.0		
146	Guscio	149	150	165	164	4	70.0		
147	Guscio	150	151	166	165	4	70.0		
148	Guscio	151	152	167	166	4	70.0		
149	Guscio	152	153	168	167	4	70.0		
150	Guscio	153	154	169	168	4	70.0		
151	Guscio	154	155	170	169	4	70.0		
152	Guscio	155	156	171	170	4	70.0		
153	Guscio	125	138	174	173	4	70.0		
154	Guscio	139	126	197	196	4	70.0		
155	Guscio	138	140	175	174	4	70.0		
156	Guscio	141	139	196	195	4	70.0		
157	Guscio	140	144	176	175	4	70.0		
158	Guscio	145	141	195	194	4	70.0		
159	Guscio	144	146	177	176	4	70.0		
160	Guscio	147	145	194	193	4	70.0		
161	Guscio	146	157	178	177	4	70.0		
162	Guscio	158	147	193	192	4	70.0		
163	Guscio	157	159	179	178	4	70.0		
164	Guscio	160	158	192	191	4	70.0		
165	Guscio	159	161	180	179	4	70.0		
166	Guscio	162	160	191	190	4	70.0		
167	Guscio	161	163	181	180	4	70.0		
168	Guscio	171	162	190	189	4	70.0		
169	Guscio	163	164	182	181	4	70.0		
170	Guscio	164	165	183	182	4	70.0		
171	Guscio	165	166	184	183	4	70.0		
172	Guscio	166	167	185	184	4	70.0		
173	Guscio	167	168	186	185	4	70.0		
174	Guscio	168	169	187	186	4	70.0		
175	Guscio	169	170	188	187	4	70.0		
176	Guscio	170	171	189	188	4	70.0		
177	Guscio	181	182	200	199	4	70.0		
178	Guscio	182	183	201	200	4	70.0		
179	Guscio	183	184	202	201	4	70.0		
180	Guscio	184	185	203	202	4	70.0		
181	Guscio	185	186	204	203	4	70.0		
182	Guscio	186	187	205	204	4	70.0		
183	Guscio	187	188	206	205	4	70.0		
184	Guscio	188	189	207	206	4	70.0		
185	Guscio	180	181	199	208	4	70.0		
186	Guscio	189	190	209	207	4	70.0		
187	Guscio	179	180	208	210	4	70.0		
188	Guscio	190	191	211	209	4	70.0		
189	Guscio	178	179	210	212	4	70.0		
190	Guscio	191	192	213	211	4	70.0		
191	Guscio	177	178	212	223	4	70.0		
192	Guscio	192	193	224	213	4	70.0		
193	Guscio	176	177	223	225	4	70.0		
194	Guscio	193	194	226	224	4	70.0		
195	Guscio	175	176	225	229	4	70.0		
196	Guscio	194	195	230	226	4	70.0		
197	Guscio	174	175	229	231	4	70.0		
198	Guscio	195	196	232	230	4	70.0		
199	Guscio	173	174	231	244	4	70.0		
200	Guscio	196	197	245	232	4	70.0		
201	Guscio	199	200	215	214	4	70.0		
202	Guscio	200	201	216	215	4	70.0		
203	Guscio	201	202	217	216	4	70.0		
204	Guscio	202	203	218	217	4	70.0		
205	Guscio	203	204	219	218	4	70.0		
206	Guscio	204	205	220	219	4	70.0		
207	Guscio	205	206	221	220	4	70.0		
208	Guscio	206	207	222	221	4	70.0		
209	Guscio	172	173	244	246	4	70.0		
210	Guscio	197	198	247	245	4	70.0		
211	Guscio	208	199	214	227	4	70.0		
212	Guscio	207	209	228	222	4	70.0		
213	Guscio	210	208	227	242	4	70.0		

Elem.	Note	Nodo I	Nodo J	Nodo K	Nodo L	Mat.	Spessore	Wink V	Wink O
							cm	daN/cm3	daN/cm3
214	Guscio	209	211	243	228	4	70.0		
215	Guscio	212	210	242	248	4	70.0		
216	Guscio	211	213	249	243	4	70.0		
217	Guscio	214	215	234	233	4	70.0		
218	Guscio	215	216	235	234	4	70.0		
219	Guscio	216	217	236	235	4	70.0		
220	Guscio	217	218	237	236	4	70.0		
221	Guscio	218	219	238	237	4	70.0		
222	Guscio	219	220	239	238	4	70.0		
223	Guscio	220	221	240	239	4	70.0		
224	Guscio	221	222	241	240	4	70.0		
225	Guscio	227	214	233	250	4	70.0		
226	Guscio	222	228	251	241	4	70.0		
227	Guscio	223	212	248	261	4	70.0		
228	Guscio	213	224	262	249	4	70.0		
229	Guscio	225	223	261	265	4	70.0		
230	Guscio	224	226	266	262	4	70.0		
231	Guscio	242	227	250	263	4	70.0		
232	Guscio	228	243	264	251	4	70.0		
233	Guscio	233	234	253	252	4	70.0		
234	Guscio	234	235	254	253	4	70.0		
235	Guscio	235	236	255	254	4	70.0		
236	Guscio	236	237	256	255	4	70.0		
237	Guscio	237	238	257	256	4	70.0		
238	Guscio	238	239	258	257	4	70.0		
239	Guscio	239	240	259	258	4	70.0		
240	Guscio	240	241	260	259	4	70.0		
241	Guscio	229	225	265	269	4	70.0		
242	Guscio	226	230	270	266	4	70.0		
243	Guscio	250	233	252	267	4	70.0		
244	Guscio	241	251	268	260	4	70.0		
245	Guscio	231	229	269	280	4	70.0		
246	Guscio	230	232	281	270	4	70.0		
247	Guscio	248	242	263	273	4	70.0		
248	Guscio	243	249	274	264	4	70.0		
249	Guscio	244	231	280	286	4	70.0		
250	Guscio	232	245	287	281	4	70.0		
251	Guscio	252	253	271	267	4	70.0		
252	Guscio	259	260	268	272	4	70.0		
253	Guscio	253	254	275	271	4	70.0		
254	Guscio	258	259	272	276	4	70.0		
255	Guscio	261	248	273	284	4	70.0		
256	Guscio	249	262	285	274	4	70.0		
257	Guscio	254	255	277	275	4	70.0		
258	Guscio	257	258	276	278	4	70.0		
259	Guscio	263	250	267	282	4	70.0		
260	Guscio	251	264	283	268	4	70.0		
261	Guscio	255	256	279	277	4	70.0		
262	Guscio	256	257	278	279	4	70.0		
263	Guscio	246	244	286	296	4	70.0		
264	Guscio	245	247	297	287	4	70.0		
265	Guscio	265	261	284	290	4	70.0		
266	Guscio	262	266	291	285	4	70.0		
267	Guscio	267	271	288	282	4	70.0		
268	Guscio	272	268	283	289	4	70.0		
269	Guscio	273	263	282	294	4	70.0		
270	Guscio	264	274	295	283	4	70.0		
271	Guscio	271	275	292	288	4	70.0		
272	Guscio	276	272	289	293	4	70.0		
273	Guscio	269	265	290	301	4	70.0		
274	Guscio	266	270	302	291	4	70.0		
275	Guscio	275	277	298	292	4	70.0		
276	Guscio	278	276	293	299	4	70.0		
277	Guscio	277	279	300	298	4	70.0		
278	Guscio	279	278	299	300	4	70.0		
279	Guscio	284	273	294	305	4	70.0		
280	Guscio	274	285	306	295	4	70.0		
281	Guscio	280	269	301	309	4	70.0		
282	Guscio	270	281	310	302	4	70.0		
283	Guscio	282	288	303	294	4	70.0		
284	Guscio	289	283	295	304	4	70.0		
285	Guscio	288	292	307	303	4	70.0		
286	Guscio	293	289	304	308	4	70.0		
287	Guscio	286	280	309	318	4	70.0		

Elem.	Note	Nodo I	Nodo J	Nodo K	Nodo L	Mat.	Spessore	Wink V	Wink O
							cm	daN/cm3	daN/cm3
288	Guscio	281	287	319	310	4	70.0		
289	Guscio	290	284	305	314	4	70.0		
290	Guscio	285	291	315	306	4	70.0		
291	Guscio	292	298	311	307	4	70.0		
292	Guscio	299	293	308	312	4	70.0		
293	Guscio	294	303	316	305	4	70.0		
294	Guscio	304	295	306	317	4	70.0		
295	Guscio	298	300	313	311	4	70.0		
296	Guscio	300	299	312	313	4	70.0		
297	Guscio	296	286	318	329	4	70.0		
298	Guscio	287	297	330	319	4	70.0		
299	Guscio	301	290	314	322	4	70.0		
300	Guscio	291	302	323	315	4	70.0		
301	Guscio	303	307	320	316	4	70.0		
302	Guscio	308	304	317	321	4	70.0		
303	Guscio	305	316	324	314	4	70.0		
304	Guscio	317	306	315	325	4	70.0		
305	Guscio	309	301	322	331	4	70.0		
306	Guscio	302	310	332	323	4	70.0		
307	Guscio	307	311	326	320	4	70.0		
308	Guscio	312	308	321	327	4	70.0		
309	Guscio	311	313	328	326	4	70.0		
310	Guscio	313	312	327	328	4	70.0		
311	Guscio	316	320	333	324	4	70.0		
312	Guscio	321	317	325	334	4	70.0		
313	Guscio	318	309	331	339	4	70.0		
314	Guscio	310	319	340	332	4	70.0		
315	Guscio	314	324	335	322	4	70.0		
316	Guscio	325	315	323	336	4	70.0		
317	Guscio	320	326	337	333	4	70.0		
318	Guscio	327	321	334	338	4	70.0		
319	Guscio	326	328	341	337	4	70.0		
320	Guscio	328	327	338	341	4	70.0		
321	Guscio	322	335	344	331	4	70.0		
322	Guscio	336	323	332	345	4	70.0		
323	Guscio	329	318	339	348	4	70.0		
324	Guscio	319	330	349	340	4	70.0		
325	Guscio	324	333	342	335	4	70.0		
326	Guscio	334	325	336	343	4	70.0		
327	Guscio	333	337	346	342	4	70.0		
328	Guscio	338	334	343	347	4	70.0		
329	Guscio	331	344	351	339	4	70.0		
330	Guscio	345	332	340	352	4	70.0		
331	Guscio	337	341	350	346	4	70.0		
332	Guscio	341	338	347	350	4	70.0		
333	Guscio	335	342	353	344	4	70.0		
334	Guscio	343	336	345	354	4	70.0		
335	Guscio	339	351	360	348	4	70.0		
336	Guscio	352	340	349	361	4	70.0		
337	Guscio	342	346	355	353	4	70.0		
338	Guscio	347	343	354	356	4	70.0		
339	Guscio	344	353	358	351	4	70.0		
340	Guscio	354	345	352	359	4	70.0		
341	Guscio	346	350	357	355	4	70.0		
342	Guscio	350	347	356	357	4	70.0		
343	Guscio	353	355	362	358	4	70.0		
344	Guscio	356	354	359	363	4	70.0		
345	Guscio	351	358	365	360	4	70.0		
346	Guscio	359	352	361	366	4	70.0		
347	Guscio	355	357	364	362	4	70.0		
348	Guscio	357	356	363	364	4	70.0		
349	Guscio	358	362	367	365	4	70.0		
350	Guscio	363	359	366	368	4	70.0		
351	Guscio	362	364	369	367	4	70.0		
352	Guscio	364	363	368	369	4	70.0		

Numerazione elementi fondazione



4.5 MODELLAZIONE DELLE AZIONI

TABELLA DATI AZIONI

Tipo	carico di pressione uniforme su piastra

Id	Tipo	pressione
		daN/cm2
1	pressione fondo 7500 daN/m²	0.75

Tipo	carico di pressione variabile su piastra

Id	Tipo	pressione	quota	pressione	quota
		daN/cm2	cm	daN/cm2	cm
2	pressione pareti	0.0	800.00	0.75	0.0
3	pressione sisma pareti	0.04	800.00	0.42	0.0

I carichi applicati sono descritti nella relazione generale sulle strutture.

4.6 SCHEMATIZZAZIONE DEI CASI DI CARICO

TABELLA CASI DI CARICO

CDC	Tipo	Sigla Id	Note
1	Ggk	CDC=Ggk (peso proprio della struttura)	
2	Gk	CDC=G1k (permanente liquido)	D3 :da 5 a 6 Azione : pressione fondo 7500 daN/m²
			D3 :da 9 a 16 Azione : pressione fondo 7500 daN/m²
			D3 :da 19 a 28 Azione : pressione fondo 7500 daN/m²
			D3 :da 31 a 54 Azione : pressione fondo 7500 daN/m²
			D3 :da 57 a 88 Azione : pressione fondo 7500 daN/m²
			D3 :da 91 a 142 Azione : pressione fondo 7500 daN/m²
			D3 :da 145 a 208 Azione : pressione fondo 7500 daN/m²
			D3 :da 211 a 262 Azione : pressione fondo 7500 daN/m²
			D3 :da 265 a 296 Azione : pressione fondo 7500 daN/m²
			D3 :da 299 a 322 Azione : pressione fondo 7500 daN/m²
			D3 :da 325 a 334 Azione : pressione fondo 7500 daN/m²
			D3 :da 337 a 344 Azione : pressione fondo 7500 daN/m²
			D3 :da 347 a 348 Azione : pressione fondo 7500 daN/m²
			D3 : 353 Azione : pressione pareti
			D3 : 354 Azione : pressione pareti
			D3 : 355 Azione : pressione pareti
			D3 : 356 Azione : pressione pareti
			D3 : 357 Azione : pressione pareti
			D3 : 358 Azione : pressione pareti
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			D3 : 364 Azione : pressione pareti
			D3 : 365 Azione : pressione pareti
			D3 : 366 Azione : pressione pareti
			D3 : 367 Azione : pressione pareti
			D3 : 368 Azione : pressione pareti
			D3 : 369 Azione : pressione pareti
			D3 : 370 Azione : pressione pareti

CDC	Tipo	Sigla Id	Note
			D3 : 371 Azione : pressione pareti
			D3 : 372 Azione : pressione pareti
			D3 : 373 Azione : pressione pareti
			D3 : 374 Azione : pressione pareti
			D3 : 375 Azione : pressione pareti
			D3 : 376 Azione : pressione pareti
			D3 : 377 Azione : pressione pareti
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			D3 : 387 Azione : pressione pareti
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			D3 : 442 Azione : pressione pareti
			D3 : 443 Azione : pressione pareti

CDC	Tipo	Sigla Id	Note
			D3 : 444 Azione : pressione pareti
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			D3 : 446 Azione : pressione pareti
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			D3 : 478 Azione : pressione pareti
			D3 : 479 Azione : pressione pareti
			D3 : 480 Azione : pressione pareti
3	Etk	CDC=Etk (inc. sp. liquido) SLV dir + alfa=0.0	D3 : 354 Azione : pressione sisma pareti
			D3 : 356 Azione : pressione sisma pareti
			D3 : 358 Azione : pressione sisma pareti
			D3 : 360 Azione : pressione sisma pareti
			D3 : 362 Azione : pressione sisma pareti
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			D3 : 366 Azione : pressione sisma pareti
			D3 : 368 Azione : pressione sisma pareti
			D3 : 370 Azione : pressione sisma pareti
			D3 : 372 Azione : pressione sisma pareti
			D3 : 374 Azione : pressione sisma pareti
			D3 : 376 Azione : pressione sisma pareti
			D3 : 378 Azione : pressione sisma pareti
			D3 : 380 Azione : pressione sisma pareti
			D3 : 382 Azione : pressione sisma pareti
			D3 : 384 Azione : pressione sisma pareti
			D3 : 386 Azione : pressione sisma pareti
			D3 : 388 Azione : pressione sisma pareti
			D3 : 390 Azione : pressione sisma pareti
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			D3 : 422 Azione : pressione sisma pareti
			D3 : 424 Azione : pressione sisma pareti

CDC	Tipo	Sigla Id	Note
			D3 : 426 Azione : pressione sisma pareti
			D3 : 428 Azione : pressione sisma pareti
			D3 : 430 Azione : pressione sisma pareti
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			D3 : 476 Azione : pressione sisma pareti
			D3 : 478 Azione : pressione sisma pareti
			D3 : 480 Azione : pressione sisma pareti
4	Etk	CDC=Etk (inc. sp. liquido) SLV dir - alfa=0.0	D3 : 353 Azione : pressione sisma pareti
			D3 : 355 Azione : pressione sisma pareti
			D3 : 357 Azione : pressione sisma pareti
			D3 : 359 Azione : pressione sisma pareti
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			D3 : 413 Azione : pressione sisma pareti
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CDC	Tipo	Sigla Id	Note
			D3 : 443 Azione : pressione sisma pareti
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			D3 : 475 Azione : pressione sisma pareti
			D3 : 477 Azione : pressione sisma pareti
			D3 : 479 Azione : pressione sisma pareti
5	Etk	CDC=Etk (inc. sp. liquido) SLV dir + alfa=90.00	D3 : 369 Azione : pressione sisma pareti
			D3 : 370 Azione : pressione sisma pareti
			D3 : 371 Azione : pressione sisma pareti
			D3 : 372 Azione : pressione sisma pareti
			D3 : 373 Azione : pressione sisma pareti
			D3 : 374 Azione : pressione sisma pareti
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			D3 : 383 Azione : pressione sisma pareti
			D3 : 384 Azione : pressione sisma pareti
			D3 : 401 Azione : pressione sisma pareti
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			D3 : 470 Azione : pressione sisma pareti

CDC	Tipo	Sigla Id	Note
			D3 : 471 Azione : pressione sisma pareti
			D3 : 472 Azione : pressione sisma pareti
			D3 : 473 Azione : pressione sisma pareti
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			D3 : 478 Azione : pressione sisma pareti
			D3 : 479 Azione : pressione sisma pareti
			D3 : 480 Azione : pressione sisma pareti
6	Etk	CDC=Etk (inc. sp. liquido) SLV dir - alfa=90.00	D3 : 353 Azione : pressione sisma pareti
			D3 : 354 Azione : pressione sisma pareti
			D3 : 355 Azione : pressione sisma pareti
			D3 : 356 Azione : pressione sisma pareti
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			D3 : 463 Azione : pressione sisma pareti

CDC	Tipo	Sigla Id	Note
			D3 : 464 Azione : pressione sisma pareti
7	Edk	CDC=Ed (dinamico SLU) alfa=0.0 (ecc. +)	partecipazione:1.00 per 1 CDC=Ggk (peso proprio della struttura)
8	Edk	CDC=Ed (dinamico SLU) alfa=0.0 (ecc. -)	come precedente CDC sismico
9	Edk	CDC=Ed (dinamico SLU) alfa=90.00 (ecc. +)	come precedente CDC sismico
10	Edk	CDC=Ed (dinamico SLU) alfa=90.00 (ecc. -)	come precedente CDC sismico

4.7 DEFINIZIONE DELLE COMBINAZIONI

TABELLA COMBINAZIONI DI CARICO

Cmb	Tipo	Sigla Id
1	SLU	Comb. SLU A1 1
2	SLU	Comb. SLU A1 2
3	SLU	Comb. SLU A1 (SLV sism.) 3
4	SLU	Comb. SLU A1 (SLV sism.) 4
5	SLU	Comb. SLU A1 (SLV sism.) 5
6	SLU	Comb. SLU A1 (SLV sism.) 6
7	SLU	Comb. SLU A1 (SLV sism.) 7
8	SLU	Comb. SLU A1 (SLV sism.) 8
9	SLU	Comb. SLU A1 (SLV sism.) 9
10	SLU	Comb. SLU A1 (SLV sism.) 10
11	SLU	Comb. SLU A1 (SLV sism.) 11
12	SLU	Comb. SLU A1 (SLV sism.) 12
13	SLU	Comb. SLU A1 (SLV sism.) 13
14	SLU	Comb. SLU A1 (SLV sism.) 14
15	SLU	Comb. SLU A1 (SLV sism.) 15
16	SLU	Comb. SLU A1 (SLV sism.) 16
17	SLU	Comb. SLU A1 (SLV sism.) 17
18	SLU	Comb. SLU A1 (SLV sism.) 18
19	SLU	Comb. SLU A1 (SLV sism.) 19
20	SLU	Comb. SLU A1 (SLV sism.) 20
21	SLU	Comb. SLU A1 (SLV sism.) 21
22	SLU	Comb. SLU A1 (SLV sism.) 22
23	SLU	Comb. SLU A1 (SLV sism.) 23
24	SLU	Comb. SLU A1 (SLV sism.) 24
25	SLU	Comb. SLU A1 (SLV sism.) 25
26	SLU	Comb. SLU A1 (SLV sism.) 26
27	SLU	Comb. SLU A1 (SLV sism.) 27
28	SLU	Comb. SLU A1 (SLV sism.) 28
29	SLU	Comb. SLU A1 (SLV sism.) 29
30	SLU	Comb. SLU A1 (SLV sism.) 30
31	SLU	Comb. SLU A1 (SLV sism.) 31
32	SLU	Comb. SLU A1 (SLV sism.) 32
33	SLU	Comb. SLU A1 (SLV sism.) 33
34	SLU	Comb. SLU A1 (SLV sism.) 34
35	SLE(r)	Comb. SLE(rara) 35

Cmb	CDC 1	CDC 2	CDC 3	CDC 4	CDC 5	CDC 6	CDC 7	CDC 8	CDC 9	CDC 10
1	1.30	1.30	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
2	1.00	1.00	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
3	1.00	1.00	0.0	1.00	0.0	0.30	-1.00	0.0	-0.30	0.0
4	1.00	1.00	0.0	1.00	0.30	0.0	-1.00	0.0	0.30	0.0
5	1.00	1.00	1.00	0.0	0.0	0.30	1.00	0.0	-0.30	0.0
6	1.00	1.00	1.00	0.0	0.30	0.0	1.00	0.0	0.30	0.0
7	1.00	1.00	0.0	1.00	0.0	0.30	-1.00	0.0	0.0	-0.30
8	1.00	1.00	0.0	1.00	0.30	0.0	-1.00	0.0	0.0	0.30
9	1.00	1.00	1.00	0.0	0.0	0.30	1.00	0.0	0.0	-0.30
10	1.00	1.00	1.00	0.0	0.30	0.0	1.00	0.0	0.0	0.30
11	1.00	1.00	0.0	1.00	0.0	0.30	0.0	-1.00	-0.30	0.0
12	1.00	1.00	0.0	1.00	0.30	0.0	0.0	-1.00	0.30	0.0
13	1.00	1.00	1.00	0.0	0.0	0.30	0.0	1.00	-0.30	0.0
14	1.00	1.00	1.00	0.0	0.30	0.0	0.0	1.00	0.30	0.0
15	1.00	1.00	0.0	1.00	0.0	0.30	0.0	-1.00	0.0	-0.30

Cmb	CDC 1	CDC 2	CDC 3	CDC 4	CDC 5	CDC 6	CDC 7	CDC 8	CDC 9	CDC 10
16	1.00	1.00	0.0	1.00	0.30	0.0	0.0	-1.00	0.0	0.30
17	1.00	1.00	1.00	0.0	0.0	0.30	0.0	1.00	0.0	-0.30
18	1.00	1.00	1.00	0.0	0.30	0.0	0.0	1.00	0.0	0.30
19	1.00	1.00	0.0	0.30	0.0	1.00	-0.30	0.0	-1.00	0.0
20	1.00	1.00	0.0	0.30	1.00	0.0	-0.30	0.0	1.00	0.0
21	1.00	1.00	0.30	0.0	0.0	1.00	0.30	0.0	-1.00	0.0
22	1.00	1.00	0.30	0.0	1.00	0.0	0.30	0.0	1.00	0.0
23	1.00	1.00	0.0	0.30	0.0	1.00	0.0	-0.30	-1.00	0.0
24	1.00	1.00	0.0	0.30	1.00	0.0	0.0	-0.30	1.00	0.0
25	1.00	1.00	0.30	0.0	0.0	1.00	0.0	0.30	-1.00	0.0
26	1.00	1.00	0.30	0.0	1.00	0.0	0.0	0.30	1.00	0.0
27	1.00	1.00	0.0	0.30	0.0	1.00	-0.30	0.0	0.0	-1.00
28	1.00	1.00	0.0	0.30	1.00	0.0	-0.30	0.0	0.0	1.00
29	1.00	1.00	0.30	0.0	0.0	1.00	0.30	0.0	0.0	-1.00
30	1.00	1.00	0.30	0.0	1.00	0.0	0.30	0.0	0.0	1.00
31	1.00	1.00	0.0	0.30	0.0	1.00	0.0	-0.30	0.0	-1.00
32	1.00	1.00	0.0	0.30	1.00	0.0	0.0	-0.30	0.0	1.00
33	1.00	1.00	0.30	0.0	0.0	1.00	0.0	0.30	0.0	-1.00
34	1.00	1.00	0.30	0.0	1.00	0.0	0.0	0.30	0.0	1.00
35	1.00	1.00	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

4.8 AZIONE SISMICA

VALUTAZIONE DELL' AZIONE SISMICA

L'azione sismica sulle costruzioni è valutata a partire dalla "pericolosità sismica di base", in condizioni ideali di sito di riferimento rigido con superficie topografica orizzontale.

Allo stato attuale, la pericolosità sismica su reticolo di riferimento nell'intervallo di riferimento è fornita dai dati pubblicati sul sito http://esse1.mi.ingv.it/. Per punti non coincidenti con il reticolo di riferimento e periodi di ritorno non contemplati direttamente si opera come indicato nell' allegato alle NTC (rispettivamente media pesata e interpolazione).

L' azione sismica viene definita in relazione ad un periodo di riferimento Vr che si ricava, per ciascun tipo di costruzione, moltiplicandone la vita nominale per il coefficiente d'uso (vedi tabella Parametri della struttura). Fissato il periodo di riferimento Vr e la probabilità di superamento Pver associata a ciascuno degli stati limite considerati, si ottiene il periodo di ritorno Tr e i relativi parametri di pericolosità sismica (vedi tabella successiva):

ag: accelerazione orizzontale massima del terreno;

Fo: valore massimo del fattore di amplificazione dello spettro in accelerazione orizzontale;

T*c: periodo di inizio del tratto a velocità costante dello spettro in accelerazione orizzontale;

Parametri della struttura					
Classe d'uso	Vita Vn [anni]	Coeff. Uso	Periodo Vr [anni]	Tipo di suolo	Categoria topografica
IV	100.0	2.0	200.0	C	T1

Individuati su reticolo di riferimento i parametri di pericolosità sismica si valutano i parametri spettrali riportati in tabella:

S è il coefficiente che tiene conto della categoria di sottosuolo e delle condizioni topografiche

mediante la relazione seguente S = Ss*St (3.2.5)

Fo è il fattore che quantifica l'amplificazione spettrale massima, su sito di riferimento rigido orizzontale

Fv è il fattore che quantifica l'amplificazione spettrale massima verticale, in termini di accelerazione orizzontale massima del terreno ag su sito di riferimento rigido orizzontale

Tb è il periodo corrispondente all'inizio del tratto dello spettro ad accelerazione costante.

Tc è il periodo corrispondente all'inizio del tratto dello spettro a velocità costante.

Td è il periodo corrispondente all'inizio del tratto dello spettro a spostamento costante.

Id nodo	Longitudine	Latitudine	Distanza
			Km
Loc.	8.872	44.410	
16917	8.872	44.395	1.662
16918	8.942	44.398	5.700
16696	8.938	44.448	6.710
16695	8.868	44.445	3.892

SL	Pver	Tr	ag	Fo	T*c
		Anni	g		sec
SLO	81.0	120.0	0.040	2.540	0.250
SLD	63.0	201.0	0.049	2.530	0.270
SLV	10.0	1898.0	0.105	2.540	0.310
SLC	5.0	2475.0	0.115	2.540	0.310

SL	ag	S	Fo	Fv	Tb	Tc	Td
	g				sec	sec	sec
SLO	0.040	1.500	2.540	0.689	0.138	0.415	1.762
SLD	0.049	1.500	2.530	0.758	0.146	0.437	1.797
SLV	0.105	1.500	2.540	1.111	0.160	0.479	2.020
SLC	0.115	1.500	2.540	1.161	0.160	0.479	2.059

4.9 RISULTATI ANALISI SISMICHE

TABELLA ANALISI SISMICHE

CDC	Tipo	Sigla Id	Note
7	Edk	CDC=Ed (dinamico SLU) alfa=0.0 (ecc. +)	
			categoria suolo: C
			fattore di sito S = 1.500
			ordinata spettro (tratto Tb-Tc) = 0.400 g
			angolo di ingresso:0.0
			eccentricità aggiuntiva: positiva
			periodo proprio T1: 0.017 sec.
			fattore di struttura q: 1.000
			fattore per spost. mu d: 1.000
			classe di duttilità CD: B
			numero di modi considerati: 9
			combinaz. modale: CQC

Quota	M Sismica x g	Pos. GX	Pos. GY	E agg. X-X	E agg. Y-Y	Pos. KX	Pos. KY	rapp. r/Ls	rapp. ex/rx	rapp. ey/ry
cm	daN	cm	cm	cm	cm	cm	cm			
800.00	4550.50	0.0	0.0	0.0	-93.00	0.0	0.0	1.493	0.0	0.0
600.00	9101.01	0.0	0.0	0.0	-93.00	0.0	0.0	1.493	0.0	0.0
400.00	9101.01	0.0	0.0	0.0	-93.00	0.0	0.0	1.493	0.0	0.0
200.00	9101.01	0.0	0.0	0.0	-93.00	0.0	0.0	1.493	0.0	0.0
Risulta	3.185e+04									

Modo	Frequenza	Periodo	Acc. Spettrale	M efficace X x g	%	M efficace Y x g	%	M efficace Z x g	%	Energia	Energia x v
	Hz	sec	g	daN		daN		daN			
1	7.247	0.138	0.367	0.0	0.0	0.0	0.0	1.14e-06	0.0	0.0	0.0
2	8.347	0.120	0.339	0.0	0.0	2.98e-05	0.0	0.0	0.0	0.0	0.0
3	8.407	0.119	0.338	1.09e-04	0.0	0.0	0.0	0.0	0.0	0.0	0.0
4	37.098	0.027	0.198	874.12	2.7	0.0	0.0	0.0	0.0	0.0	0.0
5	55.640	0.018	0.185	0.0	0.0	2.241e+04	70.4	0.25	7.76e-04	0.0	0.0
6	58.204	0.017	0.184	2.784e+04	87.4	0.0	0.0	0.0	0.0	0.0	0.0
7	69.085	0.014	0.179	0.0	0.0	6568.40	20.6	14.02	4.40e-02	0.0	0.0
8	77.183	0.013	0.177	0.0	0.0	122.06	0.4	625.16	2.0	0.0	0.0
9	162.255	0.006	0.167	0.0	0.0	1.14	3.58e-03	2.838e+04	89.1	0.0	0.0
Risulta				2.871e+04		2.910e+04		2.902e+04			
In percentuale				90.14		91.37		91.12			

CDC	Tipo	Sigla Id	Note
8	Edk	CDC=Ed (dinamico SLU) alfa=0.0 (ecc. -)	
			categoria suolo: C
			fattore di sito S = 1.500
			ordinata spettro (tratto Tb-Tc) = 0.400 g
			angolo di ingresso:0.0
			eccentricità aggiuntiva: negativa
			periodo proprio T1: 0.017 sec.
			fattore di struttura q: 1.000
			fattore per spost. mu d: 1.000
			classe di duttilità CD: B
			numero di modi considerati: 9
			combinaz. modale: CQC

Quota	M Sismica x g	Pos. GX	Pos. GY	E agg. X-X	E agg. Y-Y	Pos. KX	Pos. KY	rapp. r/Ls	rapp. ex/rx	rapp. ey/ry
cm	daN	cm	cm	cm	cm	cm	cm			
800.00	4550.50	0.0	0.0	0.0	93.00	0.0	0.0	1.493	0.0	0.0
600.00	9101.01	0.0	0.0	0.0	93.00	0.0	0.0	1.493	0.0	0.0
400.00	9101.01	0.0	0.0	0.0	93.00	0.0	0.0	1.493	0.0	0.0
200.00	9101.01	0.0	0.0	0.0	93.00	0.0	0.0	1.493	0.0	0.0
Risulta	3.185e+04									

Modo	Frequenza	Periodo	Acc. Spettrale	M efficace X x g	%	M efficace Y x g	%	M efficace Z x g	%	Energia	Energia x v
	Hz	sec	g	daN		daN		daN			
1	7.247	0.138	0.367	0.0	0.0	0.0	0.0	1.14e-06	0.0	0.0	0.0
2	8.347	0.120	0.339	0.0	0.0	2.98e-05	0.0	0.0	0.0	0.0	0.0
3	8.407	0.119	0.338	1.09e-04	0.0	0.0	0.0	0.0	0.0	0.0	0.0
4	37.098	0.027	0.198	874.12	2.7	0.0	0.0	0.0	0.0	0.0	0.0
5	55.640	0.018	0.185	0.0	0.0	2.241e+04	70.4	0.25	7.76e-04	0.0	0.0
6	58.204	0.017	0.184	2.784e+04	87.4	0.0	0.0	0.0	0.0	0.0	0.0
7	69.085	0.014	0.179	0.0	0.0	6568.40	20.6	14.02	4.40e-02	0.0	0.0
8	77.183	0.013	0.177	0.0	0.0	122.06	0.4	625.16	2.0	0.0	0.0
9	162.255	0.006	0.167	0.0	0.0	1.14	3.58e-03	2.838e+04	89.1	0.0	0.0
Risulta				2.871e+04		2.910e+04		2.902e+04			
In percentuale				90.14		91.37		91.12			

CDC	Tipo	Sigla Id	Note
9	Edk	CDC=Ed (dinamico SLU) alfa=90.00 (ecc. +)	
			categoria suolo: C
			fattore di sito S = 1.500
			ordinata spettro (tratto Tb-Tc) = 0.400 g
			angolo di ingresso:90.00
			eccentricità aggiuntiva: positiva
			periodo proprio T1: 0.017 sec.
			fattore di struttura q: 1.000
			fattore per spost. mu d: 1.000
			classe di duttilità CD: B
			numero di modi considerati: 9
			combinaz. modale: CQC

Quota	M Sismica x g	Pos. GX	Pos. GY	E agg. X-X	E agg. Y-Y	Pos. KX	Pos. KY	rapp. r/Ls	rapp. ex/rx	rapp. ey/ry
cm	daN	cm	cm	cm	cm	cm	cm			
800.00	4550.50	0.0	0.0	93.00	0.0	0.0	0.0	1.493	0.0	0.0
600.00	9101.01	0.0	0.0	93.00	0.0	0.0	0.0	1.493	0.0	0.0
400.00	9101.01	0.0	0.0	93.00	0.0	0.0	0.0	1.493	0.0	0.0
200.00	9101.01	0.0	0.0	93.00	0.0	0.0	0.0	1.493	0.0	0.0
Risulta	3.185e+04									

Modo	Frequenza	Periodo	Acc. Spettrale	M efficace X x g	%	M efficace Y x g	%	M efficace Z x g	%	Energia	Energia x v
	Hz	sec	g	daN		daN		daN			
1	7.247	0.138	0.367	0.0	0.0	0.0	0.0	1.14e-06	0.0	0.0	0.0
2	8.347	0.120	0.339	2.98e-05	0.0	0.0	0.0	0.0	0.0	0.0	0.0
3	8.407	0.119	0.338	0.0	0.0	1.09e-04	0.0	0.0	0.0	0.0	0.0
4	37.098	0.027	0.198	0.0	0.0	874.12	2.7	0.0	0.0	0.0	0.0
5	55.640	0.018	0.185	2.241e+04	70.4	0.0	0.0	0.25	7.76e-04	0.0	0.0
6	58.204	0.017	0.184	0.0	0.0	2.784e+04	87.4	0.0	0.0	0.0	0.0
7	69.085	0.014	0.179	6568.40	20.6	0.0	0.0	14.02	4.40e-02	0.0	0.0
8	77.183	0.013	0.177	122.06	0.4	0.0	0.0	625.16	2.0	0.0	0.0
9	162.255	0.006	0.167	1.14	3.58e-03	0.0	0.0	2.838e+04	89.1	0.0	0.0
Risulta				2.910e+04		2.871e+04		2.902e+04			
In percentuale				91.37		90.14		91.12			

CDC	Tipo	Sigla Id	Note
10	Edk	CDC=Ed (dinamico SLU) alfa=90.00 (ecc. -)	
			categoria suolo: C
			fattore di sito S = 1.500
			ordinata spettro (tratto Tb-Tc) = 0.400 g
			angolo di ingresso:90.00
			eccentricità aggiuntiva: negativa
			periodo proprio T1: 0.017 sec.
			fattore di struttura q: 1.000

CDC	Tipo	Sigla Id	Note
			fattore per spost. mu d: 1.000
			classe di duttilità CD: B
			numero di modi considerati: 9
			combinaz. modale: CQC

Quota	M Sismica x g	Pos. GX	Pos. GY	E agg. X-X	E agg. Y-Y	Pos. KX	Pos. KY	rapp. r/Ls	rapp. ex/rx	rapp. ey/ry
cm	daN	cm	cm	cm	cm	cm	cm			
800.00	4550.50	0.0	0.0	-93.00	0.0	0.0	0.0	1.493	0.0	0.0
600.00	9101.01	0.0	0.0	-93.00	0.0	0.0	0.0	1.493	0.0	0.0
400.00	9101.01	0.0	0.0	-93.00	0.0	0.0	0.0	1.493	0.0	0.0
200.00	9101.01	0.0	0.0	-93.00	0.0	0.0	0.0	1.493	0.0	0.0
Risulta	3.185e+04									

Modo	Frequenza	Periodo	Acc. Spettrale	M efficace X x g	%	M efficace Y x g	%	M efficace Z x g	%	Energia	Energia x v
	Hz	sec	g	daN		daN		daN			
1	7.247	0.138	0.367	0.0	0.0	0.0	0.0	1.14e-06	0.0	0.0	0.0
2	8.347	0.120	0.339	2.98e-05	0.0	0.0	0.0	0.0	0.0	0.0	0.0
3	8.407	0.119	0.338	0.0	0.0	1.09e-04	0.0	0.0	0.0	0.0	0.0
4	37.098	0.027	0.198	0.0	0.0	874.12	2.7	0.0	0.0	0.0	0.0
5	55.640	0.018	0.185	2.241e+04	70.4	0.0	0.0	0.25	7.76e-04	0.0	0.0
6	58.204	0.017	0.184	0.0	0.0	2.784e+04	87.4	0.0	0.0	0.0	0.0
7	69.085	0.014	0.179	6568.40	20.6	0.0	0.0	14.02	4.40e-02	0.0	0.0
8	77.183	0.013	0.177	122.06	0.4	0.0	0.0	625.16	2.0	0.0	0.0
9	162.255	0.006	0.167	1.14	3.58e-03	0.0	0.0	2.838e+04	89.1	0.0	0.0
Risulta				2.910e+04		2.871e+04		2.902e+04			
In percentuale				91.37		90.14		91.12			

4.10 RISULTATI NODALI

RISULTATI AZIONI NODALI

Nodo	Cmb	Azione X	Azione Y	Azione Z	Azione RX	Azione RY	Azione RZ
		daN	daN	daN	daN cm	daN cm	daN cm
6	1	-0.12	-2.493e+04	-6.782e+04	0.0	0.0	0.0
6	2	-0.09	-1.918e+04	-5.217e+04	0.0	0.0	0.0
6	3	-7.026e+04	-2.783e+04	-5.110e+04	0.0	0.0	0.0
6	4	-7.016e+04	-2.420e+04	-5.252e+04	0.0	0.0	0.0
6	5	7.016e+04	-2.783e+04	-5.110e+04	0.0	0.0	0.0
6	6	7.026e+04	-2.420e+04	-5.252e+04	0.0	0.0	0.0
6	7	-7.016e+04	-2.783e+04	-5.110e+04	0.0	0.0	0.0
6	8	-7.026e+04	-2.420e+04	-5.252e+04	0.0	0.0	0.0
6	9	7.026e+04	-2.783e+04	-5.110e+04	0.0	0.0	0.0
6	10	7.016e+04	-2.420e+04	-5.252e+04	0.0	0.0	0.0
6	11	-7.026e+04	-2.783e+04	-5.110e+04	0.0	0.0	0.0
6	12	-7.016e+04	-2.420e+04	-5.252e+04	0.0	0.0	0.0
6	13	7.016e+04	-2.783e+04	-5.110e+04	0.0	0.0	0.0
6	14	7.026e+04	-2.420e+04	-5.252e+04	0.0	0.0	0.0
6	15	-7.016e+04	-2.783e+04	-5.110e+04	0.0	0.0	0.0
6	16	-7.026e+04	-2.420e+04	-5.252e+04	0.0	0.0	0.0
6	17	7.026e+04	-2.783e+04	-5.110e+04	0.0	0.0	0.0
6	18	7.016e+04	-2.420e+04	-5.252e+04	0.0	0.0	0.0
6	19	-2.122e+04	-3.206e+04	-4.944e+04	0.0	0.0	0.0
6	20	-2.090e+04	-1.997e+04	-5.419e+04	0.0	0.0	0.0
6	21	2.090e+04	-3.206e+04	-4.944e+04	0.0	0.0	0.0
6	22	2.122e+04	-1.997e+04	-5.419e+04	0.0	0.0	0.0
6	23	-2.123e+04	-3.206e+04	-4.944e+04	0.0	0.0	0.0
6	24	-2.090e+04	-1.997e+04	-5.419e+04	0.0	0.0	0.0
6	25	2.090e+04	-3.206e+04	-4.944e+04	0.0	0.0	0.0
6	26	2.123e+04	-1.997e+04	-5.419e+04	0.0	0.0	0.0
6	27	-2.090e+04	-3.206e+04	-4.944e+04	0.0	0.0	0.0

Nodo	Cmb	Azione X	Azione Y	Azione Z	Azione RX	Azione RY	Azione RZ
		daN	daN	daN	daN cm	daN cm	daN cm
6	28	-2.122e+04	-1.997e+04	-5.419e+04	0.0	0.0	0.0
6	29	2.122e+04	-3.206e+04	-4.944e+04	0.0	0.0	0.0
6	30	2.090e+04	-1.997e+04	-5.419e+04	0.0	0.0	0.0
6	31	-2.090e+04	-3.206e+04	-4.944e+04	0.0	0.0	0.0
6	32	-2.123e+04	-1.997e+04	-5.419e+04	0.0	0.0	0.0
6	33	2.123e+04	-3.206e+04	-4.944e+04	0.0	0.0	0.0
6	34	2.090e+04	-1.997e+04	-5.419e+04	0.0	0.0	0.0
6	35	-0.09	-1.918e+04	-5.217e+04	0.0	0.0	0.0
11	1	-9572.14	-2.324e+04	-8.008e+04	0.0	0.0	0.0
11	2	-7363.19	-1.788e+04	-6.160e+04	0.0	0.0	0.0
11	3	-3.552e+04	-2.609e+04	-1.586e+05	0.0	0.0	0.0
11	4	-3.482e+04	-2.228e+04	-1.563e+05	0.0	0.0	0.0
11	5	1.483e+04	-2.619e+04	3.368e+04	0.0	0.0	0.0
11	6	1.553e+04	-2.238e+04	3.598e+04	0.0	0.0	0.0
11	7	-3.555e+04	-2.608e+04	-1.586e+05	0.0	0.0	0.0
11	8	-3.479e+04	-2.229e+04	-1.562e+05	0.0	0.0	0.0
11	9	1.479e+04	-2.618e+04	3.366e+04	0.0	0.0	0.0
11	10	1.556e+04	-2.239e+04	3.600e+04	0.0	0.0	0.0
11	11	-3.553e+04	-2.608e+04	-1.586e+05	0.0	0.0	0.0
11	12	-3.483e+04	-2.227e+04	-1.563e+05	0.0	0.0	0.0
11	13	1.484e+04	-2.619e+04	3.368e+04	0.0	0.0	0.0
11	14	1.554e+04	-2.238e+04	3.597e+04	0.0	0.0	0.0
11	15	-3.557e+04	-2.607e+04	-1.586e+05	0.0	0.0	0.0
11	16	-3.480e+04	-2.229e+04	-1.562e+05	0.0	0.0	0.0
11	17	1.480e+04	-2.618e+04	3.365e+04	0.0	0.0	0.0
11	18	1.557e+04	-2.240e+04	3.600e+04	0.0	0.0	0.0
11	19	-1.872e+04	-3.057e+04	-9.395e+04	0.0	0.0	0.0
11	20	-1.638e+04	-1.787e+04	-8.630e+04	0.0	0.0	0.0
11	21	-3614.13	-3.060e+04	-3.628e+04	0.0	0.0	0.0
11	22	-1275.76	-1.790e+04	-2.863e+04	0.0	0.0	0.0
11	23	-1.872e+04	-3.057e+04	-9.395e+04	0.0	0.0	0.0
11	24	-1.638e+04	-1.787e+04	-8.630e+04	0.0	0.0	0.0
11	25	-3611.03	-3.060e+04	-3.628e+04	0.0	0.0	0.0
11	26	-1272.65	-1.790e+04	-2.863e+04	0.0	0.0	0.0
11	27	-1.883e+04	-3.053e+04	-9.403e+04	0.0	0.0	0.0
11	28	-1.627e+04	-1.791e+04	-8.622e+04	0.0	0.0	0.0
11	29	-3723.85	-3.056e+04	-3.636e+04	0.0	0.0	0.0
11	30	-1166.05	-1.794e+04	-2.855e+04	0.0	0.0	0.0
11	31	-1.883e+04	-3.053e+04	-9.403e+04	0.0	0.0	0.0
11	32	-1.627e+04	-1.791e+04	-8.622e+04	0.0	0.0	0.0
11	33	-3720.74	-3.056e+04	-3.636e+04	0.0	0.0	0.0
11	34	-1162.94	-1.794e+04	-2.855e+04	0.0	0.0	0.0
11	35	-7363.19	-1.788e+04	-6.160e+04	0.0	0.0	0.0
12	1	9571.89	-2.324e+04	-8.008e+04	0.0	0.0	0.0
12	2	7362.99	-1.788e+04	-6.160e+04	0.0	0.0	0.0
12	3	-1.479e+04	-2.618e+04	3.366e+04	0.0	0.0	0.0
12	4	-1.556e+04	-2.239e+04	3.600e+04	0.0	0.0	0.0
12	5	3.555e+04	-2.608e+04	-1.586e+05	0.0	0.0	0.0
12	6	3.479e+04	-2.229e+04	-1.562e+05	0.0	0.0	0.0
12	7	-1.483e+04	-2.619e+04	3.368e+04	0.0	0.0	0.0
12	8	-1.553e+04	-2.238e+04	3.598e+04	0.0	0.0	0.0
12	9	3.552e+04	-2.609e+04	-1.586e+05	0.0	0.0	0.0
12	10	3.482e+04	-2.228e+04	-1.563e+05	0.0	0.0	0.0
12	11	-1.480e+04	-2.618e+04	3.365e+04	0.0	0.0	0.0
12	12	-1.557e+04	-2.240e+04	3.600e+04	0.0	0.0	0.0
12	13	3.556e+04	-2.607e+04	-1.586e+05	0.0	0.0	0.0
12	14	3.480e+04	-2.229e+04	-1.562e+05	0.0	0.0	0.0
12	15	-1.484e+04	-2.619e+04	3.368e+04	0.0	0.0	0.0
12	16	-1.554e+04	-2.238e+04	3.597e+04	0.0	0.0	0.0
12	17	3.553e+04	-2.608e+04	-1.586e+05	0.0	0.0	0.0
12	18	3.483e+04	-2.227e+04	-1.563e+05	0.0	0.0	0.0
12	19	3723.66	-3.056e+04	-3.636e+04	0.0	0.0	0.0
12	20	1165.74	-1.794e+04	-2.855e+04	0.0	0.0	0.0
12	21	1.883e+04	-3.053e+04	-9.403e+04	0.0	0.0	0.0
12	22	1.627e+04	-1.791e+04	-8.622e+04	0.0	0.0	0.0
12	23	3720.55	-3.056e+04	-3.636e+04	0.0	0.0	0.0
12	24	1162.63	-1.794e+04	-2.855e+04	0.0	0.0	0.0
12	25	1.883e+04	-3.053e+04	-9.403e+04	0.0	0.0	0.0
12	26	1.627e+04	-1.791e+04	-8.622e+04	0.0	0.0	0.0
12	27	3613.95	-3.060e+04	-3.628e+04	0.0	0.0	0.0
12	28	1275.45	-1.790e+04	-2.863e+04	0.0	0.0	0.0
12	29	1.872e+04	-3.057e+04	-9.395e+04	0.0	0.0	0.0
12	30	1.638e+04	-1.787e+04	-8.630e+04	0.0	0.0	0.0
12	31	3610.84	-3.060e+04	-3.628e+04	0.0	0.0	0.0

Nodo	Cmb	Azione X	Azione Y	Azione Z	Azione RX	Azione RY	Azione RZ
		daN	daN	daN	daN cm	daN cm	daN cm
12	32	1272.34	-1.790e+04	-2.863e+04	0.0	0.0	0.0
12	33	1.872e+04	-3.057e+04	-9.395e+04	0.0	0.0	0.0
12	34	1.638e+04	-1.787e+04	-8.630e+04	0.0	0.0	0.0
12	35	7362.99	-1.788e+04	-6.160e+04	0.0	0.0	0.0
30	1	-1.773e+04	-1.773e+04	-7.478e+04	0.0	0.0	0.0
30	2	-1.364e+04	-1.364e+04	-5.753e+04	0.0	0.0	0.0
30	3	-2.640e+04	-2.267e+04	-3.057e+04	0.0	0.0	0.0
30	4	-2.524e+04	-1.826e+04	-4.288e+04	0.0	0.0	0.0
30	5	-1.175e+04	-1.873e+04	-7.154e+04	0.0	0.0	0.0
30	6	-1.059e+04	-1.432e+04	-8.384e+04	0.0	0.0	0.0
30	7	-2.641e+04	-2.266e+04	-3.058e+04	0.0	0.0	0.0
30	8	-2.523e+04	-1.827e+04	-4.287e+04	0.0	0.0	0.0
30	9	-1.176e+04	-1.872e+04	-7.155e+04	0.0	0.0	0.0
30	10	-1.058e+04	-1.433e+04	-8.383e+04	0.0	0.0	0.0
30	11	-2.643e+04	-2.263e+04	-3.054e+04	0.0	0.0	0.0
30	12	-2.527e+04	-1.822e+04	-4.285e+04	0.0	0.0	0.0
30	13	-1.172e+04	-1.877e+04	-7.157e+04	0.0	0.0	0.0
30	14	-1.056e+04	-1.436e+04	-8.388e+04	0.0	0.0	0.0
30	15	-2.644e+04	-2.262e+04	-3.055e+04	0.0	0.0	0.0
30	16	-2.526e+04	-1.823e+04	-4.284e+04	0.0	0.0	0.0
30	17	-1.173e+04	-1.876e+04	-7.158e+04	0.0	0.0	0.0
30	18	-1.055e+04	-1.437e+04	-8.387e+04	0.0	0.0	0.0
30	19	-2.262e+04	-2.644e+04	-3.055e+04	0.0	0.0	0.0
30	20	-1.876e+04	-1.173e+04	-7.158e+04	0.0	0.0	0.0
30	21	-1.823e+04	-2.526e+04	-4.284e+04	0.0	0.0	0.0
30	22	-1.437e+04	-1.055e+04	-8.387e+04	0.0	0.0	0.0
30	23	-2.263e+04	-2.643e+04	-3.054e+04	0.0	0.0	0.0
30	24	-1.877e+04	-1.172e+04	-7.157e+04	0.0	0.0	0.0
30	25	-1.822e+04	-2.527e+04	-4.285e+04	0.0	0.0	0.0
30	26	-1.436e+04	-1.056e+04	-8.388e+04	0.0	0.0	0.0
30	27	-2.266e+04	-2.641e+04	-3.058e+04	0.0	0.0	0.0
30	28	-1.872e+04	-1.176e+04	-7.155e+04	0.0	0.0	0.0
30	29	-1.827e+04	-2.523e+04	-4.287e+04	0.0	0.0	0.0
30	30	-1.433e+04	-1.058e+04	-8.383e+04	0.0	0.0	0.0
30	31	-2.267e+04	-2.639e+04	-3.057e+04	0.0	0.0	0.0
30	32	-1.873e+04	-1.175e+04	-7.154e+04	0.0	0.0	0.0
30	33	-1.826e+04	-2.524e+04	-4.288e+04	0.0	0.0	0.0
30	34	-1.432e+04	-1.059e+04	-8.384e+04	0.0	0.0	0.0
30	35	-1.364e+04	-1.364e+04	-5.753e+04	0.0	0.0	0.0
31	1	1.773e+04	-1.773e+04	-7.478e+04	0.0	0.0	0.0
31	2	1.364e+04	-1.364e+04	-5.753e+04	0.0	0.0	0.0
31	3	1.176e+04	-1.872e+04	-7.155e+04	0.0	0.0	0.0
31	4	1.058e+04	-1.433e+04	-8.383e+04	0.0	0.0	0.0
31	5	2.641e+04	-2.266e+04	-3.058e+04	0.0	0.0	0.0
31	6	2.523e+04	-1.827e+04	-4.287e+04	0.0	0.0	0.0
31	7	1.175e+04	-1.873e+04	-7.154e+04	0.0	0.0	0.0
31	8	1.059e+04	-1.432e+04	-8.384e+04	0.0	0.0	0.0
31	9	2.639e+04	-2.267e+04	-3.057e+04	0.0	0.0	0.0
31	10	2.524e+04	-1.826e+04	-4.288e+04	0.0	0.0	0.0
31	11	1.173e+04	-1.876e+04	-7.158e+04	0.0	0.0	0.0
31	12	1.055e+04	-1.437e+04	-8.387e+04	0.0	0.0	0.0
31	13	2.644e+04	-2.262e+04	-3.055e+04	0.0	0.0	0.0
31	14	2.526e+04	-1.823e+04	-4.284e+04	0.0	0.0	0.0
31	15	1.172e+04	-1.877e+04	-7.157e+04	0.0	0.0	0.0
31	16	1.056e+04	-1.436e+04	-8.388e+04	0.0	0.0	0.0
31	17	2.643e+04	-2.263e+04	-3.054e+04	0.0	0.0	0.0
31	18	2.527e+04	-1.822e+04	-4.285e+04	0.0	0.0	0.0
31	19	1.827e+04	-2.523e+04	-4.287e+04	0.0	0.0	0.0
31	20	1.433e+04	-1.058e+04	-8.383e+04	0.0	0.0	0.0
31	21	2.266e+04	-2.641e+04	-3.058e+04	0.0	0.0	0.0
31	22	1.872e+04	-1.176e+04	-7.155e+04	0.0	0.0	0.0
31	23	1.826e+04	-2.524e+04	-4.288e+04	0.0	0.0	0.0
31	24	1.432e+04	-1.059e+04	-8.384e+04	0.0	0.0	0.0
31	25	2.267e+04	-2.640e+04	-3.057e+04	0.0	0.0	0.0
31	26	1.873e+04	-1.175e+04	-7.154e+04	0.0	0.0	0.0
31	27	1.823e+04	-2.526e+04	-4.284e+04	0.0	0.0	0.0
31	28	1.437e+04	-1.055e+04	-8.387e+04	0.0	0.0	0.0
31	29	2.262e+04	-2.644e+04	-3.055e+04	0.0	0.0	0.0
31	30	1.876e+04	-1.173e+04	-7.158e+04	0.0	0.0	0.0
31	31	1.822e+04	-2.527e+04	-4.285e+04	0.0	0.0	0.0
31	32	1.436e+04	-1.056e+04	-8.388e+04	0.0	0.0	0.0
31	33	2.263e+04	-2.643e+04	-3.054e+04	0.0	0.0	0.0
31	34	1.877e+04	-1.172e+04	-7.157e+04	0.0	0.0	0.0
31	35	1.364e+04	-1.364e+04	-5.753e+04	0.0	0.0	0.0

Nodo	Cmb	Azione X	Azione Y	Azione Z	Azione RX	Azione RY	Azione RZ
		daN	daN	daN	daN cm	daN cm	daN cm
42	1	-0.27	-3321.86	-2.192e+05	0.0	0.0	0.0
42	2	-0.21	-2555.28	-1.686e+05	0.0	0.0	0.0
42	3	-7247.71	-3890.85	-1.694e+05	0.0	0.0	0.0
42	4	-7242.21	-2975.72	-1.693e+05	0.0	0.0	0.0
42	5	7241.64	-3890.76	-1.694e+05	0.0	0.0	0.0
42	6	7247.15	-2975.63	-1.693e+05	0.0	0.0	0.0
42	7	-7242.14	-3890.85	-1.694e+05	0.0	0.0	0.0
42	8	-7247.78	-2975.72	-1.693e+05	0.0	0.0	0.0
42	9	7247.22	-3890.76	-1.694e+05	0.0	0.0	0.0
42	10	7241.57	-2975.63	-1.693e+05	0.0	0.0	0.0
42	11	-7250.47	-3890.85	-1.694e+05	0.0	0.0	0.0
42	12	-7244.96	-2975.72	-1.693e+05	0.0	0.0	0.0
42	13	7244.40	-3890.76	-1.694e+05	0.0	0.0	0.0
42	14	7249.90	-2975.63	-1.693e+05	0.0	0.0	0.0
42	15	-7244.89	-3890.85	-1.694e+05	0.0	0.0	0.0
42	16	-7250.54	-2975.72	-1.693e+05	0.0	0.0	0.0
42	17	7249.97	-3890.76	-1.694e+05	0.0	0.0	0.0
42	18	7244.33	-2975.63	-1.693e+05	0.0	0.0	0.0
42	19	-2182.87	-4958.46	-1.697e+05	0.0	0.0	0.0
42	20	-2164.51	-1908.04	-1.690e+05	0.0	0.0	0.0
42	21	2163.94	-4958.44	-1.697e+05	0.0	0.0	0.0
42	22	2182.30	-1908.01	-1.690e+05	0.0	0.0	0.0
42	23	-2183.69	-4958.46	-1.697e+05	0.0	0.0	0.0
42	24	-2165.33	-1908.04	-1.690e+05	0.0	0.0	0.0
42	25	2164.77	-4958.44	-1.697e+05	0.0	0.0	0.0
42	26	2183.13	-1908.01	-1.690e+05	0.0	0.0	0.0
42	27	-2164.27	-4958.46	-1.697e+05	0.0	0.0	0.0
42	28	-2183.10	-1908.04	-1.690e+05	0.0	0.0	0.0
42	29	2182.53	-4958.44	-1.697e+05	0.0	0.0	0.0
42	30	2163.71	-1908.01	-1.690e+05	0.0	0.0	0.0
42	31	-2165.10	-4958.46	-1.697e+05	0.0	0.0	0.0
42	32	-2183.93	-1908.04	-1.690e+05	0.0	0.0	0.0
42	33	2183.36	-4958.44	-1.697e+05	0.0	0.0	0.0
42	34	2164.53	-1908.01	-1.690e+05	0.0	0.0	0.0
42	35	-0.21	-2555.28	-1.686e+05	0.0	0.0	0.0
75	1	-2179.52	-2181.42	-2.240e+05	0.0	0.0	0.0
75	2	-1676.55	-1678.02	-1.723e+05	0.0	0.0	0.0
75	3	-4650.70	-1706.71	-1.743e+05	0.0	0.0	0.0
75	4	-5489.35	-11.56	-1.737e+05	0.0	0.0	0.0
75	5	985.79	-4495.94	-1.723e+05	0.0	0.0	0.0
75	6	147.14	-2800.78	-1.718e+05	0.0	0.0	0.0
75	7	-4652.00	-1705.42	-1.743e+05	0.0	0.0	0.0
75	8	-5488.04	-12.86	-1.737e+05	0.0	0.0	0.0
75	9	984.48	-4494.64	-1.723e+05	0.0	0.0	0.0
75	10	148.45	-2802.08	-1.718e+05	0.0	0.0	0.0
75	11	-4655.02	-1702.35	-1.743e+05	0.0	0.0	0.0
75	12	-5493.67	-7.20	-1.737e+05	0.0	0.0	0.0
75	13	990.11	-4500.30	-1.723e+05	0.0	0.0	0.0
75	14	151.46	-2805.14	-1.718e+05	0.0	0.0	0.0
75	15	-4656.33	-1701.06	-1.743e+05	0.0	0.0	0.0
75	16	-5492.36	-8.49	-1.737e+05	0.0	0.0	0.0
75	17	988.80	-4499.00	-1.723e+05	0.0	0.0	0.0
75	18	152.77	-2806.44	-1.718e+05	0.0	0.0	0.0
75	19	-1699.50	-4660.62	-1.743e+05	0.0	0.0	0.0
75	20	-4495.01	989.90	-1.723e+05	0.0	0.0	0.0
75	21	-8.55	-5497.39	-1.737e+05	0.0	0.0	0.0
75	22	-2804.06	153.13	-1.718e+05	0.0	0.0	0.0
75	23	-1700.79	-4659.31	-1.743e+05	0.0	0.0	0.0
75	24	-4496.30	991.20	-1.723e+05	0.0	0.0	0.0
75	25	-7.25	-5498.70	-1.737e+05	0.0	0.0	0.0
75	26	-2802.76	151.82	-1.718e+05	0.0	0.0	0.0
75	27	-1703.86	-4656.30	-1.743e+05	0.0	0.0	0.0
75	28	-4490.65	985.57	-1.723e+05	0.0	0.0	0.0
75	29	-12.91	-5493.07	-1.737e+05	0.0	0.0	0.0
75	30	-2799.70	148.81	-1.718e+05	0.0	0.0	0.0
75	31	-1705.16	-4654.99	-1.743e+05	0.0	0.0	0.0
75	32	-4491.94	986.88	-1.723e+05	0.0	0.0	0.0
75	33	-11.62	-5494.38	-1.737e+05	0.0	0.0	0.0
75	34	-2798.40	147.50	-1.718e+05	0.0	0.0	0.0
75	35	-1676.55	-1678.02	-1.723e+05	0.0	0.0	0.0
76	1	2181.42	-2179.52	-2.240e+05	0.0	0.0	0.0
76	2	1678.02	-1676.55	-1.723e+05	0.0	0.0	0.0
76	3	-985.57	-4490.65	-1.723e+05	0.0	0.0	0.0
76	4	-148.81	-2799.70	-1.718e+05	0.0	0.0	0.0

Nodo	Cmb	Azione X	Azione Y	Azione Z	Azione RX	Azione RY	Azione RZ
		daN	daN	daN	daN cm	daN cm	daN cm
76	5	4656.30	-1703.86	-1.743e+05	0.0	0.0	0.0
76	6	5493.07	-12.91	-1.737e+05	0.0	0.0	0.0
76	7	-986.88	-4491.94	-1.723e+05	0.0	0.0	0.0
76	8	-147.50	-2798.40	-1.718e+05	0.0	0.0	0.0
76	9	4654.99	-1705.16	-1.743e+05	0.0	0.0	0.0
76	10	5494.38	-11.62	-1.737e+05	0.0	0.0	0.0
76	11	-989.90	-4495.01	-1.723e+05	0.0	0.0	0.0
76	12	-153.13	-2804.06	-1.718e+05	0.0	0.0	0.0
76	13	4660.62	-1699.50	-1.743e+05	0.0	0.0	0.0
76	14	5497.39	-8.55	-1.737e+05	0.0	0.0	0.0
76	15	-991.20	-4496.30	-1.723e+05	0.0	0.0	0.0
76	16	-151.82	-2802.76	-1.718e+05	0.0	0.0	0.0
76	17	4659.31	-1700.79	-1.743e+05	0.0	0.0	0.0
76	18	5498.70	-7.25	-1.737e+05	0.0	0.0	0.0
76	19	12.86	-5488.04	-1.737e+05	0.0	0.0	0.0
76	20	2802.08	148.45	-1.718e+05	0.0	0.0	0.0
76	21	1705.42	-4652.00	-1.743e+05	0.0	0.0	0.0
76	22	4494.64	984.48	-1.723e+05	0.0	0.0	0.0
76	23	11.56	-5489.35	-1.737e+05	0.0	0.0	0.0
76	24	2800.78	147.14	-1.718e+05	0.0	0.0	0.0
76	25	1706.71	-4650.70	-1.743e+05	0.0	0.0	0.0
76	26	4495.94	985.79	-1.723e+05	0.0	0.0	0.0
76	27	8.49	-5492.36	-1.737e+05	0.0	0.0	0.0
76	28	2806.44	152.77	-1.718e+05	0.0	0.0	0.0
76	29	1701.06	-4656.33	-1.743e+05	0.0	0.0	0.0
76	30	4499.00	988.80	-1.723e+05	0.0	0.0	0.0
76	31	7.20	-5493.67	-1.737e+05	0.0	0.0	0.0
76	32	2805.14	151.46	-1.718e+05	0.0	0.0	0.0
76	33	1702.35	-4655.02	-1.743e+05	0.0	0.0	0.0
76	34	4500.30	990.11	-1.723e+05	0.0	0.0	0.0
76	35	1678.02	-1676.55	-1.723e+05	0.0	0.0	0.0
83	1	-2.324e+04	-9571.89	-8.008e+04	0.0	0.0	0.0
83	2	-1.788e+04	-7362.99	-6.160e+04	0.0	0.0	0.0
83	3	-3.053e+04	-1.883e+04	-9.403e+04	0.0	0.0	0.0
83	4	-3.056e+04	-3720.55	-3.636e+04	0.0	0.0	0.0
83	5	-1.791e+04	-1.627e+04	-8.622e+04	0.0	0.0	0.0
83	6	-1.794e+04	-1162.63	-2.855e+04	0.0	0.0	0.0
83	7	-3.053e+04	-1.883e+04	-9.403e+04	0.0	0.0	0.0
83	8	-3.056e+04	-3723.66	-3.636e+04	0.0	0.0	0.0
83	9	-1.791e+04	-1.627e+04	-8.622e+04	0.0	0.0	0.0
83	10	-1.794e+04	-1165.74	-2.855e+04	0.0	0.0	0.0
83	11	-3.057e+04	-1.872e+04	-9.395e+04	0.0	0.0	0.0
83	12	-3.060e+04	-3610.84	-3.628e+04	0.0	0.0	0.0
83	13	-1.787e+04	-1.638e+04	-8.630e+04	0.0	0.0	0.0
83	14	-1.790e+04	-1272.34	-2.863e+04	0.0	0.0	0.0
83	15	-3.057e+04	-1.872e+04	-9.395e+04	0.0	0.0	0.0
83	16	-3.060e+04	-3613.95	-3.628e+04	0.0	0.0	0.0
83	17	-1.787e+04	-1.638e+04	-8.630e+04	0.0	0.0	0.0
83	18	-1.790e+04	-1275.45	-2.863e+04	0.0	0.0	0.0
83	19	-2.607e+04	-3.556e+04	-1.586e+05	0.0	0.0	0.0
83	20	-2.618e+04	1.480e+04	3.365e+04	0.0	0.0	0.0
83	21	-2.229e+04	-3.480e+04	-1.562e+05	0.0	0.0	0.0
83	22	-2.240e+04	1.557e+04	3.600e+04	0.0	0.0	0.0
83	23	-2.608e+04	-3.553e+04	-1.586e+05	0.0	0.0	0.0
83	24	-2.619e+04	1.484e+04	3.368e+04	0.0	0.0	0.0
83	25	-2.227e+04	-3.483e+04	-1.563e+05	0.0	0.0	0.0
83	26	-2.238e+04	1.554e+04	3.597e+04	0.0	0.0	0.0
83	27	-2.608e+04	-3.555e+04	-1.586e+05	0.0	0.0	0.0
83	28	-2.618e+04	1.479e+04	3.366e+04	0.0	0.0	0.0
83	29	-2.229e+04	-3.479e+04	-1.562e+05	0.0	0.0	0.0
83	30	-2.239e+04	1.556e+04	3.600e+04	0.0	0.0	0.0
83	31	-2.609e+04	-3.552e+04	-1.586e+05	0.0	0.0	0.0
83	32	-2.619e+04	1.483e+04	3.368e+04	0.0	0.0	0.0
83	33	-2.228e+04	-3.482e+04	-1.563e+05	0.0	0.0	0.0
83	34	-2.238e+04	1.553e+04	3.598e+04	0.0	0.0	0.0
…							
364	35	0.09	1.918e+04	-5.217e+04	0.0	0.0	0.0
		Azione X	**Azione Y**	**Azione Z**	**Azione RX**	**Azione RY**	**Azione RZ**
Min		-7.026e+04	-7.026e+04	-2.240e+05	0.0	0.0	0.0
Max		7.026e+04	7.026e+04	3.600e+04	0.0	0.0	0.0

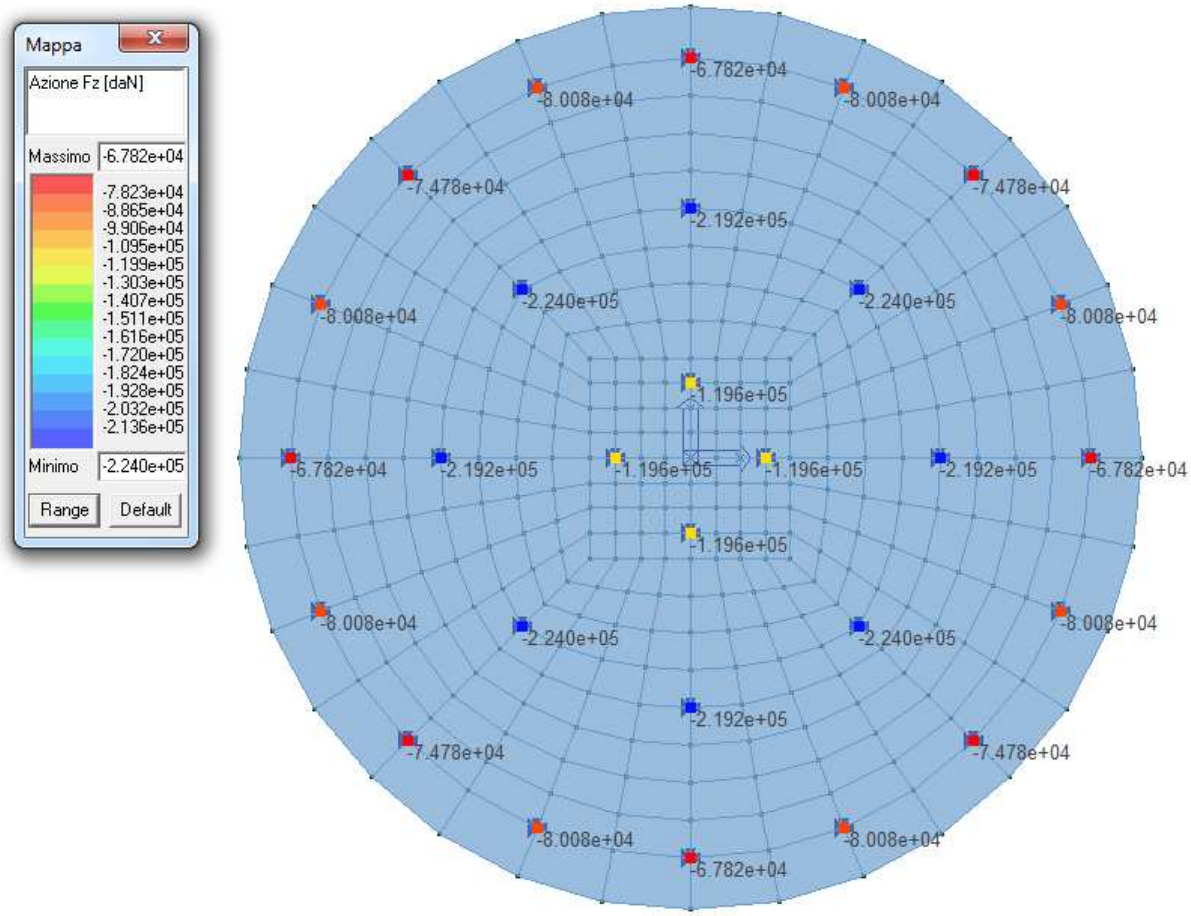
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Nodo	Cmb	Azione X	Azione Y	Azione Z	Azione RX	Azione RY	Azione RZ
		daN	daN	daN	daN cm	daN cm	daN cm
6	1	-0.12	-2.493e+04	-6.782e+04	0.0	0.0	0.0
	23	-2.123e+04	-3.206e+04	-4.944e+04	0.0	0.0	0.0
	1	-0.12	-2.493e+04	-6.782e+04	0.0	0.0	0.0
11	7	-3.555e+04	-2.608e+04	-1.586e+05	0.0	0.0	0.0
	10	1.556e+04	-2.239e+04	3.600e+04	0.0	0.0	0.0
	1	-9572.14	-2.324e+04	-8.008e+04	0.0	0.0	0.0
12	5	3.555e+04	-2.608e+04	-1.586e+05	0.0	0.0	0.0
	4	-1.556e+04	-2.239e+04	3.600e+04	0.0	0.0	0.0
	1	9571.89	-2.324e+04	-8.008e+04	0.0	0.0	0.0
30	26	-1.436e+04	-1.056e+04	-8.388e+04	0.0	0.0	0.0
	23	-2.263e+04	-2.643e+04	-3.054e+04	0.0	0.0	0.0
	1	-1.773e+04	-1.773e+04	-7.478e+04	0.0	0.0	0.0
31	16	1.056e+04	-1.436e+04	-8.388e+04	0.0	0.0	0.0
	17	2.643e+04	-2.263e+04	-3.054e+04	0.0	0.0	0.0
	1	1.773e+04	-1.773e+04	-7.478e+04	0.0	0.0	0.0
42	1	-0.27	-3321.86	-2.192e+05	0.0	0.0	0.0
	2	-0.21	-2555.28	-1.686e+05	0.0	0.0	0.0
	1	-0.27	-3321.86	-2.192e+05	0.0	0.0	0.0
75	1	-2179.52	-2181.42	-2.240e+05	0.0	0.0	0.0
	14	151.46	-2805.14	-1.718e+05	0.0	0.0	0.0
	1	-2179.52	-2181.42	-2.240e+05	0.0	0.0	0.0
76	1	2181.42	-2179.52	-2.240e+05	0.0	0.0	0.0
	32	2805.14	151.46	-1.718e+05	0.0	0.0	0.0
	1	2181.42	-2179.52	-2.240e+05	0.0	0.0	0.0
83	27	-2.608e+04	-3.555e+04	-1.586e+05	0.0	0.0	0.0
	30	-2.239e+04	1.556e+04	3.600e+04	0.0	0.0	0.0
	1	-2.324e+04	-9571.89	-8.008e+04	0.0	0.0	0.0
	1	-2.324e+04	-9571.89	-8.008e+04	0.0	0.0	0.0
	1	-2.324e+04	-9571.89	-8.008e+04	0.0	0.0	0.0
	1	-2.324e+04	-9571.89	-8.008e+04	0.0	0.0	0.0
84	21	2.608e+04	-3.555e+04	-1.586e+05	0.0	0.0	0.0
	20	2.239e+04	1.556e+04	3.600e+04	0.0	0.0	0.0
	1	2.324e+04	-9572.14	-8.008e+04	0.0	0.0	0.0
133	1	-0.12	-697.74	-1.196e+05	0.0	0.0	0.0
	19	-261.66	-1381.09	-9.187e+04	0.0	0.0	0.0
	1	-0.12	-697.74	-1.196e+05	0.0	0.0	0.0
173	1	-2.493e+04	0.12	-6.782e+04	0.0	0.0	0.0
	16	-3.206e+04	2.090e+04	-4.944e+04	0.0	0.0	0.0
	1	-2.493e+04	0.12	-6.782e+04	0.0	0.0	0.0
177	1	-3321.86	0.27	-2.192e+05	0.0	0.0	0.0
	2	-2555.28	0.21	-1.686e+05	0.0	0.0	0.0
	1	-3321.86	0.27	-2.192e+05	0.0	0.0	0.0
182	1	-697.74	0.12	-1.196e+05	0.0	0.0	0.0
	4	-1381.09	261.88	-9.187e+04	0.0	0.0	0.0
	1	-697.74	0.12	-1.196e+05	0.0	0.0	0.0
188	1	697.74	-0.12	-1.196e+05	0.0	0.0	0.0
	5	1381.09	-262.57	-9.187e+04	0.0	0.0	0.0
	1	697.74	-0.12	-1.196e+05	0.0	0.0	0.0
193	1	3321.86	-0.27	-2.192e+05	0.0	0.0	0.0
	2	2555.28	-0.21	-1.686e+05	0.0	0.0	0.0
	1	3321.86	-0.27	-2.192e+05	0.0	0.0	0.0
197	1	2.493e+04	-0.12	-6.782e+04	0.0	0.0	0.0
	17	3.206e+04	-2.123e+04	-4.944e+04	0.0	0.0	0.0
	1	2.493e+04	-0.12	-6.782e+04	0.0	0.0	0.0
237	1	0.12	697.74	-1.196e+05	0.0	0.0	0.0
	30	261.88	1381.09	-9.187e+04	0.0	0.0	0.0
	1	0.12	697.74	-1.196e+05	0.0	0.0	0.0
286	32	-2.608e+04	3.555e+04	-1.586e+05	0.0	0.0	0.0
	33	-2.239e+04	-1.556e+04	3.600e+04	0.0	0.0	0.0
	1	-2.324e+04	9572.14	-8.008e+04	0.0	0.0	0.0
287	26	2.608e+04	3.555e+04	-1.586e+05	0.0	0.0	0.0
	23	2.239e+04	-1.556e+04	3.600e+04	0.0	0.0	0.0
	1	2.324e+04	9571.89	-8.008e+04	0.0	0.0	0.0
294	1	-2181.42	2179.52	-2.240e+05	0.0	0.0	0.0
	21	-2805.14	-151.46	-1.718e+05	0.0	0.0	0.0
	1	-2181.42	2179.52	-2.240e+05	0.0	0.0	0.0
295	1	2179.52	2181.42	-2.240e+05	0.0	0.0	0.0
	7	-151.46	2805.14	-1.718e+05	0.0	0.0	0.0
	1	2179.52	2181.42	-2.240e+05	0.0	0.0	0.0

Nodo	Cmb	Azione X	Azione Y	Azione Z	Azione RX	Azione RY	Azione RZ
		daN	daN	daN	daN cm	daN cm	daN cm
6	1	-0.12	-2.493e+04	-6.782e+04	0.0	0.0	0.0
328	1	0.27	3321.86	-2.192e+05	0.0	0.0	0.0
	2	0.21	2555.28	-1.686e+05	0.0	0.0	0.0
	1	0.27	3321.86	-2.192e+05	0.0	0.0	0.0
339	5	-1.056e+04	1.436e+04	-8.388e+04	0.0	0.0	0.0
	4	-2.643e+04	2.263e+04	-3.054e+04	0.0	0.0	0.0
	1	-1.773e+04	1.773e+04	-7.478e+04	0.0	0.0	0.0
340	27	1.436e+04	1.056e+04	-8.388e+04	0.0	0.0	0.0
	30	2.263e+04	2.643e+04	-3.054e+04	0.0	0.0	0.0
	1	1.773e+04	1.773e+04	-7.478e+04	0.0	0.0	0.0
358	16	-3.555e+04	2.608e+04	-1.586e+05	0.0	0.0	0.0
	17	1.556e+04	2.239e+04	3.600e+04	0.0	0.0	0.0
	1	-9571.89	2.324e+04	-8.008e+04	0.0	0.0	0.0
359	14	3.555e+04	2.608e+04	-1.586e+05	0.0	0.0	0.0
	11	-1.556e+04	2.239e+04	3.600e+04	0.0	0.0	0.0
	1	9572.14	2.324e+04	-8.008e+04	0.0	0.0	0.0
364	1	0.12	2.493e+04	-6.782e+04	0.0	0.0	0.0
	34	2.122e+04	3.206e+04	-4.944e+04	0.0	0.0	0.0
	1	0.12	2.493e+04	-6.782e+04	0.0	0.0	0.0

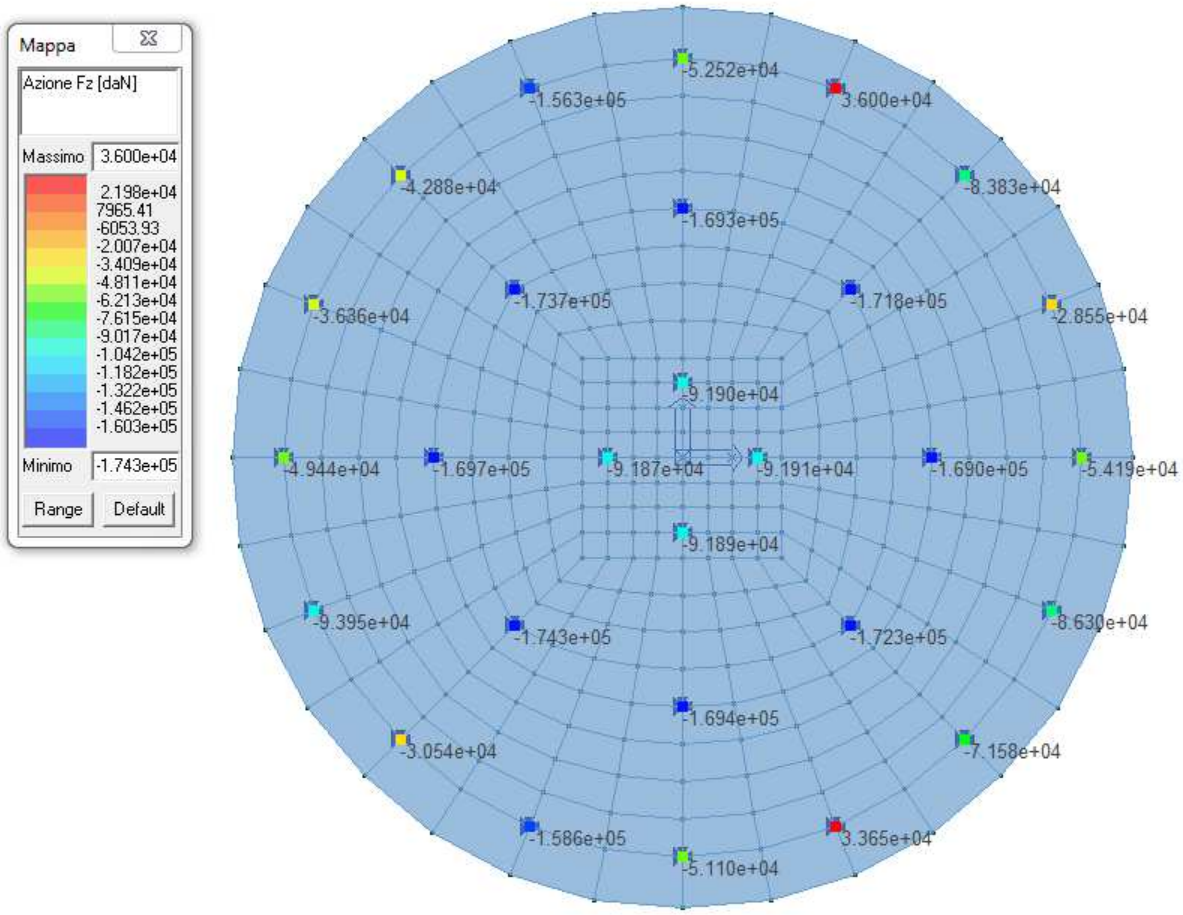
AZIONI VERTICALI VINCOLI

Azione massima combinazioni SLU STR A1 (CMB 1)



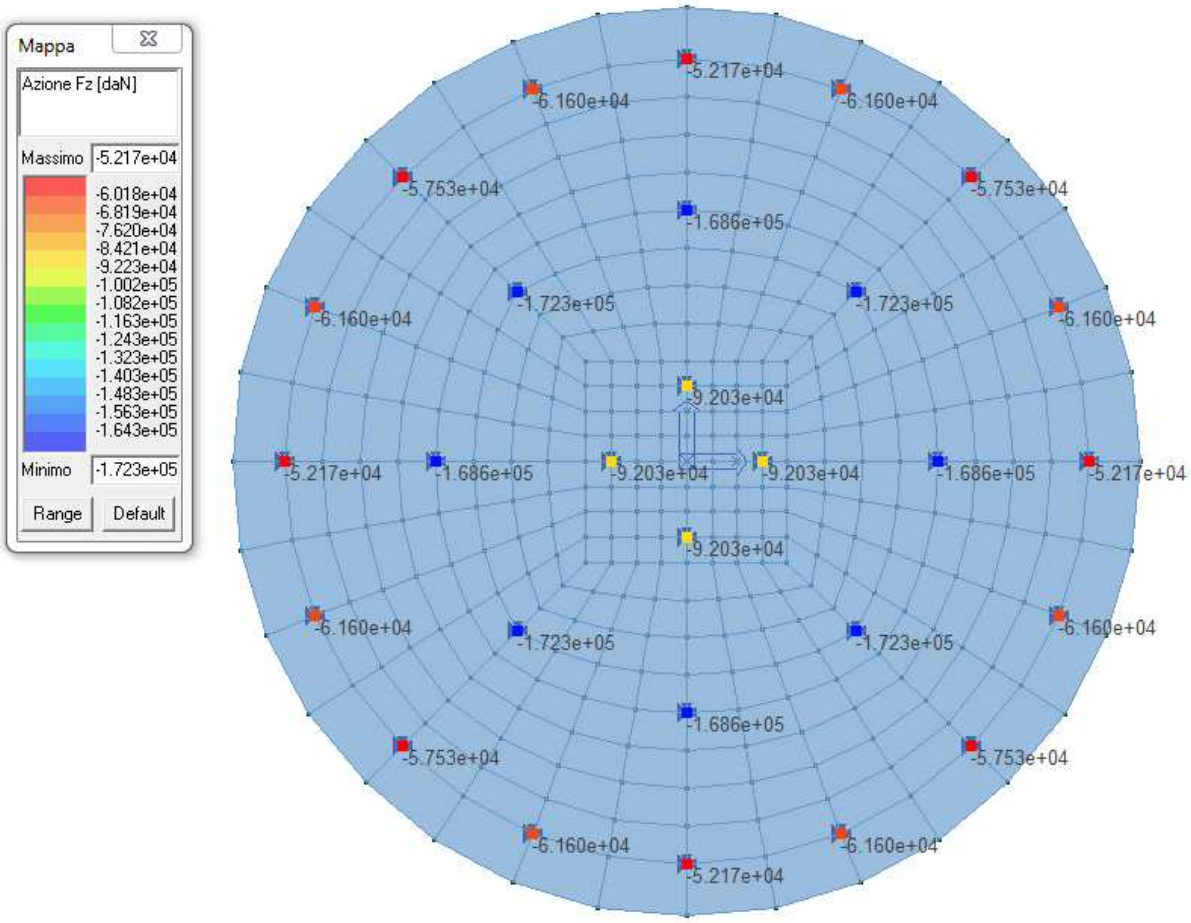
Azione massima 224000 daN

Azione massima combinazioni SLV sismiche (CMB 11)



Azione massima / minima 174300 daN (compressione) e 36000 daN (trazione)

Azione massima combinazioni SLE (rara) (CMB 35)



Azione massima 172300 daN

4.11 VERIFICHE ELEMENTI PARETE E GUSCIO IN C.A.

TABELLA VERIFICHE ELEMENTI GUSCIO IN C.A.

M_G	Nodo	x/d	verif.	ver. rid	Af pr-	Af pr+	Af sec-	Af sec+	N x	N y	N xy	M x	M y	M xy
									daN/cm	daN/cm	daN/cm	daN	daN	daN
1	ok 1	0.07	0.2	2.47e-02	15.7	15.7	15.7	15.7	160.9	-0.2	-63.0	5953.6	-422.5	2207.7
1	ok 2	0.07	0.9	9.76e-03	15.7	15.7	15.7	15.7	44.8	-35.7	-17.7	-2.561e+04	6115.3	9289.2
1	ok 3	0.07	0.9	9.76e-03	15.7	15.7	15.7	15.7	44.8	-35.7	17.7	-2.561e+04	6115.3	-9289.2
1	ok 4	0.07	0.3	1.84e-02	15.7	15.7	15.7	15.7	-91.0	23.7	-4.2	7443.6	-6496.6	-3833.6
1	ok 5	0.07	0.3	1.84e-02	15.7	15.7	15.7	15.7	-174.8	-56.2	-66.8	7729.9	247.5	9592.8
1	ok 6	0.07	0.4	4.69e-02	15.7	15.7	15.7	15.7	450.5	-113.9	201.0	5260.1	4198.2	-6568.9
1	ok 7	0.08	1.0	3.51e-02	18.9	15.7	17.4	15.7	-23.7	214.0	62.4	-4.636e+04	-2.668e+04	929.9
1	ok 8	0.08	1.0	3.51e-02	18.9	15.7	17.4	15.7	-23.7	214.0	-62.4	-4.636e+04	-2.668e+04	-929.9
1	ok 9	0.07	0.4	2.15e-03	15.7	15.7	15.7	15.7	18.6	26.3	-46.1	-9932.3	-4256.3	6725.2
1	ok 10	0.07	0.4	2.15e-03	15.7	15.7	15.7	15.7	66.0	51.4	33.1	-5883.2	-1626.8	-6828.3
1	ok 11	0.07	0.7	2.71e-02	15.7	15.7	15.7	15.7	-298.1	-102.6	-4.2	1.798e+04	2.550e+04	-7346.9
1	ok 12	0.07	0.7	2.71e-02	15.7	15.7	15.7	15.7	-298.0	-102.6	4.2	1.798e+04	2.550e+04	7346.9
1	ok 13	0.07	0.4	1.84e-02	15.7	15.7	15.7	15.7	-128.2	-9.4	120.3	-27.5	-1.176e+04	1.038e+04
1	ok 14	0.07	0.7	1.30e-02	15.7	15.7	15.7	15.7	-46.4	64.3	76.1	-2.475e+04	-8208.2	2339.4
1	ok 15	0.07	0.7	1.30e-02	15.7	15.7	15.7	15.7	-46.4	64.3	-76.1	-2.475e+04	-8208.2	-2339.4
1	ok 16	0.07	0.5	8.79e-03	15.7	15.7	15.7	15.7	33.2	-19.3	-56.9	-5304.3	-4648.5	-1.414e+04
1	ok 17	0.07	0.5	8.79e-03	15.7	15.7	15.7	15.7	33.2	-19.3	56.9	-5304.3	-4648.5	1.414e+04
1	ok 18	0.07	0.5	1.81e-02	15.7	15.7	15.7	15.7	-13.3	147.0	20.5	-1.584e+04	-1.194e+04	4231.8
1	ok 19	0.07	0.5	1.81e-02	15.7	15.7	15.7	15.7	-13.3	147.0	-20.5	-1.584e+04	-1.194e+04	-4231.8
1	ok 20	0.07	0.4	4.04e-03	15.7	15.7	15.7	15.7	16.2	-0.6	33.0	3931.3	-1.114e+04	7985.3
1	ok 21	0.07	0.2	9.41e-03	15.7	15.7	15.7	15.7	-26.4	9.0	1.7	3378.3	-692.1	-4248.4
1	ok 22	0.07	0.2	9.41e-03	15.7	15.7	15.7	15.7	8.9	-26.5	-1.7	-689.9	3377.7	4249.5
1	ok 23	0.07	0.4	3.40e-03	15.7	15.7	15.7	15.7	23.6	11.3	-13.5	6931.2	-1.107e+04	-6503.4
1	ok 24	0.07	0.4	3.40e-03	15.7	15.7	15.7	15.7	23.6	11.3	13.5	6931.2	-1.107e+04	6503.4
1	ok 25	0.07	0.3	6.32e-03	15.7	15.7	15.7	15.7	47.5	16.1	27.3	-1.113e+04	-9670.7	1898.0
1	ok 26	0.07	0.3	6.32e-03	15.7	15.7	15.7	15.7	47.5	16.1	-27.3	-1.113e+04	-9670.7	-1898.0
1	ok 27	0.07	0.4	2.81e-03	15.7	15.7	15.7	15.7	7.5	-9.1	0.9	-9746.1	-7040.7	-7006.4
1	ok 28	0.07	0.4	2.81e-03	15.7	15.7	15.7	15.7	7.5	-9.1	-0.9	-9746.1	-7040.7	7006.4
1	ok 29	0.07	0.4	3.50e-03	15.7	15.7	15.7	15.7	5.1	14.9	0.3	1.427e+04	-1.201e+04	-5249.8
1	ok 30	0.07	0.4	1.31e-02	15.7	15.7	15.7	15.7	23.3	-59.8	-42.6	8894.2	1.402e+04	-1086.3
1	ok 31	0.07	0.4	1.31e-02	15.7	15.7	15.7	15.7	-59.8	23.3	42.6	1.402e+04	8894.2	1086.3
1	ok 32	0.07	0.3	2.05e-03	15.7	15.7	15.7	15.7	6.9	11.1	0.2	-8003.1	-4134.2	-4393.4
1	ok 33	0.07	0.3	2.05e-03	15.7	15.7	15.7	15.7	6.9	11.1	-0.2	-8003.1	-4134.2	4393.4
1	ok 34	0.07	0.4	2.80e-03	15.7	15.7	15.7	15.7	0.5	23.6	9.8	-5885.7	-1.274e+04	-3537.1
1	ok 35	0.07	0.4	2.80e-03	15.7	15.7	15.7	15.7	0.5	23.6	-9.8	-5885.7	-1.274e+04	3537.1
1	ok 36	0.07	0.3	1.28e-03	15.7	15.7	15.7	15.7	10.9	7.0	-0.7	-9186.2	-1.044e+04	669.8
1	ok 37	0.07	0.3	1.28e-03	15.7	15.7	15.7	15.7	10.9	7.0	0.7	-9186.2	-1.044e+04	-669.8
1	ok 38	0.07	0.3	5.72e-03	15.7	15.7	15.7	15.7	-9.3	6.2	-29.3	-7509.7	-385.9	-6190.1
1	ok 39	0.07	0.3	5.72e-03	15.7	15.7	15.7	15.7	6.2	-11.7	32.6	-3605.3	-5241.3	6139.1
1	ok 40	0.07	0.4	2.15e-03	15.7	15.7	15.7	15.7	26.3	18.6	-46.1	-4256.3	-9932.3	6725.2
1	ok 41	0.07	0.4	2.15e-03	15.7	15.7	15.7	15.7	22.2	53.1	34.9	-1167.5	-5944.9	-4716.4
1	ok 42	0.08	1.0	8.59e-03	15.7	21.1	15.7	20.9	5.5	-20.0	16.8	4.507e+04	4.469e+04	5291.3
1	ok 43	0.07	0.5	2.71e-03	15.7	15.7	15.7	15.7	7.3	-5.9	-4.8	-1.818e+04	-798.9	1922.8
1	ok 44	0.07	0.5	2.71e-03	15.7	15.7	15.7	15.7	6.5	24.7	3.0	-1.664e+04	-575.2	-3800.3
1	ok 45	0.07	0.3	1.23e-03	15.7	15.7	15.7	15.7	5.6	15.4	3.4	-382.4	-1.224e+04	-3105.0
1	ok 46	0.07	0.3	1.23e-03	15.7	15.7	15.7	15.7	5.6	15.4	-3.4	-382.4	-1.224e+04	3105.0
1	ok 47	0.07	0.4	8.04e-04	15.7	15.7	15.7	15.7	15.1	3.3	-10.6	-7661.5	-7169.6	-8096.8
1	ok 48	0.07	0.4	8.04e-04	15.7	15.7	15.7	15.7	15.1	3.3	10.6	-7661.5	-7169.6	8096.8
1	ok 49	0.07	0.3	6.76e-04	15.7	15.7	15.7	15.7	7.4	10.4	0.5	-1.047e+04	-5773.1	4691.4
1	ok 50	0.07	0.3	6.77e-04	15.7	15.7	15.7	15.7	7.4	10.4	-0.5	-1.047e+04	-5773.1	-4691.4
1	ok 51	0.07	0.5	1.81e-02	15.7	15.7	15.7	15.7	147.0	-13.3	20.5	-1.194e+04	-1.584e+04	4231.8
1	ok 52	0.07	0.5	1.81e-02	15.7	15.7	15.7	15.7	147.0	-13.3	-20.5	-1.194e+04	-1.584e+04	-4231.8
1	NV 53	0.07	0.4	1.72e-03	15.7	15.7	15.7	15.7	4.8	19.6	-0.6	1.338e+04	-1539.5	6858.7
1	NV 54	0.07	0.4	1.71e-03	15.7	15.7	15.7	15.7	4.9	19.6	0.6	1.338e+04	-1539.5	-6858.7
1	ok 55	0.07	0.4	4.14e-04	15.7	15.7	15.7	15.7	8.5	11.8	0.1	-3182.7	-5259.2	-9497.2
1	ok 56	0.07	0.4	4.15e-04	15.7	15.7	15.7	15.7	8.5	11.8	-0.1	-3182.7	-5259.2	9497.2
1	ok 57	0.07	0.4	2.17e-03	15.7	15.7	15.7	15.7	12.3	1.0	1.2	1.244e+04	-1.093e+04	-3328.4
1	ok 58	0.07	0.3	2.44e-03	15.7	15.7	15.7	15.7	2.6	3.9	6.9	2508.7	5819.1	8849.7
1	ok 59	0.07	0.3	2.44e-03	15.7	15.7	15.7	15.7	2.6	3.9	-6.9	2508.7	5819.1	-8849.7
1	ok 60	0.07	0.3	6.32e-03	15.7	15.7	15.7	15.7	-10.8	14.5	60.0	-1.040e+04	-1.150e+04	1828.4
1	ok 61	0.07	0.3	6.32e-03	15.7	15.7	15.7	15.7	-10.8	14.5	-60.0	-1.040e+04	-1.150e+04	-1828.4
1	ok 62	0.07	0.3	3.13e-04	15.7	15.7	15.7	15.7	5.7	7.1	0.8	-1.051e+04	-2418.1	5512.1
1	ok 63	0.07	0.3	3.14e-04	15.7	15.7	15.7	15.7	5.7	7.1	-0.8	-1.051e+04	-2418.1	-5512.1
1	NV 64	0.07	0.5	2.67e-03	15.7	15.7	15.7	15.7	15.5	9.9	6.3	6901.3	1.131e+04	-9649.1
1	NV 65	0.07	0.5	2.67e-03	15.7	15.7	15.7	15.7	15.5	9.9	-6.3	6901.3	1.131e+04	9649.1
1	NV 66	0.07	0.4	3.08e-03	15.7	15.7	15.7	15.7	4.4	-8.2	-6.8	-1.116e+04	1093.8	9879.4

M_G	Nodo	x/d	verif.	ver. rid	Af pr-	Af pr+	Af sec-	Af sec+	N x	N y	N xy	M x	M y	M xy
									daN/cm	daN/cm	daN/cm	daN	daN	daN
1	NV 67	0.07	0.4	3.08e-03	15.7	15.7	15.7	15.7	4.3	-8.3	6.7	-1.116e+04	1093.8	-9879.4
1	ok 68	0.07	0.4	2.80e-03	15.7	15.7	15.7	15.7	23.6	0.5	9.8	-1.274e+04	-5885.7	-3537.1
1	ok 69	0.07	0.4	2.80e-03	15.7	15.7	15.7	15.7	23.6	0.5	-9.8	-1.274e+04	-5885.7	3537.1
1	ok 70	0.07	0.3	0.0	15.7	15.7	15.7	15.7	7.1	4.6	-0.1	2242.0	-1.128e+04	165.8
1	ok 71	0.07	0.2	0.0	15.7	15.7	15.7	15.7	6.3	5.6	1.6	-2106.9	-8291.3	2723.0
1	ok 72	0.07	0.2	0.0	15.7	15.7	15.7	15.7	6.3	5.6	-1.6	-2106.9	-8291.3	-2723.0
1	ok 73	0.07	0.3	1.84e-02	15.7	15.7	15.7	15.7	23.7	-91.0	-4.2	-6496.6	7443.6	-3833.6
1	ok 74	0.07	0.3	1.84e-02	15.7	15.7	15.7	15.7	23.7	-91.0	4.2	-6496.4	7443.4	3833.6
1	NV 75	0.08	1.0	6.73e-03	15.7	24.0	15.7	24.0	46.0	0.3	13.6	4.763e+04	5.585e+04	1550.6
1	NV 76	0.08	1.0	6.73e-03	15.7	24.0	15.7	24.0	45.9	0.2	-13.6	4.763e+04	5.585e+04	-1550.6
1	ok 77	0.07	0.2	1.44e-05	15.7	15.7	15.7	15.7	5.1	7.4	1.5	-8622.5	-3273.6	905.4
1	ok 78	0.07	0.2	1.46e-05	15.7	15.7	15.7	15.7	5.1	7.4	-1.5	-8622.5	-3273.6	-905.4
1	ok 79	0.07	0.3	1.23e-03	15.7	15.7	15.7	15.7	11.9	7.4	2.9	-1.256e+04	-1960.2	-1515.7
1	ok 80	0.07	0.3	1.23e-03	15.7	15.7	15.7	15.7	11.9	7.4	-2.9	-1.256e+04	-1960.2	1515.7
1	ok 81	0.07	0.3	1.38e-03	15.7	15.7	15.7	15.7	-3.6	8.7	-1.0	-3423.1	1.060e+04	-2034.1
1	ok 82	0.07	0.3	1.37e-03	15.7	15.7	15.7	15.7	-3.5	8.7	1.0	-3423.1	1.060e+04	2034.1
1	ok 83	0.07	0.7	2.71e-02	15.7	15.7	15.7	15.7	-102.6	-298.0	-4.2	2.550e+04	1.798e+04	-7346.9
1	ok 84	0.07	0.7	2.71e-02	15.7	15.7	15.7	15.7	-102.6	-298.0	4.2	2.550e+04	1.798e+04	7346.9
1	NV 85	0.07	0.4	1.71e-03	15.7	15.7	15.7	15.7	19.6	4.9	-0.6	-1539.5	1.338e+04	6858.8
1	NV 86	0.07	0.4	1.72e-03	15.7	15.7	15.7	15.7	19.6	4.8	0.6	-1539.5	1.338e+04	-6858.8
1	ok 87	0.07	0.4	5.08e-04	15.7	15.7	15.7	15.7	1.8	5.0	-4.9	8165.6	1.018e+04	-7612.2
1	ok 88	0.07	0.4	5.08e-04	15.7	15.7	15.7	15.7	1.8	5.0	4.9	8165.6	1.018e+04	7612.2
1	ok 89	0.07	0.5	8.79e-03	15.7	15.7	15.7	15.7	-19.3	33.2	-56.9	-4648.5	-5304.2	-1.414e+04
1	ok 90	0.07	0.5	8.79e-03	15.7	15.7	15.7	15.7	-19.3	33.2	56.9	-4648.5	-5304.2	1.414e+04
1	ok 91	0.07	0.3	0.0	15.7	15.7	15.7	15.7	5.6	5.8	-7.15e-02	1912.3	-1.133e+04	-214.9
1	ok 92	0.07	0.3	0.0	15.7	15.7	15.7	15.7	5.5	6.0	0.8	-924.1	-9258.1	-2103.4
1	ok 93	0.07	0.3	0.0	15.7	15.7	15.7	15.7	5.5	6.0	-0.8	-924.1	-9258.1	2103.4
1	ok 94	0.07	0.2	0.0	15.7	15.7	15.7	15.7	5.2	6.4	0.6	-5732.9	-6016.2	-3327.8
1	ok 95	0.07	0.2	0.0	15.7	15.7	15.7	15.7	5.2	6.4	-0.6	-5732.9	-6016.2	3327.8
1	NV 96	0.07	0.4	3.09e-03	15.7	15.7	15.7	15.7	-8.3	4.3	-6.7	1093.8	-1.116e+04	9879.3
1	NV 97	0.07	0.4	3.08e-03	15.7	15.7	15.7	15.7	-8.2	4.4	6.8	1093.8	-1.116e+04	-9879.3
1	ok 98	0.07	0.3	0.0	15.7	15.7	15.7	15.7	4.7	6.5	-0.4	-6828.7	-3144.1	-5198.0
1	ok 99	0.07	0.3	0.0	15.7	15.7	15.7	15.7	4.7	6.5	0.4	-6828.7	-3144.1	5198.0
1	ok 100	0.07	0.4	2.81e-03	15.7	15.7	15.7	15.7	-9.1	7.5	0.9	-7040.7	-9746.1	-7006.4
1	ok 101	0.07	0.4	2.81e-03	15.7	15.7	15.7	15.7	-9.1	7.5	-0.9	-7040.7	-9746.1	7006.4
1	ok 102	0.07	0.2	0.0	15.7	15.7	15.7	15.7	5.9	5.6	-1.5	-3514.5	-3075.7	-6406.2
1	ok 103	0.07	0.2	0.0	15.7	15.7	15.7	15.7	5.9	5.6	1.5	-3514.5	-3075.7	6406.2
1	ok 104	0.07	0.3	1.28e-03	15.7	15.7	15.7	15.7	7.0	10.9	-0.7	-1.044e+04	-9186.2	669.8
1	ok 105	0.07	0.3	1.28e-03	15.7	15.7	15.7	15.7	8.8	9.1	1.2	-1.065e+04	-9923.3	-143.8
1	ok 106	0.07	0.3	1.37e-03	15.7	15.7	15.7	15.7	8.7	-3.5	-1.0	1.060e+04	-3423.1	-2034.1
1	ok 107	0.07	0.3	1.38e-03	15.7	15.7	15.7	15.7	8.7	-3.6	1.0	1.060e+04	-3423.1	2034.1
1	ok 108	0.07	0.3	6.77e-04	15.7	15.7	15.7	15.7	10.4	7.4	0.5	-5773.1	-1.047e+04	4691.4
1	ok 109	0.07	0.3	6.77e-04	15.7	15.7	15.7	15.7	10.4	7.4	-0.5	-5773.1	-1.047e+04	-4691.4
1	ok 110	0.07	0.3	0.0	15.7	15.7	15.7	15.7	5.6	5.6	-0.4	-5217.6	-5353.2	-5571.0
1	ok 111	0.07	0.2	0.0	15.7	15.7	15.7	15.7	5.4	5.6	-6.63e-02	-4930.7	-4591.1	-4659.8
1	ok 112	0.07	0.2	0.0	15.7	15.7	15.7	15.7	5.5	5.4	0.3	-2341.7	-2986.8	-4219.1
1	ok 113	0.07	0.3	0.0	15.7	15.7	15.7	15.7	6.8	7.8	2.8	7490.8	2257.1	-5642.4
1	ok 114	0.07	0.3	5.16e-04	15.7	15.7	15.7	15.7	3.3	6.9	-1.5	1.036e+04	-7088.5	-1378.1
1	ok 115	0.07	0.3	0.0	15.7	15.7	15.7	15.7	6.8	7.8	-2.8	7490.8	2257.1	5642.4
1	ok 116	0.07	0.2	0.0	15.7	15.7	15.7	15.7	5.5	5.4	-0.3	-2341.7	-2986.8	4219.1
1	ok 117	0.07	0.2	0.0	15.7	15.7	15.7	15.7	5.4	5.6	6.67e-02	-4930.7	-4591.1	4659.8
1	ok 118	0.07	0.3	0.0	15.7	15.7	15.7	15.7	5.6	5.6	0.4	-5217.6	-5353.2	5571.0
1	ok 119	0.07	0.3	0.0	15.7	15.7	15.7	15.7	6.5	4.7	-0.4	-3144.1	-6828.7	-5198.0
1	ok 120	0.07	0.3	0.0	15.7	15.7	15.7	15.7	6.5	4.7	0.4	-3144.1	-6828.7	5198.0
1	ok 121	0.07	0.3	3.14e-04	15.7	15.7	15.7	15.7	7.1	5.7	0.8	-2418.1	-1.051e+04	5512.1
1	ok 122	0.07	0.3	3.13e-04	15.7	15.7	15.7	15.7	7.1	5.7	-0.8	-2418.1	-1.051e+04	-5512.1
1	ok 123	0.07	0.9	9.76e-03	15.7	15.7	15.7	15.7	-35.7	44.8	-17.7	6116.0	-2.561e+04	9289.1
1	ok 124	0.07	0.9	9.76e-03	15.7	15.7	15.7	15.7	-31.9	52.9	21.4	6185.1	-2.534e+04	-9264.0
1	ok 125	0.08	1.0	3.51e-02	17.4	15.7	18.9	15.7	214.0	-23.7	62.4	-2.668e+04	-4.636e+04	929.9
1	ok 126	0.08	1.0	3.51e-02	17.3	15.7	18.9	15.7	214.0	-23.7	-62.4	-2.668e+04	-4.636e+04	-929.9
1	ok 127	0.07	0.2	1.46e-05	15.7	15.7	15.7	15.7	7.4	5.1	1.5	-3273.6	-8622.5	905.4
1	ok 128	0.07	0.2	1.44e-05	15.7	15.7	15.7	15.7	7.4	5.1	-1.5	-3273.6	-8622.5	-905.4
1	ok 129	0.07	0.2	0.0	15.7	15.7	15.7	15.7	5.6	5.4	-6.67e-02	-4591.1	-4930.7	-4659.8
1	ok 130	0.07	0.2	0.0	15.7	15.7	15.7	15.7	5.4	5.4	-4.85e-02	-2895.5	-2895.5	-3152.8
1	ok 131	0.07	5.47e-02	0.0	15.7	15.7	15.7	15.7	5.3	4.6	0.1	-1003.1	900.3	-1518.9
1	ok 132	0.07	0.2	5.93e-04	15.7	15.7	15.7	15.7	5.3	6.2	1.0	5548.4	9263.1	-521.0
1	ok 133	0.07	0.9	2.45e-03	15.7	15.7	15.7	15.7	4.5	-6.3	6.9	3.282e+04	2.930e+04	3137.5
1	ok 134	0.07	0.2	5.93e-04	15.7	15.7	15.7	15.7	5.3	6.2	-1.0	5548.4	9263.1	521.0
1	ok 135	0.07	5.47e-02	0.0	15.7	15.7	15.7	15.7	5.3	4.6	-0.1	-1003.1	900.3	1518.9
1	ok 136	0.07	0.2	0.0	15.7	15.7	15.7	15.7	5.4	5.4	4.85e-02	-2895.5	-2895.5	3152.8
1	ok 137	0.07	0.2	0.0	15.7	15.7	15.7	15.7	5.6	5.4	6.63e-02	-4591.1	-4930.7	4659.8
1	ok 138	0.07	0.7	1.30e-02	15.7	15.7	15.7	15.7	64.3	-46.4	76.1	-8208.2	-2.475e+04	2339.4
1	ok 139	0.07	0.7	1.30e-02	15.7	15.7	15.7	15.7	64.3	-46.4	-76.1	-8208.2	-2.475e+04	-2339.4
1	ok 140	0.07	0.4	3.40e-03	15.7	15.7	15.7	15.7	11.3	23.6	-13.5	-1.107e+04	6931.2	-6503.4

M_G	Nodo	x/d	verif.	ver. rid	Af pr-	Af pr+	Af sec-	Af sec+	N x	N y	N xy	M x	M y	M xy
									daN/cm	daN/cm	daN/cm	daN	daN	daN
1	ok 141	0.07	0.4	3.40e-03	15.7	15.7	15.7	15.7	8.0	10.8	9.0	-1.155e+04	6647.7	6423.8
1	ok 142	0.07	0.2	0.0	15.7	15.7	15.7	15.7	6.4	5.2	0.6	-6016.2	-5732.9	-3327.8
1	ok 143	0.07	0.2	0.0	15.7	15.7	15.7	15.7	6.4	5.2	-0.6	-6016.2	-5732.9	3327.8
1	ok 144	0.07	0.3	2.05e-03	15.7	15.7	15.7	15.7	11.1	6.9	0.2	-4134.2	-8003.1	-4393.4
1	ok 145	0.07	0.3	2.05e-03	15.7	15.7	15.7	15.7	11.1	6.9	-0.2	-4134.2	-8003.1	4393.4
1	ok 146	0.07	0.5	2.71e-03	15.7	15.7	15.7	15.7	-5.9	7.3	-4.7	-798.9	-1.818e+04	1922.8
1	ok 147	0.07	0.5	2.71e-03	15.7	15.7	15.7	15.7	-5.9	7.3	4.8	-798.9	-1.818e+04	-1922.8
1	ok 148	0.07	0.2	0.0	15.7	15.7	15.7	15.7	5.4	5.5	0.3	-2986.8	-2341.7	-4219.1
1	ok 149	0.07	5.47e-02	0.0	15.7	15.7	15.7	15.7	4.6	5.3	0.1	900.3	-1003.1	-1518.9
1	ok 150	0.07	0.1	0.0	15.7	15.7	15.7	15.7	4.7	4.5	0.7	2505.6	3240.1	2254.3
1	ok 151	0.07	0.4	5.44e-04	15.7	15.7	15.7	15.7	3.5	2.4	2.9	9850.3	8827.9	5508.9
1	ok 152	0.07	0.3	7.57e-05	15.7	15.7	15.7	15.7	5.2	2.0	0.5	1.359e+04	5994.1	264.3
1	ok 153	0.07	0.4	5.44e-04	15.7	15.7	15.7	15.7	3.5	2.4	-2.9	9850.3	8827.9	-5508.9
1	ok 154	0.07	0.1	0.0	15.7	15.7	15.7	15.7	4.7	4.5	-0.7	2505.6	3240.1	-2254.3
1	ok 155	0.07	5.47e-02	0.0	15.7	15.7	15.7	15.7	4.6	5.3	-0.1	900.3	-1003.1	1518.9
1	ok 156	0.07	0.2	0.0	15.7	15.7	15.7	15.7	5.4	5.5	-0.3	-2986.8	-2341.7	4219.1
1	ok 157	0.07	0.3	2.44e-03	15.7	15.7	15.7	15.7	8.6	19.8	-4.0	5277.6	914.3	7565.0
1	ok 158	0.07	0.3	2.44e-03	15.7	15.7	15.7	15.7	3.9	2.6	-6.9	5819.1	2508.7	-8849.7
1	ok 159	0.07	0.2	0.0	15.7	15.7	15.7	15.7	5.6	6.3	1.6	-8291.3	-2106.9	2723.0
1	ok 160	0.07	0.2	0.0	15.7	15.7	15.7	15.7	5.6	6.3	-1.6	-8291.3	-2106.9	-2723.0
1	ok 161	0.07	0.3	0.0	15.7	15.7	15.7	15.7	6.0	5.5	0.8	-9258.1	-924.1	-2103.4
1	ok 162	0.07	0.3	0.0	15.7	15.7	15.7	15.7	6.0	5.5	-0.8	-9258.1	-924.1	2103.4
1	ok 163	0.07	0.3	0.0	15.7	15.7	15.7	15.7	7.8	6.8	2.8	2257.1	7490.8	-5642.4
1	ok 164	0.07	0.2	5.93e-04	15.7	15.7	15.7	15.7	6.2	5.3	1.0	9263.1	5548.4	-521.0
1	ok 165	0.07	0.4	5.44e-04	15.7	15.7	15.7	15.7	2.4	3.5	2.9	8827.9	9850.3	5508.9
1	ok 166	0.07	0.2	0.0	15.7	15.7	15.7	15.7	4.1	4.0	0.8	5666.0	4850.4	2934.5
1	ok 167	0.07	0.2	0.0	15.7	15.7	15.7	15.7	4.5	3.7	3.16e-02	6454.5	3999.6	51.5
1	ok 168	0.07	0.2	0.0	15.7	15.7	15.7	15.7	4.1	4.0	-0.8	5666.0	4850.4	-2934.5
1	ok 169	0.07	0.4	5.44e-04	15.7	15.7	15.7	15.7	2.4	3.5	-2.9	8827.9	9850.3	-5508.9
1	ok 170	0.07	0.2	5.93e-04	15.7	15.7	15.7	15.7	6.2	5.3	-1.0	9263.1	5548.4	521.0
1	ok 171	0.07	0.3	0.0	15.7	15.7	15.7	15.7	7.8	6.8	-2.8	2257.1	7490.8	5642.4
1	ok 172	0.07	0.2	2.47e-02	15.7	15.7	15.7	15.7	-0.2	160.9	-63.0	-422.5	5953.6	2207.7
1	ok 173	0.07	0.4	4.69e-02	15.7	15.7	15.7	15.7	14.6	-474.7	79.5	5413.3	5701.5	5910.9
1	ok 174	0.07	0.4	1.84e-02	15.7	15.7	15.7	15.7	-14.7	-123.5	-123.4	-1.180e+04	-176.0	-1.035e+04
1	ok 175	0.07	0.4	4.04e-03	15.7	15.7	15.7	15.7	0.6	35.5	38.2	-1.080e+04	4268.3	8167.4
1	ok 176	0.07	0.4	3.50e-03	15.7	15.7	15.7	15.7	14.9	5.1	0.3	-1.201e+04	1.427e+04	-5249.8
1	ok 177	0.08	1.0	8.59e-03	15.7	20.9	15.7	21.1	-20.0	5.5	16.8	4.469e+04	4.507e+04	5291.3
1	ok 178	0.07	0.4	2.17e-03	15.7	15.7	15.7	15.7	1.0	12.3	-1.2	-1.093e+04	1.244e+04	3328.4
1	ok 179	0.07	0.3	0.0	15.7	15.7	15.7	15.7	4.6	7.1	-0.1	-1.128e+04	2242.0	165.8
1	ok 180	0.07	0.3	0.0	15.7	15.7	15.7	15.7	5.8	5.6	-7.17e-02	-1.133e+04	1912.3	-214.9
1	ok 181	0.07	0.3	5.16e-04	15.7	15.7	15.7	15.7	6.9	3.4	-1.5	-7088.5	1.036e+04	-1378.1
1	ok 182	0.07	0.9	2.45e-03	15.7	15.7	15.7	15.7	-6.3	4.5	6.9	2.930e+04	3.282e+04	3137.5
1	ok 183	0.07	0.3	7.57e-05	15.7	15.7	15.7	15.7	2.0	5.2	0.5	5994.1	1.359e+04	264.3
1	ok 184	0.07	0.2	0.0	15.7	15.7	15.7	15.7	3.7	4.5	3.16e-02	3999.6	6454.5	51.5
1	ok 185	0.07	0.1	0.0	15.7	15.7	15.7	15.7	4.2	4.2	-4.35e-04	4282.2	4282.2	14.9
1	ok 186	0.07	0.2	0.0	15.7	15.7	15.7	15.7	3.7	4.5	-3.16e-02	3999.6	6454.5	-51.5
1	ok 187	0.07	0.3	7.57e-05	15.7	15.7	15.7	15.7	2.0	5.2	-0.5	5994.1	1.359e+04	-264.3
1	ok 188	0.07	0.9	2.45e-03	15.7	15.7	15.7	15.7	-6.3	4.5	-6.9	2.930e+04	3.282e+04	-3137.5
1	ok 189	0.07	0.3	5.16e-04	15.7	15.7	15.7	15.7	6.9	3.3	1.5	-7088.5	1.036e+04	1378.1
1	ok 190	0.07	0.3	0.0	15.7	15.7	15.7	15.7	5.8	5.6	7.15e-02	-1.133e+04	1912.3	214.9
1	ok 191	0.07	0.3	0.0	15.7	15.7	15.7	15.7	4.6	7.1	0.1	-1.128e+04	2242.0	-165.8
1	ok 192	0.07	0.4	2.17e-03	15.7	15.7	15.7	15.7	1.0	12.3	1.2	-1.093e+04	1.244e+04	-3328.4
1	ok 193	0.08	1.0	8.59e-03	15.7	20.9	15.7	21.1	-20.0	5.5	-16.8	4.469e+04	4.507e+04	-5291.3
1	ok 194	0.07	0.4	3.50e-03	15.7	15.7	15.7	15.7	14.9	5.1	-0.3	-1.201e+04	1.427e+04	5249.8
1	ok 195	0.07	0.4	4.04e-03	15.7	15.7	15.7	15.7	0.6	35.5	-38.2	-1.080e+04	4268.3	-8167.4
1	ok 196	0.07	0.4	1.84e-02	15.7	15.7	15.7	15.7	-14.7	-123.5	123.4	-1.180e+04	-176.0	1.035e+04
1	ok 197	0.07	0.4	4.69e-02	15.7	15.7	15.7	15.7	14.6	-474.7	-79.5	5413.3	5701.5	-5910.9
1	ok 198	0.07	0.2	2.47e-02	15.7	15.7	15.7	15.7	-0.2	160.9	63.1	-422.3	5954.0	-2207.6
1	ok 199	0.07	0.3	0.0	15.7	15.7	15.7	15.7	7.8	6.8	-2.8	2257.1	7490.8	5642.4
1	ok 200	0.07	0.2	5.93e-04	15.7	15.7	15.7	15.7	6.2	5.3	-1.0	9263.1	5548.4	521.0
1	ok 201	0.07	0.4	5.44e-04	15.7	15.7	15.7	15.7	2.4	3.5	-2.9	8827.9	9850.3	-5508.9
1	ok 202	0.07	0.2	0.0	15.7	15.7	15.7	15.7	4.0	4.1	-0.8	4850.4	5666.0	-2934.5
1	ok 203	0.07	0.2	0.0	15.7	15.7	15.7	15.7	4.5	3.7	-3.16e-02	6454.5	3999.6	-51.5
1	ok 204	0.07	0.2	0.0	15.7	15.7	15.7	15.7	4.0	4.1	0.8	4850.4	5666.0	2934.5
1	ok 205	0.07	0.4	5.44e-04	15.7	15.7	15.7	15.7	2.4	3.5	2.9	8827.9	9850.3	5508.9
1	ok 206	0.07	0.2	5.93e-04	15.7	15.7	15.7	15.7	6.2	5.3	1.0	9263.1	5548.4	-521.0
1	ok 207	0.07	0.3	0.0	15.7	15.7	15.7	15.7	7.8	6.8	2.8	2257.1	7490.8	-5642.4
1	ok 208	0.07	0.3	0.0	15.7	15.7	15.7	15.7	6.0	5.5	-0.8	-9258.1	-924.1	2103.4
1	ok 209	0.07	0.3	0.0	15.7	15.7	15.7	15.7	6.0	5.5	0.8	-9258.1	-924.1	-2103.4
1	ok 210	0.07	0.2	0.0	15.7	15.7	15.7	15.7	5.6	6.3	-1.6	-8291.3	-2106.9	-2723.0
1	ok 211	0.07	0.2	0.0	15.7	15.7	15.7	15.7	5.6	6.3	1.6	-8291.3	-2106.9	2723.0
1	ok 212	0.07	0.3	2.44e-03	15.7	15.7	15.7	15.7	3.9	2.6	-6.9	5819.1	2508.7	-8849.7
1	ok 213	0.07	0.3	2.44e-03	15.7	15.7	15.7	15.7	3.9	2.6	6.9	5819.1	2508.7	8849.7
1	ok 214	0.07	0.2	0.0	15.7	15.7	15.7	15.7	5.4	5.5	-0.3	-2986.8	-2341.7	4219.1

M_G	Nodo	x/d	verif.	ver. rid	Af pr-	Af pr+	Af sec-	Af sec+	N x	N y	N xy	M x	M y	M xy
									daN/cm	daN/cm	daN/cm	daN	daN	daN
1	ok 215	0.07	5.47e-02	0.0	15.7	15.7	15.7	15.7	4.6	5.3	-0.1	900.3	-1003.1	1518.9
1	ok 216	0.07	0.1	0.0	15.7	15.7	15.7	15.7	4.5	4.7	-0.7	3240.1	2505.6	-2254.3
1	ok 217	0.07	0.4	5.44e-04	15.7	15.7	15.7	15.7	3.5	2.4	-2.9	9850.3	8827.9	-5508.9
1	ok 218	0.07	0.3	7.57e-05	15.7	15.7	15.7	15.7	5.2	2.0	-0.5	1.359e+04	5994.1	-264.3
1	ok 219	0.07	0.4	5.44e-04	15.7	15.7	15.7	15.7	3.5	2.4	2.9	9850.3	8827.9	5508.9
1	ok 220	0.07	0.1	0.0	15.7	15.7	15.7	15.7	4.5	4.7	0.7	3240.1	2505.6	2254.3
1	ok 221	0.07	5.47e-02	0.0	15.7	15.7	15.7	15.7	4.6	5.3	0.1	900.3	-1003.1	-1518.9
1	ok 222	0.07	0.2	0.0	15.7	15.7	15.7	15.7	5.4	5.5	0.3	-2986.8	-2341.7	-4219.1
1	ok 223	0.07	0.5	2.71e-03	15.7	15.7	15.7	15.7	24.7	6.5	3.0	-575.2	-1.664e+04	-3800.3
1	ok 224	0.07	0.5	2.71e-03	15.7	15.7	15.7	15.7	24.7	6.5	-3.0	-575.2	-1.664e+04	3800.3
1	ok 225	0.07	0.3	2.05e-03	15.7	15.7	15.7	15.7	5.2	1.2	-14.7	-796.2	-1.147e+04	2246.7
1	ok 226	0.07	0.3	2.05e-03	15.7	15.7	15.7	15.7	5.2	1.2	14.7	-796.2	-1.147e+04	-2246.7
1	ok 227	0.07	0.2	0.0	15.7	15.7	15.7	15.7	6.4	5.2	-0.6	-6016.2	-5732.9	3327.8
1	ok 228	0.07	0.2	0.0	15.7	15.7	15.7	15.7	6.4	5.2	0.6	-6016.2	-5732.9	-3327.8
1	ok 229	0.07	0.4	3.40e-03	15.7	15.7	15.7	15.7	8.0	10.8	9.0	-1.155e+04	6647.7	6423.8
1	ok 230	0.07	0.4	3.40e-03	15.7	15.7	15.7	15.7	11.3	23.6	-13.5	-1.107e+04	6931.2	-6503.4
1	ok 231	0.07	0.7	1.30e-02	15.7	15.7	15.7	15.7	64.3	-46.4	-76.1	-8208.2	-2.475e+04	-2339.4
1	ok 232	0.07	0.7	1.30e-02	15.7	15.7	15.7	15.7	64.3	-46.4	76.1	-8208.2	-2.475e+04	2339.4
1	ok 233	0.07	0.2	0.0	15.7	15.7	15.7	15.7	5.6	5.4	6.63e-02	-4591.1	-4930.7	4659.8
1	ok 234	0.07	0.2	0.0	15.7	15.7	15.7	15.7	5.4	5.4	4.85e-02	-2895.5	-2895.5	3152.8
1	ok 235	0.07	5.47e-02	0.0	15.7	15.7	15.7	15.7	5.3	4.6	-0.1	-1003.1	900.3	1518.9
1	ok 236	0.07	0.2	5.93e-04	15.7	15.7	15.7	15.7	5.3	6.2	-1.0	5548.4	9263.1	521.0
1	ok 237	0.07	0.9	2.45e-03	15.7	15.7	15.7	15.7	4.5	-6.3	-6.9	3.282e+04	2.930e+04	-3137.5
1	ok 238	0.07	0.2	5.93e-04	15.7	15.7	15.7	15.7	5.3	6.2	1.0	5548.4	9263.1	-521.0
1	ok 239	0.07	5.47e-02	0.0	15.7	15.7	15.7	15.7	5.3	4.6	0.1	-1003.1	900.3	-1518.9
1	ok 240	0.07	0.2	0.0	15.7	15.7	15.7	15.7	5.4	5.4	-4.85e-02	-2895.5	-2895.5	-3152.8
1	ok 241	0.07	0.2	0.0	15.7	15.7	15.7	15.7	5.6	5.4	-6.67e-02	-4591.1	-4930.7	-4659.8
1	ok 242	0.07	0.2	1.44e-05	15.7	15.7	15.7	15.7	7.4	5.1	-1.5	-3273.6	-8622.5	-905.4
1	ok 243	0.07	0.2	1.46e-05	15.7	15.7	15.7	15.7	7.4	5.1	1.5	-3273.6	-8622.5	905.4
1	ok 244	0.08	1.0	3.51e-02	17.4	15.7	18.9	15.7	214.0	-23.7	-62.4	-2.668e+04	-4.636e+04	-929.9
1	ok 245	0.08	1.0	3.51e-02	17.3	15.7	18.9	15.7	214.0	-23.7	62.4	-2.668e+04	-4.636e+04	929.9
1	ok 246	0.07	0.9	9.76e-03	15.7	15.7	15.7	15.7	-35.7	44.8	17.7	6115.3	-2.561e+04	-9289.3
1	ok 247	0.07	0.9	9.76e-03	15.7	15.7	15.7	15.7	-35.7	44.8	-17.7	6116.0	-2.561e+04	9289.1
1	ok 248	0.07	0.3	3.13e-04	15.7	15.7	15.7	15.7	7.1	5.7	-0.8	-2418.1	-1.051e+04	-5512.1
1	ok 249	0.07	0.3	3.14e-04	15.7	15.7	15.7	15.7	7.1	5.7	0.8	-2418.1	-1.051e+04	5512.1
1	ok 250	0.07	0.3	0.0	15.7	15.7	15.7	15.7	6.5	4.7	0.4	-3144.1	-6828.7	5198.0
1	ok 251	0.07	0.3	0.0	15.7	15.7	15.7	15.7	6.5	4.7	-0.4	-3144.1	-6828.7	-5198.0
1	ok 252	0.07	0.3	0.0	15.7	15.7	15.7	15.7	5.6	5.6	0.4	-5217.6	-5353.2	5571.0
1	ok 253	0.07	0.2	0.0	15.7	15.7	15.7	15.7	5.4	5.6	6.67e-02	-4930.7	-4591.1	4659.8
1	ok 254	0.07	0.2	0.0	15.7	15.7	15.7	15.7	5.5	5.4	-0.3	-2341.7	-2986.8	4219.1
1	ok 255	0.07	0.3	0.0	15.7	15.7	15.7	15.7	6.8	7.8	-2.8	7490.8	2257.1	5642.4
1	ok 256	0.07	0.3	5.16e-04	15.7	15.7	15.7	15.7	3.4	6.9	1.5	1.036e+04	-7088.5	1378.1
1	ok 257	0.07	0.3	0.0	15.7	15.7	15.7	15.7	6.8	7.8	2.8	7490.8	2257.1	-5642.4
1	ok 258	0.07	0.2	0.0	15.7	15.7	15.7	15.7	5.5	5.4	0.3	-2341.7	-2986.8	-4219.1
1	ok 259	0.07	0.2	0.0	15.7	15.7	15.7	15.7	5.4	5.6	-6.63e-02	-4930.7	-4591.1	-4659.8
1	ok 260	0.07	0.3	0.0	15.7	15.7	15.7	15.7	5.6	5.6	-0.4	-5217.6	-5353.2	-5571.0
1	ok 261	0.07	0.3	6.77e-04	15.7	15.7	15.7	15.7	10.4	7.4	-0.5	-5773.1	-1.047e+04	-4691.4
1	ok 262	0.07	0.3	6.77e-04	15.7	15.7	15.7	15.7	10.4	7.4	0.5	-5773.1	-1.047e+04	4691.4
1	ok 263	0.07	0.3	1.38e-03	15.7	15.7	15.7	15.7	8.7	-3.6	1.0	1.060e+04	-3423.1	2034.1
1	ok 264	0.07	0.3	1.37e-03	15.7	15.7	15.7	15.7	8.7	-3.5	-1.0	1.060e+04	-3423.1	-2034.1
1	ok 265	0.07	0.3	1.28e-03	15.7	15.7	15.7	15.7	7.0	10.9	0.7	-1.044e+04	-9186.2	-669.8
1	ok 266	0.07	0.3	1.28e-03	15.7	15.7	15.7	15.7	7.0	10.9	-0.7	-1.044e+04	-9186.2	669.8
1	ok 267	0.07	0.2	0.0	15.7	15.7	15.7	15.7	5.9	5.6	1.5	-3514.5	-3075.7	6406.2
1	ok 268	0.07	0.2	0.0	15.7	15.7	15.7	15.7	5.9	5.6	-1.5	-3514.5	-3075.7	-6406.2
1	ok 269	0.07	0.4	2.81e-03	15.7	15.7	15.7	15.7	-9.1	7.5	-0.9	-7040.7	-9746.1	7006.4
1	ok 270	0.07	0.4	2.81e-03	15.7	15.7	15.7	15.7	-9.1	7.5	0.9	-7040.7	-9746.1	-7006.4
1	ok 271	0.07	0.3	0.0	15.7	15.7	15.7	15.7	4.7	6.5	0.4	-6828.7	-3144.1	5198.0
1	ok 272	0.07	0.3	0.0	15.7	15.7	15.7	15.7	4.7	6.5	-0.4	-6828.7	-3144.1	-5198.0
1	NV 273	0.07	0.4	3.08e-03	15.7	15.7	15.7	15.7	-8.2	4.4	6.8	1093.8	-1.116e+04	-9879.3
1	NV 274	0.07	0.4	3.09e-03	15.7	15.7	15.7	15.7	-8.3	4.3	-6.7	1093.8	-1.116e+04	9879.3
1	ok 275	0.07	0.2	0.0	15.7	15.7	15.7	15.7	5.2	6.4	-0.6	-5732.9	-6016.2	3327.8
1	ok 276	0.07	0.2	0.0	15.7	15.7	15.7	15.7	5.2	6.4	0.6	-5732.9	-6016.2	-3327.8
1	ok 277	0.07	0.3	0.0	15.7	15.7	15.7	15.7	5.5	6.0	-0.8	-924.1	-9258.1	2103.4
1	ok 278	0.07	0.3	0.0	15.7	15.7	15.7	15.7	5.5	6.0	0.8	-924.1	-9258.1	-2103.4
1	ok 279	0.07	0.3	0.0	15.7	15.7	15.7	15.7	5.6	5.8	-7.15e-02	1912.3	-1.133e+04	-214.9
1	ok 280	0.07	0.5	8.79e-03	15.7	15.7	15.7	15.7	-19.3	33.2	56.9	-4648.5	-5304.3	1.414e+04
1	ok 281	0.07	0.5	8.79e-03	15.7	15.7	15.7	15.7	-19.3	33.2	-56.9	-4648.5	-5304.3	-1.414e+04
1	ok 282	0.07	0.4	5.08e-04	15.7	15.7	15.7	15.7	1.8	5.0	4.9	8165.6	1.018e+04	7612.2
1	ok 283	0.07	0.4	5.08e-04	15.7	15.7	15.7	15.7	1.8	5.0	-4.9	8165.6	1.018e+04	-7612.2
1	NV 284	0.07	0.4	1.72e-03	15.7	15.7	15.7	15.7	19.6	4.8	0.6	-1539.5	1.338e+04	-6858.8
1	NV 285	0.07	0.4	1.71e-03	15.7	15.7	15.7	15.7	19.6	4.9	-0.6	-1539.5	1.338e+04	6858.8
1	ok 286	0.07	0.7	2.71e-02	15.7	15.7	15.7	15.7	-102.6	-298.0	4.2	2.550e+04	1.798e+04	7346.9
1	ok 287	0.07	0.7	2.71e-02	15.7	15.7	15.7	15.7	-102.6	-298.0	-4.2	2.550e+04	1.798e+04	-7346.9
1	ok 288	0.07	0.3	1.37e-03	15.7	15.7	15.7	15.7	-3.5	8.7	1.0	-3423.1	1.060e+04	2034.1

M_G	Nodo	x/d	verif.	ver. rid	Af pr-	Af pr+	Af sec-	Af sec+	N x	N y	N xy	M x	M y	M xy
									daN/cm	daN/cm	daN/cm	daN	daN	daN
1	ok 289	0.07	0.3	1.38e-03	15.7	15.7	15.7	15.7	-3.6	8.7	-1.0	-3423.1	1.060e+04	-2034.1
1	ok 290	0.07	0.3	1.23e-03	15.7	15.7	15.7	15.7	15.4	5.6	-3.4	-1.224e+04	-382.4	3105.0
1	ok 291	0.07	0.3	1.23e-03	15.7	15.7	15.7	15.7	15.4	5.6	3.4	-1.224e+04	-382.4	-3105.0
1	ok 292	0.07	0.2	1.46e-05	15.7	15.7	15.7	15.7	5.1	7.4	-1.5	-8622.5	-3273.6	-905.4
1	ok 293	0.07	0.2	1.44e-05	15.7	15.7	15.7	15.7	5.1	7.4	1.5	-8622.5	-3273.6	905.4
1	NV 294	0.08	1.0	6.73e-03	15.7	24.0	15.7	24.0	45.9	0.2	-13.6	4.763e+04	5.585e+04	-1550.6
1	NV 295	0.08	1.0	6.73e-03	15.7	24.0	15.7	24.0	46.0	0.3	13.6	4.763e+04	5.585e+04	1550.6
1	ok 296	0.07	0.3	1.84e-02	15.7	15.7	15.7	15.7	-56.2	-174.8	-66.8	247.5	7729.9	9592.8
1	ok 297	0.07	0.3	1.84e-02	15.7	15.7	15.7	15.7	-56.2	-174.8	66.8	247.2	7730.0	-9592.7
1	ok 298	0.07	0.2	0.0	15.7	15.7	15.7	15.7	6.3	5.6	-1.6	-2106.9	-8291.3	-2723.0
1	ok 299	0.07	0.2	0.0	15.7	15.7	15.7	15.7	6.3	5.6	1.6	-2106.9	-8291.3	2723.0
1	ok 300	0.07	0.3	0.0	15.7	15.7	15.7	15.7	7.1	4.6	0.1	2242.0	-1.128e+04	-165.8
1	ok 301	0.07	0.4	2.80e-03	15.7	15.7	15.7	15.7	23.6	0.5	-9.8	-1.274e+04	-5885.7	3537.1
1	ok 302	0.07	0.4	2.80e-03	15.7	15.7	15.7	15.7	23.6	0.5	9.8	-1.274e+04	-5885.7	-3537.1
1	NV 303	0.07	0.4	3.08e-03	15.7	15.7	15.7	15.7	4.3	-8.3	6.7	-1.116e+04	1093.8	-9879.4
1	NV 304	0.07	0.4	3.08e-03	15.7	15.7	15.7	15.7	4.4	-8.2	-6.8	-1.116e+04	1093.8	9879.4
1	NV 305	0.07	0.5	2.67e-03	15.7	15.7	15.7	15.7	15.5	9.9	-6.3	6901.3	1.131e+04	9649.1
1	NV 306	0.07	0.5	2.67e-03	15.7	15.7	15.7	15.7	15.5	9.9	6.3	6901.3	1.131e+04	-9649.1
1	ok 307	0.07	0.3	3.14e-04	15.7	15.7	15.7	15.7	5.7	7.1	-0.8	-1.051e+04	-2418.1	-5512.1
1	ok 308	0.07	0.3	3.13e-04	15.7	15.7	15.7	15.7	5.7	7.1	0.8	-1.051e+04	-2418.1	5512.1
1	ok 309	0.07	0.3	6.32e-03	15.7	15.7	15.7	15.7	16.1	47.5	-27.3	-9670.6	-1.113e+04	-1898.2
1	ok 310	0.07	0.3	6.32e-03	15.7	15.7	15.7	15.7	16.1	47.5	27.3	-9670.6	-1.113e+04	1898.2
1	ok 311	0.07	0.3	2.44e-03	15.7	15.7	15.7	15.7	2.6	3.9	-6.9	2508.7	5819.1	-8849.7
1	ok 312	0.07	0.3	2.44e-03	15.7	15.7	15.7	15.7	2.6	3.9	6.9	2508.7	5819.1	8849.7
1	ok 313	0.07	0.4	2.17e-03	15.7	15.7	15.7	15.7	12.3	1.0	1.2	1.244e+04	-1.093e+04	-3328.4
1	ok 314	0.07	0.4	4.15e-04	15.7	15.7	15.7	15.7	8.5	11.8	-0.1	-3182.7	-5259.2	9497.2
1	ok 315	0.07	0.4	4.14e-04	15.7	15.7	15.7	15.7	8.5	11.8	0.1	-3182.7	-5259.2	-9497.2
1	NV 316	0.07	0.4	1.71e-03	15.7	15.7	15.7	15.7	4.9	19.6	0.6	1.338e+04	-1539.5	-6858.7
1	NV 317	0.07	0.4	1.72e-03	15.7	15.7	15.7	15.7	4.8	19.6	-0.6	1.338e+04	-1539.5	6858.7
1	ok 318	0.07	0.5	1.81e-02	15.7	15.7	15.7	15.7	147.0	-13.3	-20.5	-1.194e+04	-1.584e+04	-4231.8
1	ok 319	0.07	0.5	1.81e-02	15.7	15.7	15.7	15.7	147.0	-13.3	20.5	-1.194e+04	-1.584e+04	4231.8
1	ok 320	0.07	0.3	6.77e-04	15.7	15.7	15.7	15.7	7.4	10.4	-0.5	-1.047e+04	-5773.1	-4691.4
1	ok 321	0.07	0.3	6.76e-04	15.7	15.7	15.7	15.7	7.4	10.4	0.5	-1.047e+04	-5773.1	4691.4
1	ok 322	0.07	0.4	8.04e-04	15.7	15.7	15.7	15.7	3.3	15.1	10.6	-7169.6	-7661.5	8096.8
1	ok 323	0.07	0.4	8.04e-04	15.7	15.7	15.7	15.7	3.3	15.1	-10.6	-7169.6	-7661.5	-8096.8
1	ok 324	0.07	0.3	1.23e-03	15.7	15.7	15.7	15.7	7.4	11.9	-2.9	-1960.2	-1.256e+04	1515.7
1	ok 325	0.07	0.3	1.23e-03	15.7	15.7	15.7	15.7	7.4	11.9	2.9	-1960.2	-1.256e+04	-1515.7
1	ok 326	0.07	0.5	2.71e-03	15.7	15.7	15.7	15.7	6.5	24.7	3.0	-1.664e+04	-575.2	-3800.3
1	ok 327	0.07	0.5	2.71e-03	15.7	15.7	15.7	15.7	6.5	24.7	-3.0	-1.664e+04	-575.2	3800.3
1	ok 328	0.08	1.0	8.59e-03	15.7	21.1	15.7	20.9	5.5	-20.0	-16.8	4.507e+04	4.469e+04	-5291.3
1	ok 329	0.07	0.4	2.15e-03	15.7	15.7	15.7	15.7	51.4	66.0	33.1	-1626.8	-5883.2	-6828.3
1	ok 330	0.07	0.4	2.15e-03	15.7	15.7	15.7	15.7	51.3	66.0	-33.1	-1627.6	-5883.5	6828.2
1	ok 331	0.07	0.3	5.72e-03	15.7	15.7	15.7	15.7	6.2	-9.3	29.3	-385.9	-7509.7	6190.1
1	ok 332	0.07	0.3	5.72e-03	15.7	15.7	15.7	15.7	-11.7	6.2	-32.6	-5241.3	-3605.3	-6139.1
1	ok 333	0.07	0.3	1.28e-03	15.7	15.7	15.7	15.7	9.1	8.8	1.2	-9923.3	-1.065e+04	-143.8
1	ok 334	0.07	0.3	1.28e-03	15.7	15.7	15.7	15.7	9.1	8.8	-1.2	-9923.3	-1.065e+04	143.8
1	ok 335	0.07	0.4	2.80e-03	15.7	15.7	15.7	15.7	0.5	23.6	-9.8	-5885.7	-1.274e+04	3537.1
1	ok 336	0.07	0.4	2.80e-03	15.7	15.7	15.7	15.7	0.5	23.6	9.8	-5885.7	-1.274e+04	-3537.1
1	ok 337	0.07	0.3	2.05e-03	15.7	15.7	15.7	15.7	6.9	11.1	-0.2	-8003.1	-4134.2	4393.4
1	ok 338	0.07	0.3	2.05e-03	15.7	15.7	15.7	15.7	6.9	11.1	0.2	-8003.1	-4134.2	-4393.4
1	ok 339	0.07	0.4	1.31e-02	15.7	15.7	15.7	15.7	45.5	14.3	-30.2	1.272e+04	8360.5	1000.0
1	ok 340	0.07	0.4	1.31e-02	15.7	15.7	15.7	15.7	23.3	-59.8	-42.6	8894.2	1.402e+04	-1086.3
1	ok 341	0.07	0.4	3.50e-03	15.7	15.7	15.7	15.7	5.1	14.9	0.3	1.427e+04	-1.201e+04	-5249.8
1	ok 342	0.07	0.4	2.81e-03	15.7	15.7	15.7	15.7	7.5	-9.1	-0.9	-9746.1	-7040.7	7006.4
1	ok 343	0.07	0.4	2.81e-03	15.7	15.7	15.7	15.7	6.9	-9.8	0.8	-9592.3	-7249.1	-6957.8
1	ok 344	0.07	0.3	6.32e-03	15.7	15.7	15.7	15.7	14.5	-10.8	-60.1	-1.150e+04	-1.040e+04	-1828.4
1	ok 345	0.07	0.3	6.32e-03	15.7	15.7	15.7	15.7	14.5	-10.8	60.1	-1.150e+04	-1.040e+04	1828.4
1	ok 346	0.07	0.4	3.40e-03	15.7	15.7	15.7	15.7	10.9	8.0	9.0	6647.7	-1.155e+04	6423.9
1	ok 347	0.07	0.4	3.40e-03	15.7	15.7	15.7	15.7	10.8	8.0	-9.0	6647.7	-1.155e+04	-6423.9
1	ok 348	0.07	0.2	9.41e-03	15.7	15.7	15.7	15.7	-54.2	-25.2	-17.4	992.7	-1131.0	2817.2
1	ok 349	0.07	0.2	9.41e-03	15.7	15.7	15.7	15.7	-54.2	-25.2	17.4	992.7	-1131.0	-2817.2
1	ok 350	0.07	0.4	4.04e-03	15.7	15.7	15.7	15.7	35.5	0.6	-38.2	4268.2	-1.080e+04	-8167.4
1	ok 351	0.07	0.5	1.81e-02	15.7	15.7	15.7	15.7	-13.3	147.0	-20.5	-1.584e+04	-1.194e+04	-4231.8
1	ok 352	0.07	0.5	1.81e-02	15.7	15.7	15.7	15.7	-13.3	147.0	20.5	-1.584e+04	-1.194e+04	4231.8
1	ok 353	0.07	0.5	8.79e-03	15.7	15.7	15.7	15.7	33.2	-19.3	56.9	-5304.2	-4648.5	1.414e+04
1	ok 354	0.07	0.5	8.79e-03	15.7	15.7	15.7	15.7	34.7	-15.9	-52.6	-5597.9	-4457.3	-1.405e+04
1	ok 355	0.07	0.7	1.30e-02	15.7	15.7	15.7	15.7	-46.4	64.3	-76.1	-2.475e+04	-8208.2	-2339.4
1	ok 356	0.07	0.7	1.30e-02	15.7	15.7	15.7	15.7	-46.4	64.3	76.1	-2.475e+04	-8208.2	2339.4
1	ok 357	0.07	0.4	1.84e-02	15.7	15.7	15.7	15.7	-123.5	-14.7	123.4	-176.0	-1.180e+04	1.035e+04
1	ok 358	0.07	0.7	2.71e-02	15.7	15.7	15.7	15.7	-298.0	-102.6	4.2	1.798e+04	2.550e+04	7346.9
1	ok 359	0.07	0.7	2.71e-02	15.7	15.7	15.7	15.7	-298.1	-102.6	-4.2	1.798e+04	2.550e+04	-7346.9
1	ok 360	0.07	0.4	2.15e-03	15.7	15.7	15.7	15.7	66.0	51.3	33.1	-5883.5	-1627.6	-6828.2
1	ok 361	0.07	0.4	2.15e-03	15.7	15.7	15.7	15.7	66.0	51.3	-33.1	-5883.5	-1627.6	6828.2
1	ok 362	0.08	1.0	3.51e-02	18.9	15.7	17.3	15.7	-23.7	214.0	-62.4	-4.636e+04	-2.668e+04	-929.9

M_G	Nodo	x/d	verif.	ver. rid	Af pr-	Af pr+	Af sec-	Af sec+	N x	N y	N xy	M x	M y	M xy
									daN/cm	daN/cm	daN/cm	daN	daN	daN
1	ok 363	0.08	1.0	3.51e-02	18.9	15.7	17.3	15.7	-23.7	214.0	62.4	-4.636e+04	-2.668e+04	929.9
1	ok 364	0.07	0.4	4.69e-02	15.7	15.7	15.7	15.7	-474.7	14.6	-79.5	5701.5	5413.4	-5910.9
1	ok 365	0.07	0.3	1.84e-02	15.7	15.7	15.7	15.7	-174.8	-56.2	-66.8	7730.0	247.2	9592.6
1	ok 366	0.07	0.3	1.84e-02	15.7	15.7	15.7	15.7	-174.8	-56.2	66.8	7730.0	247.2	-9592.6
1	ok 367	0.07	0.9	9.76e-03	15.7	15.7	15.7	15.7	44.8	-35.7	17.7	-2.561e+04	6116.0	-9289.0
1	ok 368	0.07	0.9	9.76e-03	15.7	15.7	15.7	15.7	44.8	-35.7	-17.7	-2.561e+04	6116.0	9289.0
1	ok 369	0.07	0.2	2.47e-02	15.7	15.7	15.7	15.7	-262.7	-21.3	-27.5	-2525.1	-2623.6	6.8

M_G		x/d	verif.	ver. rid	Af pr-	Af pr+	Af sec-	Af sec+	N x	N y	N xy	M x	M y	M xy
									-474.69	-474.70	-123.38	-4.636e+04	-4.636e+04	-1.414e+04
		0.08	0.98	0.05	18.95	24.03	18.94	24.01	450.49	213.99	201.00	4.763e+04	5.585e+04	1.414e+04

Gli elementi con codice i verifica NV segnalano che è necessario predisporre delle armature a punzonamento attorno alla sommità dei pali più caricati, si dispone pertanto un’armatura a punzonamento con due anelli posti ad interasse 40 cm di ferri di cucitura composti da 1ϕ16/40.

L’armatura della soletta è costituita da una maglia base di 1ϕ20/20/20 inf/sup a cui si aggiungono ferri alternati con sezione variabile ove necessario.