

santo masilla

CN = masilla santo

C = IT

# AGROFOTOVOLTAICO TRE TORRI

## AGRICOLTURA 4.0

IMPIANTO DI PRODUZIONE DI ENERGIA ELETTRICA DA FONTE FOTOVOLTAICA,  
CON PANNELLI COLLOCATI IN ALTEZZA, DI POTENZA IN GENERAZIONE  
PARI A 26,8643 MW E POTENZA IMMESSA IN RETE PARI A 25,82 MW,  
**DENOMINATO "AFV TRETORRI AGRICOLTURA 4.0"**

REGIONE PUGLIA  
PROVINCIA di BRINDISI  
COMUNI di SAN PANCRAZIO SALENTINO ed ERCHIE  
opere connesse nel COMUNE DI ERCHIE (Br) contrada "Tre Torri"  
Località ubicazione impianto AFV: Masseria Tre Torri - Erchie (Br)

### PROGETTO DEFINITIVO

Id AU 3A3A5H1



|                      |                                                                               |                                  |
|----------------------|-------------------------------------------------------------------------------|----------------------------------|
| Tav.:<br><b>R06b</b> | Titolo:<br><b>CALCOLI PRELIMINARI STRUTTURE<br/>Cabina di connessione SSE</b> |                                  |
| Scala:               | Formato Stampa:                                                               | Codice Identificatore Elaborato  |
| n.d.                 | A4                                                                            | 3A3A5H1_CalcoliPrelStrutture_06b |

|                                                                                                                                                                                                                                                                                                                                                        |                                                                                                                                                                                                                                                                                                                                                                        |
|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Progettazione:                                                                                                                                                                                                                                                                                                                                         | Committente:                                                                                                                                                                                                                                                                                                                                                           |
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|-------------|-------------------------|-----------------|---------------|--------------------------|
| Luglio 2022 | Prima emissione         | M.S.C. S.r.l.s. | Santo Masilla | Tre Torri Energia S.r.l. |
|             |                         |                 |               |                          |
|             |                         |                 |               |                          |
|             |                         |                 |               |                          |
|             |                         |                 |               |                          |
|             |                         |                 |               |                          |

Firmato  
digitalmente  
da  
**CALCARELLA FABIO**  
C: IT

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## O. PREMESSA

LA PRESENTE RELAZIONE È REDATTA ALLO SCOPO DI DESCRIVERE IL PROGETTO PRELIMINARE E LA VERIFICA DELLE OPERE STRUTTURALI DI FONDAZIONE E IN ELEVAZIONE IN C.A. NECESSARIE ALLA REALIZZAZIONE DELLA SSE DEL PARCO, SU DUE AREE DISTINTE, PER LA PRODUZIONE DI ENERGIA ELETTRICA DA FONTE SOLARE IN AGRO DI SAN PANCRAZIO ED ERCHIE (BR). LE AREE SI AFFACCIANO SULLA STRADA PROVINCIALE SPI44 IN LOCALITÀ MASSERIA TRE TORRI.

SI PRECISA PRELIMINARMENTE CHE I CARICHI RIGUARDANTI IL PESO DELLE APPARECCHIATURE E DELLE STRUTTURE ELETTROMECCANICHE SONO DETERMINATI SULLA BASE DELL'ESPERIENZA DI CASI SIMILI GIÀ REALIZZATI. IN FASE ESECUTIVA LE ANALISI DOVRANNO TENER CONTO DELLE ATTREZZATURE CHE EFFETTIVAMENTE SARANNO INSTALLATE VARIABILI A SECONDA DEL FORNITORE DELLE STESSE.



*FIGURA I. IL PALLINO ROSSO INDICA LA POSIZIONE DELLA SSE A RIDOSSO DELL'AREA OCCUPATA DAL PARCO FOTOVOLTAICO*

LA SSE RICADE IN AGRO DI ERCHIE (BR), A RIDOSSO DELL'AREA OCCUPATA DAL PARCO FOTOVOLTAICO. LE OPERE SONO PROGETTATE NELLA CLASSE D'USO IV.

## I. DESCRIZIONE DELLE OPERE

L'ENERGIA PRODotta, IN MEDIA TENSIONE, DALLA CABINA DI SMISTAMENTO È CONVOGLIATA E POI LAVORATA NELLA STAZIONE DI TRASFORMAZIONE UTENTE IN ALTA TENSIONE PER LA CONSEGNA AL DISTRIBUTORE.

IL LAYOUT È RIPORTATO NELLA SUCCESSIVA FIGURA 2.

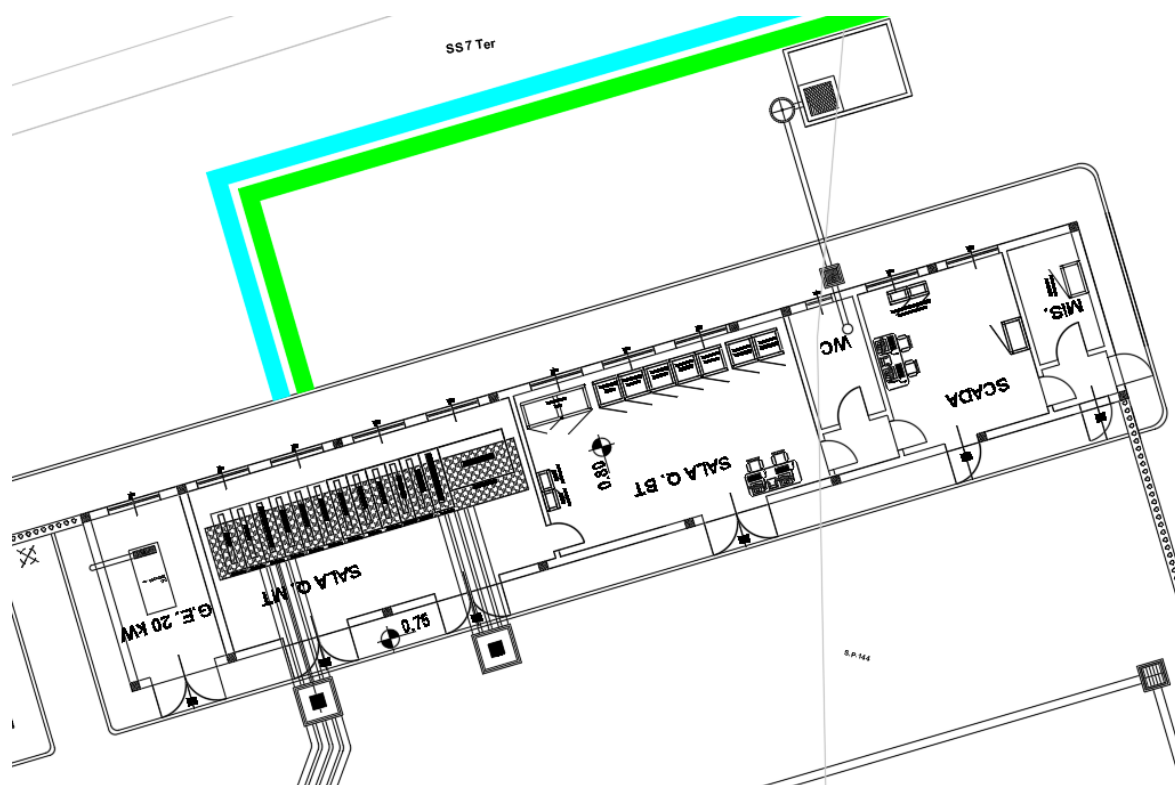


FIGURA 2

LE APPARECCHIATURE Elettromeccaniche che il progetto prevede di installare all'interno della STAZIONE UTENTE SONO DI SEGUITO DESCRITTE:

1. TRASFORMATORE MT / AT
2. SCARICATORE DI SOVRATENZIONE AT
3. TRASFORMATORE DI CORRENTE AT
4. INTERRUTTORE TRIPOLARE AT
5. TV INDUTTIVO MISURE FISCALI – PROTEZIONI
6. SEZIONATORE TRIPOLARE CON LAME A TERRA
7. SCARICATORE DI SOVRATENZIONE

IL LAYOUT È RIPORTATO NELLA SUCCESSIVA FIGURA 3.

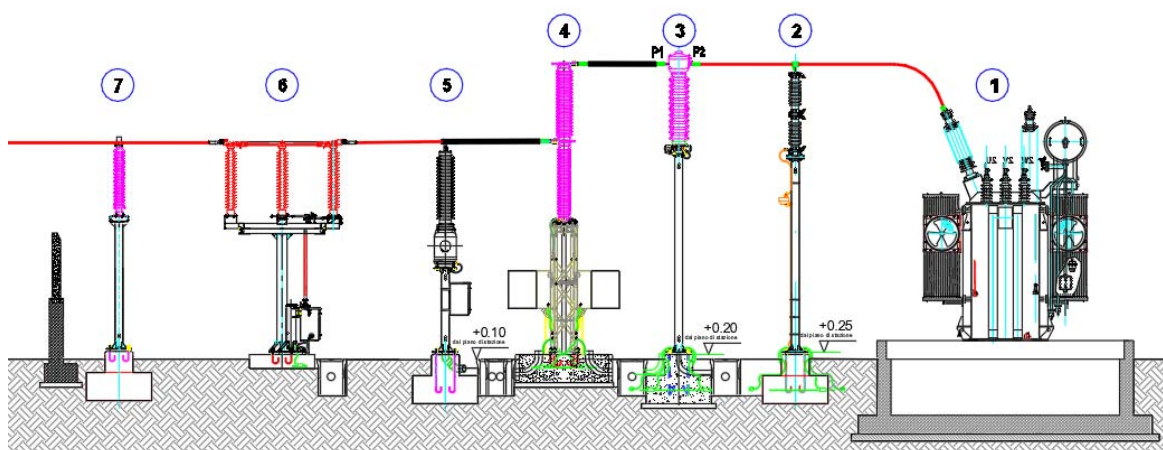


FIGURA 3

## 2. PROGETTO

### 2.1 ANALISI DEI CARICHI

IL PESO PROPRIO DELLA STRUTTURA PORTANTE (ACCIAIO DA CARPENTERIA METALLICA E CALCESTRUZZO ARMATO) È CALCOLATO, IN AUTOMATICO, DAL SOFTWARE UTILIZZATO PER L'ANALISI STATICA E DINAMICA DEL MODELLO DI CALCOLO.

NORMATIVA DI RIFERIMENTO:

- AGGIORNAMENTO DELLE NORME TECNICHE PER LE COSTRUZIONI D.M. 17 GENNAIO 2018

#### 2.1.1 AZIONE SISMICA

| Normativa                                                                                                                                                                                                                                                                         | Generazione combinazioni                                                                                                                                                                                              |
|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <input type="radio"/> Tensioni ammissibili D.M. 92<br><input type="radio"/> Stati limite D.M. 96<br><input checked="" type="radio"/> Stati limite D.M. 18                                                                                                                         | <input checked="" type="radio"/> Lineari<br><input type="radio"/> Non lineari<br><input type="checkbox"/> Valuta spostamenti e non sollecitazioni                                                                     |
| <b>Tipo di calcolo</b><br><input type="radio"/> Calcolo statico<br><input type="radio"/> Calcolo dei soli modi di vibrare<br><input checked="" type="radio"/> Analisi sismica statica<br><input type="radio"/> Analisi sismica dinamica<br><input type="radio"/> Analisi pushover | Numero step intermedi <input type="text" value="0"/><br><input checked="" type="checkbox"/> Salva risultati intermedi<br><input type="checkbox"/> Buckling<br>Numero forme di buckling <input type="text" value="0"/> |

Sito di costruzione: Contrada Argentone, Erchie, BR 72020, 72020 Erchie BR, Italia LON. 17.7547...

Individua

Contenuto tra ID reticolo: 34808 35030 34807 35029

|                                                                  |                      |    |                      |              |
|------------------------------------------------------------------|----------------------|----|----------------------|--------------|
| Tipo di opera                                                    | Opera ordinaria      |    | Vita nominale $V_N$  | 100          |
| Classe d'uso                                                     | Classe IV            |    |                      |              |
| <input type="checkbox"/> SLO-Pvr                                 | <input type="text"/> | Ag | <input type="text"/> | Tc*          |
| <input checked="" type="checkbox"/> SLD-Pvr                      | 63                   | Ag | 0.39069              | Tc* 0.392172 |
| <input checked="" type="checkbox"/> SLV-Pvr                      | 10                   | Ag | 0.699814             | Tc* 0.522257 |
| <input type="checkbox"/> SLC-Pvr                                 | <input type="text"/> | Ag | <input type="text"/> | Tc*          |
| <input type="checkbox"/> Struttura dissipativa                   | Classe B             |    |                      |              |
| Quota di riferimento                                             | <cm> -150            |    |                      |              |
| Quota max della struttura                                        | <cm> 355             |    |                      |              |
| Numero piani edificio                                            | 2                    |    |                      |              |
| Coefficiente $\theta$                                            | 0                    |    |                      |              |
| <input checked="" type="checkbox"/> Edificio regolare in altezza |                      |    |                      |              |
| <input checked="" type="checkbox"/> Edificio regolare in pianta  |                      |    |                      |              |

|                                                                                                                                                 |                                       |                                         |
|-------------------------------------------------------------------------------------------------------------------------------------------------|---------------------------------------|-----------------------------------------|
| Categoria del suolo di fondazione                                                                                                               | A                                     |                                         |
| Categoria topografica                                                                                                                           | T1 - Super...                         | Coeff. amplificazione topografica $S_T$ |
|                                                                                                                                                 |                                       | 1                                       |
| Accelerazione di picco del terreno $A_g S$ : 0.07 <g>                                                                                           |                                       |                                         |
| <input type="checkbox"/> Applica semplificazioni per bassa sismicità<br><input type="checkbox"/> Tipologia diversa nelle due direzioni sismiche |                                       |                                         |
| Tipologia strutturale                                                                                                                           | Direzione X<br>c.a. o prefabbricat... | Direzione Y                             |
| Periodo $T_1$                                                                                                                                   | 0.252656                              | 0.252656                                |
| Coeff. $\lambda$                                                                                                                                | SLV 1                                 | 1                                       |
| Rapporto di sovrarresistenza ( $\alpha_u/\alpha_1$ )                                                                                            | 1.3                                   | 1.3                                     |
| Valore di riferimento del fattore di comportamento ( $q_0$ )                                                                                    | 3.9                                   | 3.9                                     |
| Fattore riduttivo ( $K_w$ )                                                                                                                     | 1                                     | 1                                       |
| Fattore di comportamento dissipativo ( $q$ )                                                                                                    | 3.9                                   | 3.9                                     |
| Fattore di comportamento non dissipativo ( $q_{ND}$ )                                                                                           | 1.5                                   | 1.5                                     |
| Fattore di comportamento per SLD ( $q_D$ )                                                                                                      | 1.5                                   | 1.5                                     |
| Fattore di comportamento per sisma verticale ( $q_v$ )                                                                                          |                                       | 1.5                                     |

## 2.1.2 EDIFICIO SSE

L'EDIFICIO CHE OSPITA GLI INTERRUITORI PER LO SMISTAMENTO DELL'ENERGIA PRODOTTA È PREVISTO SIA REALIZZATO IN CALCESTRUZZO ARMATO AVENTE:

- FONDAZIONE REALIZZATA CON SOLETTA DELLO SPESSORE DI 35 CM;
- PILASTRI E TRAVI DI VARIE DIMENSIONI;
- SOLAIO IN LATERO CEMENTO.

### 2.1.2.1 CARICHI

TABELLA I.' SOLAIO

|                                   |                |
|-----------------------------------|----------------|
| 1 solaio copertura                |                |
| Carichi                           |                |
| Ripartizione carichi              | Unidirezionale |
| Carichi strutturali               |                |
| Carico permanente strutturale     | <daN/mq> 350   |
| Carico permanente non strutturale | <daN/mq> 250   |
| Primo carico accidentale          | <daN/mq> 200   |
| Secondo carico accidentale        | <daN/mq> 50    |

**TABELLA 2.' SOLAIO**

2 solaio copertura sbalzi

**Carichi**

Ripartizione carichi Unidirezionale

**Carichi strutturali**

Carico permanente strutturale <daN/mq> 350

Carico permanente non strutturale <daN/mq> 250

Primo carico accidentale <daN/mq> 400

Secondo carico accidentale <daN/mq> 50

**TABELLA 3.' TAMPONATURE**

1 tompagni

**Carichi strutturali**

Carico permanente non strutturale <daN/mq> 300

**TABELLA 4.' CONDIZIONI DI CARICO ELEMENTARI**

| CCE | Commento            | Tipo CCE               | Sic.      | Var.    | Peso                                | C. A. | Dir. | Tipo | s    | Mx  | My  | Mz  | Jpx | Jpy | Jpz |
|-----|---------------------|------------------------|-----------|---------|-------------------------------------|-------|------|------|------|-----|-----|-----|-----|-----|-----|
| 1   | peso proprio        | 1 D.M. 08 Permanenti   | a sfavore |         | <input checked="" type="checkbox"/> | P     |      |      | 1.00 | 1.0 | 1.0 | 0.0 | 0.0 | 0.0 | 1.0 |
| 2   | strutturale solaio  | 1 D.M. 08 Permanenti   | a sfavore |         | <input type="checkbox"/>            | QPS   |      |      | 1.00 | 1.0 | 1.0 | 0.0 | 0.0 | 0.0 | 1.0 |
| 3   | permanente solaio   | 2 D.M. 08 Permanenti   | a sfavore |         | <input type="checkbox"/>            | QPN   |      |      | 1.00 | 1.0 | 1.0 | 0.0 | 0.0 | 0.0 | 1.0 |
| 4   | variabile solaio    | 19 D.M. 08 Variabili C | a sfavore | di base | <input type="checkbox"/>            | QA    |      |      | 1.00 | 1.0 | 1.0 | 0.0 | 0.0 | 0.0 | 1.0 |
| 5   | neve                | 11 D.M. 08 Variabili N | a sfavore | di base | <input type="checkbox"/>            | QA2   |      |      | 1.00 | 1.0 | 1.0 | 0.0 | 0.0 | 0.0 | 1.0 |
| 6   | tamponature         | 2 D.M. 08 Permanenti   | a sfavore |         | <input type="checkbox"/>            | QPN   |      |      | 1.00 | 1.0 | 1.0 | 0.0 | 0.0 | 0.0 | 1.0 |
| 7   | variabile pavimento | 7 D.M. 08 Variabili Ca | a sfavore | di base | <input type="checkbox"/>            |       |      |      | 1.00 | 1.0 | 1.0 | 0.0 | 0.0 | 0.0 | 1.0 |

**TABELLA 5: COMBINAZIONI DI CARICO**

| CC | Commento           | TCC   | An. | Bk. | 1    | 2    | 3    | 4    | 5    | 6    | 7    | Mt    | SX    | SY    |
|----|--------------------|-------|-----|-----|------|------|------|------|------|------|------|-------|-------|-------|
| 1  | Amb. 1 (SLU S) S M | SND   | ✓   |     | 1.00 | 1.00 | 1.00 | 0.00 | 0.00 | 1.00 | 0.80 | 1.00  | 1.00  | 0.30  |
| 2  | Amb. 1 (SLE) S Mt+ | SLD   | ✓   |     | 1.00 | 1.00 | 1.00 | 0.00 | 0.00 | 1.00 | 0.80 | 1.00  | 1.00  | 0.30  |
| 3  | Amb. 1 (SLU S) S M | SND   | ✓   |     | 1.00 | 1.00 | 1.00 | 0.00 | 0.00 | 1.00 | 0.80 | 1.00  | 1.00  | -0.30 |
| 4  | Amb. 1 (SLE) S Mt+ | SLD   | ✓   |     | 1.00 | 1.00 | 1.00 | 0.00 | 0.00 | 1.00 | 0.80 | 1.00  | 1.00  | -0.30 |
| 5  | Amb. 1 (SLU S) S M | SND   | ✓   |     | 1.00 | 1.00 | 1.00 | 0.00 | 0.00 | 1.00 | 0.80 | 1.00  | -1.00 | 0.30  |
| 6  | Amb. 1 (SLE) S Mt- | SLD   | ✓   |     | 1.00 | 1.00 | 1.00 | 0.00 | 0.00 | 1.00 | 0.80 | 1.00  | -1.00 | 0.30  |
| 7  | Amb. 1 (SLU S) S M | SND   | ✓   |     | 1.00 | 1.00 | 1.00 | 0.00 | 0.00 | 1.00 | 0.80 | 1.00  | -1.00 | -0.30 |
| 8  | Amb. 1 (SLE) S Mt- | SLD   | ✓   |     | 1.00 | 1.00 | 1.00 | 0.00 | 0.00 | 1.00 | 0.80 | 1.00  | -1.00 | -0.30 |
| 9  | Amb. 1 (SLU S) S M | SND   | ✓   |     | 1.00 | 1.00 | 1.00 | 0.00 | 0.00 | 1.00 | 0.80 | 1.00  | 0.30  | 1.00  |
| 10 | Amb. 1 (SLE) S Mt+ | SLD   | ✓   |     | 1.00 | 1.00 | 1.00 | 0.00 | 0.00 | 1.00 | 0.80 | 1.00  | 0.30  | 1.00  |
| 11 | Amb. 1 (SLU S) S M | SND   | ✓   |     | 1.00 | 1.00 | 1.00 | 0.00 | 0.00 | 1.00 | 0.80 | 1.00  | -0.30 | 1.00  |
| 12 | Amb. 1 (SLE) S Mt- | SLD   | ✓   |     | 1.00 | 1.00 | 1.00 | 0.00 | 0.00 | 1.00 | 0.80 | 1.00  | -0.30 | 1.00  |
| 13 | Amb. 1 (SLU S) S M | SND   | ✓   |     | 1.00 | 1.00 | 1.00 | 0.00 | 0.00 | 1.00 | 0.80 | 1.00  | 0.30  | -1.00 |
| 14 | Amb. 1 (SLE) S Mt+ | SLD   | ✓   |     | 1.00 | 1.00 | 1.00 | 0.00 | 0.00 | 1.00 | 0.80 | 1.00  | 0.30  | -1.00 |
| 15 | Amb. 1 (SLU S) S M | SND   | ✓   |     | 1.00 | 1.00 | 1.00 | 0.00 | 0.00 | 1.00 | 0.80 | 1.00  | -0.30 | -1.00 |
| 16 | Amb. 1 (SLE) S Mt- | SLD   | ✓   |     | 1.00 | 1.00 | 1.00 | 0.00 | 0.00 | 1.00 | 0.80 | 1.00  | -0.30 | -1.00 |
| 17 | Amb. 1 (SLU S) S - | SND   | ✓   |     | 1.00 | 1.00 | 1.00 | 0.00 | 0.00 | 1.00 | 0.80 | -1.00 | 1.00  | 0.30  |
| 18 | Amb. 1 (SLE) S -Mt | SLD   | ✓   |     | 1.00 | 1.00 | 1.00 | 0.00 | 0.00 | 1.00 | 0.80 | -1.00 | 1.00  | 0.30  |
| 19 | Amb. 1 (SLU S) S - | SND   | ✓   |     | 1.00 | 1.00 | 1.00 | 0.00 | 0.00 | 1.00 | 0.80 | -1.00 | 1.00  | -0.30 |
| 20 | Amb. 1 (SLE) S -Mt | SLD   | ✓   |     | 1.00 | 1.00 | 1.00 | 0.00 | 0.00 | 1.00 | 0.80 | -1.00 | 1.00  | -0.30 |
| 21 | Amb. 1 (SLU S) S - | SND   | ✓   |     | 1.00 | 1.00 | 1.00 | 0.00 | 0.00 | 1.00 | 0.80 | -1.00 | -1.00 | 0.30  |
| 22 | Amb. 1 (SLE) S -Mt | SLD   | ✓   |     | 1.00 | 1.00 | 1.00 | 0.00 | 0.00 | 1.00 | 0.80 | -1.00 | -1.00 | 0.30  |
| 23 | Amb. 1 (SLU S) S - | SND   | ✓   |     | 1.00 | 1.00 | 1.00 | 0.00 | 0.00 | 1.00 | 0.80 | -1.00 | -1.00 | -0.30 |
| 24 | Amb. 1 (SLE) S -Mt | SLD   | ✓   |     | 1.00 | 1.00 | 1.00 | 0.00 | 0.00 | 1.00 | 0.80 | -1.00 | -1.00 | -0.30 |
| 25 | Amb. 1 (SLU S) S - | SND   | ✓   |     | 1.00 | 1.00 | 1.00 | 0.00 | 0.00 | 1.00 | 0.80 | -1.00 | 0.30  | 1.00  |
| 26 | Amb. 1 (SLE) S -Mt | SLD   | ✓   |     | 1.00 | 1.00 | 1.00 | 0.00 | 0.00 | 1.00 | 0.80 | -1.00 | 0.30  | 1.00  |
| 27 | Amb. 1 (SLU S) S - | SND   | ✓   |     | 1.00 | 1.00 | 1.00 | 0.00 | 0.00 | 1.00 | 0.80 | -1.00 | -0.30 | 1.00  |
| 28 | Amb. 1 (SLE) S -Mt | SLD   | ✓   |     | 1.00 | 1.00 | 1.00 | 0.00 | 0.00 | 1.00 | 0.80 | -1.00 | -0.30 | 1.00  |
| 29 | Amb. 1 (SLU S) S - | SND   | ✓   |     | 1.00 | 1.00 | 1.00 | 0.00 | 0.00 | 1.00 | 0.80 | -1.00 | 0.30  | -1.00 |
| 30 | Amb. 1 (SLE) S -Mt | SLD   | ✓   |     | 1.00 | 1.00 | 1.00 | 0.00 | 0.00 | 1.00 | 0.80 | -1.00 | 0.30  | -1.00 |
| 31 | Amb. 1 (SLU S) S - | SND   | ✓   |     | 1.00 | 1.00 | 1.00 | 0.00 | 0.00 | 1.00 | 0.80 | -1.00 | -0.30 | -1.00 |
| 32 | Amb. 1 (SLE) S -Mt | SLD   | ✓   |     | 1.00 | 1.00 | 1.00 | 0.00 | 0.00 | 1.00 | 0.80 | -1.00 | -0.30 | -1.00 |
| 33 | Amb. 2 (SLU)       | SLU   | ✓   |     | 1.30 | 1.30 | 1.50 | 1.50 | 1.50 | 1.50 | 1.50 | 0.00  | 0.00  | 0.00  |
| 34 | Amb. 2 (SLE R)     | SLE R | ✓   |     | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 0.00  | 0.00  | 0.00  |
| 35 | Amb. 2 (SLE F)     | SLE F | ✓   |     | 1.00 | 1.00 | 1.00 | 0.00 | 0.20 | 1.00 | 0.90 | 0.00  | 0.00  | 0.00  |
| 36 | Amb. 2 (SLE Q)     | SLE Q | ✓   |     | 1.00 | 1.00 | 1.00 | 0.00 | 0.00 | 1.00 | 0.80 | 0.00  | 0.00  | 0.00  |

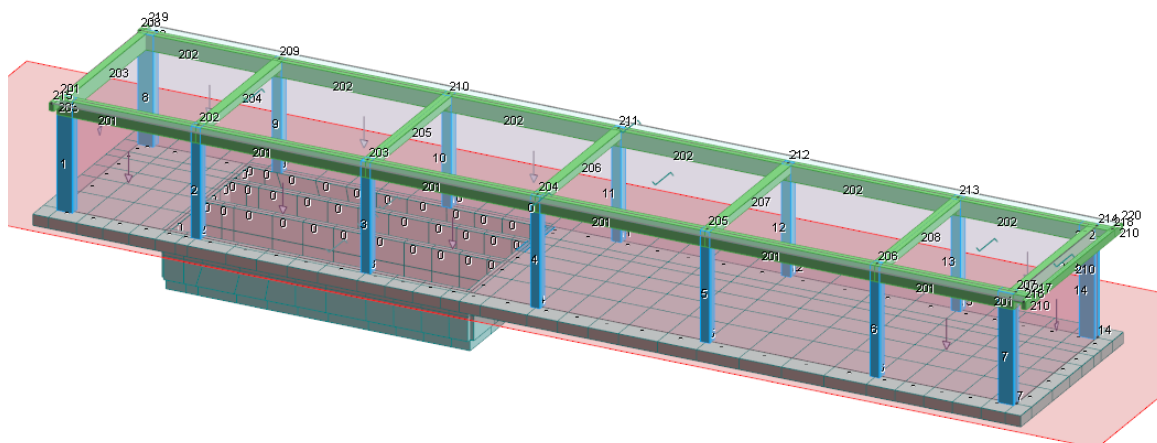


**FIGURA 4: MODELLO DI CALCOLO**

### 2.1.3 TRASFORMATORE MT/AT

IL TRASFORMATORE DI TENSIONE SARÀ CORREDATO INOLTRE:

- DAL SUPPORTO DEL CASTELLETTO DI ARRIVO DELLA MT (IN ALTO SU ALLINEAMENTO A1);
- DAL SUPPORTO CAVO CENTRO STELLA (IN BASSO SU ALLINEAMENTO A1).

SU ENTRAMBI I SUPPORTI L'AZIONE DEL VENTO E IL SISMA SONO LE SOLLECITAZIONI PREVALENTI.

**TABELLA 6.<sup>a</sup> PESO TOTALE**

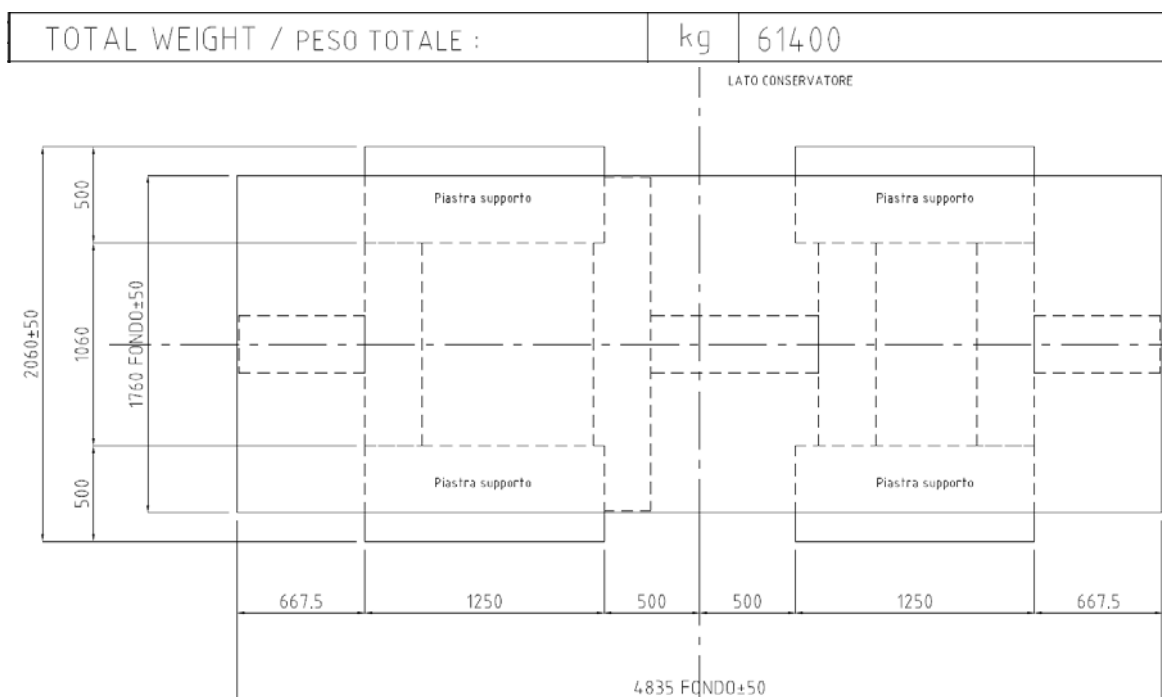


**FIGURA 5: CONFIGURAZIONE APPOGGI**

#### 2.1.4 SCARICATORE DI SOVRATENSIONE

PESO DELL'APPARECCHIATURA 50 DAN (UNA MACCHINA PER OGNI SOSTEGNO).

### 2.1.5 TRASFORMATORE DI CORRENTE AT

PESO DELL'APPARECCHIATURA 100 DAN (UNA MACCHINA PER OGNI SOSTEGNO).

### 2.1.6 INTERRUTTORE TRIPOLARE

PESO DELL'APPARECCHIATURA 1900 DAN (IN TOTALE INCLUSO IL SOSTEGNO TRALICCIATO).

AZIONE DINAMICA PER MANOVRE 800 DAN VERTICALI

200 DAN ORIZZONTALI

## 2.1.7 TV INDUTTIVO / MISURE FISCALI / PROTEZIONI

PESO DELL'APPARECCHIATURA 610 DAN (IN TOTALE PE LE TRE LINEE).

## 2.1.8 SEZIONATORE TRIPOLARE CON LAME DI TERRA

PESO DELL'APPARECCHIATURA 120 DAN (IN TOTALE PE LE TRE LINEE).

## 2.1.9 AZIONE DEL VENTO

AREA DI UBICAZIONE DELL'EDIFICIO: AREA 3  
 TOSCANA, MARCHE, UMBRIA, LAZIO, ABRUZZO, MOLISE, PUGLIA, CAMPANIA, BASILICATA, CALABRIA  
 (ESCLUSA LA PROVINCIA DI REGGIO CALABRIA)  
 TEMPO DI RITORNO: 50 <ANNI>  
 ALTITUDINE SUL LIVELLO DEL MARE: 60 <M>  
 ALTEZZA DELL'EDIFICIO: 5 <M>

PARAMETRI DERIVATI DALL'AREA DI UBICAZIONE (TAB. 3.3.I):  
 $V_{B,0}$  (VELOCITÀ MEDIA DEL VENTO): 27 <M/S>  
 $A_0$  (ALTITUDINE MEDIA): 500 <M>  
 $K_s$ : 0,37 <I/S>  
 VELOCITÀ DI RIFERIMENTO: 27 <M/S>  
 CATEGORIA DI ESPOSIZIONE DEL SITO: III

PARAMETRI DERIVATI DALLA CATEGORIA DI ESPOSIZIONE DEL SITO (TAB. 3.3.II):  
 $K_R$ : 0,2 <M>  
 $Z_0$ : 0,1 <M>  
 $Z_{MIN}$ : 5 <M>  
 CLASSE DI RUGOSITÀ DEL TERRENO: D  
 AREE PRIVE DI OSTACOLI O CON AL PIÙ RARI OSTACOLI ISOLATI (APERTA CAMPAGNA, AEROPORTI, AREE AGRICOLE, PASCOLI, ZONE PALUDESE O SABBIOSE, SUPERFICI INNEVATE O GHIACCIAE, ....)  
 PRESSIONE DEL VENTO =  $Q_R * C_E * C_P * C_D$

## 2.1.10 NEVE

AREA DI UBICAZIONE DELL'EDIFICIO: AREA 3

- AGRIGENTO, AVELLINO, BENEVENTO, BRINDISI, CAGLIARI, CALTANISSETTA, CARBONIA-IGLESIAS, CASERTA, CATANIA, CATANZARO, COSENZA, CROTONE, ENNA, FROSINONE, GROSSETO, L'AQUILA, LATINA, **LECCE**, LIVORNO, MATERA, MEDIO CAMPIDANO, MESSINA, NAPOLI, NUORO, OGLIASTRA, OLBIA TEMPIO, ORISTANO, PALERMO, PISA, POTENZA, RAGUSA, REGGIO CALABRIA, RIETI, ROMA, SALERNO, SASSARI, SIENA, SIRACUSA, TARANTO, TERNI, TRAPANI, VIBO VALENTIA, VITERBO

ALTITUDINE SUL LIVELLO DEL MARE: 60 <M>  
 TIPOLOGIA DI COPERTURA: PIANA

PRESSIONE DELLA NEVE  $P_s$

$\mu_i * Q_{sk} * C_e * C_t$

PARAMETRI D'INPUT ED INTERMEDI:

- CATEGORIA DEL COEFFICIENTE D'ESPOSIZIONE: NORMALE
- $C_e$  (COEFFICIENTE D'ESPOSIZIONE): 0,9
- $C_t$  (COEFFICIENTE TERMICO): 1
- ANGOLO D'INCLINAZIONE DELLA FALDA: 0 <GRAD>
- $\mu_i$  (COEFFICIENTE DI FORMA DELLA COPERTURA): 0,80

CARICHI AGENTI:

$Q_{ss}$  (CARICO PROVOCATO DALLA NEVE SULLE COPERTURE): 48 <KG/M<sup>2</sup>>.

## 2.1.II RECINZIONE

### 2.1.II.1 VENTO SULLA RECINZIONE

$Q_R$  (PRESSIONE CINETICA DI RIFERIMENTO): 45,56 <DAN/MQ>

$C_T$  (COEFFICIENTE TOPOGRAFICO): 1,00

$C_e$  (COEFFICIENTE DI ESPOSIZIONE): 1,71

$C_D$  (COEFFICIENTE DINAMICO): 1,00

PRESSIONE: 72,12 <DAN/M<sup>2</sup>>

CARICO LINEARE 15,00 <DAN/M<sup>2</sup>>

## 2.1.I2 NOTE SU MACCHINE ELETTROMECCANICHE / TELECOMUNICAZIONI / RECINZIONE

TUTTE LE INFORMAZIONI SU RIPORTATE RIGUARDO LE MACCHINE ELETTRO MECCANICHE, IL PALO PER LE TELECOMUNICAZIONI E LA RECINZIONE HANNO VALORE PURAMENTE INDICATIVO IN QUANTO IN FASE DI "PROGETTAZIONE ESECUTIVA" POSSONO SUBIRE VARIAZIONI IN FUNZIONE DELLE DITTE FORNITRICI I VARI ELEMENTI SU MENZIONATI.



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### 3. VERIFICHE ELEMENTI IN CALCESTRUZZO ARMATO

LE ANALISI NUMERICHE DA CUI SONO STATI DEDOTTI I VALORI DELLE SOLLECITAZIONI DI PROGETTO DI SEGUITO INDICATE SONO OTTENUTE MEDIANTE L'ANALISI SVOLTA CON L'AUSILIO DEL SOFTWARE DI MODELLAZIONE STRUTTURALE "MODEST VER. 8.21" E DEL SOFTWARE DI ANALISI LINEARE E NON LINEARE "XFINEST VER. 8.7.21". TUTTE LE VERIFICHE ESTESE, IN DETTAGLIO, SONO RIPORTATE NEGLI ALLEGATI

- RELAZIONE GEOTECNICA (VERIFICA DEL TERRENO DI FONDAZIONE);
- RELAZIONE DI CALCOLO E VERIFICA.

#### 3.1 CABINA SSE

##### 3.1.1 PLATEA DI FONDAZIONE

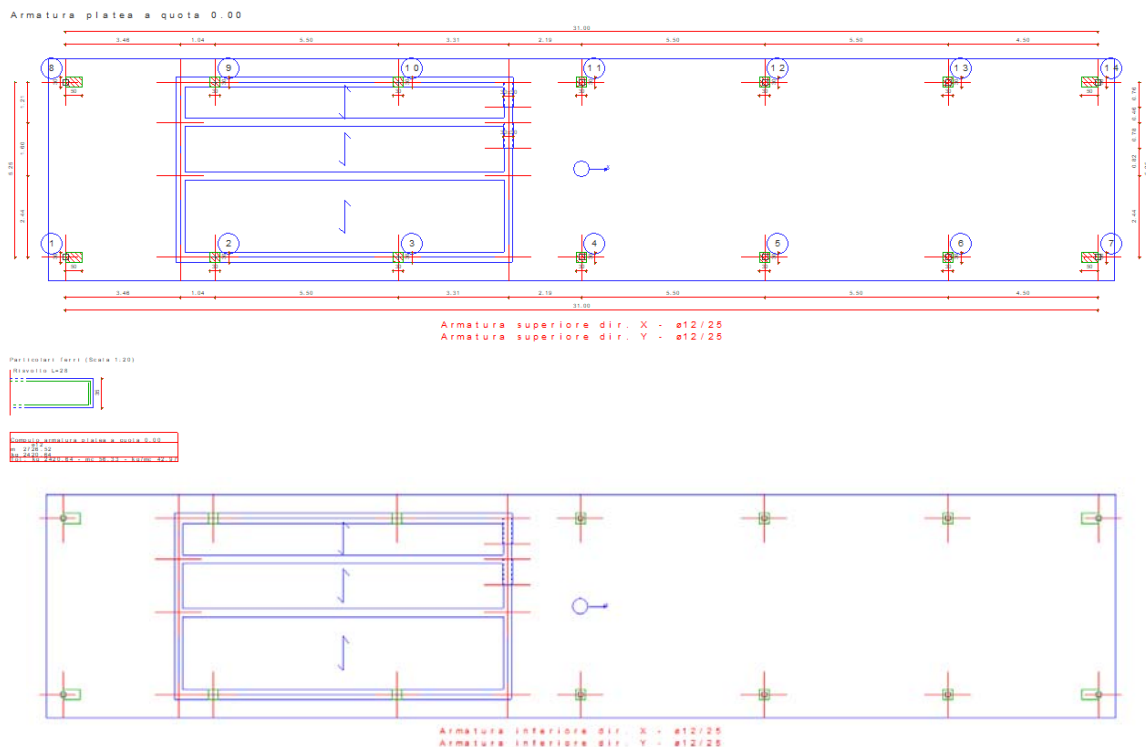


FIGURA 6

Stato limite ultimo - Verifiche a flessione/pressoflessione

| Nodo | X<br><m> | Y<br><m> | DV | CC | TCC | AfE S<br><cmq> | AfE I<br><cmq> | My<br><daNm> | MRdy<br><daNm> | Sic.   |
|------|----------|----------|----|----|-----|----------------|----------------|--------------|----------------|--------|
| -394 | 30.95    | 5.95     | XX | 33 | SLU | 4.52           | 4.52           | 697.27       | 5743.13        | 8.237  |
| -353 | 17.76    | 5.25     | XX | 33 | SLU | 4.52           | 4.52           | -512.63      | -5743.13       | 11.203 |
| -400 | 35.95    | 5.95     | YY | 33 | SLU | 4.52           | 4.52           | 997.91       | 5743.13        | 5.755  |
| -315 | 35.95    | 4.04     | YY | 33 | SLU | 4.52           | 4.52           | -438.33      | -5743.13       | 13.102 |

Stato limite elastico - Verifiche a flessione/pressoflessione

| Nodo | X<br><m> | Y<br><m> | DV | CC | TCC | AfE S<br><cmq> | AfE I<br><cmq> | My<br><daNm> | M'ydy<br><daNm> | Sic.  |
|------|----------|----------|----|----|-----|----------------|----------------|--------------|-----------------|-------|
| -366 | 35.95    | 5.25     | XX | 17 | SND | 4.52           | 4.52           | 1385.85      | 5320.01         | 3.839 |
| -398 | 34.67    | 5.95     | XX | 17 | SND | 4.52           | 4.52           | -1509.23     | -5320.01        | 3.525 |
| -367 | 3.95     | 5.95     | YY | 27 | SND | 4.52           | 4.52           | 2304.75      | 5320.01         | 2.308 |
| -316 | 3.95     | 4.50     | YY | 15 | SND | 4.52           | 4.52           | 1848.40      | 5320.01         | 2.878 |

Stato limite ultimo - Verifica a taglio del calcestruzzo

| Nodo | X<br><m> | Y<br><m> | DV | CC | TCC | AfE S<br><cmq> | AfE I<br><cmq> | AfE St.<br><cmq/m> | Vsdu<br><daN> | VRcd<br><daN> | VRsd<br><daN> | Vrdu<br><daN> | Sic.T |
|------|----------|----------|----|----|-----|----------------|----------------|--------------------|---------------|---------------|---------------|---------------|-------|
| -366 | 35.95    | 5.25     | XX | 33 | SLU | 4.52           | 4.52           |                    | 2543.63       |               |               | 14463.60      | 5.69  |
| -366 | 35.95    | 5.25     | XX | 17 | SND | 4.52           | 4.52           |                    | 4860.02       |               |               | 14463.60      | 2.98  |
| -400 | 35.95    | 5.95     | YY | 33 | SLU | 4.52           | 4.52           |                    | 2680.32       |               |               | 14463.60      | 5.40  |
| -172 | 35.95    | -0.70    | YY | 19 | SND | 4.52           | 4.52           |                    | 5807.19       |               |               | 14463.60      | 2.49  |



Staffe - Verifiché armatura

| CC     | X0<br><m> | X1<br><m> | Lung. In<br><m> | Staff.        | AfE St.<br><cmq/m> | bw<br><m> | Vsdu<br><daN> | ctgθ | VRsd<br><daN> | VRcd<br><daN> | VRdu<br><daN> | Sic.T |
|--------|-----------|-----------|-----------------|---------------|--------------------|-----------|---------------|------|---------------|---------------|---------------|-------|
| 21 SND | 0.65      | 1.15      | 0.50            | a ø8/ 8 2 br. | 12.57              | 0.30      | 4819.57       | 2.01 | 41268.50      | 41268.50      | 41268.50      | 8.56  |
| 3 SND  | 1.15      | 3.75      | 2.60            | a ø8/20 2 br. | 5.03               | 0.30      | 5761.88       | 2.50 | 20578.80      | 35633.80      | 20578.80      | 3.57  |
| 33 SLU | 3.75      | 4.25      | 0.50            | b ø8/ 8 2 br. | 12.57              | 0.30      | 7253.59       | 2.01 | 41268.50      | 41268.50      | 41268.50      | 5.69  |
| 33 SLU | 4.75      | 5.25      | 0.50            | b ø8/ 8 2 br. | 12.57              | 0.30      | 7767.91       | 2.01 | 41268.50      | 41268.50      | 41268.50      | 5.31  |
| 33 SLU | 5.25      | 9.25      | 4.00            | a ø8/20 2 br. | 5.03               | 0.30      | 6527.64       | 2.50 | 20578.80      | 35633.80      | 20578.80      | 3.15  |
| 33 SLU | 9.25      | 9.75      | 0.50            | a ø8/ 8 2 br. | 12.57              | 0.30      | 8115.94       | 2.01 | 41268.50      | 41268.50      | 41268.50      | 5.08  |
| 33 SLU | 10.25     | 10.75     | 0.50            | b ø8/ 8 2 br. | 12.57              | 0.30      | 7986.91       | 2.01 | 41268.50      | 41268.50      | 41268.50      | 5.17  |
| 33 SLU | 10.75     | 14.75     | 4.00            | b ø8/20 2 br. | 5.03               | 0.30      | 6398.61       | 2.50 | 20578.80      | 35633.80      | 20578.80      | 3.22  |
| 33 SLU | 14.75     | 15.25     | 0.50            | a ø8/ 8 2 br. | 12.57              | 0.30      | 7896.62       | 2.01 | 41268.50      | 41268.50      | 41268.50      | 5.23  |
| 33 SLU | 15.75     | 16.25     | 0.50            | a ø8/ 8 2 br. | 12.57              | 0.30      | 7888.69       | 2.01 | 41268.50      | 41268.50      | 41268.50      | 5.23  |
| 33 SLU | 16.25     | 20.25     | 4.00            | b ø8/20 2 br. | 5.03               | 0.30      | 6406.15       | 2.50 | 20578.80      | 35633.80      | 20578.80      | 3.21  |
| 33 SLU | 20.25     | 20.75     | 0.50            | b ø8/ 8 2 br. | 12.57              | 0.30      | 7994.45       | 2.01 | 41268.50      | 41268.50      | 41268.50      | 5.16  |
| 33 SLU | 21.25     | 21.75     | 0.50            | a ø8/ 8 2 br. | 12.57              | 0.30      | 8118.02       | 2.01 | 41268.50      | 41268.50      | 41268.50      | 5.08  |
| 33 SLU | 21.75     | 25.75     | 4.00            | a ø8/20 2 br. | 5.03               | 0.30      | 6529.72       | 2.50 | 20578.80      | 35633.80      | 20578.80      | 3.15  |
| 33 SLU | 25.75     | 26.25     | 0.50            | b ø8/ 8 2 br. | 12.57              | 0.30      | 7764.86       | 2.01 | 41268.50      | 41268.50      | 41268.50      | 5.31  |
| 33 SLU | 26.75     | 27.25     | 0.50            | b ø8/ 8 2 br. | 12.57              | 0.30      | 7158.18       | 2.01 | 41268.50      | 41268.50      | 41268.50      | 5.77  |
| 21 SND | 27.25     | 29.85     | 2.60            | a ø8/20 2 br. | 5.03               | 0.30      | 5674.33       | 2.50 | 20578.80      | 35633.80      | 20578.80      | 3.63  |
| 3 SND  | 29.85     | 30.35     | 0.50            | a ø8/ 8 2 br. | 12.57              | 0.30      | 4864.63       | 2.01 | 41268.50      | 41268.50      | 41268.50      | 8.48  |
| 33 SLU | 31.00     | 31.45     | 0.45            | b ø6/ 4 2 br. | 14.14              | 0.30      | 1753.43       | 1.86 | 19921.60      | 19921.60      | 19921.60      | 11.36 |

### 3.1.3 PILASTRI

P i l a s t r a t e 1 - 7 - 8 - 1 4

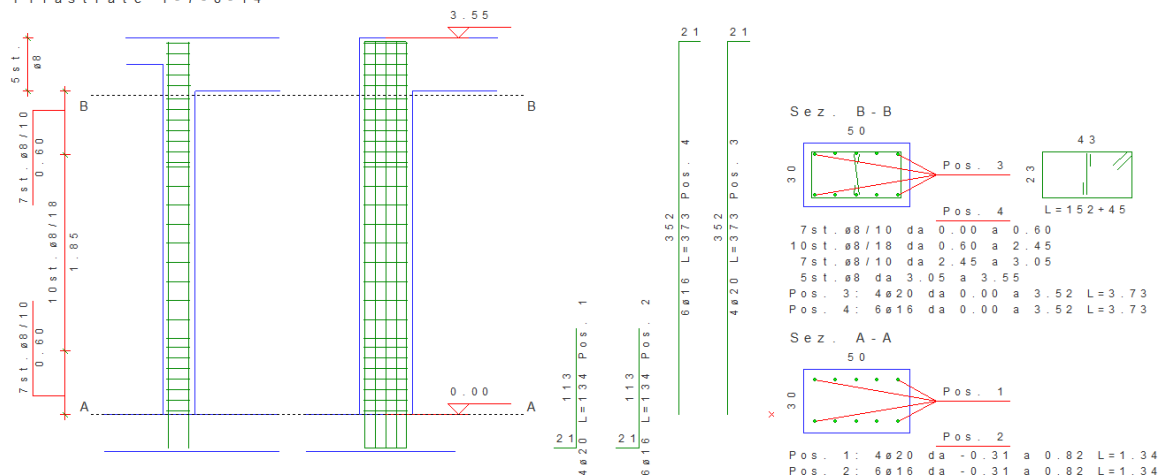


FIGURA 7: PILASTRO N. 1. 6. 7. 12

Stato limite ultimo - Verifiche a flessione/pressoflessione

| Xg   | CC | TCC | In | El | Sez. | X<br><cm> | N<br><daN> | My<br><daNm> | My ver.<br><daNm> | Mz<br><daNm> | Mz ver.<br><daNm> | Nu<br><daN> | MRdy<br><daNm> | MRdz<br><daNm> | $\alpha$<br><grad> | $\epsilon_r$ | Sic.  |
|------|----|-----|----|----|------|-----------|------------|--------------|-------------------|--------------|-------------------|-------------|----------------|----------------|--------------------|--------------|-------|
| 0.00 | 33 | SLU | a  | 1  | 8    | 0.00      | -9108.88   | 1079.85      |                   | -235.41      |                   | -9108.88    | 18130.80       | -3861.11       | 331.88             | 5.79         | 16.77 |
| 0.00 | 33 | SLU | a  | 1  | 8    | 0.00      | -9108.88   | 1079.85      |                   | -235.41      |                   | -9108.88    | 18130.80       | -3861.11       | 331.88             | 5.79         | 16.77 |
| 3.05 | 33 | SLU | a  | 1  | 8    | 305.00    | -7622.01   | -2705.70     |                   | 460.78       |                   | -7622.01    | -18477.40      | 3073.69        | 157.50             | 6.31         | 6.82  |

Staffe - Verifiche armatura

| X0<br><m> | X1<br><m> | Staff. | Br. | Br <sub>z</sub> | CC  | TCC | In   | b <sub>w,y</sub><br><m> | Vsdu <sub>y,y</sub><br><da> | ctgθ <sub>y,y</sub> | VRsd <sub>y,y</sub><br><da> | VRcd <sub>y,y</sub><br><da> | b <sub>w,z</sub> | Vsdu <sub>z,z</sub><br><da> | ctgθ <sub>z,z</sub> | VRsd <sub>z,z</sub><br><da> | VRcd <sub>z,z</sub><br><da> | Sic.T |
|-----------|-----------|--------|-----|-----------------|-----|-----|------|-------------------------|-----------------------------|---------------------|-----------------------------|-----------------------------|------------------|-----------------------------|---------------------|-----------------------------|-----------------------------|-------|
| 0.00      | 0.51      | es/10  | 2   | 233             | SLU | a   | 0.50 | 228.26                  | 2.50                        | 21773.70            | 32578.00                    | 0.30                        | 1241.16          | 2.35                        | 37060.40            | 37060.40                    | 29.86                       |       |
| 0.00      | 0.51      | es/10  | 2   | 233             | SLU | d   | 0.50 | 278.32                  | 2.50                        | 21773.70            | 32805.10                    | 0.30                        | 1155.02          | 2.36                        | 37212.60            | 37212.60                    | 32.22                       |       |
| 0.00      | 0.51      | es/10  | 2   | 221             | SND | a   | 0.50 | 1775.38                 | 2.50                        | 21773.70            | 32305.90                    | 0.30                        | 4891.21          | 2.34                        | 36877.00            | 36877.00                    | 7.54                        |       |
| 0.00      | 0.51      | es/10  | 2   | 213             | SND | a   | 0.50 | 5378.92                 | 2.50                        | 21773.70            | 32555.50                    | 0.30                        | 930.16           | 2.35                        | 37045.10            | 37045.10                    | 4.05                        |       |
| 0.00      | 0.51      | es/10  | 2   | 215             | SND | a   | 0.50 | 5384.00                 | 2.50                        | 21773.70            | 32709.90                    | 0.30                        | 1350.56          | 2.35                        | 37148.80            | 37148.80                    | 4.04                        |       |
| 0.51      | 2.54      | es/18  | 2   | 233             | SLU | a   | 0.50 | 228.26                  | 2.50                        | 21096.50            | 32546.60                    | 0.30                        | 1241.16          | 2.50                        | 21931.10            | 35404.30                    | 17.67                       |       |
| 0.51      | 2.54      | es/18  | 2   | 233             | SLU | d   | 0.50 | 278.32                  | 2.50                        | 21096.50            | 32773.60                    | 0.30                        | 1155.02          | 2.50                        | 21931.10            | 35651.30                    | 18.99                       |       |
| 0.51      | 2.54      | es/18  | 2   | 221             | SND | a   | 0.50 | 1775.38                 | 2.50                        | 21096.50            | 32281.70                    | 0.30                        | 4891.21          | 2.50                        | 21931.10            | 35116.20                    | 4.48                        |       |
| 0.51      | 2.54      | es/18  | 2   | 213             | SND | a   | 0.50 | 5378.92                 | 2.50                        | 21096.50            | 32531.10                    | 0.30                        | 930.16           | 2.50                        | 21931.10            | 35387.50                    | 2.25                        |       |
| 0.51      | 2.54      | es/18  | 2   | 215             | SND | a   | 0.50 | 5384.00                 | 2.50                        | 21096.50            | 32685.60                    | 0.30                        | 1350.56          | 2.50                        | 21931.10            | 35550.60                    | 2.25                        |       |
| 2.54      | 3.05      | es/10  | 2   | 233             | SLU | a   | 0.50 | 228.26                  | 2.50                        | 21773.70            | 32420.40                    | 0.30                        | 1241.16          | 2.34                        | 36954.30            | 36954.30                    | 29.77                       |       |
| 2.54      | 3.05      | es/10  | 2   | 233             | SLU | d   | 0.50 | 278.32                  | 2.50                        | 21773.70            | 32647.40                    | 0.30                        | 1155.02          | 2.35                        | 37107.00            | 37107.00                    | 32.13                       |       |
| 2.54      | 3.05      | es/10  | 2   | 221             | SND | a   | 0.50 | 1775.38                 | 2.50                        | 21773.70            | 32184.70                    | 0.30                        | 4891.21          | 2.33                        | 36795.00            | 36795.00                    | 7.52                        |       |
| 2.54      | 3.05      | es/10  | 2   | 213             | SND | a   | 0.50 | 5378.92                 | 2.50                        | 21773.70            | 32434.10                    | 0.30                        | 930.16           | 2.34                        | 36963.40            | 36963.40                    | 4.05                        |       |
| 2.54      | 3.05      | es/10  | 2   | 215             | SND | a   | 0.50 | 5384.00                 | 2.50                        | 21773.70            | 32588.60                    | 0.30                        | 1350.56          | 2.35                        | 37067.40            | 37067.40                    | 4.04                        |       |

PER IL DETTAGLIO DELLE VERIFICHE SI RIMANDA ALLA RELAZIONE DI CALCOLO E VERIFICA ALLEGATA

### 3.2 TRASFORMATORE MT / AT

SECONDO QUANTO GIÀ REALIZZATO CON IL PROGETTO DELLA SSE ADIACENTE A QUELLA OGGETTO DELLA PRESENTE RELAZIONE, SI ASSUME IN VIA PRELIMINARE DI REALIZZARE IL BASAMENTO DEL TRASFORMATORE E LE FONDAZIONI DELLE APPARECCHIATURE ELETTROMECCANICHE SECONDO QUANTO DI SEGUITO RIPORTATO.

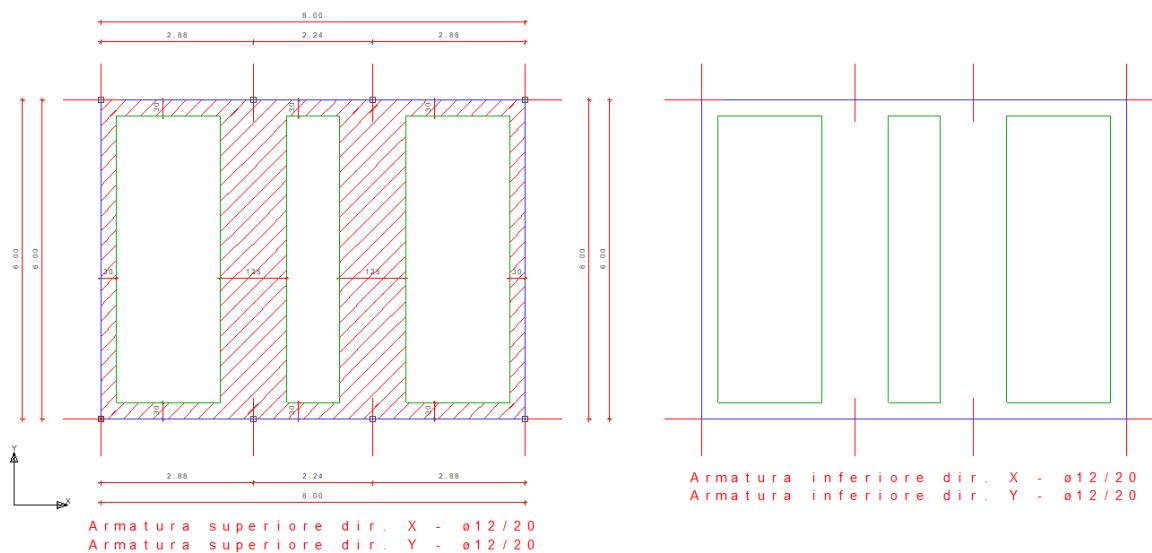
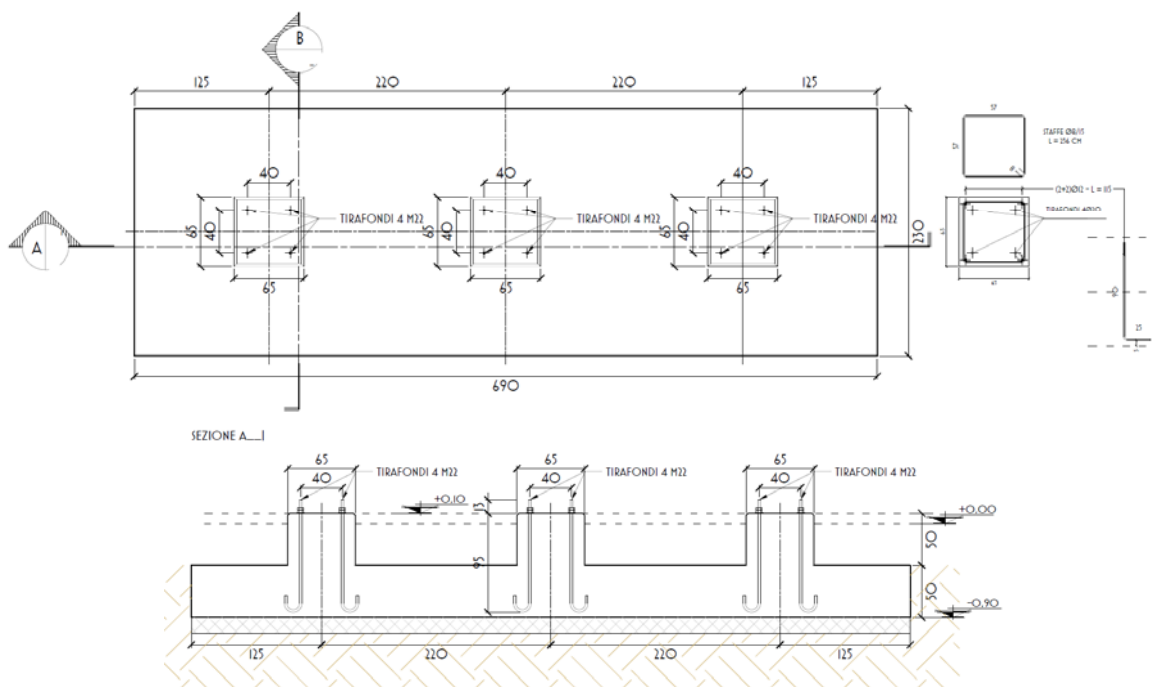
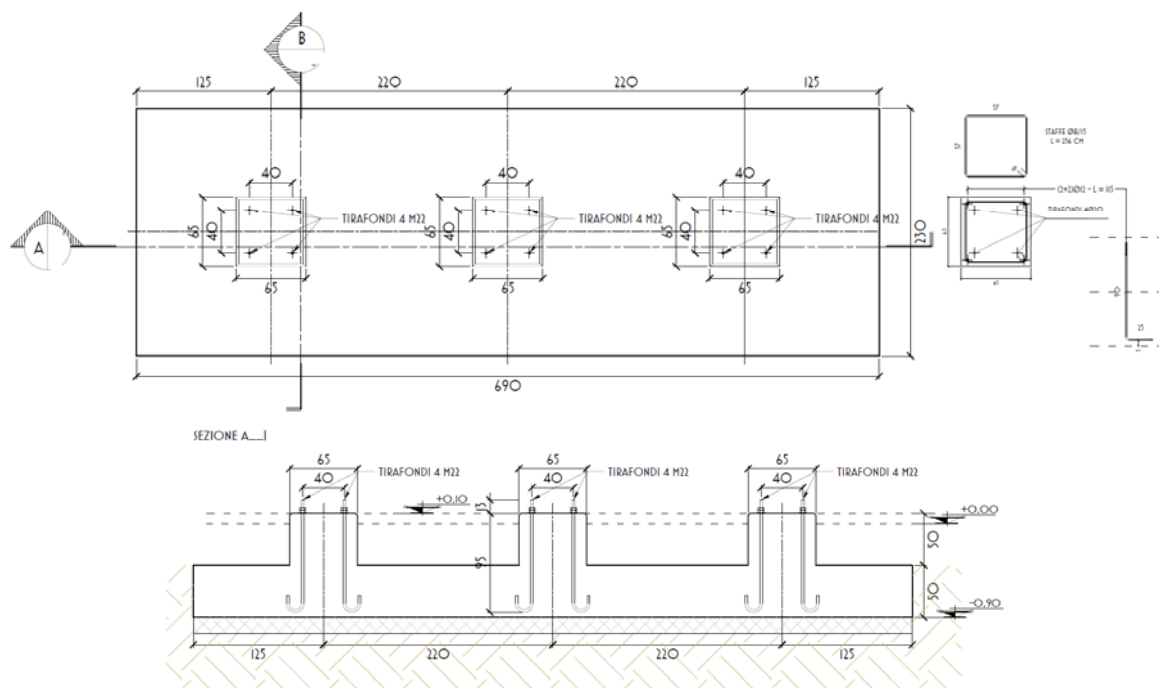


FIGURA 8. FONDAZIONE PER IL TRASFORMATORE

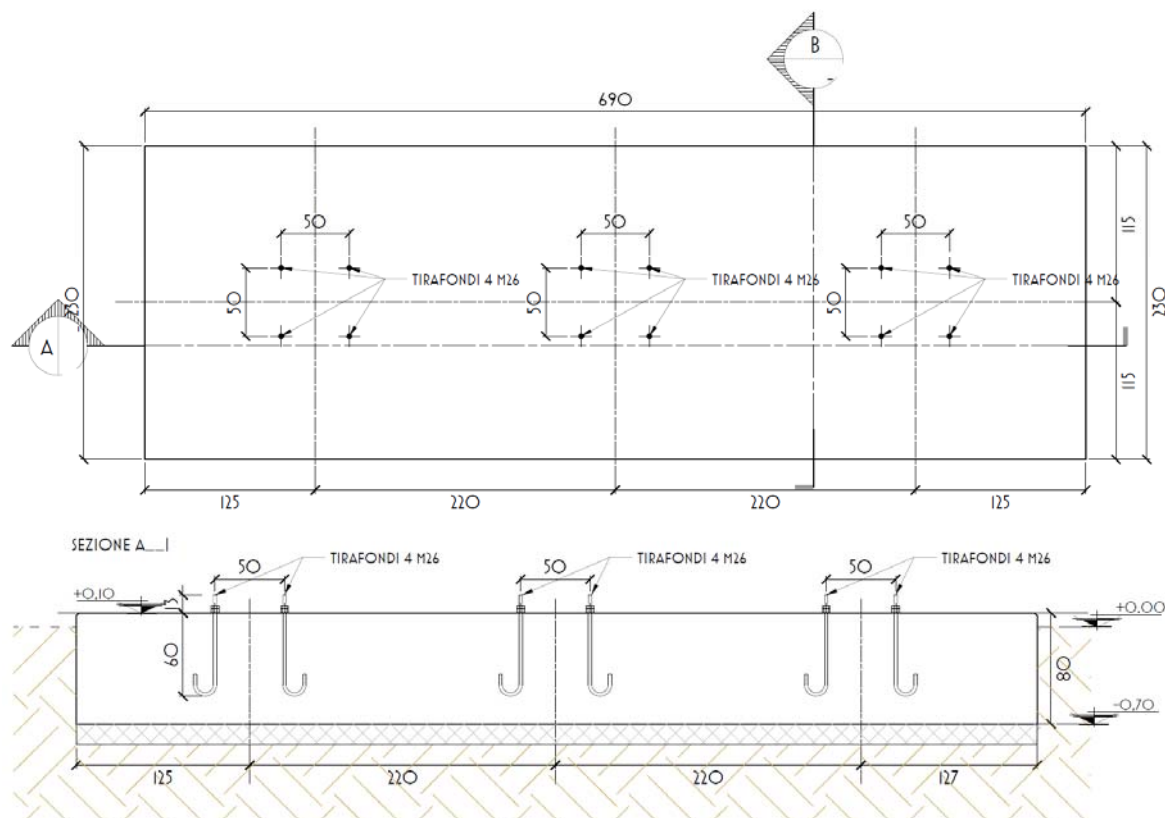
### 3.3 SCARICATORE DI SOVRATENSIONE AT



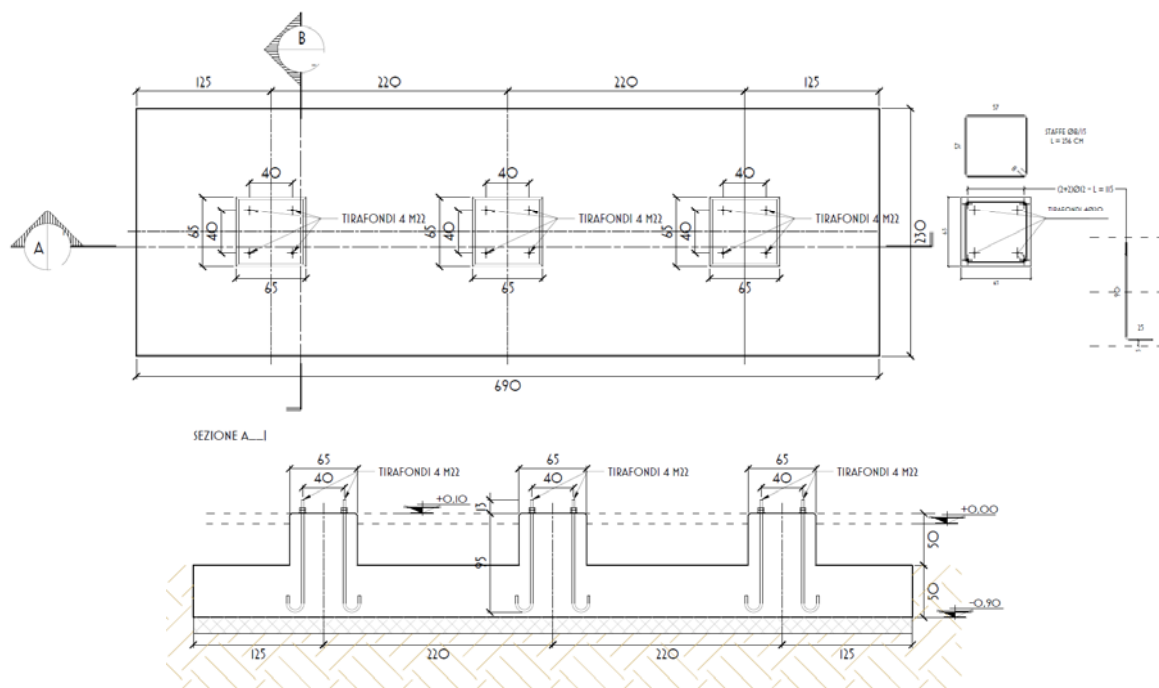
### 3.4 TRASFORMATORE DI CORRENTE AT



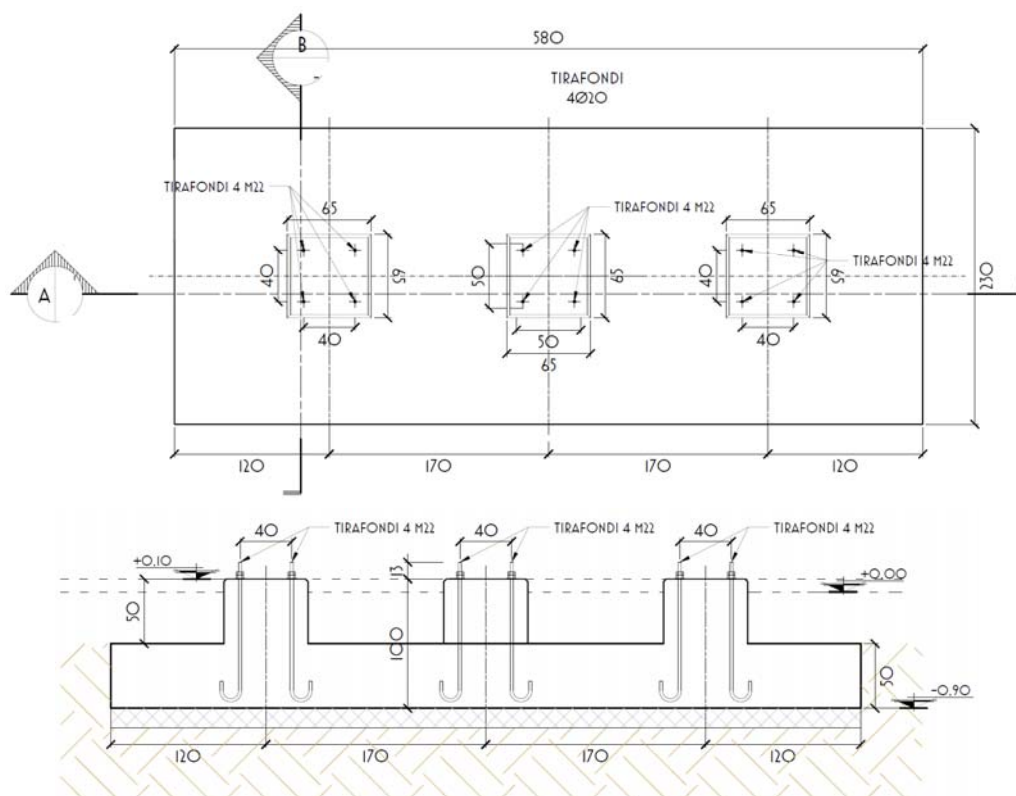
### 3.5 INTERRUTTORE TRIPOLARE AT



### 3.6 TV INDUTTIVO MISURE FISCALI – PROTEZIONI



### 3.7 SEZIONATORE TRIPOLARE CON LAME DI TERRA







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## 4. CONCLUSIONI

DALL'ANALISI DEI RISULTATI OTTENUTI RISULTA CHE LE VERIFICHE CONDOTTE CON IL D.M. 17.01.2018 SONO A FAVORE DI SICUREZZA E SODDISFANO OGNI PRESCRIZIONE DELLA NORMATIVA VIGENTE, PERTANTO LA STRUTTURA COSÌ PROGETTATA È ATTA A SOPPORTARE I CARICHI DI PROGETTO SOPRA MENZIONATI.

PER LE VERIFICHE DETTAGLIATE DEGLI ELEMENTI STRUTTURALI OGGETTO DELLA PRESENTE RELAZIONE SI RIMANDA ALLA RELAZIONE DI CALCOLO E VERIFICA.

## 5. NORMATIVA DI RIFERIMENTO

- [1] D.M. 17.01.2018 – AGGIORNAMENTO DELLE NORME TECNICHE PER LE COSTRUZIONI 2008
- [2] CIRCOLARE N. 7/C.S.LL.PP. DEL 12/02/2019
- [3] LEGGE 5 NOVEMBRE 1971 N. 1086 – NORME PER LA DISCIPLINA DELLE OPERE IN CONGLOMERATO CEMENTIZIO ARMATO NORMALE E PRECOMPRESSO ED A STRUTTURA METALLICA.
- [4] CIRCOLARE MINISTERO DEI LAVORI PUBBLICI 14 FEBBRAIO 1974, N.11951 – “APPLICAZIONE DELLE NORME SUL CEMENTO ARMATO”.
- [5] CIRCOLARE MINISTERO DEI LAVORI PUBBLICI 25 GENNAIO 1975, N.13229 – “L’IMPIEGO DI MATERIALI CON ELEVATE CARATTERISTICHE DI RESISTENZA PER CEMENTO ARMATO NORMALE E PRECOMPRESSO.
- [6] • C.N.R. – UNI 10011-97 – “COSTRUZIONI DI ACCIAIO”. ISTRUZIONI PER IL CALCOLO, L’ESECUZIONE, IL COLLAUDO E LA MANUTENZIONE”.
- [7] • OPCM 3274 D.D. 20/03/2003 S.M.I. – “PRIMI ELEMENTI IN MATERIA DI CRITERI GENERALI PER LA CLASSIFICAZIONE SISMICA DEL TERRITORIO NAZIONALE E DI NORMATIVE TECNICHE PER LE COSTRUZIONI IN ZONA SISMICA”, E SUCCESSIVE MODIFICHE E INTEGRAZIONI (OPCM 3431 03/05/05).
- [8] D.M.LL.PP. 20 NOVEMBRE 1987 – “NORME TECNICHE PER LA PROGETTAZIONE, ESECUZIONE E COLLAUDO DEGLI EDIFICI IN MURATURA E PER IL LORO CONSOLIDAMENTO”.
- [9] CIRC. MIN.LL.PP. N.11951 DEL 14 FEBBRAIO 1992 – CIRCOLARE ILLUSTRATIVA DELLA LEGGE N. 1086.
- [10] D.M. 14 FEBBRAIO 1992 – NORME TECNICHE PER L’ESECUZIONE DELLE OPERE IN CEMENTO ARMATO NORMALE, PRECOMPRESSO E PER LE STRUTTURE METALLICHE.
- [11] CIRC. MIN.LL.PP. N.37406 DEL 24 GIUGNO 1993 – ISTRUZIONI RELATIVE ALLE NORME TECNICHE PER L’ESECUZIONE DELLE OPERE IN C.A. NORMALE E PRECOMPRESSO E PER LE STRUTTURE METALLICHE DI CUI AL D.M. 14 FEBBRAIO 1992.
- [12] D.M. 9 GENNAIO 1996 – NORME TECNICHE PER L’ESECUZIONE DELLE OPERE IN CEMENTO ARMATO NORMALE E PRECOMPRESSO E PER LE STRUTTURE METALLICHE.
- [13] CIRC. MIN. LL.PP. 15.10.1996 N.252 AA.GG./S.T.C. – ISTRUZIONI PER L’APPLICAZIONE DELLE «NORME TECNICHE PER IL CALCOLO E L’ESECUZIONE ED IL COLLAUDO DELLE STRUTTURE IN CEMENTO ARMATO NORMALE E PRECOMPRESSO E PER LE STRUTTURE METALLICHE» DI CUI AL D.M. 09.01.1996.
- [14] D.M. 16 GENNAIO 1996 – NORME TECNICHE RELATIVE AI CRITERI GENERALI PER LA VERIFICA DI SICUREZZA DELLE COSTRUZIONI E DEI CARICHI E SOVRACCARICHI
- [15] • CIRC. MIN.LL.PP. N.156AA.GG./S.T.C. DEL 4 LUGLIO 1996 – ISTRUZIONI PER L’APPLICAZIONE DELLE “NORME TECNICHE RELATIVE AI CRITERI GENERALI PER LA VERIFICA DI SICUREZZA DELLE COSTRUZIONI E DEI CARICHI E SOVRACCARICHI” DI CUI AL D.M. 16 GENNAIO 1996.
- [16] D.M. 16.1.1996 – NORME TECNICHE RELATIVE ALLE COSTRUZIONI IN ZONE SISMICHE
- [17] CIRC. MIN. LL.PP. 10.4.1997, n. 65 – ISTRUZIONI PER L’APPLICAZIONE DELLE “NORME TECNICHE RELATIVE ALLE COSTRUZIONI IN ZONE SISMICHE” DI CUI AL D.M. 16 GENNAIO 1996
- [18] EUROCODICE 1 – BASI DI CALCOLO ED AZIONI SULLE STRUTTURE
- [19] EUROCODICE 2 – PROGETTAZIONE DELLE STRUTTURE DI CALCESTRUZZO
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- [21] EUROCODICE 4 – PROGETTAZIONE DELLE STRUTTURE COMPOSTE ACCIAIO-CALCESTRUZZO
- [22] EUROCODICE 5 – PROGETTAZIONE DELLE STRUTTURE DI LEGNO
- [23] EUROCODICE 6 – PROGETTAZIONE DELLE STRUTTURE DI MURATURA



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[24]EUROCODICE 7 – PROGETTAZIONE GEOTECNICA

[25]EUROCODICE 8 –INDICAZIONI PROGETTUALI PER LA RESISTENZA SISMICA DELLE STRUTTURE

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## Introduzione

### Sistemi di riferimento

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

I carichi in coordinate locali e le sollecitazioni delle ASTE sono riferite ad una terna destra cartesiana locale così definita:

- origine nel nodo iniziale dell'asta;
- asse X coincidente con l'asse dell'asta e con verso dal nodo iniziale al nodo finale;
- immaginando la trave a sezione rettangolare l'asse Y è parallelo alla base e l'asse Z è parallelo all'altezza. La rotazione dell'asta comporta quindi una rotazione di tutta la terna locale.

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

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

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

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

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

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

### Rotazioni e momenti

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

### Normativa di riferimento

La normativa di riferimento è la seguente:

- Legge n. 64 del 2/2/1974 - Provvedimenti per le costruzioni con particolari prescrizioni per le zone sismiche.
- D.M. del 24/1/1986 - Norme tecniche relative alle costruzioni sismiche.
- Legge n. 1086 del 5/11/1971 - Norme per la disciplina delle opere di conglomerato cementizio armato, normale e precompresso ed a struttura metallica.
- D.M. del 14/2/1992 - Norme tecniche per l'esecuzione delle opere in c.a. normale e precompresso e per le strutture metalliche.
- D.M. del 9/1/1996 - Norme tecniche per l'esecuzione delle opere in c.a. normale e precompresso e per le strutture metalliche.
- D.M. del 16/1/1996 - Norme tecniche per le costruzioni in zone sismiche.
- Circolare n. 21745 del 30/7/1981 - Legge n. 219 del 14/5/1981 - Art. 10 - Istruzioni relative al rafforzamento degli edifici in muratura danneggiati dal sisma.
- Regione Autonoma Friuli Venezia Giulia - Legge Regionale n. 30 del 20/6/1977 - Documentazione tecnica per la progettazione e direzione delle opere di riparazione degli edifici - Documento Tecnico n. 2 - Raccomandazioni per la riparazione strutturale degli edifici in muratura.
- D.M. del 20/11/1987 - Norme Tecniche per la progettazione, esecuzione e collaudo degli edifici in muratura e per il loro consolidamento.
- Norme Tecniche C.N.R. n. 10011-85 del 18/4/1985 - Costruzioni di acciaio - Istruzioni per il calcolo, l'esecuzione, il collaudo e la manutenzione.
- Norme Tecniche C.N.R. n. 10025-84 del 14/12/1984 - Istruzioni per il progetto, l'esecuzione ed il controllo delle strutture prefabbricate in conglomerato cementizio e per le strutture costruite con sistemi industrializzati di acciaio

## Relazione di calcolo

- Istruzioni per il calcolo, l'esecuzione, il collaudo e la manutenzione.
- Circolare n. 65 del 10/4/1997 - Istruzioni per l'applicazione delle "Norme tecniche per le costruzioni in zone sismiche" di cui al D.M. del 16/1/1996.
- Eurocodice 5 - Progettazione delle strutture di legno.
- DIN 1052 - Metodi di verifica per il legno.
- D.M. del 17/1/2018 - Norme tecniche per le costruzioni.
- Circolare n. 7 del 21/1/2019 - Istruzioni per l'applicazione dell'«Aggiornamento delle "Norme tecniche per le costruzioni"» di cui al decreto ministeriale 17 gennaio 2018.
- Documento Tecnico CNR-DT 200 R1/2012 - Istruzioni per la Progettazione, l'Esecuzione ed il Controllo di Interventi di Consolidamento Statico mediante l'utilizzo di Compositi Fibrorinforzati.
- Eurocodice 3 - Progettazione delle strutture in acciaio.

## Unità di misura

Le unità di misura adottate sono le seguenti:

- lunghezze : m
- forze : daN
- masse : kg
- temperature : gradi centigradi
- angoli : gradi sessadecimali o radianti

## Geometria

### Elenco vincoli nodi

#### Simbologia

- Vn = Numero del vincolo nodo
- Comm. = Commento
- Sx = Spostamento in dir. X (L=libero, B=bloccato, E=elastico)
- Sy = Spostamento in dir. Y (L=libero, B=bloccato, E=elastico)
- Sz = Spostamento in dir. Z (L=libero, B=bloccato, E=elastico)
- Rx = Rotazione intorno all'asse X (L=libera, B=bloccata, E=elastica)
- Ry = Rotazione intorno all'asse Y (L=libera, B=bloccata, E=elastica)
- Rz = Rotazione intorno all'asse Z (L=libera, B=bloccata, E=elastica)
- RL = Rotazione libera
- Ly = Lunghezza (dir. Y locale)
- Lz = Larghezza (dir. Z locale)
- Kt = Coeff. di sottofondo su suolo elastico alla Winkler

| Vn | Comm.  | Sx | Sy | Sz | Rx | Ry | Rz | RL | Ly  | Lz  | Kt        |
|----|--------|----|----|----|----|----|----|----|-----|-----|-----------|
|    |        |    |    |    |    |    |    |    | <m> | <m> | <daN/cmc> |
| 1  | Libero | L  | L  | L  | L  | L  | L  |    |     |     |           |

| Vn | Comm.          | Sx | Sy | Sz | Rx | Ry | Rz | RL | Ly  | Lz  | Kt        |
|----|----------------|----|----|----|----|----|----|----|-----|-----|-----------|
|    |                |    |    |    |    |    |    |    | <m> | <m> | <daN/cmc> |
| 3  | El. sew 110001 | B  | B  | L  | L  | L  | B  |    |     |     |           |

### Elenco nodi

#### Simbologia

- Nodo = Numero del nodo
- X = Coordinata X del nodo
- Y = Coordinata Y del nodo
- Z = Coordinata Z del nodo
- Imp. = Numero dell'impalcato
- Vn = Numero del vincolo nodo

| Nodo | X     | Y    | Z     | Imp. | Vn |
|------|-------|------|-------|------|----|
|      | <m>   | <m>  | <m>   |      |    |
| -400 | 35.95 | 5.95 | -0.00 | 0    | 3  |
| -397 | 33.74 | 5.95 | -0.00 | 0    | 3  |
| -394 | 30.95 | 5.95 | -0.00 | 0    | 3  |
| -391 | 26.82 | 5.95 | -0.00 | 0    | 3  |
| -388 | 22.92 | 5.95 | -0.00 | 0    | 3  |
| -385 | 19.95 | 5.95 | -0.00 | 0    | 3  |
| -382 | 17.15 | 5.95 | -0.00 | 0    | 3  |
| -379 | 14.45 | 5.95 | -0.00 | 0    | 3  |
| -376 | 11.19 | 5.95 | -0.00 | 0    | 3  |
| -373 | 8.56  | 5.95 | -0.00 | 0    | 3  |
| -370 | 6.21  | 5.95 | -0.00 | 0    | 3  |
| -367 | 3.95  | 5.95 | -0.00 | 0    | 3  |
| -364 | 33.74 | 5.25 | 0.00  | 0    | 3  |
| -361 | 29.57 | 5.25 | 0.00  | 0    | 3  |
| -358 | 24.18 | 5.25 | 0.00  | 0    | 3  |
| -355 | 20.94 | 5.25 | 0.00  | 0    | 3  |
| -352 | 17.15 | 5.25 | 0.00  | 0    | 1  |
| -349 | 13.17 | 5.25 | 0.00  | 0    | 1  |

| Nodo | X     | Y    | Z     | Imp. | Vn |
|------|-------|------|-------|------|----|
|      | <m>   | <m>  | <m>   |      |    |
| -399 | 35.45 | 5.95 | -0.00 | 0    | 3  |
| -396 | 32.81 | 5.95 | -0.00 | 0    | 3  |
| -393 | 29.57 | 5.95 | -0.00 | 0    | 3  |
| -390 | 25.45 | 5.95 | -0.00 | 0    | 3  |
| -387 | 21.93 | 5.95 | -0.00 | 0    | 3  |
| -384 | 18.43 | 5.95 | -0.00 | 0    | 3  |
| -381 | 16.25 | 5.95 | -0.00 | 0    | 3  |
| -378 | 13.17 | 5.95 | -0.00 | 0    | 3  |
| -375 | 10.20 | 5.95 | -0.00 | 0    | 3  |
| -372 | 7.91  | 5.95 | -0.00 | 0    | 3  |
| -369 | 5.36  | 5.95 | 0.00  | 0    | 3  |
| -366 | 35.95 | 5.25 | -0.00 | 0    | 3  |
| -363 | 32.81 | 5.25 | 0.00  | 0    | 3  |
| -360 | 28.20 | 5.25 | 0.00  | 0    | 3  |
| -357 | 22.92 | 5.25 | 0.00  | 0    | 3  |
| -354 | 18.43 | 5.25 | -0.00 | 0    | 3  |
| -351 | 16.25 | 5.25 | 0.00  | 0    | 1  |
| -348 | 12.18 | 5.25 | 0.00  | 0    | 1  |

| Nodo | X     | Y    | Z     | Imp. | Vn |
|------|-------|------|-------|------|----|
|      | <m>   | <m>  | <m>   |      |    |
| -398 | 34.67 | 5.95 | -0.00 | 0    | 3  |
| -395 | 31.88 | 5.95 | -0.00 | 0    | 3  |
| -392 | 28.20 | 5.95 | -0.00 | 0    | 3  |
| -389 | 24.18 | 5.95 | -0.00 | 0    | 3  |
| -386 | 20.94 | 5.95 | -0.00 | 0    | 3  |
| -383 | 17.76 | 5.95 | -0.00 | 0    | 3  |
| -380 | 15.35 | 5.95 | -0.00 | 0    | 3  |
| -377 | 12.18 | 5.95 | -0.00 | 0    | 3  |
| -374 | 8.95  | 5.95 | -0.00 | 0    | 3  |
| -371 | 7.06  | 5.95 | -0.00 | 0    | 3  |
| -368 | 4.45  | 5.95 | -0.00 | 0    | 3  |
| -365 | 34.67 | 5.25 | 0.00  | 0    | 3  |
| -362 | 31.88 | 5.25 | 0.00  | 0    | 3  |
| -359 | 26.82 | 5.25 | 0.00  | 0    | 3  |
| -356 | 21.93 | 5.25 | 0.00  | 0    | 3  |
| -353 | 17.76 | 5.25 | 0.00  | 0    | 1  |
| -350 | 15.35 | 5.25 | 0.00  | 0    | 1  |
| -347 | 11.19 | 5.25 | 0.00  | 0    | 1  |

# Relazione di calcolo

|      |       |       |       |   |   |      |       |       |       |   |   |      |       |       |       |   |   |
|------|-------|-------|-------|---|---|------|-------|-------|-------|---|---|------|-------|-------|-------|---|---|
| -346 | 10.20 | 5.25  | 0.00  | 0 | 1 | -345 | 8.56  | 5.25  | -0.00 | 0 | 1 | -344 | 7.91  | 5.25  | -0.00 | 0 | 1 |
| -343 | 7.06  | 5.25  | 0.00  | 0 | 3 | -342 | 6.21  | 5.25  | 0.00  | 0 | 3 | -341 | 5.36  | 5.25  | 0.00  | 0 | 3 |
| -340 | 3.95  | 5.25  | 0.00  | 0 | 3 | -339 | 35.95 | 4.50  | 0.00  | 0 | 3 | -338 | 35.45 | 4.50  | -0.00 | 0 | 3 |
| -337 | 34.67 | 4.50  | -0.00 | 0 | 3 | -336 | 33.74 | 4.50  | -0.00 | 0 | 3 | -335 | 32.81 | 4.50  | -0.00 | 0 | 3 |
| -334 | 31.88 | 4.50  | -0.00 | 0 | 3 | -333 | 30.95 | 4.50  | -0.00 | 0 | 3 | -332 | 29.57 | 4.50  | -0.00 | 0 | 3 |
| -331 | 28.20 | 4.50  | -0.00 | 0 | 3 | -330 | 26.82 | 4.50  | -0.00 | 0 | 3 | -329 | 25.45 | 4.50  | -0.00 | 0 | 3 |
| -328 | 24.18 | 4.50  | -0.00 | 0 | 3 | -327 | 22.92 | 4.50  | -0.00 | 0 | 3 | -326 | 21.93 | 4.50  | -0.00 | 0 | 3 |
| -325 | 20.94 | 4.50  | -0.00 | 0 | 3 | -324 | 19.95 | 4.50  | -0.00 | 0 | 3 | -323 | 18.43 | 4.50  | -0.00 | 0 | 3 |
| -322 | 17.76 | 4.50  | 0.00  | 0 | 1 | -321 | 7.91  | 4.50  | -0.00 | 0 | 1 | -320 | 7.06  | 4.50  | -0.00 | 0 | 3 |
| -319 | 6.21  | 4.50  | -0.00 | 0 | 3 | -318 | 5.36  | 4.50  | -0.00 | 0 | 3 | -317 | 4.45  | 4.50  | -0.00 | 0 | 3 |
| -316 | 3.95  | 4.50  | 0.00  | 0 | 3 | -315 | 35.95 | 4.04  | 0.00  | 0 | 3 | -314 | 35.45 | 4.04  | -0.00 | 0 | 3 |
| -313 | 34.67 | 4.04  | -0.00 | 0 | 3 | -312 | 33.74 | 4.04  | -0.00 | 0 | 3 | -311 | 32.81 | 4.04  | -0.00 | 0 | 3 |
| -310 | 31.88 | 4.04  | -0.00 | 0 | 3 | -309 | 30.95 | 4.04  | -0.00 | 0 | 3 | -308 | 29.57 | 4.04  | -0.00 | 0 | 3 |
| -307 | 28.20 | 4.04  | -0.00 | 0 | 3 | -306 | 26.82 | 4.04  | -0.00 | 0 | 3 | -305 | 25.45 | 4.04  | -0.00 | 0 | 3 |
| -304 | 24.18 | 4.04  | -0.00 | 0 | 3 | -303 | 22.92 | 4.04  | -0.00 | 0 | 3 | -302 | 21.93 | 4.04  | -0.00 | 0 | 3 |
| -301 | 20.94 | 4.04  | -0.00 | 0 | 3 | -300 | 19.95 | 4.04  | -0.00 | 0 | 3 | -299 | 18.43 | 4.04  | 0.00  | 0 | 3 |
| -298 | 17.76 | 4.04  | 0.00  | 0 | 1 | -297 | 17.15 | 4.04  | 0.00  | 0 | 1 | -296 | 16.26 | 4.04  | 0.00  | 0 | 1 |
| -295 | 15.36 | 4.04  | 0.00  | 0 | 1 | -294 | 14.47 | 4.04  | 0.00  | 0 | 1 | -293 | 13.17 | 4.04  | 0.00  | 0 | 1 |
| -292 | 12.18 | 4.04  | 0.00  | 0 | 1 | -291 | 11.19 | 4.04  | 0.00  | 0 | 1 | -290 | 10.20 | 4.04  | 0.00  | 0 | 1 |
| -289 | 8.95  | 4.04  | 0.00  | 0 | 1 | -288 | 8.56  | 4.04  | 0.00  | 0 | 1 | -287 | 7.91  | 4.04  | 0.00  | 0 | 1 |
| -286 | 7.06  | 4.04  | -0.00 | 0 | 3 | -285 | 6.21  | 4.04  | -0.00 | 0 | 3 | -284 | 5.36  | 4.04  | -0.00 | 0 | 3 |
| -283 | 4.45  | 4.04  | -0.00 | 0 | 3 | -282 | 3.95  | 4.04  | 0.00  | 0 | 3 | -281 | 35.95 | 3.27  | 0.00  | 0 | 3 |
| -280 | 35.45 | 3.27  | -0.00 | 0 | 3 | -279 | 34.67 | 3.27  | -0.00 | 0 | 3 | -278 | 33.74 | 3.27  | -0.00 | 0 | 3 |
| -277 | 32.81 | 3.27  | -0.00 | 0 | 3 | -276 | 31.88 | 3.27  | -0.00 | 0 | 3 | -275 | 30.95 | 3.27  | -0.00 | 0 | 3 |
| -274 | 29.57 | 3.27  | -0.00 | 0 | 3 | -273 | 28.20 | 3.27  | -0.00 | 0 | 3 | -272 | 26.82 | 3.27  | -0.00 | 0 | 3 |
| -271 | 25.45 | 3.27  | -0.00 | 0 | 3 | -270 | 24.18 | 3.27  | -0.00 | 0 | 3 | -269 | 22.92 | 3.27  | -0.00 | 0 | 3 |
| -268 | 21.93 | 3.27  | -0.00 | 0 | 3 | -267 | 20.94 | 3.27  | -0.00 | 0 | 3 | -266 | 19.95 | 3.27  | -0.00 | 0 | 3 |
| -265 | 18.43 | 3.27  | 0.00  | 0 | 3 | -264 | 17.76 | 3.27  | 0.00  | 0 | 1 | -263 | 7.91  | 3.27  | 0.00  | 0 | 1 |
| -262 | 7.06  | 3.27  | -0.00 | 0 | 3 | -261 | 6.21  | 3.27  | -0.00 | 0 | 3 | -260 | 5.36  | 3.27  | -0.00 | 0 | 3 |
| -259 | 4.45  | 3.27  | -0.00 | 0 | 3 | -258 | 3.95  | 3.27  | 0.00  | 0 | 3 | -257 | 35.95 | 2.44  | 0.00  | 0 | 3 |
| -256 | 35.45 | 2.44  | -0.00 | 0 | 3 | -255 | 34.67 | 2.44  | -0.00 | 0 | 3 | -254 | 33.74 | 2.44  | -0.00 | 0 | 3 |
| -253 | 32.81 | 2.44  | -0.00 | 0 | 3 | -252 | 31.88 | 2.44  | -0.00 | 0 | 3 | -251 | 30.95 | 2.44  | -0.00 | 0 | 3 |
| -250 | 29.57 | 2.44  | -0.00 | 0 | 3 | -249 | 28.20 | 2.44  | -0.00 | 0 | 3 | -248 | 26.82 | 2.44  | -0.00 | 0 | 3 |
| -247 | 25.45 | 2.44  | -0.00 | 0 | 3 | -246 | 24.18 | 2.44  | -0.00 | 0 | 3 | -245 | 22.92 | 2.44  | -0.00 | 0 | 3 |
| -244 | 21.93 | 2.44  | -0.00 | 0 | 3 | -243 | 20.94 | 2.44  | -0.00 | 0 | 3 | -242 | 19.95 | 2.44  | -0.00 | 0 | 3 |
| -241 | 18.43 | 2.44  | 0.00  | 0 | 3 | -240 | 17.76 | 2.44  | 0.00  | 0 | 1 | -239 | 17.15 | 2.44  | 0.00  | 0 | 1 |
| -238 | 16.26 | 2.44  | 0.00  | 0 | 1 | -237 | 15.36 | 2.44  | 0.00  | 0 | 1 | -236 | 14.47 | 2.44  | 0.00  | 0 | 1 |
| -235 | 13.17 | 2.44  | 0.00  | 0 | 1 | -234 | 12.18 | 2.44  | 0.00  | 0 | 1 | -233 | 11.19 | 2.44  | 0.00  | 0 | 1 |
| -232 | 10.20 | 2.44  | 0.00  | 0 | 1 | -231 | 8.95  | 2.44  | 0.00  | 0 | 1 | -230 | 8.56  | 2.44  | 0.00  | 0 | 1 |
| -229 | 7.91  | 2.44  | 0.00  | 0 | 1 | -228 | 7.06  | 2.44  | -0.00 | 0 | 3 | -227 | 6.21  | 2.44  | -0.00 | 0 | 3 |
| -226 | 5.36  | 2.44  | -0.00 | 0 | 3 | -225 | 4.45  | 2.44  | -0.00 | 0 | 3 | -224 | 3.95  | 2.44  | 0.00  | 0 | 3 |
| -223 | 35.95 | 1.34  | 0.00  | 0 | 3 | -222 | 35.45 | 1.34  | -0.00 | 0 | 3 | -221 | 34.67 | 1.34  | -0.00 | 0 | 3 |
| -220 | 33.74 | 1.34  | -0.00 | 0 | 3 | -219 | 32.81 | 1.34  | -0.00 | 0 | 3 | -218 | 31.88 | 1.34  | -0.00 | 0 | 3 |
| -217 | 30.95 | 1.34  | -0.00 | 0 | 3 | -216 | 29.57 | 1.34  | -0.00 | 0 | 3 | -215 | 28.20 | 1.34  | -0.00 | 0 | 3 |
| -214 | 26.82 | 1.34  | -0.00 | 0 | 3 | -213 | 25.45 | 1.34  | -0.00 | 0 | 3 | -212 | 24.18 | 1.34  | -0.00 | 0 | 3 |
| -211 | 22.92 | 1.34  | -0.00 | 0 | 3 | -210 | 21.93 | 1.34  | -0.00 | 0 | 3 | -209 | 20.94 | 1.34  | -0.00 | 0 | 3 |
| -208 | 19.95 | 1.34  | 0.00  | 0 | 3 | -207 | 18.43 | 1.34  | 0.00  | 0 | 3 | -206 | 17.76 | 1.34  | -0.00 | 0 | 1 |
| -205 | 7.91  | 1.34  | 0.00  | 0 | 1 | -204 | 7.06  | 1.34  | -0.00 | 0 | 3 | -203 | 6.21  | 1.34  | -0.00 | 0 | 3 |
| -202 | 5.36  | 1.34  | -0.00 | 0 | 3 | -201 | 4.45  | 1.34  | -0.00 | 0 | 3 | -200 | 3.95  | 1.34  | 0.00  | 0 | 3 |
| -199 | 35.95 | -0.00 | -0.00 | 0 | 3 | -198 | 34.67 | -0.00 | 0.00  | 0 | 3 | -197 | 33.74 | -0.00 | 0.00  | 0 | 3 |
| -196 | 32.81 | -0.00 | 0.00  | 0 | 3 | -195 | 31.88 | -0.00 | 0.00  | 0 | 3 | -194 | 29.57 | -0.00 | 0.00  | 0 | 3 |
| -193 | 28.20 | -0.00 | 0.00  | 0 | 3 | -192 | 26.82 | -0.00 | 0.00  | 0 | 3 | -191 | 24.18 | -0.00 | 0.00  | 0 | 3 |
| -190 | 22.92 | -0.00 | 0.00  | 0 | 3 | -189 | 21.93 | -0.00 | 0.00  | 0 | 3 | -188 | 20.94 | -0.00 | 0.00  | 0 | 3 |
| -187 | 18.43 | -0.00 | 0.00  | 0 | 3 | -186 | 17.76 | 0.00  | -0.00 | 0 | 1 | -185 | 17.15 | -0.00 | -0.00 | 0 | 1 |
| -184 | 16.25 | -0.00 | -0.00 | 0 | 1 | -183 | 15.35 | -0.00 | -0.00 | 0 | 1 | -182 | 13.17 | -0.00 | 0.00  | 0 | 1 |
| -181 | 12.18 | -0.00 | 0.00  | 0 | 1 | -180 | 11.19 | -0.00 | 0.00  | 0 | 1 | -179 | 10.20 | -0.00 | 0.00  | 0 | 1 |
| -178 | 8.56  | -0.00 | 0.00  | 0 | 1 | -177 | 7.91  | -0.00 | 0.00  | 0 | 1 | -176 | 7.06  | -0.00 | 0.00  | 0 | 3 |
| -175 | 6.21  | -0.00 | 0.00  | 0 | 3 | -174 | 5.35  | -0.00 | 0.00  | 0 | 3 | -173 | 3.95  | -0.00 | 0.00  | 0 | 3 |
| -172 | 35.95 | -0.70 | 0.00  | 0 | 3 | -171 | 35.45 | -0.70 | 0.00  | 0 | 3 | -170 | 34.67 | -0.70 | 0.00  | 0 | 3 |
| -169 | 33.74 | -0.70 | 0.00  | 0 | 3 | -168 | 32.81 | -0.70 | 0.00  | 0 | 3 | -167 | 31.88 | -0.70 | 0.00  | 0 | 3 |
| -166 | 30.95 | -0.70 | 0.00  | 0 | 3 | -165 | 29.57 | -0.70 | 0.00  | 0 | 3 | -164 | 28.20 | -0.70 | 0.00  | 0 | 3 |
| -163 | 26.82 | -0.70 | 0.00  | 0 | 3 | -162 | 25.45 | -0.70 | 0.00  | 0 | 3 | -161 | 24.18 | -0.70 | 0.00  | 0 | 3 |
| -160 | 22.92 | -0.70 | 0.00  | 0 | 3 | -159 | 21.93 | -0.70 | 0.00  | 0 | 3 | -158 | 20.94 | -0.70 | 0.00  | 0 | 3 |
| -157 | 19.95 | -0.70 | 0.00  | 0 | 3 | -156 | 18.43 | -0.70 | 0.00  | 0 | 3 | -155 | 17.76 | -0.70 | 0.00  | 0 | 3 |
| -154 | 17.15 | -0.70 | 0.00  | 0 | 3 | -153 | 16.25 | -0.70 | 0.00  | 0 | 3 | -152 | 15.35 | -0.70 | 0.00  | 0 | 3 |
| -151 | 14.45 | -0.70 | 0.00  | 0 | 3 | -150 | 13.17 | -0.70 | 0.00  | 0 | 3 | -149 | 12.18 | -0.70 | 0.00  | 0 | 3 |
| -148 | 11.19 | -0.70 | 0.00  | 0 | 3 | -147 | 10.20 | -0.70 | 0.00  | 0 | 3 | -146 | 8.95  | -0.70 | 0.00  | 0 | 3 |
| -145 | 8.56  | -0.70 | 0.00  | 0 | 3 | -144 | 7.91  | -0.70 | 0.00  | 0 | 3 | -143 | 7.06  | -0.70 | 0.00  | 0 | 3 |
| -142 | 6.21  | -0.70 | 0.00  | 0 | 3 | -141 | 5.36  | -0.70 | 0.00  | 0 | 3 | -140 | 4.45  | -0.70 | 0.00  | 0 | 3 |
| -139 | 3.95  | -0.70 | 0.00  | 0 | 3 | -138 | 17.76 | 5.25  | -0.72 | 0 | 1 | -137 | 17.15 | 5.25  | -0.72 | 0 | 1 |
| -136 | 16.25 | 5.25  | -0.72 | 0 | 1 | -135 | 15.36 | 5.25  | -0.72 | 0 | 1 | -134 | 14.46 | 5.25  | -0.72 | 0 | 1 |
| -133 | 13.17 | 5.25  | -0.72 | 0 | 1 | -132 | 12.18 | 5.25  | -0.72 | 0 | 1 | -131 | 11.34 | 5.25  | -0.72 | 0 | 1 |
| -130 | 10.40 | 5.25  | -0.72 | 0 | 1 | -129 | 9.20  | 5.25  | -0.72 | 0 | 1 | -128 | 8.56  | 5.25  | -0.72 | 0 | 1 |
| -127 | 7.91  | 5.25  | -0.72 | 0 | 1 | -126 | 17.76 | 4.50  | -0.72 | 0 | 1 | -125 | 7.91  | 4.50  | -0.72 | 0 | 1 |
| -124 | 17.76 | 4.04  | -0.72 | 0 | 1 | -123 | 17.15 | 4.04  | -0.72 | 0 | 1 | -122 | 16.26 | 4.04  | -0.72 | 0 | 1 |
| -121 | 15.36 | 4.04  | -0.72 | 0 | 1 | -120 | 14.47 | 4.04  | -0.72 | 0 | 1 | -119 | 13.17 | 4.04  | -0.72 | 0 | 1 |
| -118 | 12.18 | 4.04  | -0.72 | 0 | 1 | -117 | 11.19 | 4.04  | -0.72 | 0 | 1 | -116 | 10.20 | 4.04  | -0.72 | 0 | 1 |
| -115 | 8.95  | 4.04  | -0.72 | 0 | 1 | -114 | 8.56  | 4.04  | -0.72 | 0 | 1 | -113 | 7.91  | 4.04  | -0.72 | 0 | 1 |
| -112 | 17.76 | 3.27  | -0.72 | 0 | 1 | -111 | 7.91  | 3.27  | -0.72 | 0 | 1 | -110 | 17.76 | 2.44  | -0.72 | 0 | 1 |

Relazione di calcolo

|      |       |       |       |   |   |      |       |       |       |   |   |      |       |       |       |   |   |
|------|-------|-------|-------|---|---|------|-------|-------|-------|---|---|------|-------|-------|-------|---|---|
| -109 | 17.15 | 2.44  | -0.72 | 0 | 1 | -108 | 16.26 | 2.44  | -0.72 | 0 | 1 | -107 | 15.36 | 2.44  | -0.72 | 0 | 1 |
| -106 | 14.47 | 2.44  | -0.72 | 0 | 1 | -105 | 13.17 | 2.44  | -0.72 | 0 | 1 | -104 | 12.18 | 2.44  | -0.72 | 0 | 1 |
| -103 | 11.19 | 2.44  | -0.72 | 0 | 1 | -102 | 10.20 | 2.44  | -0.72 | 0 | 1 | -101 | 8.95  | 2.44  | -0.72 | 0 | 1 |
| -100 | 8.56  | 2.44  | -0.72 | 0 | 1 | -99  | 7.91  | 2.44  | -0.72 | 0 | 1 | -98  | 17.76 | 1.34  | -0.72 | 0 | 1 |
| -97  | 7.91  | 1.34  | -0.72 | 0 | 1 | -96  | 17.76 | 0.00  | -0.72 | 0 | 1 | -95  | 17.15 | -0.00 | -0.72 | 0 | 1 |
| -94  | 16.25 | -0.00 | -0.72 | 0 | 1 | -93  | 15.36 | -0.00 | -0.72 | 0 | 1 | -92  | 14.46 | -0.00 | -0.72 | 0 | 1 |
| -91  | 13.17 | -0.00 | -0.72 | 0 | 1 | -90  | 12.18 | -0.00 | -0.72 | 0 | 1 | -89  | 11.34 | -0.00 | -0.72 | 0 | 1 |
| -88  | 10.40 | -0.00 | -0.72 | 0 | 1 | -87  | 9.20  | -0.00 | -0.72 | 0 | 1 | -86  | 8.56  | -0.00 | -0.72 | 0 | 1 |
| -85  | 7.91  | -0.00 | -0.72 | 0 | 1 | -84  | 17.76 | 5.25  | -1.50 | 0 | 3 | -83  | 17.15 | 5.25  | -1.50 | 0 | 3 |
| -82  | 16.26 | 5.25  | -1.50 | 0 | 3 | -81  | 15.36 | 5.25  | -1.50 | 0 | 3 | -80  | 14.47 | 5.25  | -1.50 | 0 | 3 |
| -79  | 13.17 | 5.25  | -1.50 | 0 | 3 | -78  | 12.18 | 5.25  | -1.50 | 0 | 3 | -77  | 11.19 | 5.25  | -1.50 | 0 | 3 |
| -76  | 10.20 | 5.25  | -1.50 | 0 | 3 | -75  | 8.95  | 5.25  | -1.50 | 0 | 3 | -74  | 8.56  | 5.25  | -1.50 | 0 | 3 |
| -73  | 7.91  | 5.25  | -1.50 | 0 | 3 | -72  | 17.76 | 4.50  | -1.50 | 0 | 3 | -71  | 17.15 | 4.50  | -1.50 | 0 | 3 |
| -70  | 16.26 | 4.50  | -1.50 | 0 | 3 | -69  | 15.36 | 4.50  | -1.50 | 0 | 3 | -68  | 14.47 | 4.50  | -1.50 | 0 | 3 |
| -67  | 13.17 | 4.50  | -1.50 | 0 | 3 | -66  | 12.18 | 4.50  | -1.50 | 0 | 3 | -65  | 11.19 | 4.50  | -1.50 | 0 | 3 |
| -64  | 10.20 | 4.50  | -1.50 | 0 | 3 | -63  | 8.95  | 4.50  | -1.50 | 0 | 3 | -62  | 8.56  | 4.50  | -1.50 | 0 | 3 |
| -61  | 7.91  | 4.50  | -1.50 | 0 | 3 | -60  | 17.76 | 4.04  | -1.50 | 0 | 3 | -59  | 17.15 | 4.04  | -1.50 | 0 | 3 |
| -58  | 16.26 | 4.04  | -1.50 | 0 | 3 | -57  | 15.36 | 4.04  | -1.50 | 0 | 3 | -56  | 14.47 | 4.04  | -1.50 | 0 | 3 |
| -55  | 13.17 | 4.04  | -1.50 | 0 | 3 | -54  | 12.18 | 4.04  | -1.50 | 0 | 3 | -53  | 11.19 | 4.04  | -1.50 | 0 | 3 |
| -52  | 10.20 | 4.04  | -1.50 | 0 | 3 | -51  | 8.95  | 4.04  | -1.50 | 0 | 3 | -50  | 8.56  | 4.04  | -1.50 | 0 | 3 |
| -49  | 7.91  | 4.04  | -1.50 | 0 | 3 | -48  | 17.76 | 3.27  | -1.50 | 0 | 3 | -47  | 17.15 | 3.27  | -1.50 | 0 | 3 |
| -46  | 16.26 | 3.27  | -1.50 | 0 | 3 | -45  | 15.36 | 3.27  | -1.50 | 0 | 3 | -44  | 14.47 | 3.27  | -1.50 | 0 | 3 |
| -43  | 13.17 | 3.27  | -1.50 | 0 | 3 | -42  | 12.18 | 3.27  | -1.50 | 1 | 1 | -41  | 11.19 | 3.27  | -1.50 | 0 | 3 |
| -40  | 10.20 | 3.27  | -1.50 | 0 | 3 | -39  | 8.95  | 3.27  | -1.50 | 0 | 3 | -38  | 8.56  | 3.27  | -1.50 | 0 | 3 |
| -37  | 7.91  | 3.27  | -1.50 | 0 | 3 | -36  | 17.76 | 2.44  | -1.50 | 0 | 3 | -35  | 17.15 | 2.44  | -1.50 | 0 | 3 |
| -34  | 16.26 | 2.44  | -1.50 | 0 | 3 | -33  | 15.36 | 2.44  | -1.50 | 0 | 3 | -32  | 14.47 | 2.44  | -1.50 | 0 | 3 |
| -31  | 13.17 | 2.44  | -1.50 | 0 | 3 | -30  | 12.18 | 2.44  | -1.50 | 0 | 3 | -29  | 11.19 | 2.44  | -1.50 | 0 | 3 |
| -28  | 10.20 | 2.44  | -1.50 | 0 | 3 | -27  | 8.95  | 2.44  | -1.50 | 0 | 3 | -26  | 8.56  | 2.44  | -1.50 | 0 | 3 |
| -25  | 7.91  | 2.44  | -1.50 | 0 | 3 | -24  | 17.76 | 1.34  | -1.50 | 0 | 3 | -23  | 17.15 | 1.34  | -1.50 | 0 | 3 |
| -22  | 16.26 | 1.34  | -1.50 | 0 | 3 | -21  | 15.36 | 1.34  | -1.50 | 0 | 3 | -20  | 14.47 | 1.34  | -1.50 | 0 | 3 |
| -19  | 13.17 | 1.34  | -1.50 | 0 | 3 | -18  | 12.18 | 1.34  | -1.50 | 0 | 3 | -17  | 11.19 | 1.34  | -1.50 | 0 | 3 |
| -16  | 10.20 | 1.34  | -1.50 | 0 | 3 | -15  | 8.95  | 1.34  | -1.50 | 0 | 3 | -14  | 8.56  | 1.34  | -1.50 | 0 | 3 |
| -13  | 7.91  | 1.34  | -1.50 | 0 | 3 | -12  | 17.76 | 0.00  | -1.50 | 0 | 3 | -11  | 17.15 | -0.00 | -1.50 | 0 | 3 |
| -10  | 16.26 | -0.00 | -1.50 | 0 | 3 | -9   | 15.36 | -0.00 | -1.50 | 0 | 3 | -8   | 14.47 | -0.00 | -1.50 | 0 | 3 |
| -7   | 13.17 | -0.00 | -1.50 | 0 | 3 | -6   | 12.18 | -0.00 | -1.50 | 0 | 3 | -5   | 11.19 | -0.00 | -1.50 | 0 | 3 |
| -4   | 10.20 | -0.00 | -1.50 | 0 | 3 | -3   | 8.95  | -0.00 | -1.50 | 0 | 3 | -2   | 8.56  | -0.00 | -1.50 | 0 | 3 |
| -1   | 7.91  | -0.00 | -1.50 | 0 | 3 | 1    | 4.45  | -0.00 | 0.00  | 0 | 3 | 2    | 8.95  | -0.00 | 0.00  | 0 | 1 |
| 3    | 14.45 | -0.00 | 0.00  | 0 | 1 | 4    | 19.95 | -0.00 | 0.00  | 0 | 3 | 5    | 25.45 | -0.00 | 0.00  | 0 | 3 |
| 6    | 30.95 | -0.00 | 0.00  | 0 | 3 | 7    | 35.45 | -0.00 | 0.00  | 0 | 3 | 8    | 4.45  | 5.25  | 0.00  | 0 | 3 |
| 9    | 8.95  | 5.25  | 0.00  | 0 | 1 | 10   | 14.45 | 5.25  | 0.00  | 0 | 1 | 11   | 19.95 | 5.25  | 0.00  | 0 | 3 |
| 12   | 25.45 | 5.25  | 0.00  | 0 | 3 | 13   | 30.95 | 5.25  | 0.00  | 0 | 3 | 14   | 35.45 | 5.25  | 0.00  | 0 | 3 |
| 201  | 4.45  | -0.00 | 3.55  | 2 | 1 | 202  | 8.95  | -0.00 | 3.55  | 2 | 1 | 203  | 14.45 | -0.00 | 3.55  | 2 | 1 |
| 204  | 19.95 | -0.00 | 3.55  | 2 | 1 | 205  | 25.45 | -0.00 | 3.55  | 2 | 1 | 206  | 30.95 | -0.00 | 3.55  | 2 | 1 |
| 207  | 35.45 | -0.00 | 3.55  | 2 | 1 | 208  | 4.45  | 5.25  | 3.55  | 2 | 1 | 209  | 8.95  | 5.25  | 3.55  | 2 | 1 |
| 210  | 14.45 | 5.25  | 3.55  | 2 | 1 | 211  | 19.95 | 5.25  | 3.55  | 2 | 1 | 212  | 25.45 | 5.25  | 3.55  | 2 | 1 |
| 213  | 30.95 | 5.25  | 3.55  | 2 | 1 | 214  | 35.45 | 5.25  | 3.55  | 2 | 1 | 215  | 4.45  | -0.50 | 3.55  | 2 | 1 |
| 216  | 35.95 | -0.50 | 3.55  | 2 | 1 | 217  | 35.95 | -0.00 | 3.55  | 2 | 1 | 218  | 35.95 | 5.25  | 3.55  | 2 | 1 |
| 219  | 4.45  | 5.75  | 3.55  | 2 | 1 | 220  | 35.95 | 5.75  | 3.55  | 2 | 1 |      |       |       |       |   |   |

Elenco materiali

Simbologia

Mat. = Numero del materiale  
Comm. = Commento  
P = Peso specifico  
E = Modulo elastico  
G = Modulo elastico tangenziale  
v = Coeff. di Poisson  
α = Coeff. di dilatazione termica

| Mat. | Comm.        | P<br><daN/mc> | E<br><daN/cm< | G<br><daN/cm< | v   | α            |
|------|--------------|---------------|---------------|---------------|-----|--------------|
| 1    | Calcestruzzo | 2500          | 300000.00     | 130000.00     | 0.1 | 1.000000E-05 |

Elenco sezioni aste

Simbologia

Sez. = Numero della sezione  
Comm. = Commento  
Tipo = Tipologia  
2C = Doppia C lato labbri  
2Cdx = Doppia C lato costola  
2I = Doppia I  
2L = Doppia L lato labbri  
2Ldx = Doppia L lato costole  
C = Sezione a C  
Cdx = C destra  
Cir. = Circolare  
Cir.c = Circolare cava  
I = Sezione a I

## Relazione di calcolo

|            |                                             |
|------------|---------------------------------------------|
|            | L = Sezione a L                             |
|            | Ldx = L destra                              |
|            | Om. = Omega                                 |
|            | Pg = Pi greco                               |
|            | Pr = Poligono regolare                      |
|            | Prc = Poligono regolare cavo                |
|            | Pc = Per coordinate                         |
|            | Ia = Inerzie assegnate                      |
|            | R = Rettangolare                            |
|            | Rc = Rettangolare cava                      |
|            | T = Sezione a T                             |
|            | U = Sezione a U                             |
|            | Ur = U rovescia                             |
|            | V = Sezione a V                             |
|            | Vr = V rovescia                             |
|            | Z = Sezione a Z                             |
|            | Zdx = Z destra                              |
|            | Ts = T stondata                             |
|            | Ls = L stondata                             |
|            | Cs = C stondata                             |
|            | Is = I stondata                             |
|            | Dis. = Disegnata                            |
| Mem.       | =Membratura                                 |
|            | G = Generica                                |
|            | T = Trave                                   |
|            | P = Pilastro                                |
| Ver.       | =Verifica prevista                          |
|            | N = Nessuna                                 |
|            | C = Cemento armato                          |
|            | A = Acciaio                                 |
|            | L = Legno                                   |
| B          | =Base                                       |
| H          | =Altezza                                    |
| Ma         | =Numero del materiale                       |
| C          | =Numero del criterio di progetto            |
| Crit. C.I. | =Criterio di progetto collegamento iniziale |
| Crit. C.F. | =Criterio di progetto collegamento finale   |

| Sez. | Comm.         | Tipo | Mem. | Ver. | B<br><cm> | H<br><cm> | Ma | C | Crit. C.I. | Crit. C.F. |
|------|---------------|------|------|------|-----------|-----------|----|---|------------|------------|
| 1    | tr_25x50      | R    | T    | C    | 25.00     | 50.00     | 11 |   |            |            |
| 3    | cordolo_15x25 | R    | T    | C    | 15.00     | 25.00     | 11 |   |            |            |
| 4    | pil_30x30     | R    | P    | C    | 30.00     | 30.00     | 11 |   |            |            |
| 5    | tr_30x25      | R    | T    | C    | 30.00     | 25.00     | 11 |   |            |            |
| 8    | pil_30x50     | R    | P    | C    | 30.00     | 50.00     | 11 |   |            |            |
| 9    | tr_30x50      | R    | T    | C    | 30.00     | 50.00     | 11 |   |            |            |

## Elenco vincoli aste

### Simbologia

Va = Numero del vincolo asta

Comm. = Commento

Tipo = Tipologia

SVI = Definizione di vincolamenti interni

ELA = Vincolo su suolo elastico alla Winkler

BIE-RTC = Biella resistente a trazione e a compressione

BIE-RC = Biella resistente solo a compressione

BIE-RT = Biella resistente solo a trazione

Ni = Sforzo normale nodo iniziale (0=sbloccato, 1=bloccato)

Tyi = Taglio in dir. Y locale nodo iniziale (0=sbloccato, 1=bloccato)

Tzi = Taglio in dir. Z locale nodo iniziale (0=sbloccato, 1=bloccato)

Mxi = Momento intorno all'asse X locale nodo iniziale (0=sbloccato, 1=bloccato)

Myi = Momento intorno all'asse Y locale nodo iniziale (0=sbloccato, 1=bloccato)

Mzi = Momento intorno all'asse Z locale nodo iniziale (0=sbloccato, 1=bloccato)

Nf = Sforzo normale nodo finale (0=sbloccato, 1=bloccato)

Tyf = Taglio in dir. Y locale nodo finale (0=sbloccato, 1=bloccato)

Tzf = Taglio in dir. Z locale nodo finale (0=sbloccato, 1=bloccato)

Mxf = Momento intorno all'asse X locale nodo finale (0=sbloccato, 1=bloccato)

Myf = Momento intorno all'asse Y locale nodo finale (0=sbloccato, 1=bloccato)

Mzf = Momento intorno all'asse Z locale nodo finale (0=sbloccato, 1=bloccato)

Kt = Coeff. di sottofondo su suolo elastico alla Winkler

| Va | Comm.   | Tipo | Ni | Tyi | Tzi | Mxi | Myi | Mzi | Nf | Tyf | Tzf | Mxf | Myf | Mzf | Kt<br><daN/cmc> |
|----|---------|------|----|-----|-----|-----|-----|-----|----|-----|-----|-----|-----|-----|-----------------|
| 1  | Inc+Inc | SVI  | 1  | 1   | 1   | 1   | 1   | 1   | 1  | 1   | 1   | 1   | 1   | 1   |                 |

## Elenco aste

### Simbologia

Asta = Numero dell'asta

N1 = Nodo iniziale

## Relazione di calcolo

N2 =Nodo finale  
 Sez.=Numero della sezione  
 Va =Numero del vincolo asta  
 Par.=Numero dei parametri aggiuntivi  
 Rot.=Rotazione  
 FF =Filo fisso  
 Dy1 =Scost. filo fisso Y1  
 Dy2 =Scost. filo fisso Y2  
 Dz1 =Scost. filo fisso Z1  
 Dz2 =Scost. filo fisso Z2  
 Kt =Coeff. di sottofondo su suolo elastico alla Winkler

| Asta | N1   | N2   | Sez. | Va | Par. | Rot.<br><grad> | FF | Dy1<br><cm> | Dy2<br><cm> | Dz1<br><cm> | Dz2<br><cm> | Kt<br><daN/cm> |
|------|------|------|------|----|------|----------------|----|-------------|-------------|-------------|-------------|----------------|
| 0    | -174 | 1    |      | 1  |      | 0.00           | 22 | 0.00        | 0.00        | 0.00        | 0.00        |                |
| 0    | 1    | -201 |      | 1  |      | 0.00           | 22 | 0.00        | 0.00        | 0.00        | 0.00        |                |
| 0    | -175 | -174 |      | 1  |      | 0.00           | 22 | 0.00        | 0.00        | 0.00        | 0.00        |                |
| 0    | -201 | -225 |      | 1  |      | 0.00           | 22 | 0.00        | 0.00        | 0.00        | 0.00        |                |
| 0    | -176 | -175 |      | 1  |      | 0.00           | 22 | 0.00        | 0.00        | 0.00        | 0.00        |                |
| 0    | -225 | -259 |      | 1  |      | 0.00           | 22 | 0.00        | 0.00        | 0.00        | 0.00        |                |
| 0    | -177 | -176 |      | 1  |      | 0.00           | 22 | 0.00        | 0.00        | 0.00        | 0.00        |                |
| 0    | -259 | -283 |      | 1  |      | 0.00           | 22 | 0.00        | 0.00        | 0.00        | 0.00        |                |
| 0    | -178 | -177 |      | 1  |      | 0.00           | 33 | 0.00        | 0.00        | 0.00        | 0.00        |                |
| 0    | -177 | -205 |      | 1  |      | 0.00           | 22 | 0.00        | 0.00        | 0.00        | 0.00        |                |
| 0    | -283 | -317 |      | 1  |      | 0.00           | 22 | 0.00        | 0.00        | 0.00        | 0.00        |                |
| 0    | 2    | -178 |      | 1  |      | 0.00           | 33 | 0.00        | 0.00        | 0.00        | 0.00        |                |
| 0    | -317 | 8    |      | 1  |      | 0.00           | 22 | 0.00        | 0.00        | 0.00        | 0.00        |                |
| 0    | -179 | 2    |      | 1  |      | 0.00           | 33 | 0.00        | 0.00        | 0.00        | 0.00        |                |
| 0    | -205 | -229 |      | 1  |      | 0.00           | 22 | 0.00        | 0.00        | 0.00        | 0.00        |                |
| 0    | -341 | 8    |      | 1  |      | 0.00           | 22 | 0.00        | 0.00        | 0.00        | 0.00        |                |
| 0    | -230 | -229 |      | 1  |      | 0.00           | 22 | 0.00        | 0.00        | 0.00        | 0.00        |                |
| 0    | -180 | -179 |      | 1  |      | 0.00           | 33 | 0.00        | 0.00        | 0.00        | 0.00        |                |
| 0    | -229 | -263 |      | 1  |      | 0.00           | 22 | 0.00        | 0.00        | 0.00        | 0.00        |                |
| 0    | -342 | -341 |      | 1  |      | 0.00           | 22 | 0.00        | 0.00        | 0.00        | 0.00        |                |
| 0    | -231 | -230 |      | 1  |      | 0.00           | 22 | 0.00        | 0.00        | 0.00        | 0.00        |                |
| 0    | -263 | -287 |      | 1  |      | 0.00           | 22 | 0.00        | 0.00        | 0.00        | 0.00        |                |
| 0    | -181 | -180 |      | 1  |      | 0.00           | 33 | 0.00        | 0.00        | 0.00        | 0.00        |                |
| 0    | -343 | -342 |      | 1  |      | 0.00           | 22 | 0.00        | 0.00        | 0.00        | 0.00        |                |
| 0    | -232 | -231 |      | 1  |      | 0.00           | 22 | 0.00        | 0.00        | 0.00        | 0.00        |                |
| 0    | -287 | -321 |      | 1  |      | 0.00           | 22 | 0.00        | 0.00        | 0.00        | 0.00        |                |
| 0    | -288 | -287 |      | 1  |      | 0.00           | 22 | 0.00        | 0.00        | 0.00        | 0.00        |                |
| 0    | -182 | -181 |      | 1  |      | 0.00           | 33 | 0.00        | 0.00        | 0.00        | 0.00        |                |
| 0    | -344 | -343 |      | 1  |      | 0.00           | 22 | 0.00        | 0.00        | 0.00        | 0.00        |                |
| 0    | -321 | -344 |      | 1  |      | 0.00           | 22 | 0.00        | 0.00        | 0.00        | 0.00        |                |
| 0    | -289 | -288 |      | 1  |      | 0.00           | 22 | 0.00        | 0.00        | 0.00        | 0.00        |                |
| 0    | -233 | -232 |      | 1  |      | 0.00           | 22 | 0.00        | 0.00        | 0.00        | 0.00        |                |
| 0    | -345 | -344 |      | 1  |      | 0.00           | 22 | 0.00        | 0.00        | 0.00        | 0.00        |                |
| 0    | -290 | -289 |      | 1  |      | 0.00           | 22 | 0.00        | 0.00        | 0.00        | 0.00        |                |
| 0    | 3    | -182 |      | 1  |      | 0.00           | 33 | 0.00        | 0.00        | 0.00        | 0.00        |                |
| 0    | 9    | -345 |      | 1  |      | 0.00           | 22 | 0.00        | 0.00        | 0.00        | 0.00        |                |
| 0    | -234 | -233 |      | 1  |      | 0.00           | 22 | 0.00        | 0.00        | 0.00        | 0.00        |                |
| 0    | -291 | -290 |      | 1  |      | 0.00           | 22 | 0.00        | 0.00        | 0.00        | 0.00        |                |
| 0    | -346 | 9    |      | 1  |      | 0.00           | 22 | 0.00        | 0.00        | 0.00        | 0.00        |                |
| 0    | -183 | 3    |      | 1  |      | 0.00           | 33 | 0.00        | 0.00        | 0.00        | 0.00        |                |
| 0    | -235 | -234 |      | 1  |      | 0.00           | 22 | 0.00        | 0.00        | 0.00        | 0.00        |                |
| 0    | -292 | -291 |      | 1  |      | 0.00           | 22 | 0.00        | 0.00        | 0.00        | 0.00        |                |
| 0    | -184 | -183 |      | 1  |      | 0.00           | 33 | 0.00        | 0.00        | 0.00        | 0.00        |                |
| 0    | -347 | -346 |      | 1  |      | 0.00           | 22 | 0.00        | 0.00        | 0.00        | 0.00        |                |
| 0    | -236 | -235 |      | 1  |      | 0.00           | 22 | 0.00        | 0.00        | 0.00        | 0.00        |                |
| 0    | -185 | -184 |      | 1  |      | 0.00           | 33 | 0.00        | 0.00        | 0.00        | 0.00        |                |
| 0    | -293 | -292 |      | 1  |      | 0.00           | 22 | 0.00        | 0.00        | 0.00        | 0.00        |                |
| 0    | -348 | -347 |      | 1  |      | 0.00           | 22 | 0.00        | 0.00        | 0.00        | 0.00        |                |
| 0    | -237 | -236 |      | 1  |      | 0.00           | 22 | 0.00        | 0.00        | 0.00        | 0.00        |                |
| 0    | -186 | -185 |      | 1  |      | 0.00           | 33 | 0.00        | 0.00        | 0.00        | 0.00        |                |
| 0    | -294 | -293 |      | 1  |      | 0.00           | 22 | 0.00        | 0.00        | 0.00        | 0.00        |                |
| 0    | -349 | -348 |      | 1  |      | 0.00           | 22 | 0.00        | 0.00        | 0.00        | 0.00        |                |
| 0    | -187 | -186 |      | 1  |      | 0.00           | 22 | 0.00        | 0.00        | 0.00        | 0.00        |                |
| 0    | -238 | -237 |      | 1  |      | 0.00           | 22 | 0.00        | 0.00        | 0.00        | 0.00        |                |
| 0    | -186 | -206 |      | 1  |      | 0.00           | 22 | 0.00        | 0.00        | 0.00        | 0.00        |                |
| 0    | -295 | -294 |      | 1  |      | 0.00           | 22 | 0.00        | 0.00        | 0.00        | 0.00        |                |
| 0    | 10   | -349 |      | 1  |      | 0.00           | 22 | 0.00        | 0.00        | 0.00        | 0.00        |                |
| 0    | -239 | -238 |      | 1  |      | 0.00           | 22 | 0.00        | 0.00        | 0.00        | 0.00        |                |
| 0    | 4    | -187 |      | 1  |      | 0.00           | 22 | 0.00        | 0.00        | 0.00        | 0.00        |                |
| 0    | -206 | -240 |      | 1  |      | 0.00           | 22 | 0.00        | 0.00        | 0.00        | 0.00        |                |
| 0    | -296 | -295 |      | 1  |      | 0.00           | 22 | 0.00        | 0.00        | 0.00        | 0.00        |                |
| 0    | -240 | -239 |      | 1  |      | 0.00           | 22 | 0.00        | 0.00        | 0.00        | 0.00        |                |
| 0    | -188 | 4    |      | 1  |      | 0.00           | 22 | 0.00        | 0.00        | 0.00        | 0.00        |                |
| 0    | -240 | -264 |      | 1  |      | 0.00           | 22 | 0.00        | 0.00        | 0.00        | 0.00        |                |
| 0    | -297 | -296 |      | 1  |      | 0.00           | 22 | 0.00        | 0.00        | 0.00        | 0.00        |                |
| 0    | -189 | -188 |      | 1  |      | 0.00           | 22 | 0.00        | 0.00        | 0.00        | 0.00        |                |

# Relazione di calcolo

|     |      |      |   |   |  |      |    |      |      |      |      |  |
|-----|------|------|---|---|--|------|----|------|------|------|------|--|
| 0   | 216  | 215  |   | 1 |  | 0.00 | 22 | 0.00 | 0.00 | 0.00 | 0.00 |  |
| 0   | -350 | 10   |   | 1 |  | 0.00 | 22 | 0.00 | 0.00 | 0.00 | 0.00 |  |
| 0   | -351 | -350 |   | 1 |  | 0.00 | 22 | 0.00 | 0.00 | 0.00 | 0.00 |  |
| 0   | -264 | -298 | 4 | 1 |  | 0.00 | 22 | 0.00 | 0.00 | 0.00 | 0.00 |  |
| 0   | -298 | -297 |   | 1 |  | 0.00 | 22 | 0.00 | 0.00 | 0.00 | 0.00 |  |
| 0   | -352 | -351 |   | 1 |  | 0.00 | 22 | 0.00 | 0.00 | 0.00 | 0.00 |  |
| 0   | -298 | -322 |   | 1 |  | 0.00 | 22 | 0.00 | 0.00 | 0.00 | 0.00 |  |
| 0   | -190 | -189 |   | 1 |  | 0.00 | 22 | 0.00 | 0.00 | 0.00 | 0.00 |  |
| 0   | -322 | -353 | 4 | 1 |  | 0.00 | 22 | 0.00 | 0.00 | 0.00 | 0.00 |  |
| 0   | -353 | -352 |   | 1 |  | 0.00 | 22 | 0.00 | 0.00 | 0.00 | 0.00 |  |
| 0   | -354 | -353 |   | 1 |  | 0.00 | 22 | 0.00 | 0.00 | 0.00 | 0.00 |  |
| 0   | -191 | -190 |   | 1 |  | 0.00 | 22 | 0.00 | 0.00 | 0.00 | 0.00 |  |
| 0   | 11   | -354 |   | 1 |  | 0.00 | 22 | 0.00 | 0.00 | 0.00 | 0.00 |  |
| 0   | 5    | -191 |   | 1 |  | 0.00 | 22 | 0.00 | 0.00 | 0.00 | 0.00 |  |
| 0   | -355 | 11   |   | 1 |  | 0.00 | 22 | 0.00 | 0.00 | 0.00 | 0.00 |  |
| 0   | 220  | 219  |   | 1 |  | 0.00 | 22 | 0.00 | 0.00 | 0.00 | 0.00 |  |
| 0   | -192 | 5    |   | 1 |  | 0.00 | 22 | 0.00 | 0.00 | 0.00 | 0.00 |  |
| 0   | -356 | -355 |   | 1 |  | 0.00 | 22 | 0.00 | 0.00 | 0.00 | 0.00 |  |
| 0   | -193 | -192 |   | 1 |  | 0.00 | 22 | 0.00 | 0.00 | 0.00 | 0.00 |  |
| 0   | -357 | -356 |   | 1 |  | 0.00 | 22 | 0.00 | 0.00 | 0.00 | 0.00 |  |
| 0   | -358 | -357 |   | 1 |  | 0.00 | 22 | 0.00 | 0.00 | 0.00 | 0.00 |  |
| 0   | -194 | -193 |   | 1 |  | 0.00 | 22 | 0.00 | 0.00 | 0.00 | 0.00 |  |
| 0   | 12   | -358 |   | 1 |  | 0.00 | 22 | 0.00 | 0.00 | 0.00 | 0.00 |  |
| 0   | 6    | -194 |   | 1 |  | 0.00 | 22 | 0.00 | 0.00 | 0.00 | 0.00 |  |
| 0   | -359 | 12   |   | 1 |  | 0.00 | 22 | 0.00 | 0.00 | 0.00 | 0.00 |  |
| 0   | -195 | 6    |   | 1 |  | 0.00 | 22 | 0.00 | 0.00 | 0.00 | 0.00 |  |
| 0   | -196 | -195 |   | 1 |  | 0.00 | 22 | 0.00 | 0.00 | 0.00 | 0.00 |  |
| 0   | -360 | -359 |   | 1 |  | 0.00 | 22 | 0.00 | 0.00 | 0.00 | 0.00 |  |
| 0   | -197 | -196 |   | 1 |  | 0.00 | 22 | 0.00 | 0.00 | 0.00 | 0.00 |  |
| 0   | -361 | -360 |   | 1 |  | 0.00 | 22 | 0.00 | 0.00 | 0.00 | 0.00 |  |
| 0   | -198 | -197 |   | 1 |  | 0.00 | 22 | 0.00 | 0.00 | 0.00 | 0.00 |  |
| 0   | 7    | -198 |   | 1 |  | 0.00 | 22 | 0.00 | 0.00 | 0.00 | 0.00 |  |
| 0   | 13   | -361 |   | 1 |  | 0.00 | 22 | 0.00 | 0.00 | 0.00 | 0.00 |  |
| 0   | 7    | -222 |   | 1 |  | 0.00 | 22 | 0.00 | 0.00 | 0.00 | 0.00 |  |
| 0   | -362 | 13   |   | 1 |  | 0.00 | 22 | 0.00 | 0.00 | 0.00 | 0.00 |  |
| 0   | -222 | -256 |   | 1 |  | 0.00 | 22 | 0.00 | 0.00 | 0.00 | 0.00 |  |
| 0   | -363 | -362 |   | 1 |  | 0.00 | 22 | 0.00 | 0.00 | 0.00 | 0.00 |  |
| 0   | -256 | -280 |   | 1 |  | 0.00 | 22 | 0.00 | 0.00 | 0.00 | 0.00 |  |
| 0   | -364 | -363 |   | 1 |  | 0.00 | 22 | 0.00 | 0.00 | 0.00 | 0.00 |  |
| 0   | -280 | -314 |   | 1 |  | 0.00 | 22 | 0.00 | 0.00 | 0.00 | 0.00 |  |
| 0   | -365 | -364 |   | 1 |  | 0.00 | 22 | 0.00 | 0.00 | 0.00 | 0.00 |  |
| 0   | -314 | -338 |   | 1 |  | 0.00 | 22 | 0.00 | 0.00 | 0.00 | 0.00 |  |
| 0   | 14   | -365 |   | 1 |  | 0.00 | 22 | 0.00 | 0.00 | 0.00 | 0.00 |  |
| 0   | -338 | 14   |   | 1 |  | 0.00 | 22 | 0.00 | 0.00 | 0.00 | 0.00 |  |
| 1   | 1    | 201  | 8 | 1 |  | 0.00 | 22 | 0.00 | 0.00 | 0.00 | 0.00 |  |
| 2   | 2    | 202  | 4 | 1 |  | 0.00 | 55 | 0.00 | 0.00 | 0.00 | 0.00 |  |
| 3   | 3    | 203  | 4 | 1 |  | 0.00 | 55 | 0.00 | 0.00 | 0.00 | 0.00 |  |
| 4   | 4    | 204  | 4 | 1 |  | 0.00 | 55 | 0.00 | 0.00 | 0.00 | 0.00 |  |
| 5   | 5    | 205  | 4 | 1 |  | 0.00 | 55 | 0.00 | 0.00 | 0.00 | 0.00 |  |
| 6   | 6    | 206  | 4 | 1 |  | 0.00 | 55 | 0.00 | 0.00 | 0.00 | 0.00 |  |
| 7   | 7    | 207  | 8 | 1 |  | 0.00 | 88 | 0.00 | 0.00 | 0.00 | 0.00 |  |
| 8   | 8    | 208  | 8 | 1 |  | 0.00 | 22 | 0.00 | 0.00 | 0.00 | 0.00 |  |
| 9   | 9    | 209  | 4 | 1 |  | 0.00 | 55 | 0.00 | 0.00 | 0.00 | 0.00 |  |
| 10  | 10   | 210  | 4 | 1 |  | 0.00 | 55 | 0.00 | 0.00 | 0.00 | 0.00 |  |
| 11  | 11   | 211  | 4 | 1 |  | 0.00 | 55 | 0.00 | 0.00 | 0.00 | 0.00 |  |
| 12  | 12   | 212  | 4 | 1 |  | 0.00 | 55 | 0.00 | 0.00 | 0.00 | 0.00 |  |
| 13  | 13   | 213  | 4 | 1 |  | 0.00 | 55 | 0.00 | 0.00 | 0.00 | 0.00 |  |
| 14  | 14   | 214  | 8 | 1 |  | 0.00 | 88 | 0.00 | 0.00 | 0.00 | 0.00 |  |
| 201 | 202  | 201  | 9 | 1 |  | 0.00 | 22 | 0.00 | 0.00 | 0.00 | 0.00 |  |
| 201 | 203  | 202  | 9 | 1 |  | 0.00 | 22 | 0.00 | 0.00 | 0.00 | 0.00 |  |
| 201 | 204  | 203  | 9 | 1 |  | 0.00 | 22 | 0.00 | 0.00 | 0.00 | 0.00 |  |
| 201 | 205  | 204  | 9 | 1 |  | 0.00 | 22 | 0.00 | 0.00 | 0.00 | 0.00 |  |
| 201 | 206  | 205  | 9 | 1 |  | 0.00 | 22 | 0.00 | 0.00 | 0.00 | 0.00 |  |
| 201 | 207  | 206  | 9 | 1 |  | 0.00 | 22 | 0.00 | 0.00 | 0.00 | 0.00 |  |
| 201 | 217  | 207  | 5 | 1 |  | 0.00 | 22 | 0.00 | 0.00 | 0.00 | 0.00 |  |
| 202 | 208  | 209  | 9 | 1 |  | 0.00 | 22 | 0.00 | 0.00 | 0.00 | 0.00 |  |
| 202 | 209  | 210  | 9 | 1 |  | 0.00 | 22 | 0.00 | 0.00 | 0.00 | 0.00 |  |
| 202 | 210  | 211  | 9 | 1 |  | 0.00 | 22 | 0.00 | 0.00 | 0.00 | 0.00 |  |
| 202 | 211  | 212  | 9 | 1 |  | 0.00 | 22 | 0.00 | 0.00 | 0.00 | 0.00 |  |
| 202 | 212  | 213  | 9 | 1 |  | 0.00 | 22 | 0.00 | 0.00 | 0.00 | 0.00 |  |
| 202 | 213  | 214  | 9 | 1 |  | 0.00 | 22 | 0.00 | 0.00 | 0.00 | 0.00 |  |
| 202 | 218  | 214  | 5 | 1 |  | 0.00 | 22 | 0.00 | 0.00 | 0.00 | 0.00 |  |
| 203 | 215  | 201  | 3 | 1 |  | 0.00 | 22 | 0.00 | 0.00 | 0.00 | 0.00 |  |
| 203 | 201  | 208  | 1 | 1 |  | 0.00 | 33 | 0.00 | 0.00 | 0.00 | 0.00 |  |
| 203 | 208  | 219  | 3 | 1 |  | 0.00 | 22 | 0.00 | 0.00 | 0.00 | 0.00 |  |
| 204 | 202  | 209  | 5 | 1 |  | 0.00 | 22 | 0.00 | 0.00 | 0.00 | 0.00 |  |
| 205 | 203  | 210  | 5 | 1 |  | 0.00 | 22 | 0.00 | 0.00 | 0.00 | 0.00 |  |
| 206 | 204  | 211  | 5 | 1 |  | 0.00 | 22 | 0.00 | 0.00 | 0.00 | 0.00 |  |
| 207 | 205  | 212  | 5 | 1 |  | 0.00 | 22 | 0.00 | 0.00 | 0.00 | 0.00 |  |

## Relazione di calcolo

|     |     |     |   |   |  |      |    |      |      |      |      |  |
|-----|-----|-----|---|---|--|------|----|------|------|------|------|--|
| 208 | 206 | 213 | 5 | 1 |  | 0.00 | 22 | 0.00 | 0.00 | 0.00 | 0.00 |  |
| 209 | 214 | 207 | 1 | 1 |  | 0.00 | 33 | 0.00 | 0.00 | 0.00 | 0.00 |  |
| 210 | 216 | 217 | 3 | 1 |  | 0.00 | 22 | 0.00 | 0.00 | 0.00 | 0.00 |  |
| 210 | 217 | 218 | 3 | 1 |  | 0.00 | 22 | 0.00 | 0.00 | 0.00 | 0.00 |  |
| 210 | 218 | 220 | 3 | 1 |  | 0.00 | 22 | 0.00 | 0.00 | 0.00 | 0.00 |  |

## Elenco tipi elementi bidimensionali

### Simbologia

|           |       |                                                     |
|-----------|-------|-----------------------------------------------------|
| Tb        | =     | Numero del tipo muro/elemento bidimensionale        |
| Comm.     | =     | Commento                                            |
| Tipo      | =     | Tipologia                                           |
|           | F     | = Membranale e Flessionale                          |
|           | M     | = Membranale                                        |
|           | W-RC  | = Winkler resistente solo a compressione            |
|           | W-RTC | = Winkler resistente a trazione e a compressione    |
| Uso       | =     | Utilizzo                                            |
|           | G     | = Generico                                          |
|           | P     | = Parete                                            |
|           | S     | = Soletta/Platea                                    |
|           | N     | = Nucleo                                            |
|           | M     | = Muratura ordinaria                                |
|           | L     | = Pilastro                                          |
|           | MA    | = Muratura armata                                   |
|           | X     | = Pannello X-LAM                                    |
| Spess.    | =     | Spessore                                            |
| Kt        | =     | Coeff. di sottofondo su suolo elastico alla Winkler |
| DP        | =     | Drucker-Prager                                      |
| Ang. att. | =     | Angolo di attrito                                   |
| Coes.     | =     | Coesione                                            |
| Crit.     | =     | Numero del criterio di progetto                     |
| Mat.      | =     | Numero del materiale                                |

| Tb | Comm.      | Tipo  | Uso | Spess.<br><cm> | Kt<br><daN/cmc> | DP | Ang. att.<br><grad> | Coes.<br><daN/mq> | Crit. | Mat. |
|----|------------|-------|-----|----------------|-----------------|----|---------------------|-------------------|-------|------|
| 1  | pareti_S25 | F     | N   | 25.00          |                 | N  | 0.00                | 0.00              | 1     |      |
| 2  | platea_S35 | W-RTC | S   | 35.00          | f(strat.)       | N  | 0.00                | 0.00              | 1     |      |
| 3  | pareti_S30 | F     | N   | 30.00          |                 | N  | 0.00                | 0.00              | 1     |      |

## Elenco elementi bidimensionali

### Simbologia

|      |   |                                                     |
|------|---|-----------------------------------------------------|
| Bid. | = | Numero del muro/elemento bidimensionale             |
| Tb   | = | Numero del tipo muro/elemento bidimensionale        |
| FF   | = | Filo fisso                                          |
| Dy1  | = | Scost. filo fisso Y1                                |
| Dy2  | = | Scost. filo fisso Y2                                |
| Kt   | = | Coeff. di sottofondo su suolo elastico alla Winkler |
| NN   | = | Nodi                                                |

| Bid. | Tb | FF | Dy1<br><cm> | Dy2<br><cm> | Kt<br><daN/cmc> | NN                  |
|------|----|----|-------------|-------------|-----------------|---------------------|
| 209  | 3  | 22 | 0.00        | 0.00        |                 | -86 -85 -177 -178   |
| 209  | 3  | 22 | 0.00        | 0.00        |                 | -12 -11 -95 -96     |
| 209  | 3  | 22 | 0.00        | 0.00        |                 | -87 -86 -178 2      |
| 209  | 3  | 22 | 0.00        | 0.00        |                 | -3 -2 -86 -87       |
| 209  | 3  | 22 | 0.00        | 0.00        |                 | -4 -3 -87 -88       |
| 209  | 3  | 22 | 0.00        | 0.00        |                 | -5 -4 -88 -89       |
| 209  | 3  | 22 | 0.00        | 0.00        |                 | -6 -5 -89 -90       |
| 209  | 3  | 22 | 0.00        | 0.00        |                 | -96 -95 -185 -186   |
| 209  | 3  | 22 | 0.00        | 0.00        |                 | -10 -9 -93 -94      |
| 209  | 3  | 22 | 0.00        | 0.00        |                 | -93 -92 3 -183      |
| 209  | 3  | 22 | 0.00        | 0.00        |                 | -7 -6 -90 -91       |
| 210  | 3  | 22 | 0.00        | 0.00        |                 | -133 -132 -348 -349 |
| 210  | 3  | 22 | 0.00        | 0.00        |                 | -128 -127 -344 -345 |
| 210  | 3  | 22 | 0.00        | 0.00        |                 | -78 -77 -131 -132   |
| 210  | 3  | 22 | 0.00        | 0.00        |                 | -77 -76 -130 -131   |
| 210  | 3  | 22 | 0.00        | 0.00        |                 | -76 -75 -129 -130   |
| 210  | 3  | 22 | 0.00        | 0.00        |                 | -81 -80 -134 -135   |
| 210  | 3  | 22 | 0.00        | 0.00        |                 | -80 -79 -133 -134   |
| 210  | 3  | 22 | 0.00        | 0.00        |                 | -138 -137 -352 -353 |
| 210  | 3  | 22 | 0.00        | 0.00        |                 | -130 -129 9 -346    |
| 210  | 3  | 22 | 0.00        | 0.00        |                 | -83 -82 -136 -137   |
| 210  | 3  | 22 | 0.00        | 0.00        |                 | -75 -74 -128 -129   |
| 211  | 1  | 22 | 0.00        | 0.00        |                 | -96 -98 -206 -186   |
| 211  | 1  | 22 | 0.00        | 0.00        |                 | -60 -72 -126 -124   |
| 211  | 1  | 22 | 0.00        | 0.00        |                 | -36 -48 -112 -110   |
| 211  | 1  | 22 | 0.00        | 0.00        |                 | -98 -110 -240 -206  |
| 211  | 1  | 22 | 0.00        | 0.00        |                 | -48 -60 -124 -112   |
| 211  | 1  | 22 | 0.00        | 0.00        |                 | -124 -126 -322 -298 |

| Bid. | Tb | FF | Dy1<br><cm> | Dy2<br><cm> | Kt<br><daN/cmc> | NN                  |
|------|----|----|-------------|-------------|-----------------|---------------------|
| 209  | 3  | 22 | 0.00        | 0.00        |                 | -9 -8 -92 -93       |
| 209  | 3  | 22 | 0.00        | 0.00        |                 | -2 -1 -85 -86       |
| 209  | 3  | 22 | 0.00        | 0.00        |                 | -11 -10 -94 -95     |
| 209  | 3  | 22 | 0.00        | 0.00        |                 | -88 -87 2 -179      |
| 209  | 3  | 22 | 0.00        | 0.00        |                 | -89 -88 -179 -180   |
| 209  | 3  | 22 | 0.00        | 0.00        |                 | -90 -89 -180 -181   |
| 209  | 3  | 22 | 0.00        | 0.00        |                 | -91 -90 -181 -182   |
| 209  | 3  | 22 | 0.00        | 0.00        |                 | -94 -93 -183 -184   |
| 209  | 3  | 22 | 0.00        | 0.00        |                 | -95 -94 -184 -185   |
| 209  | 3  | 22 | 0.00        | 0.00        |                 | -92 -91 -182 3      |
| 209  | 3  | 22 | 0.00        | 0.00        |                 | -8 -7 -91 -92       |
| 210  | 3  | 22 | 0.00        | 0.00        |                 | -131 -130 -346 -347 |
| 210  | 3  | 22 | 0.00        | 0.00        |                 | -79 -78 -132 -133   |
| 210  | 3  | 22 | 0.00        | 0.00        |                 | -132 -131 -347 -348 |
| 210  | 3  | 22 | 0.00        | 0.00        |                 | -137 -136 -351 -352 |
| 210  | 3  | 22 | 0.00        | 0.00        |                 | -136 -135 -350 -351 |
| 210  | 3  | 22 | 0.00        | 0.00        |                 | -135 -134 10 -350   |
| 210  | 3  | 22 | 0.00        | 0.00        |                 | -134 -133 -349 10   |
| 210  | 3  | 22 | 0.00        | 0.00        |                 | -82 -81 -135 -136   |
| 210  | 3  | 22 | 0.00        | 0.00        |                 | -84 -83 -137 -138   |
| 210  | 3  | 22 | 0.00        | 0.00        |                 | -74 -73 -127 -128   |
| 210  | 3  | 22 | 0.00        | 0.00        |                 | -129 -128 -345 9    |
| 211  | 1  | 22 | 0.00        | 0.00        |                 | -24 -36 -110 -98    |
| 211  | 1  | 22 | 0.00        | 0.00        |                 | -126 -138 -353 -322 |
| 211  | 1  | 22 | 0.00        | 0.00        |                 | -110 -112 -264 -240 |
| 211  | 1  | 22 | 0.00        | 0.00        |                 | -112 -124 -298 -264 |
| 211  | 1  | 22 | 0.00        | 0.00        |                 | -12 -24 -98 -96     |
| 211  | 1  | 22 | 0.00        | 0.00        |                 | -72 -84 -138 -126   |

# Relazione di calcolo

|     |   |    |      |      |        |                     |     |   |    |      |      |        |                     |
|-----|---|----|------|------|--------|---------------------|-----|---|----|------|------|--------|---------------------|
| 212 | 1 | 22 | 0.00 | 0.00 |        | -13 -25 -99 -97     | 212 | 1 | 22 | 0.00 | 0.00 |        | -99 -111 -263 -229  |
| 212 | 1 | 22 | 0.00 | 0.00 |        | -125 -127 -344 -321 | 212 | 1 | 22 | 0.00 | 0.00 |        | -61 -73 -127 -125   |
| 212 | 1 | 22 | 0.00 | 0.00 |        | -49 -61 -125 -113   | 212 | 1 | 22 | 0.00 | 0.00 |        | -111 -113 -287 -263 |
| 212 | 1 | 22 | 0.00 | 0.00 |        | -25 -37 -111 -99    | 212 | 1 | 22 | 0.00 | 0.00 |        | -85 -97 -205 -177   |
| 212 | 1 | 22 | 0.00 | 0.00 |        | -37 -49 -113 -111   | 212 | 1 | 22 | 0.00 | 0.00 |        | -113 -125 -321 -287 |
| 212 | 1 | 22 | 0.00 | 0.00 |        | -1 -13 -97 -85      | 212 | 1 | 22 | 0.00 | 0.00 |        | -97 -99 -229 -205   |
| 213 | 1 | 22 | 0.00 | 0.00 |        | -115 -114 -288 -289 | 213 | 1 | 22 | 0.00 | 0.00 |        | -50 -49 -113 -114   |
| 213 | 1 | 22 | 0.00 | 0.00 |        | -124 -123 -297 -298 | 213 | 1 | 22 | 0.00 | 0.00 |        | -122 -121 -295 -296 |
| 213 | 1 | 22 | 0.00 | 0.00 |        | -58 -57 -121 -122   | 213 | 1 | 22 | 0.00 | 0.00 |        | -56 -55 -119 -120   |
| 213 | 1 | 22 | 0.00 | 0.00 |        | -60 -59 -123 -124   | 213 | 1 | 22 | 0.00 | 0.00 |        | -53 -52 -116 -117   |
| 213 | 1 | 22 | 0.00 | 0.00 |        | -117 -116 -290 -291 | 213 | 1 | 22 | 0.00 | 0.00 |        | -119 -118 -292 -293 |
| 213 | 1 | 22 | 0.00 | 0.00 |        | -54 -53 -117 -118   | 213 | 1 | 22 | 0.00 | 0.00 |        | -114 -113 -287 -288 |
| 213 | 1 | 22 | 0.00 | 0.00 |        | -121 -120 -294 -295 | 213 | 1 | 22 | 0.00 | 0.00 |        | -59 -58 -122 -123   |
| 213 | 1 | 22 | 0.00 | 0.00 |        | -52 -51 -115 -116   | 213 | 1 | 22 | 0.00 | 0.00 |        | -116 -115 -289 -290 |
| 213 | 1 | 22 | 0.00 | 0.00 |        | -51 -50 -114 -115   | 213 | 1 | 22 | 0.00 | 0.00 |        | -57 -56 -120 -121   |
| 213 | 1 | 22 | 0.00 | 0.00 |        | -55 -54 -118 -119   | 213 | 1 | 22 | 0.00 | 0.00 |        | -123 -122 -296 -297 |
| 213 | 1 | 22 | 0.00 | 0.00 |        | -120 -119 -293 -294 | 213 | 1 | 22 | 0.00 | 0.00 |        | -118 -117 -291 -292 |
| 214 | 1 | 22 | 0.00 | 0.00 |        | -35 -34 -108 -109   | 214 | 1 | 22 | 0.00 | 0.00 |        | -110 -109 -239 -240 |
| 214 | 1 | 22 | 0.00 | 0.00 |        | -104 -103 -233 -234 | 214 | 1 | 22 | 0.00 | 0.00 |        | -105 -104 -234 -235 |
| 214 | 1 | 22 | 0.00 | 0.00 |        | -32 -31 -105 -106   | 214 | 1 | 22 | 0.00 | 0.00 |        | -34 -33 -107 -108   |
| 214 | 1 | 22 | 0.00 | 0.00 |        | -28 -27 -101 -102   | 214 | 1 | 22 | 0.00 | 0.00 |        | -31 -30 -104 -105   |
| 214 | 1 | 22 | 0.00 | 0.00 |        | -106 -105 -235 -236 | 214 | 1 | 22 | 0.00 | 0.00 |        | -30 -29 -103 -104   |
| 214 | 1 | 22 | 0.00 | 0.00 |        | -109 -108 -238 -239 | 214 | 1 | 22 | 0.00 | 0.00 |        | -100 -99 -229 -230  |
| 214 | 1 | 22 | 0.00 | 0.00 |        | -102 -101 -231 -232 | 214 | 1 | 22 | 0.00 | 0.00 |        | -36 -35 -109 -110   |
| 214 | 1 | 22 | 0.00 | 0.00 |        | -101 -100 -230 -231 | 214 | 1 | 22 | 0.00 | 0.00 |        | -26 -25 -99 -100    |
| 214 | 1 | 22 | 0.00 | 0.00 |        | -103 -102 -232 -233 | 214 | 1 | 22 | 0.00 | 0.00 |        | -29 -28 -102 -103   |
| 214 | 1 | 22 | 0.00 | 0.00 |        | -33 -32 -106 -107   | 214 | 1 | 22 | 0.00 | 0.00 |        | -108 -107 -237 -238 |
| 214 | 1 | 22 | 0.00 | 0.00 |        | -27 -26 -100 -101   | 214 | 1 | 22 | 0.00 | 0.00 |        | -107 -106 -236 -237 |
| 503 | 2 | 11 | 0.00 | 0.00 | 108.22 | -163 -192 5 -162    | 503 | 2 | 11 | 0.00 | 0.00 | 108.22 | 12 -390 -389 -358   |
| 503 | 2 | 11 | 0.00 | 0.00 | 108.22 | -194 -216 -215 -193 | 503 | 2 | 11 | 0.00 | 0.00 | 108.22 | -214 -248 -247 -213 |
| 503 | 2 | 11 | 0.00 | 0.00 | 108.22 | -192 -214 -213 5    | 503 | 2 | 11 | 0.00 | 0.00 | 108.22 | -164 -193 -192 -163 |
| 503 | 2 | 11 | 0.00 | 0.00 | 108.22 | -267 -301 -300 -266 | 503 | 2 | 11 | 0.00 | 0.00 | 108.22 | -245 -269 -268 -244 |
| 503 | 2 | 11 | 0.00 | 0.00 | 108.22 | -259 -283 -282 -258 | 503 | 2 | 11 | 0.00 | 0.00 | 108.22 | -165 -194 -193 -164 |
| 503 | 2 | 11 | 0.00 | 0.00 | 108.22 | -190 -211 -210 -189 | 503 | 2 | 11 | 0.00 | 0.00 | 108.22 | -303 -327 -326 -302 |
| 503 | 2 | 11 | 0.00 | 0.00 | 108.22 | -170 -198 -197 -169 | 503 | 2 | 11 | 0.00 | 0.00 | 108.22 | -361 -393 -392 -360 |
| 503 | 2 | 11 | 0.00 | 0.00 | 108.22 | -211 -245 -244 -210 | 503 | 2 | 11 | 0.00 | 0.00 | 108.22 | -308 -332 -331 -307 |
| 503 | 2 | 11 | 0.00 | 0.00 | 108.22 | -274 -308 -307 -273 | 503 | 2 | 11 | 0.00 | 0.00 | 108.22 | -250 -274 -273 -249 |
| 503 | 2 | 11 | 0.00 | 0.00 | 108.22 | -216 -250 -249 -215 | 503 | 2 | 11 | 0.00 | 0.00 | 108.22 | -203 -227 -226 -202 |
| 503 | 2 | 11 | 0.00 | 0.00 | 108.22 | -167 -195 6 -166    | 503 | 2 | 11 | 0.00 | 0.00 | 108.22 | 6 -217 -216 -194    |
| 503 | 2 | 11 | 0.00 | 0.00 | 108.22 | 5 -213 -212 -191    | 503 | 2 | 11 | 0.00 | 0.00 | 108.22 | -160 -190 -189 -159 |
| 503 | 2 | 11 | 0.00 | 0.00 | 108.22 | -168 -196 -195 -167 | 503 | 2 | 11 | 0.00 | 0.00 | 108.22 | -307 -331 -330 -306 |
| 503 | 2 | 11 | 0.00 | 0.00 | 108.22 | -273 -307 -306 -272 | 503 | 2 | 11 | 0.00 | 0.00 | 108.22 | -249 -273 -272 -248 |
| 503 | 2 | 11 | 0.00 | 0.00 | 108.22 | -215 -249 -248 -214 | 503 | 2 | 11 | 0.00 | 0.00 | 108.22 | -193 -215 -214 -192 |
| 503 | 2 | 11 | 0.00 | 0.00 | 108.22 | -278 -312 -311 -277 | 503 | 2 | 11 | 0.00 | 0.00 | 108.22 | -312 -336 -335 -311 |
| 503 | 2 | 11 | 0.00 | 0.00 | 108.22 | -197 -220 -219 -196 | 503 | 2 | 11 | 0.00 | 0.00 | 108.22 | -301 -325 -324 -300 |
| 503 | 2 | 11 | 0.00 | 0.00 | 108.22 | -221 -255 -254 -220 | 503 | 2 | 11 | 0.00 | 0.00 | 108.22 | -255 -279 -278 -254 |
| 503 | 2 | 11 | 0.00 | 0.00 | 108.22 | -279 -313 -312 -278 | 503 | 2 | 11 | 0.00 | 0.00 | 108.22 | -332 -361 -360 -331 |
| 503 | 2 | 11 | 0.00 | 0.00 | 108.22 | -198 -221 -220 -197 | 503 | 2 | 11 | 0.00 | 0.00 | 108.22 | 7 -222 -221 -198    |
| 503 | 2 | 11 | 0.00 | 0.00 | 108.22 | -314 -338 -337 -313 | 503 | 2 | 11 | 0.00 | 0.00 | 108.22 | -280 -314 -313 -279 |
| 503 | 2 | 11 | 0.00 | 0.00 | 108.22 | -256 -280 -279 -255 | 503 | 2 | 11 | 0.00 | 0.00 | 108.22 | -222 -256 -255 -221 |
| 503 | 2 | 11 | 0.00 | 0.00 | 108.22 | -338 14 -365 -337   | 503 | 2 | 11 | 0.00 | 0.00 | 108.22 | -150 -182 -181 -149 |
| 503 | 2 | 11 | 0.00 | 0.00 | 108.22 | -154 -185 -184 -153 | 503 | 2 | 11 | 0.00 | 0.00 | 108.22 | -153 -184 -183 -152 |
| 503 | 2 | 11 | 0.00 | 0.00 | 108.22 | -248 -272 -271 -247 | 503 | 2 | 11 | 0.00 | 0.00 | 108.22 | -272 -306 -305 -271 |
| 503 | 2 | 11 | 0.00 | 0.00 | 108.22 | -306 -330 -329 -305 | 503 | 2 | 11 | 0.00 | 0.00 | 108.22 | -330 -359 12 -329   |
| 503 | 2 | 11 | 0.00 | 0.00 | 108.22 | -359 -391 -390 12   | 503 | 2 | 11 | 0.00 | 0.00 | 108.22 | -191 -212 -211 -190 |
| 503 | 2 | 11 | 0.00 | 0.00 | 108.22 | -309 -333 -332 -308 | 503 | 2 | 11 | 0.00 | 0.00 | 108.22 | -166 6 -194 -165    |
| 503 | 2 | 11 | 0.00 | 0.00 | 108.22 | -337 -365 -364 -336 | 503 | 2 | 11 | 0.00 | 0.00 | 108.22 | -251 -275 -274 -250 |
| 503 | 2 | 11 | 0.00 | 0.00 | 108.22 | -275 -309 -308 -274 | 503 | 2 | 11 | 0.00 | 0.00 | 108.22 | 13 -394 -393 -361   |
| 503 | 2 | 11 | 0.00 | 0.00 | 108.22 | -313 -337 -336 -312 | 503 | 2 | 11 | 0.00 | 0.00 | 108.22 | -334 -362 13 -333   |
| 503 | 2 | 11 | 0.00 | 0.00 | 108.22 | -218 -252 -251 -217 | 503 | 2 | 11 | 0.00 | 0.00 | 108.22 | -252 -276 -275 -251 |
| 503 | 2 | 11 | 0.00 | 0.00 | 108.22 | -276 -310 -309 -275 | 503 | 2 | 11 | 0.00 | 0.00 | 108.22 | -310 -334 -333 -309 |
| 503 | 2 | 11 | 0.00 | 0.00 | 108.22 | -195 -218 -217 6    | 503 | 2 | 11 | 0.00 | 0.00 | 108.22 | -335 -363 -362 -334 |
| 503 | 2 | 11 | 0.00 | 0.00 | 108.22 | -219 -253 -252 -218 | 503 | 2 | 11 | 0.00 | 0.00 | 108.22 | -253 -277 -276 -252 |
| 503 | 2 | 11 | 0.00 | 0.00 | 108.22 | -277 -311 -310 -276 | 503 | 2 | 11 | 0.00 | 0.00 | 108.22 | -311 -335 -334 -310 |
| 503 | 2 | 11 | 0.00 | 0.00 | 108.22 | -196 -219 -218 -195 | 503 | 2 | 11 | 0.00 | 0.00 | 108.22 | -336 -364 -363 -335 |
| 503 | 2 | 11 | 0.00 | 0.00 | 108.22 | -220 -254 -253 -219 | 503 | 2 | 11 | 0.00 | 0.00 | 108.22 | -254 -278 -277 -253 |
| 503 | 2 | 11 | 0.00 | 0.00 | 108.22 | -201 -225 -224 -200 | 503 | 2 | 11 | 0.00 | 0.00 | 108.22 | -158 -188 4 -157    |
| 503 | 2 | 11 | 0.00 | 0.00 | 108.22 | -243 -267 -266 -242 | 503 | 2 | 11 | 0.00 | 0.00 | 108.22 | -209 -243 -242 -208 |
| 503 | 2 | 11 | 0.00 | 0.00 | 108.22 | -188 -209 -208 4    | 503 | 2 | 11 | 0.00 | 0.00 | 108.22 | -169 -197 -196 -168 |
| 503 | 2 | 11 | 0.00 | 0.00 | 108.22 | -326 -356 -355 -325 | 503 | 2 | 11 | 0.00 | 0.00 | 108.22 | -268 -302 -301 -267 |
| 503 | 2 | 11 | 0.00 | 0.00 | 108.22 | -244 -268 -267 -243 | 503 | 2 | 11 | 0.00 | 0.00 | 108.22 | -210 -244 -243 -209 |
| 503 | 2 | 11 | 0.00 | 0.00 | 108.22 | -189 -210 -209 -188 | 503 | 2 | 11 | 0.00 | 0.00 | 108.22 | -302 -326 -325 -301 |
| 503 | 2 | 11 | 0.00 | 0.00 | 108.22 | -327 -357 -356 -326 | 503 | 2 | 11 | 0.00 | 0.00 | 108.22 | -269 -303 -302 -268 |
| 503 | 2 | 11 | 0.00 | 0.00 | 108.22 | -360 -392 -391 -359 | 503 | 2 | 11 | 0.00 | 0.00 | 108.22 | -161 -191 -190 -160 |
| 503 | 2 | 11 | 0.00 | 0.00 | 108.22 | -358 -389 -388 -357 | 503 | 2 | 11 | 0.00 | 0.00 | 108.22 | -328 -358 -357 -327 |
| 503 | 2 | 11 | 0.00 | 0.00 | 108.22 | -304 -328 -327 -303 | 503 | 2 | 11 | 0.00 | 0.00 | 108.22 | -270 -304 -303 -269 |
| 503 | 2 | 11 | 0.00 | 0.00 | 108.22 | -271 -305 -304 -270 | 503 | 2 | 11 | 0.00 | 0.00 | 108.22 | -247 -271 -270 -246 |
| 503 | 2 | 11 | 0.00 | 0.00 | 108.22 | -213 -247 -246 -212 | 503 | 2 | 11 | 0.00 | 0.00 | 108.22 | -162 5 -191 -161    |
| 503 | 2 | 11 | 0.00 | 0.00 | 108.22 | -305 -329 -328 -304 | 503 | 2 | 11 | 0.00 | 0.00 | 108.22 | -246 -270 -269 -245 |

# Relazione di calcolo

|     |   |    |      |      |        |      |      |      |      |
|-----|---|----|------|------|--------|------|------|------|------|
| 503 | 2 | 11 | 0.00 | 0.00 | 108.22 | -331 | -360 | -359 | -330 |
| 503 | 2 | 11 | 0.00 | 0.00 | 108.22 | -159 | -189 | -188 | -158 |
| 503 | 2 | 11 | 0.00 | 0.00 | 108.22 | -146 | 2    | -178 | -145 |
| 503 | 2 | 11 | 0.00 | 0.00 | 108.22 | -171 | 7    | -198 | -170 |
| 503 | 2 | 11 | 0.00 | 0.00 | 108.22 | -223 | -257 | -256 | -222 |
| 503 | 2 | 11 | 0.00 | 0.00 | 108.22 | -227 | -261 | -260 | -226 |
| 503 | 2 | 11 | 0.00 | 0.00 | 108.22 | -319 | -342 | -341 | -318 |
| 503 | 2 | 11 | 0.00 | 0.00 | 108.22 | -157 | 4    | -187 | -156 |
| 503 | 2 | 11 | 0.00 | 0.00 | 108.22 | -174 | -202 | -201 | 1    |
| 503 | 2 | 11 | 0.00 | 0.00 | 108.22 | -176 | -204 | -203 | -175 |
| 503 | 2 | 11 | 0.00 | 0.00 | 108.22 | -204 | -228 | -227 | -203 |
| 503 | 2 | 11 | 0.00 | 0.00 | 108.22 | -226 | -260 | -259 | -225 |
| 503 | 2 | 11 | 0.00 | 0.00 | 108.22 | -315 | -339 | -338 | -314 |
| 503 | 2 | 11 | 0.00 | 0.00 | 108.22 | -202 | -226 | -225 | -201 |
| 503 | 2 | 11 | 0.00 | 0.00 | 108.22 | -321 | -344 | -343 | -320 |
| 503 | 2 | 11 | 0.00 | 0.00 | 108.22 | -263 | -287 | -286 | -262 |
| 503 | 2 | 11 | 0.00 | 0.00 | 108.22 | -285 | -319 | -318 | -284 |
| 503 | 2 | 11 | 0.00 | 0.00 | 108.22 | -366 | -400 | -399 | 14   |
| 503 | 2 | 11 | 0.00 | 0.00 | 108.22 | -177 | -205 | -204 | -176 |
| 503 | 2 | 11 | 0.00 | 0.00 | 108.22 | -257 | -281 | -280 | -256 |
| 503 | 2 | 11 | 0.00 | 0.00 | 108.22 | 1    | -201 | -200 | -173 |
| 503 | 2 | 11 | 0.00 | 0.00 | 108.22 | -354 | -384 | -383 | -353 |
| 503 | 2 | 11 | 0.00 | 0.00 | 108.22 | -353 | -383 | -382 | -352 |
| 503 | 2 | 11 | 0.00 | 0.00 | 108.22 | 14   | -399 | -398 | -365 |
| 503 | 2 | 11 | 0.00 | 0.00 | 108.22 | -364 | -397 | -396 | -363 |
| 503 | 2 | 11 | 0.00 | 0.00 | 108.22 | -145 | -178 | -177 | -144 |
| 503 | 2 | 11 | 0.00 | 0.00 | 108.22 | -362 | -395 | -394 | 13   |
| 503 | 2 | 11 | 0.00 | 0.00 | 108.22 | -329 | 12   | -358 | -328 |
| 503 | 2 | 11 | 0.00 | 0.00 | 108.22 | -356 | -387 | -386 | -355 |
| 503 | 2 | 11 | 0.00 | 0.00 | 108.22 | -141 | -174 | 1    | -140 |
| 503 | 2 | 11 | 0.00 | 0.00 | 108.22 | -348 | -377 | -376 | -347 |
| 503 | 2 | 11 | 0.00 | 0.00 | 108.22 | 10   | -379 | -378 | -349 |
| 503 | 2 | 11 | 0.00 | 0.00 | 108.22 | -351 | -381 | -380 | -350 |
| 503 | 2 | 11 | 0.00 | 0.00 | 108.22 | -147 | -179 | 2    | -146 |
| 503 | 2 | 11 | 0.00 | 0.00 | 108.22 | -325 | -355 | 11   | -324 |
| 503 | 2 | 11 | 0.00 | 0.00 | 108.22 | -208 | -242 | -241 | -207 |
| 503 | 2 | 11 | 0.00 | 0.00 | 108.22 | -323 | -354 | -353 | -322 |
| 503 | 2 | 11 | 0.00 | 0.00 | 108.22 | -265 | -299 | -298 | -264 |
| 503 | 2 | 11 | 0.00 | 0.00 | 108.22 | -140 | 1    | -173 | -139 |
| 503 | 2 | 11 | 0.00 | 0.00 | 108.22 | -143 | -176 | -175 | -142 |
| 503 | 2 | 11 | 0.00 | 0.00 | 108.22 | -207 | -241 | -240 | -206 |
| 503 | 2 | 11 | 0.00 | 0.00 | 108.22 | -152 | -183 | 3    | -151 |
| 503 | 2 | 11 | 0.00 | 0.00 | 108.22 | -187 | -207 | -206 | -186 |
| 503 | 2 | 11 | 0.00 | 0.00 | 108.22 | -341 | -369 | -368 | 8    |
| 503 | 2 | 11 | 0.00 | 0.00 | 108.22 | -151 | 3    | -182 | -150 |
| 503 | 2 | 11 | 0.00 | 0.00 | 108.22 | -300 | -324 | -323 | -299 |
| 503 | 2 | 11 | 0.00 | 0.00 | 108.22 | -346 | -375 | -374 | 9    |
| 503 | 2 | 11 | 0.00 | 0.00 | 108.22 | -342 | -370 | -369 | -341 |
| 504 | 2 | 11 | 0.00 | 0.00 | 183.58 | -10  | -22  | -21  | -9   |
| 504 | 2 | 11 | 0.00 | 0.00 | 183.58 | -5   | -17  | -16  | -4   |
| 504 | 2 | 11 | 0.00 | 0.00 | 183.58 | -8   | -20  | -19  | -7   |
| 504 | 2 | 11 | 0.00 | 0.00 | 183.58 | -6   | -18  | -17  | -5   |
| 504 | 2 | 11 | 0.00 | 0.00 | 183.58 | -22  | -34  | -33  | -21  |
| 504 | 2 | 11 | 0.00 | 0.00 | 183.58 | -20  | -32  | -31  | -19  |
| 504 | 2 | 11 | 0.00 | 0.00 | 183.58 | -18  | -30  | -29  | -17  |
| 504 | 2 | 11 | 0.00 | 0.00 | 183.58 | -4   | -16  | -15  | -3   |
| 504 | 2 | 11 | 0.00 | 0.00 | 183.58 | -2   | -14  | -13  | -1   |
| 504 | 2 | 11 | 0.00 | 0.00 | 183.58 | -23  | -35  | -34  | -22  |
| 504 | 2 | 11 | 0.00 | 0.00 | 183.58 | -56  | -68  | -67  | -55  |
| 504 | 2 | 11 | 0.00 | 0.00 | 183.58 | -54  | -66  | -65  | -53  |
| 504 | 2 | 11 | 0.00 | 0.00 | 183.58 | -52  | -64  | -63  | -51  |
| 504 | 2 | 11 | 0.00 | 0.00 | 183.58 | -50  | -62  | -61  | -49  |
| 504 | 2 | 11 | 0.00 | 0.00 | 183.58 | -71  | -83  | -82  | -70  |
| 504 | 2 | 11 | 0.00 | 0.00 | 183.58 | -69  | -81  | -80  | -68  |
| 504 | 2 | 11 | 0.00 | 0.00 | 183.58 | -67  | -79  | -78  | -66  |
| 504 | 2 | 11 | 0.00 | 0.00 | 183.58 | -65  | -77  | -76  | -64  |
| 504 | 2 | 11 | 0.00 | 0.00 | 183.58 | -63  | -75  | -74  | -62  |
| 504 | 2 | 11 | 0.00 | 0.00 | 183.58 | -16  | -28  | -27  | -15  |
| 504 | 2 | 11 | 0.00 | 0.00 | 183.58 | -14  | -26  | -25  | -13  |
| 504 | 2 | 11 | 0.00 | 0.00 | 183.58 | -35  | -47  | -46  | -34  |
| 504 | 2 | 11 | 0.00 | 0.00 | 183.58 | -33  | -45  | -44  | -32  |
| 504 | 2 | 11 | 0.00 | 0.00 | 183.58 | -31  | -43  | -42  | -30  |
| 504 | 2 | 11 | 0.00 | 0.00 | 183.58 | -29  | -41  | -40  | -28  |
| 504 | 2 | 11 | 0.00 | 0.00 | 183.58 | -27  | -39  | -38  | -26  |
| 504 | 2 | 11 | 0.00 | 0.00 | 183.58 | -48  | -60  | -59  | -47  |
| 504 | 2 | 11 | 0.00 | 0.00 | 183.58 | -46  | -58  | -57  | -45  |
| 504 | 2 | 11 | 0.00 | 0.00 | 183.58 | -44  | -56  | -55  | -43  |
| 504 | 2 | 11 | 0.00 | 0.00 | 183.58 | -42  | -54  | -53  | -41  |
| 504 | 2 | 11 | 0.00 | 0.00 | 183.58 | -40  | -52  | -51  | -39  |

|     |   |    |      |      |        |      |      |      |      |
|-----|---|----|------|------|--------|------|------|------|------|
| 503 | 2 | 11 | 0.00 | 0.00 | 108.22 | -217 | -251 | -250 | -216 |
| 503 | 2 | 11 | 0.00 | 0.00 | 108.22 | -212 | -246 | -245 | -211 |
| 503 | 2 | 11 | 0.00 | 0.00 | 108.22 | -225 | -259 | -258 | -224 |
| 503 | 2 | 11 | 0.00 | 0.00 | 108.22 | -148 | -180 | -179 | -147 |
| 503 | 2 | 11 | 0.00 | 0.00 | 108.22 | -261 | -285 | -284 | -260 |
| 503 | 2 | 11 | 0.00 | 0.00 | 108.22 | -345 | -373 | -372 | -344 |
| 503 | 2 | 11 | 0.00 | 0.00 | 108.22 | -156 | -187 | -186 | -155 |
| 503 | 2 | 11 | 0.00 | 0.00 | 108.22 | -286 | -320 | -319 | -285 |
| 503 | 2 | 11 | 0.00 | 0.00 | 108.22 | -284 | -318 | -317 | -283 |
| 503 | 2 | 11 | 0.00 | 0.00 | 108.22 | -281 | -315 | -314 | -280 |
| 503 | 2 | 11 | 0.00 | 0.00 | 108.22 | -260 | -284 | -283 | -259 |
| 503 | 2 | 11 | 0.00 | 0.00 | 108.22 | -228 | -262 | -261 | -227 |
| 503 | 2 | 11 | 0.00 | 0.00 | 108.22 | -262 | -286 | -285 | -261 |
| 503 | 2 | 11 | 0.00 | 0.00 | 108.22 | -317 | 8    | -340 | -316 |
| 503 | 2 | 11 | 0.00 | 0.00 | 108.22 | -339 | -366 | 14   | -338 |
| 503 | 2 | 11 | 0.00 | 0.00 | 108.22 | -175 | -203 | -202 | -174 |
| 503 | 2 | 11 | 0.00 | 0.00 | 108.22 | -229 | -263 | -262 | -228 |
| 503 | 2 | 11 | 0.00 | 0.00 | 108.22 | -205 | -229 | -228 | -204 |
| 503 | 2 | 11 | 0.00 | 0.00 | 108.22 | -287 | -321 | -320 | -286 |
| 503 | 2 | 11 | 0.00 | 0.00 | 108.22 | -320 | -343 | -342 | -319 |
| 503 | 2 | 11 | 0.00 | 0.00 | 108.22 | 11   | -385 | -384 | -354 |
| 503 | 2 | 11 | 0.00 | 0.00 | 108.22 | -155 | -186 | -185 | -154 |
| 503 | 2 | 11 | 0.00 | 0.00 | 108.22 | -347 | -376 | -375 | -346 |
| 503 | 2 | 11 | 0.00 | 0.00 | 108.22 | -365 | -398 | -397 | -364 |
| 503 | 2 | 11 | 0.00 | 0.00 | 108.22 | 9    | -374 | -373 | -345 |
| 503 | 2 | 11 | 0.00 | 0.00 | 108.22 | -363 | -396 | -395 | -362 |
| 503 | 2 | 11 | 0.00 | 0.00 | 108.22 | -333 | 13   | -361 | -332 |
| 503 | 2 | 11 | 0.00 | 0.00 | 108.22 | -357 | -388 | -387 | -356 |
| 503 | 2 | 11 | 0.00 | 0.00 | 108.22 | -355 | -386 | -385 | 11   |
| 503 | 2 | 11 | 0.00 | 0.00 | 108.22 | -352 | -382 | -381 | -351 |
| 503 | 2 | 11 | 0.00 | 0.00 | 108.22 | -349 | -378 | -377 | -348 |
| 503 | 2 | 11 | 0.00 | 0.00 | 108.22 | -350 | -380 | -379 | 10   |
| 503 | 2 | 11 | 0.00 | 0.00 | 108.22 | -172 | -199 | 7    | -171 |
| 503 | 2 | 11 | 0.00 | 0.00 | 108.22 | -283 | -317 | -316 | -282 |
| 503 | 2 | 11 | 0.00 | 0.00 | 108.22 | -242 | -266 | -265 | -241 |
| 503 | 2 | 11 | 0.00 | 0.00 | 108.22 | -324 | 11   | -354 | -323 |
| 503 | 2 | 11 | 0.00 | 0.00 | 108.22 | -299 | -323 | -322 | -298 |
| 503 | 2 | 11 | 0.00 | 0.00 | 108.22 | -318 | -341 | 8    | -317 |
| 503 | 2 | 11 | 0.00 | 0.00 | 108.22 | -144 | -177 | -176 | -143 |
| 503 | 2 | 11 | 0.00 | 0.00 | 108.22 | -241 | -265 | -264 | -240 |
| 503 | 2 | 11 | 0.00 | 0.00 | 108.22 | -142 | -175 | -174 | -141 |
| 503 | 2 | 11 | 0.00 | 0.00 | 108.22 | 8    | -368 | -367 | -340 |
| 503 | 2 | 11 | 0.00 | 0.00 | 108.22 | 4    | -208 | -207 | -187 |
| 503 | 2 | 11 | 0.00 | 0.00 | 108.22 | -199 | -223 | -222 | 7    |
| 503 | 2 | 11 | 0.00 | 0.00 | 108.22 | -149 | -181 | -180 | -148 |
| 503 | 2 | 11 | 0.00 | 0.00 | 108.22 | -266 | -300 | -299 | -265 |
| 503 | 2 | 11 | 0.00 | 0.00 | 108.22 | -343 | -371 | -370 | -342 |
| 503 | 2 | 11 | 0.00 | 0.00 | 108.22 | -344 | -372 | -371 | -343 |
| 504 | 2 | 11 | 0.00 | 0.00 | 183.58 | -21  | -33  | -32  | -20  |
| 504 | 2 | 11 | 0.00 | 0.00 | 183.58 | -9   | -21  | -20  | -8   |
| 504 | 2 | 11 | 0.00 | 0.00 | 183.58 | -7   | -19  | -18  | -6   |
| 504 | 2 | 11 | 0.00 | 0.00 | 183.58 | -11  | -23  | -22  | -10  |
| 504 | 2 | 11 | 0.00 | 0.00 | 183.58 | -12  | -24  | -23  | -11  |
| 504 | 2 | 11 | 0.00 | 0.00 | 183.58 | -19  | -31  | -30  | -18  |
| 504 | 2 | 11 | 0.00 | 0.00 | 183.58 | -17  | -29  | -28  | -16  |
| 504 | 2 | 11 | 0.00 | 0.00 | 183.58 | -3   | -15  | -14  | -2   |
| 504 | 2 | 11 | 0.00 | 0.00 | 183.58 | -24  | -36  | -35  | -23  |
| 504 | 2 | 11 | 0.00 | 0.00 | 183.58 | -57  | -69  | -68  | -56  |
| 504 | 2 | 11 | 0.00 | 0.00 | 183.58 | -55  | -67  | -66  | -54  |
| 504 | 2 | 11 | 0.00 | 0.00 | 183.58 | -53  | -65  | -64  | -52  |
| 504 | 2 | 11 | 0.00 | 0.00 | 183.58 | -51  | -63  | -62  | -50  |
| 504 | 2 | 11 | 0.00 | 0.00 | 183.58 | -72  | -84  | -83  | -71  |
| 504 | 2 | 11 | 0.00 | 0.00 | 183.58 | -70  | -82  | -81  | -69  |
| 504 | 2 | 11 | 0.00 | 0.00 | 183.58 | -68  | -80  | -79  | -67  |
| 504 | 2 | 11 | 0.00 | 0.00 | 183.58 | -66  | -78  | -77  | -65  |
| 50  |   |    |      |      |        |      |      |      |      |

## Relazione di calcolo

|     |   |    |      |      |        |     |     |     |     |     |   |    |      |      |        |     |     |     |     |
|-----|---|----|------|------|--------|-----|-----|-----|-----|-----|---|----|------|------|--------|-----|-----|-----|-----|
| 504 | 2 | 11 | 0.00 | 0.00 | 183.58 | -38 | -50 | -49 | -37 | 504 | 2 | 11 | 0.00 | 0.00 | 183.58 | -60 | -72 | -71 | -59 |
| 504 | 2 | 11 | 0.00 | 0.00 | 183.58 | -59 | -71 | -70 | -58 | 504 | 2 | 11 | 0.00 | 0.00 | 183.58 | -58 | -70 | -69 | -57 |

## Elenco tipi solai

### Simbologia

Ts = Numero del tipo solaio  
 Comm. = Commento  
 Rc = Ripartizione carichi  
     UN = Unidirezionale  
     PP = A piastra perimetrale  
     PB = A piastra bisettrice  
 Qps = Carico permanente strutturale  
 Qpn = Carico permanente non strutturale  
 QA = Primo carico accidentale  
 QA2 = Secondo carico accidentale  
 QA3 = Terzo carico accidentale  
 Rip. ter. = Ripartizione su aste terminali  
 Rip. int. = Ripartizione su aste interne  
 Lfl = Larghezza fascia laterale  
 s = Coeff. di riduzione  
 Hs = Altezza solaio  
 Sc = Spessore cappa  
 Crit. = Numero del criterio di progetto

| Ts | Comm.             | Rc | Qps<br><daN/mq> | Qpn<br><daN/mq> | QA<br><daN/mq> | QA2<br><daN/mq> | QA3<br><daN/mq> | Rip. ter. | Rip. int. | Lfl<br><m> | s    | Hs<br><cm> | Sc<br><cm> | Crit. |
|----|-------------------|----|-----------------|-----------------|----------------|-----------------|-----------------|-----------|-----------|------------|------|------------|------------|-------|
| 1  | SOLAIO COPERTURA  | UN | 325.00          | 200.00          | 50.00          | 50.00           | 0.00            | 50.00     | 50.00     | 0.00       | 0.33 | 20.00      | 5.00       | 1     |
| 2  | SOLAIO INTERMEDIO | UN | 325.00          | 200.00          | 300.00         | 0.00            | 0.00            | 50.00     | 50.00     | 0.00       | 0.33 | 20.00      | 5.00       | 1     |

## Elenco solai

### Simbologia

Sol. = Numero del solaio  
 Ts = Numero del tipo solaio  
 Ord. = Orditura  
 Nodi = Nodi del solaio

| Sol. | Ts | Ord.<br><grad> | Nodi |      |      |      |      |      |      |      |      |      |      |      |
|------|----|----------------|------|------|------|------|------|------|------|------|------|------|------|------|
| 0    | 1  | 270.00         | 216  | 215  | 201  | 202  | 203  | 204  | 205  | 206  | 207  | 217  |      |      |
| 0    | 1  | 270.00         | 206  | 205  | 204  | 203  | 210  | 211  | 212  | 213  |      |      |      |      |
| 0    | 1  | 270.00         | 203  | 202  | 201  | 208  | 209  | 210  |      |      |      |      |      |      |
| 0    | 2  | 270.00         | -240 | -206 | -186 | -185 | -184 | -183 | 3    | -182 | -181 | -180 | -179 | 2    |
|      |    |                | -236 | -237 | -238 | -239 |      |      |      |      |      |      |      |      |
| 0    | 2  | 270.00         | -240 | -239 | -238 | -237 | -236 | -235 | -234 | -233 | -232 | -231 | -230 | -229 |
|      |    |                | -294 | -295 | -296 | -297 | -298 | -264 |      |      |      |      |      |      |
| 0    | 2  | 270.00         | -298 | -297 | -296 | -295 | -294 | -293 | -292 | -291 | -290 | -289 | -288 | -287 |
|      |    |                | -350 | -351 | -352 | -353 | -322 |      |      |      |      |      |      |      |
| 0    | 1  | 270.00         | 207  | 206  | 213  | 214  |      |      |      |      |      |      |      |      |
| 0    | 1  | 270.00         | 220  | 219  | 208  | 209  | 210  | 211  | 212  | 213  | 214  | 218  |      |      |
| 0    | 1  | 270.00         | 218  | 214  | 207  | 217  |      |      |      |      |      |      |      |      |

## Elenco tipi tamponature

### Simbologia

Tt = Numero del tipo tamponatura  
 Comm. = Commento  
 Qpn = Carico permanente non strutturale  
 Rcg = Ripartizione carichi gravitazionali  
     AP = Sull'asta di piede  
     AL = Sulle aste laterali  
     APT = Sulle aste di piede e di testa  
 Rcv = Ripartizione carichi vento  
     AP = Sull'asta di piede  
     AL = Sulle aste laterali  
     APT = Sulle aste di piede e di testa  
     PP = A piastra perimetrale  
     PB = A piastra bisettrice  
 P = Puntoni equivalenti  
     S = Genera i puntoni equivalenti  
     N = Non genera i puntoni equivalenti  
 Tipo = Tipologia  
     C = Area di carico  
     V = Area di carico e verifica  
 Crit. = Criterio di progetto

| Tt | Comm.       | Qpn<br><daN/mq> | Rcg | Rcv | P | Tipo | Crit. |
|----|-------------|-----------------|-----|-----|---|------|-------|
| 1  | Tamponatura | 245.00          | AP  | AL  | N | C    | --    |

## Elenco tamponature

### Simbologia

Tam. = Numero della tamponatura  
Tt = Numero del tipo tamponatura  
Nodi = Nodi della tamponatura

| Tam. | Tt | Nodi |      |      |      |      |      |      |      |      |                |
|------|----|------|------|------|------|------|------|------|------|------|----------------|
| 0    | 1  | 14   | -365 | -364 | -363 | -362 | 13   | 213  | 214  |      |                |
| 0    | 1  | 9    | -345 | -344 | -343 | -342 | -341 | 8    | 208  | 209  |                |
| 0    | 1  | 2    | -178 | -177 | -176 | -175 | -174 | 1    | 201  | 202  |                |
| 0    | 1  | 3    | -182 | -181 | -180 | -179 | 2    | 202  | 203  |      |                |
| 0    | 1  | 1    | -201 | -225 | -259 | -283 | -317 | 8    | 208  | 201  |                |
| 0    | 1  | 6    | -194 | -193 | -192 | 5    | -191 | -190 | -189 | -188 | 4 204 205 206  |
| 0    | 1  | 4    | -187 | -186 | -185 | -184 | -183 | 3    | 203  | 204  |                |
| 0    | 1  | 7    | -198 | -197 | -196 | -195 | 6    | 206  | 207  |      |                |
| 0    | 1  | 13   | -361 | -360 | -359 | 12   | -358 | -357 | -356 | -355 | 11 211 212 213 |
| 0    | 1  | 11   | -354 | -353 | -352 | -351 | -350 | 10   | 210  | 211  |                |
| 0    | 1  | 10   | -349 | -348 | -347 | -346 | 9    | 209  | 210  |      |                |
| 0    | 1  | 7    | -222 | -256 | -280 | -314 | -338 | 14   | 214  | 207  |                |

## Carichi

### Elenco tipi CCE

### Simbologia

Tipo CCE = Tipo condizione di carico elementare  
Comm. = Commento  
Tipo = Tipologia  
G = Permanente  
Qv = Variabile vento  
Q = Variabile  
I = Da ignorare  
A = Azione eccezionale  
P = Precompressione  
Durata = Durata del carico  
N = Non definita  
P = Permanente  
L = Lunga  
M = Media  
B = Breve  
I = Istantanea  
 $\gamma_{min.}$  = Coeff.  $\gamma_{min.}$   
 $\gamma_{max}$  = Coeff.  $\gamma_{max}$   
 $\psi_0$  = Coeff.  $\psi_0$   
 $\psi_1$  = Coeff.  $\psi_1$   
 $\psi_2$  = Coeff.  $\psi_2$   
 $\psi_{0,s}$  = Coeff.  $\psi_0$  sismico (D.M. 96)

| Tipo CCE | Comm.                                                                                       | Tipo | Durata | $\gamma_{min.}$ | $\gamma_{max}$ | $\psi_0$ | $\psi_1$ | $\psi_2$ | $\psi_{0,s}$ |
|----------|---------------------------------------------------------------------------------------------|------|--------|-----------------|----------------|----------|----------|----------|--------------|
| 1        | D.M. 08 Permanenti strutturali                                                              | G    | N      | 1.00            | 1.30           |          |          |          |              |
| 2        | D.M. 08 Permanenti non strutturali                                                          | G    | N      | 0.00            | 1.50           |          |          |          |              |
| 19       | D.M. 08 Variabili Categoria H - Coperture                                                   | Q    | N      | 0.00            | 1.50           | 0.00     | 0.00     | 0.00     | 1.00         |
| 11       | D.M. 08 Variabili Neve (a quota <= 1000 m s.l.m.)                                           | Q    | N      | 0.00            | 1.50           | 0.50     | 0.20     | 0.00     | 0.00         |
| 7        | D.M. 08 Variabili Categoria E Biblioteche, archivi, magazzini e ambienti ad uso industriale | Q    | N      | 0.00            | 1.50           | 1.00     | 0.90     | 0.80     | 0.00         |

## Condizioni di carico elementari

### Simbologia

CCE = Numero della condizione di carico elementare  
Comm. = Commento  
Tipo CCE = Tipo di CCE per calcolo agli stati limite  
Sic. = Contributo alla sicurezza  
F = a favore  
S = a sfavore  
A = ambigua  
Var. = Tipo di variabilità  
B = di base  
I = indipendente  
A = ambigua  
s = Coeff. di riduzione (T.A. o S.L. D.M. 96)  
Dir. = Direzione del vento  
Tipo = Tipologia di pressione vento  
M = Massimizzata  
E = Esterna  
I = Interna  
Mx = Moltiplicatore della massa in dir. X  
My = Moltiplicatore della massa in dir. Y

## Relazione di calcolo

Mz =Moltiplicatore della massa in dir. Z  
Jpx =Moltiplicatore del momento d'inerzia intorno all'asse X  
Jpy =Moltiplicatore del momento d'inerzia intorno all'asse Y  
Jpz =Moltiplicatore del momento d'inerzia intorno all'asse Z

| CCE | Comm.               | Tipo | CCE | Sic. | Var. | s    | Dir.<br><grad> | Tipo | Mx   | My   | Mz   | Jpx  | Jpy  | Jpz  |
|-----|---------------------|------|-----|------|------|------|----------------|------|------|------|------|------|------|------|
| 1   | peso proprio        |      | 1   | S    | --   | 1.00 | --             | --   | 1.00 | 1.00 | 0.00 | 0.00 | 0.00 | 1.00 |
| 2   | strutturale solaio  |      | 1   | S    | --   | 1.00 | --             | --   | 1.00 | 1.00 | 0.00 | 0.00 | 0.00 | 1.00 |
| 3   | permanente solaio   |      | 2   | S    | --   | 1.00 | --             | --   | 1.00 | 1.00 | 0.00 | 0.00 | 0.00 | 1.00 |
| 4   | variabile solaio    |      | 19  | S    | B    | 1.00 | --             | --   | 1.00 | 1.00 | 0.00 | 0.00 | 0.00 | 1.00 |
| 5   | neve                |      | 11  | S    | B    | 1.00 | --             | --   | 1.00 | 1.00 | 0.00 | 0.00 | 0.00 | 1.00 |
| 6   | tamponature         |      | 2   | S    | --   | 1.00 | --             | --   | 1.00 | 1.00 | 0.00 | 0.00 | 0.00 | 1.00 |
| 7   | variabile pavimento |      | 7   | S    | B    | 1.00 | --             | --   | 1.00 | 1.00 | 0.00 | 0.00 | 0.00 | 1.00 |

### Elenco carichi asteCondizione di carico n. 1: peso proprio Elenco peso proprio aste

#### Simbologia

Sez. = Numero della sezione  
Comm. = Commento  
A = Area  
Mat. = Materiale  
P = Peso specifico  
PL = Peso specifico a metro lineare

| Sez. | Comm.         | A<br><cmq>  | Mat.         | P<br><daN/mc> | PL<br><daN/m> |
|------|---------------|-------------|--------------|---------------|---------------|
| 1    | tr_25x50      | 1250.000000 | Calcestruzzo | 2500.00       | 312.50        |
| 3    | cordolo_15x25 | 375.000000  | Calcestruzzo | 2500.00       | 93.75         |
| 4    | pil_30x30     | 900.000000  | Calcestruzzo | 2500.00       | 225.00        |
| 5    | tr_30x25      | 750.000000  | Calcestruzzo | 2500.00       | 187.50        |
| 8    | pil_30x50     | 1500.000000 | Calcestruzzo | 2500.00       | 375.00        |
| 9    | tr_30x50      | 1500.000000 | Calcestruzzo | 2500.00       | 375.00        |

### Condizione di carico n. 2: strutturale solaio Carichi distribuiti

#### Simbologia

Asta=Numero dell'asta  
N1 =Nodo iniziale  
N2 =Nodo finale  
E =Elemento provenienza del carico  
S = Solaio  
T = Tamponatura  
NE =Numero elemento di provenienza del carico  
T =Tipo di carico  
QA = Primo carico accidentale  
QA2 = Secondo carico accidentale  
QA3 = Terzo carico accidentale  
QPS = Carico permanente strutturale  
QPN = Carico permanente non strutturale  
VE = Vento  
M = Manuale  
DC =Direzione del carico  
XG,YG,ZG = secondo gli assi globali  
XL,YL,ZL = secondo gli assi locali  
Xi =Distanza iniziale  
Qi =Carico iniziale  
Xf =Distanza finale  
Qf =Carico finale

| Asta | N1   | N2   | E | NE | T   | DC | Xi<br><m> | Qi<br><daN/m> | Xf<br><m> | Qf<br><daN/m> | Asta | N1   | N2   | E | NE | T   | DC | Xi<br><m> | Qi<br><daN/m> | Xf<br><m> | Qf<br><daN/m> |
|------|------|------|---|----|-----|----|-----------|---------------|-----------|---------------|------|------|------|---|----|-----|----|-----------|---------------|-----------|---------------|
| 0    | -178 | -177 | S | 0  | QPS | ZG | 0.00      | 396.50        | 0.65      | 396.50        | 0    | 2    | -178 | S | 0  | QPS | ZG | 0.00      | 396.50        | 0.39      | 396.50        |
| 0    | -179 | 2    | S | 0  | QPS | ZG | 0.00      | 396.50        | 1.25      | 396.50        | 0    | -230 | -229 | S | 0  | QPS | ZG | 0.00      | 396.50        | 0.65      | 396.50        |
| 0    | -230 | -229 | S | 0  | QPS | ZG | 0.00      | 260.00        | 0.65      | 260.00        | 0    | -180 | -179 | S | 0  | QPS | ZG | 0.00      | 396.50        | 0.99      | 396.50        |
| 0    | -231 | -230 | S | 0  | QPS | ZG | 0.00      | 396.50        | 0.39      | 396.50        | 0    | -231 | -230 | S | 0  | QPS | ZG | 0.00      | 260.00        | 0.39      | 260.00        |
| 0    | -181 | -180 | S | 0  | QPS | ZG | 0.00      | 396.50        | 0.99      | 396.50        | 0    | -232 | -231 | S | 0  | QPS | ZG | 0.00      | 396.50        | 1.25      | 396.50        |
| 0    | -232 | -231 | S | 0  | QPS | ZG | 0.00      | 260.00        | 1.25      | 260.00        | 0    | -288 | -287 | S | 0  | QPS | ZG | 0.00      | 260.00        | 0.65      | 260.00        |
| 0    | -288 | -287 | S | 0  | QPS | ZG | 0.00      | 196.63        | 0.65      | 196.63        | 0    | -182 | -181 | S | 0  | QPS | ZG | 0.00      | 396.50        | 0.99      | 396.50        |
| 0    | -289 | -288 | S | 0  | QPS | ZG | 0.00      | 260.00        | 0.39      | 260.00        | 0    | -289 | -288 | S | 0  | QPS | ZG | 0.00      | 196.63        | 0.39      | 196.63        |
| 0    | -233 | -232 | S | 0  | QPS | ZG | 0.00      | 396.50        | 0.99      | 396.50        | 0    | -233 | -232 | S | 0  | QPS | ZG | 0.00      | 260.00        | 0.99      | 260.00        |
| 0    | -345 | -344 | S | 0  | QPS | ZG | 0.00      | 196.63        | 0.65      | 196.63        | 0    | -290 | -289 | S | 0  | QPS | ZG | 0.00      | 260.00        | 1.25      | 260.00        |
| 0    | -290 | -289 | S | 0  | QPS | ZG | 0.00      | 196.63        | 1.25      | 196.63        | 0    | 3    | -182 | S | 0  | QPS | ZG | 0.00      | 396.50        | 1.28      | 396.50        |
| 0    | 9    | -345 | S | 0  | QPS | ZG | 0.00      | 196.63        | 0.39      | 196.63        | 0    | -234 | -233 | S | 0  | QPS | ZG | 0.00      | 396.50        | 0.99      | 396.50        |
| 0    | -234 | -233 | S | 0  | QPS | ZG | 0.00      | 260.00        | 0.99      | 260.00        | 0    | -291 | -290 | S | 0  | QPS | ZG | 0.00      | 260.00        | 0.99      | 260.00        |
| 0    | -291 | -290 | S | 0  | QPS | ZG | 0.00      | 196.63        | 0.99      | 196.63        | 0    | -346 | 9    | S | 0  | QPS | ZG | 0.00      | 196.63        | 1.25      | 196.63        |
| 0    | -183 | 3    | S | 0  | QPS | ZG | 0.00      | 396.50        | 0.90      | 396.50        | 0    | -235 | -234 | S | 0  | QPS | ZG | 0.00      | 396.50        | 0.99      | 396.50        |

## Relazione di calcolo

|     |      |      |   |     |    |      |        |      |        |     |      |      |   |     |    |      |        |      |        |
|-----|------|------|---|-----|----|------|--------|------|--------|-----|------|------|---|-----|----|------|--------|------|--------|
| 0   | -235 | -234 | S | QPS | ZG | 0.00 | 260.00 | 0.99 | 260.00 | 0   | -292 | -291 | S | QPS | ZG | 0.00 | 260.00 | 0.99 | 260.00 |
| 0   | -292 | -291 | S | QPS | ZG | 0.00 | 196.63 | 0.99 | 196.63 | 0   | -184 | -183 | S | QPS | ZG | 0.00 | 396.50 | 0.90 | 396.50 |
| 0   | -347 | -346 | S | QPS | ZG | 0.00 | 196.63 | 0.99 | 196.63 | 0   | -236 | -235 | S | QPS | ZG | 0.00 | 396.50 | 1.30 | 396.50 |
| 0   | -236 | -235 | S | QPS | ZG | 0.00 | 260.00 | 1.30 | 260.00 | 0   | -185 | -184 | S | QPS | ZG | 0.00 | 396.50 | 0.90 | 396.50 |
| 0   | -293 | -292 | S | QPS | ZG | 0.00 | 260.00 | 0.99 | 260.00 | 0   | -293 | -292 | S | QPS | ZG | 0.00 | 196.63 | 0.99 | 196.63 |
| 0   | -348 | -347 | S | QPS | ZG | 0.00 | 196.63 | 0.99 | 196.63 | 0   | -237 | -236 | S | QPS | ZG | 0.00 | 396.50 | 0.90 | 396.50 |
| 0   | -237 | -236 | S | QPS | ZG | 0.00 | 260.00 | 0.90 | 260.00 | 0   | -186 | -185 | S | QPS | ZG | 0.00 | 396.50 | 0.61 | 396.50 |
| 0   | -186 | -185 | S | QPS | ZG | 0.61 | 396.50 | 0.61 | 396.50 | 0   | -294 | -293 | S | QPS | ZG | 0.00 | 260.00 | 1.30 | 260.00 |
| 0   | -294 | -293 | S | QPS | ZG | 0.00 | 196.63 | 1.30 | 196.63 | 0   | -349 | -348 | S | QPS | ZG | 0.00 | 196.63 | 0.99 | 196.63 |
| 0   | -238 | -237 | S | QPS | ZG | 0.00 | 396.50 | 0.90 | 396.50 | 0   | -238 | -237 | S | QPS | ZG | 0.00 | 260.00 | 0.90 | 260.00 |
| 0   | -295 | -294 | S | QPS | ZG | 0.00 | 260.00 | 0.90 | 260.00 | 0   | -295 | -294 | S | QPS | ZG | 0.00 | 196.63 | 0.90 | 196.63 |
| 0   | 10   | -349 | S | QPS | ZG | 0.00 | 196.63 | 1.28 | 196.63 | 0   | -239 | -238 | S | QPS | ZG | 0.00 | 396.50 | 0.00 | 396.50 |
| 0   | -239 | -238 | S | QPS | ZG | 0.00 | 260.00 | 0.90 | 260.00 | 0   | -239 | -238 | S | QPS | ZG | 0.00 | 396.50 | 0.90 | 396.50 |
| 0   | -296 | -295 | S | QPS | ZG | 0.00 | 260.00 | 0.90 | 260.00 | 0   | -296 | -295 | S | QPS | ZG | 0.00 | 196.63 | 0.90 | 196.63 |
| 0   | -240 | -239 | S | QPS | ZG | 0.00 | 396.50 | 0.61 | 396.50 | 0   | -240 | -239 | S | QPS | ZG | 0.00 | 260.00 | 0.61 | 260.00 |
| 0   | -297 | -296 | S | QPS | ZG | 0.00 | 260.00 | 0.90 | 260.00 | 0   | -297 | -296 | S | QPS | ZG | 0.00 | 196.63 | 0.90 | 196.63 |
| 0   | -350 | 10   | S | QPS | ZG | 0.00 | 196.63 | 0.90 | 196.63 | 0   | -351 | -350 | S | QPS | ZG | 0.00 | 196.63 | 0.90 | 196.63 |
| 0   | -298 | -297 | S | QPS | ZG | 0.00 | 260.00 | 0.61 | 260.00 | 0   | -298 | -297 | S | QPS | ZG | 0.00 | 196.63 | 0.61 | 196.63 |
| 0   | -352 | -351 | S | QPS | ZG | 0.00 | 196.63 | 0.90 | 196.63 | 0   | -353 | -352 | S | QPS | ZG | 0.00 | 196.63 | 0.61 | 196.63 |
| 201 | 202  | 201  | S | QPS | ZG | 0.00 | 162.50 | 4.50 | 162.50 | 201 | 202  | 201  | S | QPS | ZG | 0.00 | 853.13 | 4.50 | 853.13 |
| 201 | 203  | 202  | S | QPS | ZG | 0.00 | 162.50 | 5.50 | 162.50 | 201 | 203  | 202  | S | QPS | ZG | 0.00 | 853.13 | 5.50 | 853.13 |
| 201 | 204  | 203  | S | QPS | ZG | 0.00 | 162.50 | 5.50 | 162.50 | 201 | 204  | 203  | S | QPS | ZG | 0.00 | 853.13 | 5.50 | 853.13 |
| 201 | 205  | 204  | S | QPS | ZG | 0.00 | 162.50 | 5.50 | 162.50 | 201 | 205  | 204  | S | QPS | ZG | 0.00 | 853.13 | 5.50 | 853.13 |
| 201 | 206  | 205  | S | QPS | ZG | 0.00 | 162.50 | 5.50 | 162.50 | 201 | 206  | 205  | S | QPS | ZG | 0.00 | 853.13 | 5.50 | 853.13 |
| 201 | 207  | 206  | S | QPS | ZG | 0.00 | 162.50 | 4.50 | 162.50 | 201 | 207  | 206  | S | QPS | ZG | 0.00 | 853.13 | 4.50 | 853.13 |
| 201 | 217  | 207  | S | QPS | ZG | 0.00 | 162.50 | 0.50 | 162.50 | 201 | 217  | 207  | S | QPS | ZG | 0.00 | 853.13 | 0.50 | 853.13 |
| 202 | 208  | 209  | S | QPS | ZG | 0.00 | 853.13 | 4.50 | 853.13 | 202 | 208  | 209  | S | QPS | ZG | 0.00 | 162.50 | 4.50 | 162.50 |
| 202 | 209  | 210  | S | QPS | ZG | 0.00 | 853.13 | 5.50 | 853.13 | 202 | 209  | 210  | S | QPS | ZG | 0.00 | 162.50 | 5.50 | 162.50 |
| 202 | 210  | 211  | S | QPS | ZG | 0.00 | 853.13 | 5.50 | 853.13 | 202 | 210  | 211  | S | QPS | ZG | 0.00 | 162.50 | 5.50 | 162.50 |
| 202 | 211  | 212  | S | QPS | ZG | 0.00 | 853.13 | 5.50 | 853.13 | 202 | 211  | 212  | S | QPS | ZG | 0.00 | 162.50 | 5.50 | 162.50 |
| 202 | 212  | 213  | S | QPS | ZG | 0.00 | 853.13 | 5.50 | 853.13 | 202 | 212  | 213  | S | QPS | ZG | 0.00 | 162.50 | 5.50 | 162.50 |
| 202 | 213  | 214  | S | QPS | ZG | 0.00 | 853.13 | 4.50 | 853.13 | 202 | 213  | 214  | S | QPS | ZG | 0.00 | 162.50 | 4.50 | 162.50 |
| 202 | 218  | 214  | S | QPS | ZG | 0.00 | 162.50 | 0.50 | 162.50 | 202 | 218  | 214  | S | QPS | ZG | 0.00 | 853.13 | 0.50 | 853.13 |

### Condizione di carico n. 3: permanente solaio Carichi distribuiti

| Asta | N1   | N2   | ENE | T   | DC | Xi<br><m> | Qi<br><daN/m> | Xf<br><m> | Qf<br><daN/m> | Asta | N1   | N2   | ENE | T   | DC | Xi<br><m> | Qi<br><daN/m> | Xf<br><m> | Qf<br><daN/m> |
|------|------|------|-----|-----|----|-----------|---------------|-----------|---------------|------|------|------|-----|-----|----|-----------|---------------|-----------|---------------|
| 0    | -178 | -177 | S   | QPN | ZG | 0.00      | 244.00        | 0.65      | 244.00        | 0    | 2    | -178 | S   | QPN | ZG | 0.00      | 244.00        | 0.39      | 244.00        |
| 0    | -179 | 2    | S   | QPN | ZG | 0.00      | 244.00        | 1.25      | 244.00        | 0    | -230 | -229 | S   | QPN | ZG | 0.00      | 244.00        | 0.65      | 244.00        |
| 0    | -230 | -229 | S   | QPN | ZG | 0.00      | 160.00        | 0.65      | 160.00        | 0    | -180 | -179 | S   | QPN | ZG | 0.00      | 244.00        | 0.99      | 244.00        |
| 0    | -231 | -230 | S   | QPN | ZG | 0.00      | 244.00        | 0.39      | 244.00        | 0    | -231 | -230 | S   | QPN | ZG | 0.00      | 160.00        | 0.39      | 160.00        |
| 0    | -181 | -180 | S   | QPN | ZG | 0.00      | 244.00        | 0.99      | 244.00        | 0    | -232 | -231 | S   | QPN | ZG | 0.00      | 244.00        | 1.25      | 244.00        |
| 0    | -232 | -231 | S   | QPN | ZG | 0.00      | 160.00        | 1.25      | 160.00        | 0    | -288 | -287 | S   | QPN | ZG | 0.00      | 160.00        | 0.65      | 160.00        |
| 0    | -288 | -287 | S   | QPN | ZG | 0.00      | 121.00        | 0.65      | 121.00        | 0    | -182 | -181 | S   | QPN | ZG | 0.00      | 244.00        | 0.99      | 244.00        |
| 0    | -289 | -288 | S   | QPN | ZG | 0.00      | 160.00        | 0.39      | 160.00        | 0    | -289 | -288 | S   | QPN | ZG | 0.00      | 121.00        | 0.39      | 121.00        |
| 0    | -233 | -232 | S   | QPN | ZG | 0.00      | 244.00        | 0.99      | 244.00        | 0    | -233 | -232 | S   | QPN | ZG | 0.00      | 160.00        | 0.99      | 160.00        |
| 0    | -345 | -344 | S   | QPN | ZG | 0.00      | 121.00        | 0.65      | 121.00        | 0    | -290 | -289 | S   | QPN | ZG | 0.00      | 160.00        | 1.25      | 160.00        |
| 0    | -290 | -289 | S   | QPN | ZG | 0.00      | 121.00        | 1.25      | 121.00        | 0    | 3    | -182 | S   | QPN | ZG | 0.00      | 244.00        | 1.28      | 244.00        |
| 0    | 9    | -345 | S   | QPN | ZG | 0.00      | 121.00        | 0.39      | 121.00        | 0    | -234 | -233 | S   | QPN | ZG | 0.00      | 244.00        | 0.99      | 244.00        |
| 0    | -234 | -233 | S   | QPN | ZG | 0.00      | 160.00        | 0.99      | 160.00        | 0    | -291 | -290 | S   | QPN | ZG | 0.00      | 160.00        | 0.99      | 160.00        |
| 0    | -291 | -290 | S   | QPN | ZG | 0.00      | 121.00        | 0.99      | 121.00        | 0    | -346 | 9    | S   | QPN | ZG | 0.00      | 121.00        | 1.25      | 121.00        |
| 0    | -183 | 3    | S   | QPN | ZG | 0.00      | 244.00        | 0.90      | 244.00        | 0    | -235 | -234 | S   | QPN | ZG | 0.00      | 244.00        | 0.99      | 244.00        |
| 0    | -235 | -234 | S   | QPN | ZG | 0.00      | 160.00        | 0.99      | 160.00        | 0    | -292 | -291 | S   | QPN | ZG | 0.00      | 160.00        | 0.99      | 160.00        |
| 0    | -292 | -291 | S   | QPN | ZG | 0.00      | 121.00        | 0.99      | 121.00        | 0    | -184 | -183 | S   | QPN | ZG | 0.00      | 244.00        | 0.90      | 244.00        |
| 0    | -347 | -346 | S   | QPN | ZG | 0.00      | 121.00        | 0.99      | 121.00        | 0    | -236 | -235 | S   | QPN | ZG | 0.00      | 244.00        | 1.30      | 244.00        |
| 0    | -236 | -235 | S   | QPN | ZG | 0.00      | 160.00        | 1.30      | 160.00        | 0    | -185 | -184 | S   | QPN | ZG | 0.00      | 244.00        | 0.90      | 244.00        |
| 0    | -293 | -292 | S   | QPN | ZG | 0.00      | 160.00        | 0.99      | 160.00        | 0    | -293 | -292 | S   | QPN | ZG | 0.00      | 121.00        | 0.99      | 121.00        |
| 0    | -348 | -347 | S   | QPN | ZG | 0.00      | 121.00        | 0.99      | 121.00        | 0    | -237 | -236 | S   | QPN | ZG | 0.00      | 244.00        | 0.90      | 244.00        |
| 0    | -237 | -236 | S   | QPN | ZG | 0.00      | 160.00        | 0.90      | 160.00        | 0    | -186 | -185 | S   | QPN | ZG | 0.00      | 244.00        | 0.61      | 244.00        |
| 0    | -186 | -185 | S   | QPN | ZG | 0.61      | 244.00        | 0.61      | 244.00        | 0    | -294 | -293 | S   | QPN | ZG | 0.00      | 160.00        | 1.30      | 160.00        |
| 0    | -294 | -293 | S   | QPN | ZG | 0.00      | 121.00        | 1.30      | 121.00        | 0    | -349 | -348 | S   | QPN | ZG | 0.00      | 121.00        | 0.99      | 121.00        |
| 0    | -238 | -237 | S   | QPN | ZG | 0.00      | 244.00        | 0.90      | 244.00        | 0    | -238 | -237 | S   | QPN | ZG | 0.00      | 160.00        | 0.90      | 160.00        |
| 0    | -295 | -294 | S   | QPN | ZG | 0.00      | 160.00        | 0.90      | 160.00        | 0    | -295 | -294 | S   | QPN | ZG | 0.00      | 121.00        | 0.90      | 121.00        |
| 0    | 10   | -349 | S   | QPN | ZG | 0.00      | 121.00        | 1.28      | 121.00        | 0    | -239 | -238 | S   | QPN | ZG | 0.00      | 244.00        | 0.00      | 244.00        |
| 0    | -239 | -238 | S   | QPN | ZG | 0.00      | 160.00        | 0.90      | 160.00        | 0    | -239 | -238 | S   | QPN | ZG | 0.00      | 244.00        | 0.90      | 244.00        |
| 0    | -296 | -295 | S   | QPN | ZG | 0.00      | 160.00        | 0.90      | 160.00        | 0    | -296 | -295 | S   | QPN | ZG | 0.00      | 121.00        | 0.90      | 121.00        |
| 0    | -240 | -239 | S   | QPN | ZG | 0.00      | 244.00        | 0.61      | 244.00        | 0    | -240 | -239 | S   | QPN | ZG | 0.00      | 160.00        | 0.61      | 160.00        |
| 0    | -297 | -296 | S   | QPN | ZG | 0.00      | 160.00        | 0.90      | 160.00        | 0    | -297 | -296 | S   | QPN | ZG | 0.00      | 121.00        | 0.90      | 121.00        |
| 0    | -350 | 10   | S   | QPN | ZG | 0.00      | 121.00        | 0.90      | 121.00        | 0    | -351 | -350 | S   | QPN | ZG | 0.00      | 121.00        | 0.90      | 121.00        |
| 0    | -298 | -297 | S   | QPN | ZG | 0.00      | 160.00        | 0.61      | 160.00        | 0    | -298 | -297 | S   | QPN | ZG | 0.00      | 121.00        | 0.61      | 121.00        |
| 0    | -352 | -351 | S   | QPN | ZG | 0.00      | 121.00        | 0.90      | 121.00        | 0    | -353 | -352 | S   | QPN | ZG | 0.00      | 121.00        | 0.61      | 121.00        |
| 201  | 202  | 201  | S   | QPN | ZG | 0.00      | 100.00        | 4.50      | 100.00        | 201  | 202  | 201  | S   | QPN | ZG | 0.00      | 525.00        | 4.50      | 525.00        |
| 201  | 203  | 202  | S   | QPN | ZG | 0.00      | 100.00        | 5.50      | 100.00        | 201  | 203  | 202  | S   | QPN | ZG | 0.00      | 525.00        | 5.50      | 525.00        |
| 201  | 204  | 203  | S   | QPN | ZG | 0.00      | 100.00        | 5.50      | 100.00        | 201  | 204  | 203  | S   | QPN | ZG | 0.00      | 525.00        | 5.50      | 525.00        |
| 201  | 205  | 204  | S   | QPN | ZG | 0.00      | 100.00        | 5.50      | 100.00        | 201  | 205  | 204  | S   | QPN | ZG | 0.00      | 525.00        | 5.50      | 525.00        |
| 201  | 206  | 205  | S   | QPN | ZG | 0.00      | 100.00        | 5.50      | 100.00        | 201  | 206  | 205  | S   | QPN | ZG | 0.00      | 525.00        | 5.50      | 525.00        |
| 201  | 207  | 206  | S   | QPN | ZG | 0.00      | 100.00        | 4.50      | 100.00        | 201  |      |      |     |     |    |           |               |           |               |

## Relazione di calcolo

|     |     |     |   |     |    |      |        |      |        |     |     |     |   |     |    |      |        |      |        |
|-----|-----|-----|---|-----|----|------|--------|------|--------|-----|-----|-----|---|-----|----|------|--------|------|--------|
| 201 | 217 | 207 | S | QPN | ZG | 0.00 | 100.00 | 0.50 | 100.00 | 201 | 217 | 207 | S | QPN | ZG | 0.00 | 525.00 | 0.50 | 525.00 |
| 202 | 208 | 209 | S | QPN | ZG | 0.00 | 525.00 | 4.50 | 525.00 | 202 | 208 | 209 | S | QPN | ZG | 0.00 | 100.00 | 4.50 | 100.00 |
| 202 | 209 | 210 | S | QPN | ZG | 0.00 | 525.00 | 5.50 | 525.00 | 202 | 209 | 210 | S | QPN | ZG | 0.00 | 100.00 | 5.50 | 100.00 |
| 202 | 210 | 211 | S | QPN | ZG | 0.00 | 525.00 | 5.50 | 525.00 | 202 | 210 | 211 | S | QPN | ZG | 0.00 | 100.00 | 5.50 | 100.00 |
| 202 | 211 | 212 | S | QPN | ZG | 0.00 | 525.00 | 5.50 | 525.00 | 202 | 211 | 212 | S | QPN | ZG | 0.00 | 100.00 | 5.50 | 100.00 |
| 202 | 212 | 213 | S | QPN | ZG | 0.00 | 525.00 | 5.50 | 525.00 | 202 | 212 | 213 | S | QPN | ZG | 0.00 | 100.00 | 5.50 | 100.00 |
| 202 | 213 | 214 | S | QPN | ZG | 0.00 | 525.00 | 4.50 | 525.00 | 202 | 213 | 214 | S | QPN | ZG | 0.00 | 100.00 | 4.50 | 100.00 |
| 202 | 218 | 214 | S | QPN | ZG | 0.00 | 100.00 | 0.50 | 100.00 | 202 | 218 | 214 | S | QPN | ZG | 0.00 | 525.00 | 0.50 | 525.00 |

### Condizione di carico n. 4: variabile solaio Carichi distribuiti

| Asta | N1   | N2   | ENE | T | DC | Xi<br><m> | Qi<br><daN/m> | Xf<br><m> | Qf<br><daN/m> | Asta | N1     | N2  | ENE  | T    | DC | Xi<br><m> | Qi<br><daN/m> | Xf<br><m> | Qf<br><daN/m> |      |        |      |        |
|------|------|------|-----|---|----|-----------|---------------|-----------|---------------|------|--------|-----|------|------|----|-----------|---------------|-----------|---------------|------|--------|------|--------|
| 0    | -178 | -177 | S   | Q | A  | Z         | G             | 0.00      | 366.00        | 0.65 | 366.00 | 0   | 2    | -178 | S  | Q         | A             | Z         | G             | 0.00 | 366.00 | 0.39 | 366.00 |
| 0    | -179 | 2    | S   | Q | A  | Z         | G             | 0.00      | 366.00        | 1.25 | 366.00 | 0   | -230 | -229 | S  | Q         | A             | Z         | G             | 0.00 | 366.00 | 0.65 | 366.00 |
| 0    | -230 | -229 | S   | Q | A  | Z         | G             | 0.00      | 240.00        | 0.65 | 240.00 | 0   | -180 | -179 | S  | Q         | A             | Z         | G             | 0.00 | 366.00 | 0.99 | 366.00 |
| 0    | -231 | -230 | S   | Q | A  | Z         | G             | 0.00      | 366.00        | 0.39 | 366.00 | 0   | -231 | -230 | S  | Q         | A             | Z         | G             | 0.00 | 240.00 | 0.39 | 240.00 |
| 0    | -181 | -180 | S   | Q | A  | Z         | G             | 0.00      | 366.00        | 0.99 | 366.00 | 0   | -232 | -231 | S  | Q         | A             | Z         | G             | 0.00 | 366.00 | 1.25 | 366.00 |
| 0    | -232 | -231 | S   | Q | A  | Z         | G             | 0.00      | 240.00        | 1.25 | 240.00 | 0   | -288 | -287 | S  | Q         | A             | Z         | G             | 0.00 | 240.00 | 0.65 | 240.00 |
| 0    | -288 | -287 | S   | Q | A  | Z         | G             | 0.00      | 181.50        | 0.65 | 181.50 | 0   | -182 | -181 | S  | Q         | A             | Z         | G             | 0.00 | 366.00 | 0.99 | 366.00 |
| 0    | -289 | -288 | S   | Q | A  | Z         | G             | 0.00      | 240.00        | 0.39 | 240.00 | 0   | -289 | -288 | S  | Q         | A             | Z         | G             | 0.00 | 181.50 | 0.39 | 181.50 |
| 0    | -233 | -232 | S   | Q | A  | Z         | G             | 0.00      | 366.00        | 0.99 | 366.00 | 0   | -233 | -232 | S  | Q         | A             | Z         | G             | 0.00 | 240.00 | 0.99 | 240.00 |
| 0    | -345 | -344 | S   | Q | A  | Z         | G             | 0.00      | 181.50        | 0.65 | 181.50 | 0   | -290 | -289 | S  | Q         | A             | Z         | G             | 0.00 | 240.00 | 1.25 | 240.00 |
| 0    | -290 | -289 | S   | Q | A  | Z         | G             | 0.00      | 181.50        | 1.25 | 181.50 | 0   | 3    | -182 | S  | Q         | A             | Z         | G             | 0.00 | 366.00 | 1.28 | 366.00 |
| 0    | 9    | -345 | S   | Q | A  | Z         | G             | 0.00      | 181.50        | 0.39 | 181.50 | 0   | -234 | -233 | S  | Q         | A             | Z         | G             | 0.00 | 366.00 | 0.99 | 366.00 |
| 0    | -234 | -233 | S   | Q | A  | Z         | G             | 0.00      | 240.00        | 0.99 | 240.00 | 0   | -291 | -290 | S  | Q         | A             | Z         | G             | 0.00 | 240.00 | 0.99 | 240.00 |
| 0    | -291 | -290 | S   | Q | A  | Z         | G             | 0.00      | 181.50        | 0.99 | 181.50 | 0   | -346 | 9    | S  | Q         | A             | Z         | G             | 0.00 | 181.50 | 1.25 | 181.50 |
| 0    | -183 | 3    | S   | Q | A  | Z         | G             | 0.00      | 366.00        | 0.90 | 366.00 | 0   | -235 | -234 | S  | Q         | A             | Z         | G             | 0.00 | 366.00 | 0.99 | 366.00 |
| 0    | -235 | -234 | S   | Q | A  | Z         | G             | 0.00      | 240.00        | 0.99 | 240.00 | 0   | -292 | -291 | S  | Q         | A             | Z         | G             | 0.00 | 240.00 | 0.99 | 240.00 |
| 0    | -292 | -291 | S   | Q | A  | Z         | G             | 0.00      | 181.50        | 0.99 | 181.50 | 0   | -184 | -183 | S  | Q         | A             | Z         | G             | 0.00 | 366.00 | 0.90 | 366.00 |
| 0    | -347 | -346 | S   | Q | A  | Z         | G             | 0.00      | 181.50        | 0.99 | 181.50 | 0   | -236 | -235 | S  | Q         | A             | Z         | G             | 0.00 | 366.00 | 1.30 | 366.00 |
| 0    | -236 | -235 | S   | Q | A  | Z         | G             | 0.00      | 240.00        | 1.30 | 240.00 | 0   | -185 | -184 | S  | Q         | A             | Z         | G             | 0.00 | 366.00 | 0.90 | 366.00 |
| 0    | -293 | -292 | S   | Q | A  | Z         | G             | 0.00      | 240.00        | 0.99 | 240.00 | 0   | -293 | -292 | S  | Q         | A             | Z         | G             | 0.00 | 181.50 | 0.99 | 181.50 |
| 0    | -348 | -347 | S   | Q | A  | Z         | G             | 0.00      | 181.50        | 0.99 | 181.50 | 0   | -237 | -236 | S  | Q         | A             | Z         | G             | 0.00 | 366.00 | 0.90 | 366.00 |
| 0    | -237 | -236 | S   | Q | A  | Z         | G             | 0.00      | 240.00        | 0.90 | 240.00 | 0   | -186 | -185 | S  | Q         | A             | Z         | G             | 0.00 | 366.00 | 0.61 | 366.00 |
| 0    | -186 | -185 | S   | Q | A  | Z         | G             | 0.61      | 366.00        | 0.61 | 366.00 | 0   | -294 | -293 | S  | Q         | A             | Z         | G             | 0.00 | 240.00 | 1.30 | 240.00 |
| 0    | -294 | -293 | S   | Q | A  | Z         | G             | 0.00      | 181.50        | 1.30 | 181.50 | 0   | -349 | -348 | S  | Q         | A             | Z         | G             | 0.00 | 181.50 | 0.99 | 181.50 |
| 0    | -238 | -237 | S   | Q | A  | Z         | G             | 0.00      | 366.00        | 0.90 | 366.00 | 0   | -238 | -237 | S  | Q         | A             | Z         | G             | 0.00 | 240.00 | 0.90 | 240.00 |
| 0    | -295 | -294 | S   | Q | A  | Z         | G             | 0.00      | 240.00        | 0.90 | 240.00 | 0   | -295 | -294 | S  | Q         | A             | Z         | G             | 0.00 | 181.50 | 0.90 | 181.50 |
| 0    | 10   | -349 | S   | Q | A  | Z         | G             | 0.00      | 181.50        | 1.28 | 181.50 | 0   | -239 | -238 | S  | Q         | A             | Z         | G             | 0.00 | 366.00 | 0.00 | 366.00 |
| 0    | -239 | -238 | S   | Q | A  | Z         | G             | 0.00      | 240.00        | 0.90 | 240.00 | 0   | -239 | -238 | S  | Q         | A             | Z         | G             | 0.00 | 366.00 | 0.90 | 366.00 |
| 0    | -296 | -295 | S   | Q | A  | Z         | G             | 0.00      | 240.00        | 0.90 | 240.00 | 0   | -296 | -295 | S  | Q         | A             | Z         | G             | 0.00 | 181.50 | 0.90 | 181.50 |
| 0    | -240 | -239 | S   | Q | A  | Z         | G             | 0.00      | 366.00        | 0.61 | 366.00 | 0   | -240 | -239 | S  | Q         | A             | Z         | G             | 0.00 | 240.00 | 0.61 | 240.00 |
| 0    | -297 | -296 | S   | Q | A  | Z         | G             | 0.00      | 240.00        | 0.90 | 240.00 | 0   | -297 | -296 | S  | Q         | A             | Z         | G             | 0.00 | 181.50 | 0.90 | 181.50 |
| 0    | -350 | 10   | S   | Q | A  | Z         | G             | 0.00      | 181.50        | 0.90 | 181.50 | 0   | -351 | -350 | S  | Q         | A             | Z         | G             | 0.00 | 181.50 | 0.90 | 181.50 |
| 0    | -298 | -297 | S   | Q | A  | Z         | G             | 0.00      | 240.00        | 0.61 | 240.00 | 0   | -298 | -297 | S  | Q         | A             | Z         | G             | 0.00 | 181.50 | 0.61 | 181.50 |
| 0    | -352 | -351 | S   | Q | A  | Z         | G             | 0.00      | 181.50        | 0.90 | 181.50 | 0   | -353 | -352 | S  | Q         | A             | Z         | G             | 0.00 | 181.50 | 0.61 | 181.50 |
| 201  | 202  | 201  | S   | Q | A  | Z         | G             | 0.00      | 25.00         | 4.50 | 25.00  | 201 | 202  | 201  | S  | Q         | A             | Z         | G             | 0.00 | 131.25 | 4.50 | 131.25 |
| 201  | 203  | 202  | S   | Q | A  | Z         | G             | 0.00      | 25.00         | 5.50 | 25.00  | 201 | 203  | 202  | S  | Q         | A             | Z         | G             | 0.00 | 131.25 | 5.50 | 131.25 |
| 201  | 204  | 203  | S   | Q | A  | Z         | G             | 0.00      | 25.00         | 5.50 | 25.00  | 201 | 204  | 203  | S  | Q         | A             | Z         | G             | 0.00 | 131.25 | 5.50 | 131.25 |
| 201  | 205  | 204  | S   | Q | A  | Z         | G             | 0.00      | 25.00         | 5.50 | 25.00  | 201 | 205  | 204  | S  | Q         | A             | Z         | G             | 0.00 | 131.25 | 5.50 | 131.25 |
| 201  | 206  | 205  | S   | Q | A  | Z         | G             | 0.00      | 25.00         | 5.50 | 25.00  | 201 | 206  | 205  | S  | Q         | A             | Z         | G             | 0.00 | 131.25 | 5.50 | 131.25 |
| 201  | 207  | 206  | S   | Q | A  | Z         | G             | 0.00      | 25.00         | 4.50 | 25.00  | 201 | 207  | 206  | S  | Q         | A             | Z         | G             | 0.00 | 131.25 | 4.50 | 131.25 |
| 201  | 217  | 207  | S   | Q | A  | Z         | G             | 0.00      | 25.00         | 0.50 | 25.00  | 201 | 217  | 207  | S  | Q         | A             | Z         | G             | 0.00 | 131.25 | 0.50 | 131.25 |
| 202  | 208  | 209  | S   | Q | A  | Z         | G             | 0.00      | 131.25        | 4.50 | 131.25 | 202 | 208  | 209  | S  | Q         | A             | Z         | G             | 0.00 | 25.00  | 4.50 | 25.00  |
| 202  | 209  | 210  | S   | Q | A  | Z         | G             | 0.00      | 131.25        | 5.50 | 131.25 | 202 | 209  | 210  | S  | Q         | A             | Z         | G             | 0.00 | 25.00  | 5.50 | 25.00  |
| 202  | 210  | 211  | S   | Q | A  | Z         | G             | 0.00      | 131.25        | 5.50 | 131.25 | 202 | 210  | 211  | S  | Q         | A             | Z         | G             | 0.00 | 25.00  | 5.50 | 25.00  |
| 202  | 211  | 212  | S   | Q | A  | Z         | G             | 0.00      | 131.25        | 5.50 | 131.25 | 202 | 211  | 212  | S  | Q         | A             | Z         | G             | 0.00 | 25.00  | 5.50 | 25.00  |
| 202  | 212  | 213  | S   | Q | A  | Z         | G             | 0.00      | 131.25        | 5.50 | 131.25 | 202 | 212  | 213  | S  | Q         | A             | Z         | G             | 0.00 | 25.00  | 5.50 | 25.00  |
| 202  | 213  | 214  | S   | Q | A  | Z         | G             | 0.00      | 131.25        | 4.50 | 131.25 | 202 | 213  | 214  | S  | Q         | A             | Z         | G             | 0.00 | 25.00  | 4.50 | 25.00  |
| 202  | 218  | 214  | S   | Q | A  | Z         | G             | 0.00      | 25.00         | 0.50 | 25.00  | 202 | 218  | 214  | S  | Q         | A             | Z         | G             | 0.00 | 131.25 | 0.50 | 131.25 |

### Condizione di carico n. 5: neve Carichi distribuiti

| Asta | N1  | N2  | ENE | T | DC | X1<br><m> | Qi<br><daN/m> | Xf<br><m> | Qf<br><daN/m> | Asta   | N1  | N2  | ENE | T | DC | Xi<br><m> | Qi<br><daN/m> | Xf<br><m> | Qf<br><daN/m> |      |        |
|------|-----|-----|-----|---|----|-----------|---------------|-----------|---------------|--------|-----|-----|-----|---|----|-----------|---------------|-----------|---------------|------|--------|
| 201  | 202 | 201 | S   | Q | A2 | ZG        | 0.00          | 131.25    | 4.50          | 131.25 | 201 | 203 | 202 | S | Q  | A2        | ZG            | 0.00      | 131.25        | 5.50 | 131.25 |
| 201  | 204 | 203 | S   | Q | A2 | ZG        | 0.00          | 131.25    | 5.50          | 131.25 | 201 | 205 | 204 | S | Q  | A2        | ZG            | 0.00      | 131.25        | 5.50 | 131.25 |
| 201  | 206 | 205 | S   | Q | A2 | ZG        | 0.00          | 131.25    | 5.50          | 131.25 | 201 | 207 | 206 | S | Q  | A2        | ZG            | 0.00      | 131.25        | 4.50 | 131.25 |
| 202  | 208 | 209 | S   | Q | A2 | ZG        | 0.00          | 131.25    | 4.50          | 131.25 | 202 | 209 | 210 | S | Q  | A2        | ZG            | 0.00      | 131.25        | 5.50 | 131.25 |
| 202  | 210 | 211 | S   | Q | A2 | ZG        | 0.00          | 131.25    | 5.50          | 131.25 | 202 | 211 | 212 | S | Q  | A2        | ZG            | 0.00      | 131.25        | 5.50 | 131.25 |
| 202  | 212 | 213 | S   | Q | A2 | ZG        | 0.00          | 131.25    | 5.50          | 131.25 | 202 | 213 | 214 | S | Q  | A2        | ZG            | 0.00      | 131.25        | 4.50 | 131.25 |

### Condizione di carico n. 6: tamponature Carichi distribuiti

| Asta | N1 | N2 | ENE | T | DC | Xi<br><m> | Qi<br><daN/m> | Xf<br><m> | Qf<br><daN/m> | Asta | N1 | N2 | ENE | T | DC | Xi<br><m> | Qi<br><daN/m> | Xf<br><m> | Qf<br><daN/m> |
|------|----|----|-----|---|----|-----------|---------------|-----------|---------------|------|----|----|-----|---|----|-----------|---------------|-----------|---------------|
|------|----|----|-----|---|----|-----------|---------------|-----------|---------------|------|----|----|-----|---|----|-----------|---------------|-----------|---------------|

Relazione di calcolo

|   |      |      |   |   |     |    |      |        |      |        |   |   |      |      |   |     |     |      |        |        |        |        |
|---|------|------|---|---|-----|----|------|--------|------|--------|---|---|------|------|---|-----|-----|------|--------|--------|--------|--------|
| 0 | -174 | 1    | T | 0 | QPN | ZG | 0.00 | 869.75 | 0.90 | 869.75 | 0 | 1 | -201 | T    | 0 | QPN | ZG  | 0.00 | 869.75 | 1.34   | 869.75 |        |
| 0 | -175 | -174 | T | 0 | QPN | ZG | 0.00 | 869.75 | 0.85 | 869.75 | 0 | 0 | -201 | -225 | T | 0   | QPN | ZG   | 0.00   | 869.75 | 1.09   | 869.75 |
| 0 | -176 | -175 | T | 0 | QPN | ZG | 0.00 | 869.75 | 0.85 | 869.75 | 0 | 0 | -225 | -259 | T | 0   | QPN | ZG   | 0.00   | 869.75 | 0.82   | 869.75 |
| 0 | -177 | -176 | T | 0 | QPN | ZG | 0.00 | 869.75 | 0.85 | 869.75 | 0 | 0 | -259 | -283 | T | 0   | QPN | ZG   | 0.00   | 869.75 | 0.78   | 869.75 |
| 0 | -178 | -177 | T | 0 | QPN | ZG | 0.00 | 869.75 | 0.65 | 869.75 | 0 | 0 | -283 | -317 | T | 0   | QPN | ZG   | 0.00   | 869.75 | 0.46   | 869.75 |
| 0 | 2    | -178 | T | 0 | QPN | ZG | 0.00 | 869.75 | 0.39 | 869.75 | 0 | 0 | -317 | 8    | T | 0   | QPN | ZG   | 0.00   | 869.75 | 0.76   | 869.75 |
| 0 | -179 | 2    | T | 0 | QPN | ZG | 0.00 | 869.75 | 1.25 | 869.75 | 0 | 0 | -341 | 8    | T | 0   | QPN | ZG   | 0.00   | 869.75 | 0.91   | 869.75 |
| 0 | -180 | -179 | T | 0 | QPN | ZG | 0.00 | 869.75 | 0.99 | 869.75 | 0 | 0 | -342 | -341 | T | 0   | QPN | ZG   | 0.00   | 869.75 | 0.85   | 869.75 |
| 0 | -181 | -180 | T | 0 | QPN | ZG | 0.00 | 869.75 | 0.99 | 869.75 | 0 | 0 | -343 | -342 | T | 0   | QPN | ZG   | 0.00   | 869.75 | 0.85   | 869.75 |
| 0 | -182 | -181 | T | 0 | QPN | ZG | 0.00 | 869.75 | 0.99 | 869.75 | 0 | 0 | -344 | -343 | T | 0   | QPN | ZG   | 0.00   | 869.75 | 0.85   | 869.75 |
| 0 | -345 | -344 | T | 0 | QPN | ZG | 0.00 | 869.75 | 0.65 | 869.75 | 0 | 0 | 3    | -182 | T | 0   | QPN | ZG   | 0.00   | 869.75 | 1.28   | 869.75 |
| 0 | 9    | -345 | T | 0 | QPN | ZG | 0.00 | 869.75 | 0.39 | 869.75 | 0 | 0 | -346 | 9    | T | 0   | QPN | ZG   | 0.00   | 869.75 | 1.25   | 869.75 |
| 0 | -183 | 3    | T | 0 | QPN | ZG | 0.00 | 869.75 | 0.90 | 869.75 | 0 | 0 | -184 | -183 | T | 0   | QPN | ZG   | 0.00   | 869.75 | 0.90   | 869.75 |
| 0 | -347 | -346 | T | 0 | QPN | ZG | 0.00 | 869.75 | 0.99 | 869.75 | 0 | 0 | -185 | -184 | T | 0   | QPN | ZG   | 0.00   | 869.75 | 0.90   | 869.75 |
| 0 | -348 | -347 | T | 0 | QPN | ZG | 0.00 | 869.75 | 0.99 | 869.75 | 0 | 0 | -186 | -185 | T | 0   | QPN | ZG   | 0.00   | 869.75 | 0.61   | 869.75 |
| 0 | -349 | -348 | T | 0 | QPN | ZG | 0.00 | 869.75 | 0.99 | 869.75 | 0 | 0 | -187 | -186 | T | 0   | QPN | ZG   | 0.00   | 869.75 | 0.68   | 869.75 |
| 0 | 10   | -349 | T | 0 | QPN | ZG | 0.00 | 869.75 | 1.28 | 869.75 | 0 | 0 | 4    | -187 | T | 0   | QPN | ZG   | 0.00   | 869.75 | 1.51   | 869.75 |
| 0 | -188 | 4    | T | 0 | QPN | ZG | 0.00 | 869.75 | 0.99 | 869.75 | 0 | 0 | -189 | -188 | T | 0   | QPN | ZG   | 0.00   | 869.75 | 0.99   | 869.75 |
| 0 | -350 | 10   | T | 0 | QPN | ZG | 0.00 | 869.75 | 0.90 | 869.75 | 0 | 0 | -351 | -350 | T | 0   | QPN | ZG   | 0.00   | 869.75 | 0.90   | 869.75 |
| 0 | -352 | -351 | T | 0 | QPN | ZG | 0.00 | 869.75 | 0.90 | 869.75 | 0 | 0 | -190 | -189 | T | 0   | QPN | ZG   | 0.00   | 869.75 | 0.99   | 869.75 |
| 0 | -353 | -352 | T | 0 | QPN | ZG | 0.00 | 869.75 | 0.61 | 869.75 | 0 | 0 | -354 | -353 | T | 0   | QPN | ZG   | 0.00   | 869.75 | 0.68   | 869.75 |
| 0 | -191 | -190 | T | 0 | QPN | ZG | 0.00 | 869.75 | 1.26 | 869.75 | 0 | 0 | 11   | -354 | T | 0   | QPN | ZG   | 0.00   | 869.75 | 1.51   | 869.75 |
| 0 | 5    | -191 | T | 0 | QPN | ZG | 0.00 | 869.75 | 1.26 | 869.75 | 0 | 0 | -355 | 11   | T | 0   | QPN | ZG   | 0.00   | 869.75 | 0.99   | 869.75 |
| 0 | -192 | 5    | T | 0 | QPN | ZG | 0.00 | 869.75 | 1.38 | 869.75 | 0 | 0 | -356 | -355 | T | 0   | QPN | ZG   | 0.00   | 869.75 | 0.99   | 869.75 |
| 0 | -193 | -192 | T | 0 | QPN | ZG | 0.00 | 869.75 | 1.38 | 869.75 | 0 | 0 | -357 | -356 | T | 0   | QPN | ZG   | 0.00   | 869.75 | 0.99   | 869.75 |
| 0 | -358 | -357 | T | 0 | QPN | ZG | 0.00 | 869.75 | 1.26 | 869.75 | 0 | 0 | -194 | -193 | T | 0   | QPN | ZG   | 0.00   | 869.75 | 1.38   | 869.75 |
| 0 | 12   | -358 | T | 0 | QPN | ZG | 0.00 | 869.75 | 1.26 | 869.75 | 0 | 0 | 6    | -194 | T | 0   | QPN | ZG   | 0.00   | 869.75 | 1.38   | 869.75 |
| 0 | -359 | 12   | T | 0 | QPN | ZG | 0.00 | 869.75 | 1.38 | 869.75 | 0 | 0 | -195 | 6    | T | 0   | QPN | ZG   | 0.00   | 869.75 | 0.93   | 869.75 |
| 0 | -196 | -195 | T | 0 | QPN | ZG | 0.00 | 869.75 | 0.93 | 869.75 | 0 | 0 | -360 | -359 | T | 0   | QPN | ZG   | 0.00   | 869.75 | 1.38   | 869.75 |
| 0 | -197 | -196 | T | 0 | QPN | ZG | 0.00 | 869.75 | 0.93 | 869.75 | 0 | 0 | -361 | -360 | T | 0   | QPN | ZG   | 0.00   | 869.75 | 1.38   | 869.75 |
| 0 | -198 | -197 | T | 0 | QPN | ZG | 0.00 | 869.75 | 0.93 | 869.75 | 0 | 0 | 7    | -198 | T | 0   | QPN | ZG   | 0.00   | 869.75 | 0.78   | 869.75 |
| 0 | 13   | -361 | T | 0 | QPN | ZG | 0.00 | 869.75 | 1.38 | 869.75 | 0 | 0 | 7    | -222 | T | 0   | QPN | ZG   | 0.00   | 869.75 | 1.34   | 869.75 |
| 0 | -362 | 13   | T | 0 | QPN | ZG | 0.00 | 869.75 | 0.93 | 869.75 | 0 | 0 | -222 | -256 | T | 0   | QPN | ZG   | 0.00   | 869.75 | 1.09   | 869.75 |
| 0 | -363 | -362 | T | 0 | QPN | ZG | 0.00 | 869.75 | 0.93 | 869.75 | 0 | 0 | -256 | -280 | T | 0   | QPN | ZG   | 0.00   | 869.75 | 0.82   | 869.75 |
| 0 | -364 | -363 | T | 0 | QPN | ZG | 0.00 | 869.75 | 0.93 | 869.75 | 0 | 0 | -280 | -314 | T | 0   | QPN | ZG   | 0.00   | 869.75 | 0.78   | 869.75 |
| 0 | -365 | -364 | T | 0 | QPN | ZG | 0.00 | 869.75 | 0.93 | 869.75 | 0 | 0 | -314 | -338 | T | 0   | QPN | ZG   | 0.00   | 869.75 | 0.46   | 869.75 |
| 0 | 14   | -365 | T | 0 | QPN | ZG | 0.00 | 869.75 | 0.78 | 869.75 | 0 | 0 | -338 | 14   | T | 0   | QPN | ZG   | 0.00   | 869.75 | 0.76   | 869.75 |

Elenco carichi elementi bidimensionaliElenco peso proprio elementi bidimensionali

Simbologia

Tb = Numero del tipo muro/elemento bidimensionale  
Comm. = Commento  
Spess. = Spessore  
Mat. = Materiale  
P = Peso specifico  
PQ = Peso specifico per unità di superficie

| Tb | Comm.      | Spess.<br><cm> | Mat.         | P<br><daN/mc> | PQ<br><daN/mq> | Tb | Comm.      | Spess.<br><cm> | Mat.         | P<br><daN/mc> | PQ<br><daN/mq> |
|----|------------|----------------|--------------|---------------|----------------|----|------------|----------------|--------------|---------------|----------------|
| 1  | pareti_S25 | 25.00          | Calcestruzzo | 2500.00       | 625.00         | 2  | platea_S35 | 35.00          | Calcestruzzo | 2500.00       | 875.00         |
| 3  | pareti_S30 | 30.00          | Calcestruzzo | 2500.00       | 750.00         |    |            |                |              |               |                |

Condizione di carico n. 7: variabile pavimento

Carichi uniformi

Simbologia

Bid. = Numero del muro/elemento bidimensionale  
N1 = Nodo1  
N2 = Nodo2  
N3 = Nodo3  
N4 = Nodo4  
T = Tipo di carico  
PP = Peso proprio  
VE = Vento  
M = Manuale  
DC = Direzione del carico  
G = secondo gli assi globali  
L = secondo gli assi locali  
Qx = Carico in dir. X  
Qy = Carico in dir. Y  
Qz = Carico in dir. Z

| Bid. | N1   | N2   | N3   | N4   | T | DC | Qx<br><daN/mq> | Qy<br><daN/mq> | Qz<br><daN/mq> | Bid. | N1   | N2   | N3   | N4   | T | DC | Qx<br><daN/mq> | Qy<br><daN/mq> | Qz<br><daN/mq> |
|------|------|------|------|------|---|----|----------------|----------------|----------------|------|------|------|------|------|---|----|----------------|----------------|----------------|
| 503  | -163 | -192 | 5    | -162 | M | G  | 0.00           | 0.00           | 50.00          | 503  | 12   | -390 | -389 | -358 | M | G  | 0.00           | 0.00           | 50.00          |
| 503  | -194 | -216 | -215 | -193 | M | G  | 0.00           | 0.00           | 50.00          | 503  | -214 | -248 | -247 | -213 | M | G  | 0.00           | 0.00           | 50.00          |
| 503  | -192 | -214 | -213 | 5    | M | G  | 0.00           | 0.00           | 50.00          | 503  | -164 | -193 | -192 | -163 | M | G  | 0.00           | 0.00           | 50.00          |

# Relazione di calcolo

|     |      |      |      |      |    |      |      |       |     |      |      |      |      |    |      |      |       |
|-----|------|------|------|------|----|------|------|-------|-----|------|------|------|------|----|------|------|-------|
| 503 | -267 | -301 | -300 | -266 | MG | 0.00 | 0.00 | 50.00 | 503 | -245 | -269 | -268 | -244 | MG | 0.00 | 0.00 | 50.00 |
| 503 | -259 | -283 | -282 | -258 | MG | 0.00 | 0.00 | 50.00 | 503 | -165 | -194 | -193 | -164 | MG | 0.00 | 0.00 | 50.00 |
| 503 | -190 | -211 | -210 | -189 | MG | 0.00 | 0.00 | 50.00 | 503 | -303 | -327 | -326 | -302 | MG | 0.00 | 0.00 | 50.00 |
| 503 | -170 | -198 | -197 | -169 | MG | 0.00 | 0.00 | 50.00 | 503 | -361 | -393 | -392 | -360 | MG | 0.00 | 0.00 | 50.00 |
| 503 | -211 | -245 | -244 | -210 | MG | 0.00 | 0.00 | 50.00 | 503 | -308 | -332 | -331 | -307 | MG | 0.00 | 0.00 | 50.00 |
| 503 | -274 | -308 | -307 | -273 | MG | 0.00 | 0.00 | 50.00 | 503 | -250 | -274 | -273 | -249 | MG | 0.00 | 0.00 | 50.00 |
| 503 | -216 | -250 | -249 | -215 | MG | 0.00 | 0.00 | 50.00 | 503 | -203 | -227 | -226 | -202 | MG | 0.00 | 0.00 | 50.00 |
| 503 | -167 | -195 | 6    | -166 | MG | 0.00 | 0.00 | 50.00 | 503 | 6    | -217 | -216 | -194 | MG | 0.00 | 0.00 | 50.00 |
| 503 | 5    | -213 | -212 | -191 | MG | 0.00 | 0.00 | 50.00 | 503 | -160 | -190 | -189 | -159 | MG | 0.00 | 0.00 | 50.00 |
| 503 | -168 | -196 | -195 | -167 | MG | 0.00 | 0.00 | 50.00 | 503 | -307 | -331 | -330 | -306 | MG | 0.00 | 0.00 | 50.00 |
| 503 | -273 | -307 | -306 | -272 | MG | 0.00 | 0.00 | 50.00 | 503 | -249 | -273 | -272 | -248 | MG | 0.00 | 0.00 | 50.00 |
| 503 | -215 | -249 | -248 | -214 | MG | 0.00 | 0.00 | 50.00 | 503 | -193 | -215 | -214 | -192 | MG | 0.00 | 0.00 | 50.00 |
| 503 | -278 | -312 | -311 | -277 | MG | 0.00 | 0.00 | 50.00 | 503 | -312 | -336 | -335 | -311 | MG | 0.00 | 0.00 | 50.00 |
| 503 | -197 | -220 | -219 | -196 | MG | 0.00 | 0.00 | 50.00 | 503 | -301 | -325 | -324 | -300 | MG | 0.00 | 0.00 | 50.00 |
| 503 | -221 | -255 | -254 | -220 | MG | 0.00 | 0.00 | 50.00 | 503 | -255 | -279 | -278 | -254 | MG | 0.00 | 0.00 | 50.00 |
| 503 | -279 | -313 | -312 | -278 | MG | 0.00 | 0.00 | 50.00 | 503 | -332 | -361 | -360 | -331 | MG | 0.00 | 0.00 | 50.00 |
| 503 | -198 | -221 | -220 | -197 | MG | 0.00 | 0.00 | 50.00 | 503 | 7    | -222 | -221 | -198 | MG | 0.00 | 0.00 | 50.00 |
| 503 | -314 | -338 | -337 | -313 | MG | 0.00 | 0.00 | 50.00 | 503 | -280 | -314 | -313 | -279 | MG | 0.00 | 0.00 | 50.00 |
| 503 | -256 | -280 | -279 | -255 | MG | 0.00 | 0.00 | 50.00 | 503 | -222 | -256 | -255 | -221 | MG | 0.00 | 0.00 | 50.00 |
| 503 | -338 | 14   | -365 | -337 | MG | 0.00 | 0.00 | 50.00 | 503 | -150 | -182 | -181 | -149 | MG | 0.00 | 0.00 | 50.00 |
| 503 | -154 | -185 | -184 | -153 | MG | 0.00 | 0.00 | 50.00 | 503 | -153 | -184 | -183 | -152 | MG | 0.00 | 0.00 | 50.00 |
| 503 | -248 | -272 | -271 | -247 | MG | 0.00 | 0.00 | 50.00 | 503 | -272 | -306 | -305 | -271 | MG | 0.00 | 0.00 | 50.00 |
| 503 | -306 | -330 | -329 | -305 | MG | 0.00 | 0.00 | 50.00 | 503 | -330 | -359 | 12   | -329 | MG | 0.00 | 0.00 | 50.00 |
| 503 | -359 | -391 | -390 | 12   | MG | 0.00 | 0.00 | 50.00 | 503 | -191 | -212 | -211 | -190 | MG | 0.00 | 0.00 | 50.00 |
| 503 | -309 | -333 | -332 | -308 | MG | 0.00 | 0.00 | 50.00 | 503 | -166 | 6    | -194 | -165 | MG | 0.00 | 0.00 | 50.00 |
| 503 | -337 | -365 | -364 | -336 | MG | 0.00 | 0.00 | 50.00 | 503 | -251 | -275 | -274 | -250 | MG | 0.00 | 0.00 | 50.00 |
| 503 | -275 | -309 | -308 | -274 | MG | 0.00 | 0.00 | 50.00 | 503 | 13   | -394 | -393 | -361 | MG | 0.00 | 0.00 | 50.00 |
| 503 | -313 | -337 | -336 | -312 | MG | 0.00 | 0.00 | 50.00 | 503 | -334 | -362 | 13   | -333 | MG | 0.00 | 0.00 | 50.00 |
| 503 | -218 | -252 | -251 | -217 | MG | 0.00 | 0.00 | 50.00 | 503 | -252 | -276 | -275 | -251 | MG | 0.00 | 0.00 | 50.00 |
| 503 | -276 | -310 | -309 | -275 | MG | 0.00 | 0.00 | 50.00 | 503 | -310 | -334 | -333 | -309 | MG | 0.00 | 0.00 | 50.00 |
| 503 | -195 | -218 | -217 | 6    | MG | 0.00 | 0.00 | 50.00 | 503 | -335 | -363 | -362 | -334 | MG | 0.00 | 0.00 | 50.00 |
| 503 | -219 | -253 | -252 | -218 | MG | 0.00 | 0.00 | 50.00 | 503 | -253 | -277 | -276 | -252 | MG | 0.00 | 0.00 | 50.00 |
| 503 | -277 | -311 | -310 | -276 | MG | 0.00 | 0.00 | 50.00 | 503 | -311 | -335 | -334 | -310 | MG | 0.00 | 0.00 | 50.00 |
| 503 | -196 | -219 | -218 | -195 | MG | 0.00 | 0.00 | 50.00 | 503 | -336 | -364 | -363 | -335 | MG | 0.00 | 0.00 | 50.00 |
| 503 | -220 | -254 | -253 | -219 | MG | 0.00 | 0.00 | 50.00 | 503 | -254 | -278 | -277 | -253 | MG | 0.00 | 0.00 | 50.00 |
| 503 | -201 | -225 | -224 | -200 | MG | 0.00 | 0.00 | 50.00 | 503 | -158 | -188 | 4    | -157 | MG | 0.00 | 0.00 | 50.00 |
| 503 | -243 | -267 | -266 | -242 | MG | 0.00 | 0.00 | 50.00 | 503 | -209 | -243 | -242 | -208 | MG | 0.00 | 0.00 | 50.00 |
| 503 | -188 | -209 | -208 | 4    | MG | 0.00 | 0.00 | 50.00 | 503 | -169 | -197 | -196 | -168 | MG | 0.00 | 0.00 | 50.00 |
| 503 | -326 | -356 | -355 | -325 | MG | 0.00 | 0.00 | 50.00 | 503 | -268 | -302 | -301 | -267 | MG | 0.00 | 0.00 | 50.00 |
| 503 | -244 | -268 | -267 | -243 | MG | 0.00 | 0.00 | 50.00 | 503 | -210 | -244 | -243 | -209 | MG | 0.00 | 0.00 | 50.00 |
| 503 | -189 | -210 | -209 | -188 | MG | 0.00 | 0.00 | 50.00 | 503 | -302 | -326 | -325 | -301 | MG | 0.00 | 0.00 | 50.00 |
| 503 | -327 | -357 | -356 | -326 | MG | 0.00 | 0.00 | 50.00 | 503 | -269 | -303 | -302 | -268 | MG | 0.00 | 0.00 | 50.00 |
| 503 | -360 | -392 | -391 | -359 | MG | 0.00 | 0.00 | 50.00 | 503 | -161 | -191 | -190 | -160 | MG | 0.00 | 0.00 | 50.00 |
| 503 | -358 | -389 | -388 | -357 | MG | 0.00 | 0.00 | 50.00 | 503 | -328 | -358 | -357 | -327 | MG | 0.00 | 0.00 | 50.00 |
| 503 | -304 | -328 | -327 | -303 | MG | 0.00 | 0.00 | 50.00 | 503 | -270 | -304 | -303 | -269 | MG | 0.00 | 0.00 | 50.00 |
| 503 | -271 | -305 | -304 | -270 | MG | 0.00 | 0.00 | 50.00 | 503 | -247 | -271 | -270 | -246 | MG | 0.00 | 0.00 | 50.00 |
| 503 | -213 | -247 | -246 | -212 | MG | 0.00 | 0.00 | 50.00 | 503 | -162 | 5    | -191 | -161 | MG | 0.00 | 0.00 | 50.00 |
| 503 | -305 | -329 | -328 | -304 | MG | 0.00 | 0.00 | 50.00 | 503 | -246 | -270 | -269 | -245 | MG | 0.00 | 0.00 | 50.00 |
| 503 | -331 | -360 | -359 | -330 | MG | 0.00 | 0.00 | 50.00 | 503 | -217 | -251 | -250 | -216 | MG | 0.00 | 0.00 | 50.00 |
| 503 | -159 | -189 | -188 | -158 | MG | 0.00 | 0.00 | 50.00 | 503 | -212 | -246 | -245 | -211 | MG | 0.00 | 0.00 | 50.00 |
| 503 | -146 | 2    | -178 | -145 | MG | 0.00 | 0.00 | 50.00 | 503 | -225 | -259 | -258 | -224 | MG | 0.00 | 0.00 | 50.00 |
| 503 | -171 | 7    | -198 | -170 | MG | 0.00 | 0.00 | 50.00 | 503 | -148 | -180 | -179 | -147 | MG | 0.00 | 0.00 | 50.00 |
| 503 | -223 | -257 | -256 | -222 | MG | 0.00 | 0.00 | 50.00 | 503 | -261 | -285 | -284 | -260 | MG | 0.00 | 0.00 | 50.00 |
| 503 | -227 | -261 | -260 | -226 | MG | 0.00 | 0.00 | 50.00 | 503 | -345 | -373 | -372 | -344 | MG | 0.00 | 0.00 | 50.00 |
| 503 | -319 | -342 | -341 | -318 | MG | 0.00 | 0.00 | 50.00 | 503 | -156 | -187 | -186 | -155 | MG | 0.00 | 0.00 | 50.00 |
| 503 | -157 | 4    | -187 | -156 | MG | 0.00 | 0.00 | 50.00 | 503 | -286 | -320 | -319 | -285 | MG | 0.00 | 0.00 | 50.00 |
| 503 | -174 | -202 | -201 | 1    | MG | 0.00 | 0.00 | 50.00 | 503 | -284 | -318 | -317 | -283 | MG | 0.00 | 0.00 | 50.00 |
| 503 | -176 | -204 | -203 | -175 | MG | 0.00 | 0.00 | 50.00 | 503 | -281 | -315 | -314 | -280 | MG | 0.00 | 0.00 | 50.00 |
| 503 | -204 | -228 | -227 | -203 | MG | 0.00 | 0.00 | 50.00 | 503 | -260 | -284 | -283 | -259 | MG | 0.00 | 0.00 | 50.00 |
| 503 | -226 | -260 | -259 | -225 | MG | 0.00 | 0.00 | 50.00 | 503 | -228 | -262 | -261 | -227 | MG | 0.00 | 0.00 | 50.00 |
| 503 | -315 | -339 | -338 | -314 | MG | 0.00 | 0.00 | 50.00 | 503 | -262 | -286 | -285 | -261 | MG | 0.00 | 0.00 | 50.00 |
| 503 | -202 | -226 | -225 | -201 | MG | 0.00 | 0.00 | 50.00 | 503 | -317 | 8    | -340 | -316 | MG | 0.00 | 0.00 | 50.00 |
| 503 | -321 | -344 | -343 | -320 | MG | 0.00 | 0.00 | 50.00 | 503 | -339 | -366 | 14   | -338 | MG | 0.00 | 0.00 | 50.00 |
| 503 | -263 | -287 | -286 | -262 | MG | 0.00 | 0.00 | 50.00 | 503 | -175 | -203 | -202 | -174 | MG | 0.00 | 0.00 | 50.00 |
| 503 | -285 | -319 | -318 | -284 | MG | 0.00 | 0.00 | 50.00 | 503 | -229 | -263 | -262 | -228 | MG | 0.00 | 0.00 | 50.00 |
| 503 | -366 | -400 | -399 | 14   | MG | 0.00 | 0.00 | 50.00 | 503 | -205 | -229 | -228 | -204 | MG | 0.00 | 0.00 | 50.00 |
| 503 | -177 | -205 | -204 | -176 | MG | 0.00 | 0.00 | 50.00 | 503 | -287 | -321 | -320 | -286 | MG | 0.00 | 0.00 | 50.00 |
| 503 | -257 | -281 | -280 | -256 | MG | 0.00 | 0.00 | 50.00 | 503 | -320 | -343 | -342 | -319 | MG | 0.00 | 0.00 | 50.00 |
| 503 | 1    | -201 | -200 | -173 | MG | 0.00 | 0.00 | 50.00 | 503 | 11   | -385 | -384 | -354 | MG | 0.00 | 0.00 | 50.00 |
| 503 | -354 | -384 | -383 | -353 | MG | 0.00 | 0.00 | 50.00 | 503 | -155 | -186 | -185 | -154 | MG | 0.00 | 0.00 | 50.00 |
| 503 | -353 | -383 | -382 | -352 | MG | 0.00 | 0.00 | 50.00 | 503 | -347 | -376 | -375 | -346 | MG | 0.00 | 0.00 | 50.00 |
| 503 | 14   | -399 | -398 | -365 | MG | 0.00 | 0.00 | 50.00 | 503 | -365 | -398 | -397 | -364 | MG | 0.00 | 0.00 | 50.00 |
| 503 | -364 | -397 | -396 | -363 | MG | 0.00 | 0.00 | 50.00 | 503 | 9    | -374 | -373 | -345 | MG | 0.00 | 0.00 | 50.00 |
| 503 | -145 | -178 | -177 | -144 | MG | 0.00 | 0.00 | 50.00 | 503 | -363 | -396 | -395 | -362 | MG | 0.00 | 0.00 | 50.00 |
| 503 | -362 | -395 | -394 | 13   | MG | 0.00 | 0.00 | 50.00 | 503 | -333 | 13   | -361 | -332 | MG | 0.00 | 0.00 | 50.00 |
| 503 | -329 | 12   | -358 | -328 | MG | 0.00 | 0.00 | 50.00 | 503 | -357 | -388 | -387 | -356 | MG | 0.00 | 0.00 | 50.00 |
| 503 | -356 | -387 | -386 | -355 | MG | 0.00 | 0.00 | 50.00 | 503 | -355 | -386 | -385 | 11   | MG | 0.00 | 0.00 | 50.00 |
| 503 | -141 | -174 | 1    | -140 | MG | 0.00 | 0.00 | 50.00 | 503 | -352 | -382 | -381 | -351 | MG | 0.00 | 0.00 | 50.00 |
| 503 | -348 | -377 | -376 | -347 | MG | 0.00 | 0.00 | 50.00 | 503 | -349 | -378 | -377 | -348 | MG | 0.00 | 0.00 | 50.00 |

## Relazione di calcolo

|     |      |      |      |      |    |      |      |       |     |      |      |      |      |    |      |      |       |
|-----|------|------|------|------|----|------|------|-------|-----|------|------|------|------|----|------|------|-------|
| 503 | 10   | -379 | -378 | -349 | MG | 0.00 | 0.00 | 50.00 | 503 | -350 | -380 | -379 | 10   | MG | 0.00 | 0.00 | 50.00 |
| 503 | -351 | -381 | -380 | -350 | MG | 0.00 | 0.00 | 50.00 | 503 | -172 | -199 | 7    | -171 | MG | 0.00 | 0.00 | 50.00 |
| 503 | -147 | -179 | 2    | -146 | MG | 0.00 | 0.00 | 50.00 | 503 | -283 | -317 | -316 | -282 | MG | 0.00 | 0.00 | 50.00 |
| 503 | -325 | -355 | 11   | -324 | MG | 0.00 | 0.00 | 50.00 | 503 | -242 | -266 | -265 | -241 | MG | 0.00 | 0.00 | 50.00 |
| 503 | -208 | -242 | -241 | -207 | MG | 0.00 | 0.00 | 50.00 | 503 | -324 | 11   | -354 | -323 | MG | 0.00 | 0.00 | 50.00 |
| 503 | -323 | -354 | -353 | -322 | MG | 0.00 | 0.00 | 50.00 | 503 | -299 | -323 | -322 | -298 | MG | 0.00 | 0.00 | 50.00 |
| 503 | -265 | -299 | -298 | -264 | MG | 0.00 | 0.00 | 50.00 | 503 | -318 | -341 | 8    | -317 | MG | 0.00 | 0.00 | 50.00 |
| 503 | -140 | 1    | -173 | -139 | MG | 0.00 | 0.00 | 50.00 | 503 | -144 | -177 | -176 | -143 | MG | 0.00 | 0.00 | 50.00 |
| 503 | -143 | -176 | -175 | -142 | MG | 0.00 | 0.00 | 50.00 | 503 | -241 | -265 | -264 | -240 | MG | 0.00 | 0.00 | 50.00 |
| 503 | -207 | -241 | -240 | -206 | MG | 0.00 | 0.00 | 50.00 | 503 | -142 | -175 | -174 | -141 | MG | 0.00 | 0.00 | 50.00 |
| 503 | -152 | -183 | 3    | -151 | MG | 0.00 | 0.00 | 50.00 | 503 | 8    | -368 | -367 | -340 | MG | 0.00 | 0.00 | 50.00 |
| 503 | -187 | -207 | -206 | -186 | MG | 0.00 | 0.00 | 50.00 | 503 | 4    | -208 | -207 | -187 | MG | 0.00 | 0.00 | 50.00 |
| 503 | -341 | -369 | -368 | 8    | MG | 0.00 | 0.00 | 50.00 | 503 | -199 | -223 | -222 | 7    | MG | 0.00 | 0.00 | 50.00 |
| 503 | -151 | 3    | -182 | -150 | MG | 0.00 | 0.00 | 50.00 | 503 | -149 | -181 | -180 | -148 | MG | 0.00 | 0.00 | 50.00 |
| 503 | -300 | -324 | -323 | -299 | MG | 0.00 | 0.00 | 50.00 | 503 | -266 | -300 | -299 | -265 | MG | 0.00 | 0.00 | 50.00 |
| 503 | -346 | -375 | -374 | 9    | MG | 0.00 | 0.00 | 50.00 | 503 | -343 | -371 | -370 | -342 | MG | 0.00 | 0.00 | 50.00 |
| 503 | -342 | -370 | -369 | -341 | MG | 0.00 | 0.00 | 50.00 | 503 | -344 | -372 | -371 | -343 | MG | 0.00 | 0.00 | 50.00 |
| 504 | -10  | -22  | -21  | -9   | MG | 0.00 | 0.00 | 50.00 | 504 | -21  | -33  | -32  | -20  | MG | 0.00 | 0.00 | 50.00 |
| 504 | -5   | -17  | -16  | -4   | MG | 0.00 | 0.00 | 50.00 | 504 | -9   | -21  | -20  | -8   | MG | 0.00 | 0.00 | 50.00 |
| 504 | -8   | -20  | -19  | -7   | MG | 0.00 | 0.00 | 50.00 | 504 | -7   | -19  | -18  | -6   | MG | 0.00 | 0.00 | 50.00 |
| 504 | -6   | -18  | -17  | -5   | MG | 0.00 | 0.00 | 50.00 | 504 | -11  | -23  | -22  | -10  | MG | 0.00 | 0.00 | 50.00 |
| 504 | -22  | -34  | -33  | -21  | MG | 0.00 | 0.00 | 50.00 | 504 | -12  | -24  | -23  | -11  | MG | 0.00 | 0.00 | 50.00 |
| 504 | -20  | -32  | -31  | -19  | MG | 0.00 | 0.00 | 50.00 | 504 | -19  | -31  | -30  | -18  | MG | 0.00 | 0.00 | 50.00 |
| 504 | -18  | -30  | -29  | -17  | MG | 0.00 | 0.00 | 50.00 | 504 | -17  | -29  | -28  | -16  | MG | 0.00 | 0.00 | 50.00 |
| 504 | -4   | -16  | -15  | -3   | MG | 0.00 | 0.00 | 50.00 | 504 | -3   | -15  | -14  | -2   | MG | 0.00 | 0.00 | 50.00 |
| 504 | -2   | -14  | -13  | -1   | MG | 0.00 | 0.00 | 50.00 | 504 | -24  | -36  | -35  | -23  | MG | 0.00 | 0.00 | 50.00 |
| 504 | -23  | -35  | -34  | -22  | MG | 0.00 | 0.00 | 50.00 | 504 | -57  | -69  | -68  | -56  | MG | 0.00 | 0.00 | 50.00 |
| 504 | -56  | -68  | -67  | -55  | MG | 0.00 | 0.00 | 50.00 | 504 | -55  | -67  | -66  | -54  | MG | 0.00 | 0.00 | 50.00 |
| 504 | -54  | -66  | -65  | -53  | MG | 0.00 | 0.00 | 50.00 | 504 | -53  | -65  | -64  | -52  | MG | 0.00 | 0.00 | 50.00 |
| 504 | -52  | -64  | -63  | -51  | MG | 0.00 | 0.00 | 50.00 | 504 | -51  | -63  | -62  | -50  | MG | 0.00 | 0.00 | 50.00 |
| 504 | -50  | -62  | -61  | -49  | MG | 0.00 | 0.00 | 50.00 | 504 | -72  | -84  | -83  | -71  | MG | 0.00 | 0.00 | 50.00 |
| 504 | -71  | -83  | -82  | -70  | MG | 0.00 | 0.00 | 50.00 | 504 | -70  | -82  | -81  | -69  | MG | 0.00 | 0.00 | 50.00 |
| 504 | -69  | -81  | -80  | -68  | MG | 0.00 | 0.00 | 50.00 | 504 | -68  | -80  | -79  | -67  | MG | 0.00 | 0.00 | 50.00 |
| 504 | -67  | -79  | -78  | -66  | MG | 0.00 | 0.00 | 50.00 | 504 | -66  | -78  | -77  | -65  | MG | 0.00 | 0.00 | 50.00 |
| 504 | -65  | -77  | -76  | -64  | MG | 0.00 | 0.00 | 50.00 | 504 | -64  | -76  | -75  | -63  | MG | 0.00 | 0.00 | 50.00 |
| 504 | -63  | -75  | -74  | -62  | MG | 0.00 | 0.00 | 50.00 | 504 | -62  | -74  | -73  | -61  | MG | 0.00 | 0.00 | 50.00 |
| 504 | -16  | -28  | -27  | -15  | MG | 0.00 | 0.00 | 50.00 | 504 | -15  | -27  | -26  | -14  | MG | 0.00 | 0.00 | 50.00 |
| 504 | -14  | -26  | -25  | -13  | MG | 0.00 | 0.00 | 50.00 | 504 | -36  | -48  | -47  | -35  | MG | 0.00 | 0.00 | 50.00 |
| 504 | -35  | -47  | -46  | -34  | MG | 0.00 | 0.00 | 50.00 | 504 | -34  | -46  | -45  | -33  | MG | 0.00 | 0.00 | 50.00 |
| 504 | -33  | -45  | -44  | -32  | MG | 0.00 | 0.00 | 50.00 | 504 | -32  | -44  | -43  | -31  | MG | 0.00 | 0.00 | 50.00 |
| 504 | -31  | -43  | -42  | -30  | MG | 0.00 | 0.00 | 50.00 | 504 | -30  | -42  | -41  | -29  | MG | 0.00 | 0.00 | 50.00 |
| 504 | -29  | -41  | -40  | -28  | MG | 0.00 | 0.00 | 50.00 | 504 | -28  | -40  | -39  | -27  | MG | 0.00 | 0.00 | 50.00 |
| 504 | -27  | -39  | -38  | -26  | MG | 0.00 | 0.00 | 50.00 | 504 | -26  | -38  | -37  | -25  | MG | 0.00 | 0.00 | 50.00 |
| 504 | -48  | -60  | -59  | -47  | MG | 0.00 | 0.00 | 50.00 | 504 | -47  | -59  | -58  | -46  | MG | 0.00 | 0.00 | 50.00 |
| 504 | -46  | -58  | -57  | -45  | MG | 0.00 | 0.00 | 50.00 | 504 | -45  | -57  | -56  | -44  | MG | 0.00 | 0.00 | 50.00 |
| 504 | -44  | -56  | -55  | -43  | MG | 0.00 | 0.00 | 50.00 | 504 | -43  | -55  | -54  | -42  | MG | 0.00 | 0.00 | 50.00 |
| 504 | -42  | -54  | -53  | -41  | MG | 0.00 | 0.00 | 50.00 | 504 | -41  | -53  | -52  | -40  | MG | 0.00 | 0.00 | 50.00 |
| 504 | -40  | -52  | -51  | -39  | MG | 0.00 | 0.00 | 50.00 | 504 | -39  | -51  | -50  | -38  | MG | 0.00 | 0.00 | 50.00 |
| 504 | -38  | -50  | -49  | -37  | MG | 0.00 | 0.00 | 50.00 | 504 | -60  | -72  | -71  | -59  | MG | 0.00 | 0.00 | 50.00 |
| 504 | -59  | -71  | -70  | -58  | MG | 0.00 | 0.00 | 50.00 | 504 | -58  | -70  | -69  | -57  | MG | 0.00 | 0.00 | 50.00 |

## Analisi dei carichi da neve

## Risultati del calcolo

### Parametri di calcolo

La modellazione della struttura e la rielaborazione dei risultati del calcolo sono stati effettuati con:  
ModeSt ver. 8.22, prodotto da Tecnisoft s.a.s. - Prato

La struttura è stata calcolata utilizzando come solutore agli elementi finiti:  
Xfinest ver. 2014, prodotto da Ce.A.S. S.r.l. - Milano

Tipo di normativa: stati limite D.M. 18  
Tipo di calcolo: analisi sismica statica  
Vincoli esterni: Considera sempre vincoli assegnati in modellazione  
Schematizzazione piani rigidi: metodo Master-Slave  
Modalità di recupero masse secondarie: trasferire le masse  
- All'impalcato più vicino in assoluto: No  
- Anche sui nodi degli impalcati non rigidi: No  
- Modificare coordinate baricentro impalcati rigidi: XY

### Generazione combinazioni

- Lineari: Sì  
- Valuta spostamenti e non sollecitazioni: No  
- Buckling: No

## Relazione di calcolo

### Opzioni di calcolo

- Sono state considerate infinitamente rigide le zone di connessione fra travi, pilastri ed elementi bidimensionali con una riduzione del 20%
- Calcolo con offset rigidi dai nodi: No
- Uniformare i carichi variabili: No
- Massimizzare i carichi variabili: No
- Recupero carichi zone rigide: taglio e momento flettente
- Modalità di combinazione momento torcente: disaccoppiare le azioni

### Opzioni del solutore

- Tipo di elemento bidimensionale: QF46
- Calcolo sforzo nei nodi: No
- Trascura deformabilità a taglio delle aste: No
- Analisi dinamica con metodo di Lanczos: Sì
- Check sequenza di Sturm: Sì
- Analisi non lineare con Newton modificato: No
- Usa formulazione secante per buckling: No
- Trascura buckling torsionale: No

### Dati struttura

- Sito di costruzione: Contrada Argentone, Erchie, BR 72020, 72020 Erchie BR, Italia LON. 17.75470 LAT. 40.40000
- Contenuto tra ID reticolo: 34808 35030 34807 35029

### Simbologia

TCC=Tipo di combinazione di carico

SLU = Stato limite ultimo

SLU S = Stato limite ultimo (azione sismica)

SLE R = Stato limite d'esercizio, combinazione rara

SLE F = Stato limite d'esercizio, combinazione frequente

SLE Q = Stato limite d'esercizio, combinazione quasi permanente

SLD = Stato limite di danno

SLV = Stato limite di salvaguardia della vita

SLC = Stato limite di prevenzione del collasso

SLO = Stato limite di operatività

SLU I = Stato limite di resistenza al fuoco

SND = Stato limite di salvaguardia della vita (non dissipativo)

T<sub>R</sub> =Periodo di ritorno <anni>

A<sub>g</sub> =Accelerazione orizzontale massima al sito

F<sub>o</sub> =Valore massimo del fattore di amplificazione dello spettro in accelerazione orizzontale

T<sub>c</sub>\*=Periodo di inizio del tratto a velocità costante dello spettro in accelerazione orizzontale <sec>

S<sub>s</sub> =Coefficiente di amplificazione stratigrafica

C<sub>c</sub> =Coefficiente funzione della categoria del suolo

| TCC | T <sub>R</sub> | A <sub>g</sub><br><g> | F <sub>o</sub> | T <sub>c</sub> * | S <sub>s</sub> | C <sub>c</sub> |
|-----|----------------|-----------------------|----------------|------------------|----------------|----------------|
| SLD | 201            | 0.0391                | 2.51           | 0.39             | 1.00           | 1.00           |
| SLV | 1898           | 0.0700                | 2.92           | 0.52             | 1.00           | 1.00           |

- Edificio esistente: No
- Tipo di opera: Opera ordinaria
- Vita nominale V<sub>N</sub>: 100.00
- Classe d'uso: Classe IV
- SL Esercizio: SLOPvr No, SLDPvr 63.00
- SL Ultimi: SLVPvr 10.00, SLCPvr No
- Struttura dissipativa: No
- Quota di riferimento: -1.50 <m>
- Quota max della struttura: 3.55 <m>
- Altezza della struttura: 5.05 <m>
- Numero piani edificio: 2
- Coefficiente 0: 0.00
- Edificio regolare in altezza: Sì
- Edificio regolare in pianta: Sì
- Forze orizzontali convenzionali per stati limite non sismici: No
- Genera stati limite per verifiche di resistenza al fuoco: No

### Dati di piano

#### Simbologia

Imp.=Numero dell'impalcato

L<sub>x</sub> =Dimensione del piano in dir. X

L<sub>y</sub> =Dimensione del piano in dir. Y

E<sub>x</sub> =Eccentricità in dir. X

E<sub>y</sub> =Eccentricità in dir. Y

E<sub>a</sub> =Eccentricità complessiva

| Imp. | L <sub>x</sub><br><m> | L <sub>y</sub><br><m> | E <sub>x</sub><br><m> | E <sub>y</sub><br><m> | E <sub>a</sub><br><m> |
|------|-----------------------|-----------------------|-----------------------|-----------------------|-----------------------|
|------|-----------------------|-----------------------|-----------------------|-----------------------|-----------------------|

## Relazione di calcolo

|   |       |      |      |      |      |
|---|-------|------|------|------|------|
| 1 | 0.00  | 0.00 | 0.00 | 0.00 | 0.00 |
| 2 | 31.50 | 6.25 | 1.58 | 0.31 | 1.61 |

### Dati di calcolo

- Categoria del suolo di fondazione: A
- Tipologia strutturale: c.a. o prefabbricata a telaio a più piani e più campate

|                                                              |         |
|--------------------------------------------------------------|---------|
| Periodo $T_1$                                                | 0.25266 |
| Coeff. $\lambda$ SLD                                         | 1.00    |
| Coeff. $\lambda$ SLV                                         | 1.00    |
| Rapporto di sovraresistenza ( $\alpha_0/\alpha_1$ )          | 1.30    |
| Valore di riferimento del fattore di comportamento ( $q_0$ ) | 3.90    |
| Fattore riduttivo ( $K_w$ )                                  | 1.00    |
| Fattore riduttivo regolarità in altezza ( $K_R$ )            | 1.00    |
| Fattore di comportamento dissipativo ( $q$ )                 | 3.90    |
| Fattore di comportamento non dissipativo ( $q_{ND}$ )        | 1.50    |
| Fattore di comportamento per SLD ( $q_D$ )                   | 1.50    |

- Categoria topografica: T1 - Superficie pianeggiante, pendii e rilievi isolati con inclinazione media  $i \leq 15^\circ$
- Coeff. amplificazione topografica  $S_T$ : 1.00
- Accelerazione di picco del terreno  $A_g$ : 0.07 <g>
- Applica semplificazioni per bassa sismicità: No
- Fattore di comportamento per sisma verticale ( $q_v$ ): 1.50
- Smorzamento spettro: 5.00%

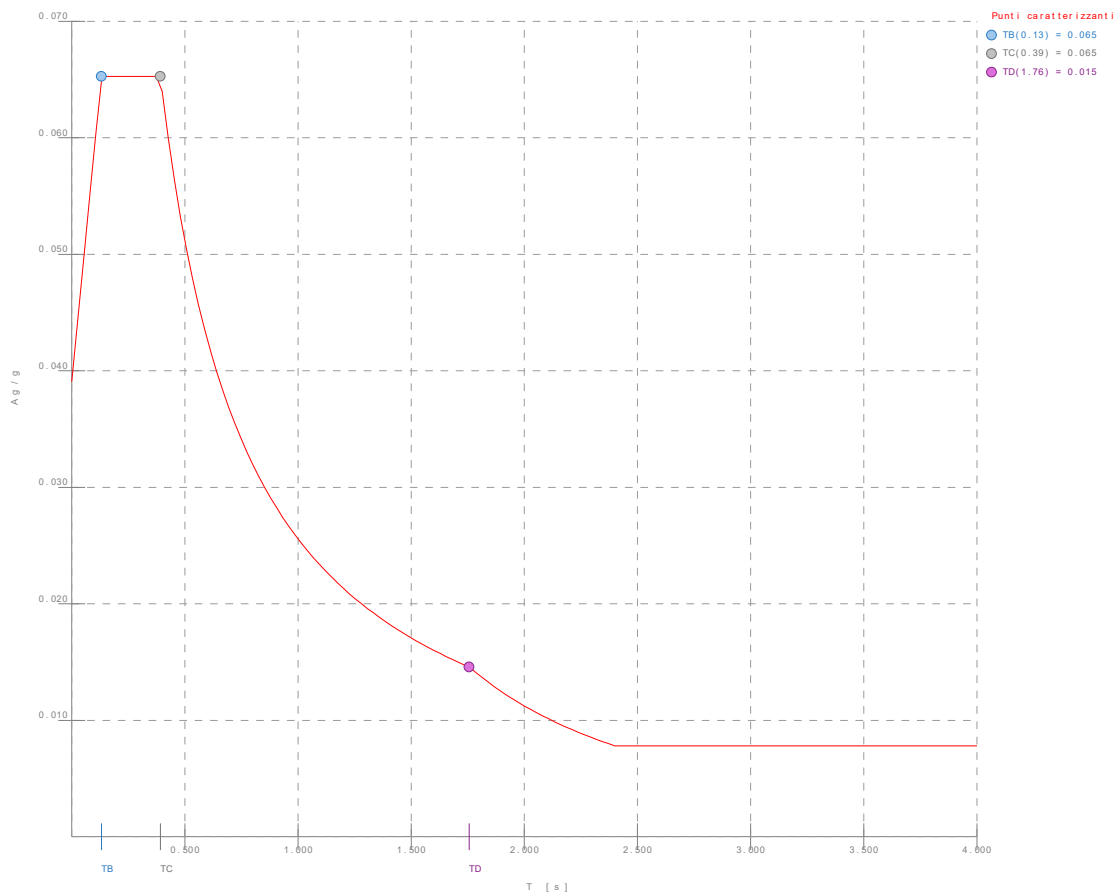


**Figura numero 1: Spettro SLD**

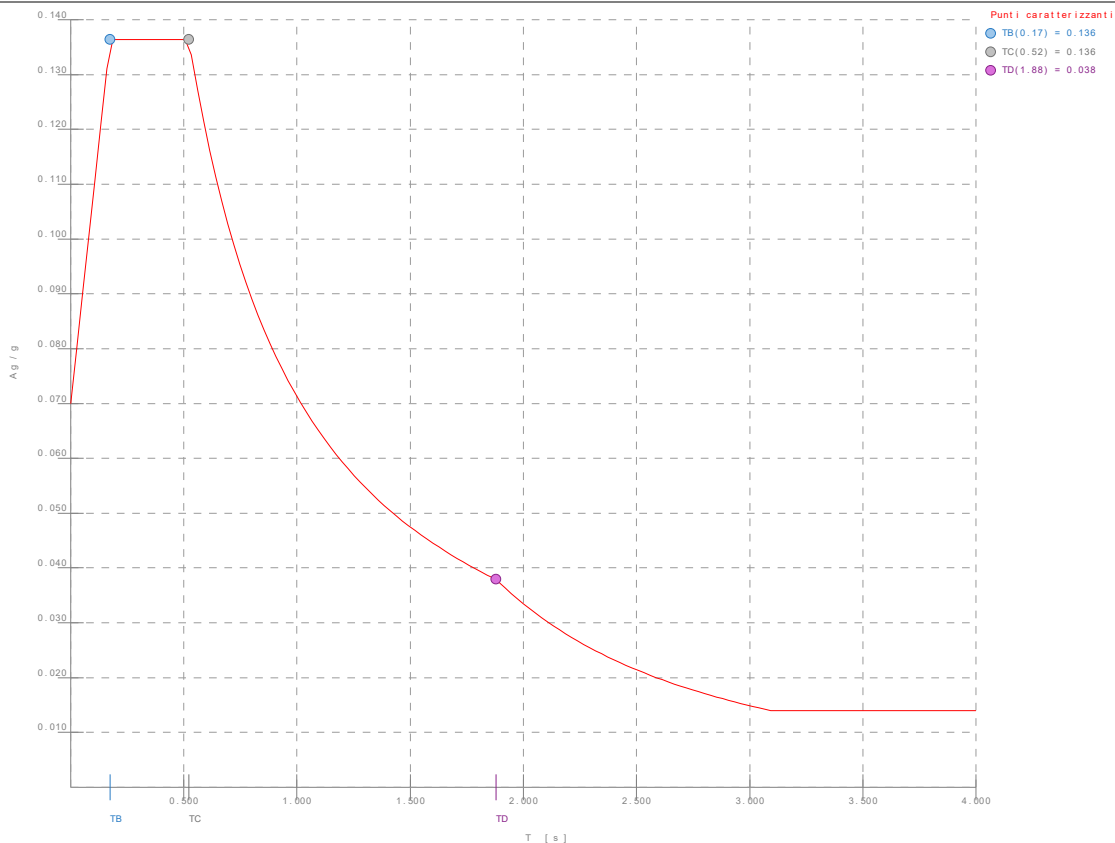


Figura numero 2: Spettro SND

- Angolo di ingresso del sisma: 0.00 <grad>
- Tipo di combinazione sismica: 30% esteso

### Ambienti di carico

#### Simbologia

N = Numero

Comm. = Commento

1=peso proprio

2=strutturale solaio

3=permanente solaio

4=variabile solaio

5=neve

6=tamponature

7=variabile pavimento

F = azioni orizzontali convenzionali

SLU = Stato limite ultimo

SLR = Stato limite per combinazioni rare

SLF = Stato limite per combinazioni frequenti

SLQ/D = Stato limite per combinazioni quasi permanenti o di danno

S = Si

N = No

| N | Comm.           | 1 | 2 | 3 | 4 | 5 | 6 | 7 | S | SLU | SLR | SLF | SLQ |
|---|-----------------|---|---|---|---|---|---|---|---|-----|-----|-----|-----|
| 1 | Calcolo sismico | S | S | S | S | S | S | S | S | S   | N   | N   | N   |
| 2 | Calcolo statico | S | S | S | S | S | S | S | N | S   | S   | S   | S   |

### Elenco combinazioni di carico simboliche

#### Simbologia

CC = Numero della combinazione delle condizioni di carico elementari

Comm. = Commento

TCC = Tipo di combinazione di carico

SLU = Stato limite ultimo

SLU S = Stato limite ultimo (azione sismica)

SLE R = Stato limite d'esercizio, combinazione rara

SLE F = Stato limite d'esercizio, combinazione frequente

SLE Q = Stato limite d'esercizio, combinazione quasi permanente

SLD = Stato limite di danno

SLV = Stato limite di salvaguardia della vita

SLC = Stato limite di prevenzione del collasso

SLO = Stato limite di operatività

SLU I = Stato limite di resistenza al fuoco

## Relazione di calcolo

SND = Stato limite di salvaguardia della vita (non dissipativo)

| CC | Comm.          | TCC   | 1            | 2            | 3            | 4            | 5            | 6            | 7            | S     |
|----|----------------|-------|--------------|--------------|--------------|--------------|--------------|--------------|--------------|-------|
| 1  | Amb. 1 (Sisma) | SLU S | 1            | 1            | 1            | $\Psi_2$     | $\Psi_2$     | 1            | $\Psi_2$     | 1     |
| 2  | Amb. 2 (SLU)   | SLU   | $\gamma$ max | $\gamma$ max | $\gamma$ max | $\gamma$ max | $\gamma$ max | $\gamma$ max | $\gamma$ max | ----- |
| 3  | Amb. 2 (SLE R) | SLE R | 1            | 1            | 1            | 1            | 1            | 1            | 1            | ----- |
| 4  | Amb. 2 (SLE F) | SLE F | 1            | 1            | 1            | $\Psi_1$     | $\Psi_1$     | 1            | $\Psi_1$     | ----- |
| 5  | Amb. 2 (SLE Q) | SLE Q | 1            | 1            | 1            | $\Psi_2$     | $\Psi_2$     | 1            | $\Psi_2$     | ----- |

Genera le combinazioni con un solo carico di tipo variabile come di base: No

Considera sollecitazioni dinamiche con segno dei modi principali: No

### Combinazioni delle CCE

#### Simbologia

CC = Numero della combinazione delle condizioni di carico elementari

Comm. = Commento

TCC = Tipo di combinazione di carico

SLU = Stato limite ultimo

SLU S = Stato limite ultimo (azione sismica)

SLE R = Stato limite d'esercizio, combinazione rara

SLE F = Stato limite d'esercizio, combinazione frequente

SLE Q = Stato limite d'esercizio, combinazione quasi permanente

SLD = Stato limite di danno

SLV = Stato limite di salvaguardia della vita

SLC = Stato limite di prevenzione del collasso

SLO = Stato limite di operatività

SLU I = Stato limite di resistenza al fuoco

SND = Stato limite di salvaguardia della vita (non dissipativo)

An. = Tipo di analisi

L = Lineare

NL = Non lineare

Bk = Buckling

S = Sì

N = No

| CC | Comm.                       | TCC   | An. | Bk | 1    | 2    | 3    | 4    | 5    | 6    | 7    | Mt    | S X   | S Y   |
|----|-----------------------------|-------|-----|----|------|------|------|------|------|------|------|-------|-------|-------|
| 1  | Amb. 1 (SLU S) S Mt+X+0.3Y  | SND   | L   | N  | 1.00 | 1.00 | 1.00 | 0.00 | 0.00 | 1.00 | 0.80 | 1.00  | 1.00  | 0.30  |
| 2  | Amb. 1 (SLE) S Mt+X+0.3Y    | SLD   | L   | N  | 1.00 | 1.00 | 1.00 | 0.00 | 0.00 | 1.00 | 0.80 | 1.00  | 1.00  | 0.30  |
| 3  | Amb. 1 (SLU S) S Mt+X-0.3Y  | SND   | L   | N  | 1.00 | 1.00 | 1.00 | 0.00 | 0.00 | 1.00 | 0.80 | 1.00  | 1.00  | -0.30 |
| 4  | Amb. 1 (SLE) S Mt+X-0.3Y    | SLD   | L   | N  | 1.00 | 1.00 | 1.00 | 0.00 | 0.00 | 1.00 | 0.80 | 1.00  | 1.00  | -0.30 |
| 5  | Amb. 1 (SLU S) S Mt-X+0.3Y  | SND   | L   | N  | 1.00 | 1.00 | 1.00 | 0.00 | 0.00 | 1.00 | 0.80 | 1.00  | -1.00 | 0.30  |
| 6  | Amb. 1 (SLE) S Mt-X+0.3Y    | SLD   | L   | N  | 1.00 | 1.00 | 1.00 | 0.00 | 0.00 | 1.00 | 0.80 | 1.00  | -1.00 | 0.30  |
| 7  | Amb. 1 (SLU S) S Mt-X-0.3Y  | SND   | L   | N  | 1.00 | 1.00 | 1.00 | 0.00 | 0.00 | 1.00 | 0.80 | 1.00  | -1.00 | -0.30 |
| 8  | Amb. 1 (SLE) S Mt-X-0.3Y    | SLD   | L   | N  | 1.00 | 1.00 | 1.00 | 0.00 | 0.00 | 1.00 | 0.80 | 1.00  | -1.00 | -0.30 |
| 9  | Amb. 1 (SLU S) S Mt+0.3X+Y  | SND   | L   | N  | 1.00 | 1.00 | 1.00 | 0.00 | 0.00 | 1.00 | 0.80 | 1.00  | 0.30  | 1.00  |
| 10 | Amb. 1 (SLE) S Mt+0.3X+Y    | SLD   | L   | N  | 1.00 | 1.00 | 1.00 | 0.00 | 0.00 | 1.00 | 0.80 | 1.00  | 0.30  | 1.00  |
| 11 | Amb. 1 (SLU S) S Mt-0.3X+Y  | SND   | L   | N  | 1.00 | 1.00 | 1.00 | 0.00 | 0.00 | 1.00 | 0.80 | 1.00  | -0.30 | 1.00  |
| 12 | Amb. 1 (SLE) S Mt-0.3X+Y    | SLD   | L   | N  | 1.00 | 1.00 | 1.00 | 0.00 | 0.00 | 1.00 | 0.80 | 1.00  | -0.30 | 1.00  |
| 13 | Amb. 1 (SLU S) S Mt+0.3X-Y  | SND   | L   | N  | 1.00 | 1.00 | 1.00 | 0.00 | 0.00 | 1.00 | 0.80 | 1.00  | 0.30  | -1.00 |
| 14 | Amb. 1 (SLE) S Mt+0.3X-Y    | SLD   | L   | N  | 1.00 | 1.00 | 1.00 | 0.00 | 0.00 | 1.00 | 0.80 | 1.00  | 0.30  | -1.00 |
| 15 | Amb. 1 (SLU S) S Mt-0.3X-Y  | SND   | L   | N  | 1.00 | 1.00 | 1.00 | 0.00 | 0.00 | 1.00 | 0.80 | 1.00  | -0.30 | -1.00 |
| 16 | Amb. 1 (SLE) S Mt-0.3X-Y    | SLD   | L   | N  | 1.00 | 1.00 | 1.00 | 0.00 | 0.00 | 1.00 | 0.80 | 1.00  | -0.30 | -1.00 |
| 17 | Amb. 1 (SLU S) S -Mt+X+0.3Y | SND   | L   | N  | 1.00 | 1.00 | 1.00 | 0.00 | 0.00 | 1.00 | 0.80 | -1.00 | 1.00  | 0.30  |
| 18 | Amb. 1 (SLE) S -Mt+X+0.3Y   | SLD   | L   | N  | 1.00 | 1.00 | 1.00 | 0.00 | 0.00 | 1.00 | 0.80 | -1.00 | 1.00  | 0.30  |
| 19 | Amb. 1 (SLU S) S -Mt+X-0.3Y | SND   | L   | N  | 1.00 | 1.00 | 1.00 | 0.00 | 0.00 | 1.00 | 0.80 | -1.00 | 1.00  | -0.30 |
| 20 | Amb. 1 (SLE) S -Mt+X-0.3Y   | SLD   | L   | N  | 1.00 | 1.00 | 1.00 | 0.00 | 0.00 | 1.00 | 0.80 | -1.00 | 1.00  | -0.30 |
| 21 | Amb. 1 (SLU S) S -Mt-X+0.3Y | SND   | L   | N  | 1.00 | 1.00 | 1.00 | 0.00 | 0.00 | 1.00 | 0.80 | -1.00 | -1.00 | 0.30  |
| 22 | Amb. 1 (SLE) S -Mt-X+0.3Y   | SLD   | L   | N  | 1.00 | 1.00 | 1.00 | 0.00 | 0.00 | 1.00 | 0.80 | -1.00 | -1.00 | 0.30  |
| 23 | Amb. 1 (SLU S) S -Mt-X-0.3Y | SND   | L   | N  | 1.00 | 1.00 | 1.00 | 0.00 | 0.00 | 1.00 | 0.80 | -1.00 | -1.00 | -0.30 |
| 24 | Amb. 1 (SLE) S -Mt-X-0.3Y   | SLD   | L   | N  | 1.00 | 1.00 | 1.00 | 0.00 | 0.00 | 1.00 | 0.80 | -1.00 | -1.00 | -0.30 |
| 25 | Amb. 1 (SLU S) S -Mt+0.3X+Y | SND   | L   | N  | 1.00 | 1.00 | 1.00 | 0.00 | 0.00 | 1.00 | 0.80 | -1.00 | 0.30  | 1.00  |
| 26 | Amb. 1 (SLE) S -Mt+0.3X+Y   | SLD   | L   | N  | 1.00 | 1.00 | 1.00 | 0.00 | 0.00 | 1.00 | 0.80 | -1.00 | 0.30  | 1.00  |
| 27 | Amb. 1 (SLU S) S -Mt-0.3X+Y | SND   | L   | N  | 1.00 | 1.00 | 1.00 | 0.00 | 0.00 | 1.00 | 0.80 | -1.00 | -0.30 | 1.00  |
| 28 | Amb. 1 (SLE) S -Mt-0.3X+Y   | SLD   | L   | N  | 1.00 | 1.00 | 1.00 | 0.00 | 0.00 | 1.00 | 0.80 | -1.00 | -0.30 | 1.00  |
| 29 | Amb. 1 (SLU S) S -Mt+0.3X-Y | SND   | L   | N  | 1.00 | 1.00 | 1.00 | 0.00 | 0.00 | 1.00 | 0.80 | -1.00 | 0.30  | -1.00 |
| 30 | Amb. 1 (SLE) S -Mt+0.3X-Y   | SLD   | L   | N  | 1.00 | 1.00 | 1.00 | 0.00 | 0.00 | 1.00 | 0.80 | -1.00 | 0.30  | -1.00 |
| 31 | Amb. 1 (SLU S) S -Mt-0.3X-Y | SND   | L   | N  | 1.00 | 1.00 | 1.00 | 0.00 | 0.00 | 1.00 | 0.80 | -1.00 | -0.30 | -1.00 |
| 32 | Amb. 1 (SLE) S -Mt-0.3X-Y   | SLD   | L   | N  | 1.00 | 1.00 | 1.00 | 0.00 | 0.00 | 1.00 | 0.80 | -1.00 | -0.30 | -1.00 |
| 33 | Amb. 2 (SLU)                | SLU   | L   | N  | 1.30 | 1.30 | 1.50 | 1.50 | 1.50 | 1.50 | 1.50 | 0.00  | 0.00  | 0.00  |
| 34 | Amb. 2 (SLE R)              | SLE R | L   | N  | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 0.00  | 0.00  | 0.00  |
| 35 | Amb. 2 (SLE F)              | SLE F | L   | N  | 1.00 | 1.00 | 1.00 | 0.00 | 0.20 | 1.00 | 0.90 | 0.00  | 0.00  | 0.00  |
| 36 | Amb. 2 (SLE Q)              | SLE Q | L   | N  | 1.00 | 1.00 | 1.00 | 0.00 | 0.00 | 1.00 | 0.80 | 0.00  | 0.00  | 0.00  |

### Elenco baricentri e masse impalcanti

#### Simbologia

Imp. = Numero dell'impalcato

## Relazione di calcolo

X = Coordinata X  
Y = Coordinata Y  
Z = Coordinata Z  
Mo = Massa orizzontale  
Jpz = Massa rotazionale intorno all'asse Z

| Imp. | X<br><m> | Y<br><m> | Z<br><m> | Mo<br><kg> | Jpz<br><kg*mq> |
|------|----------|----------|----------|------------|----------------|
| 2    | 17.45    | 2.66     | 3.55     | 231733.00  | 17602700.00    |

### Totali masse impalcanti

| Mo<br><kg> | Jpz<br><kg*mq> |
|------------|----------------|
| 231733.00  | 17602700.00    |

### Elenco forze sismiche di impalcato allo SLD

#### Simbologia

Imp. = Numero dell'impalcato  
cx = Coeff. c in dir. X  
cy = Coeff. c in dir. Y  
Fx = Forza in dir. X  
Fy = Forza in dir. Y  
Mz = Momento intorno all'asse Z

| Imp. | cx   | cy   | Fx<br><daN> | Fy<br><daN> | Mz<br><daNm> |
|------|------|------|-------------|-------------|--------------|
| 2    | 1.00 | 1.00 | 14833.80    | 14833.80    | 23819.90     |

### Totali forze sismiche

| Fx<br><daN> | Fy<br><daN> | Mz<br><daNm> |
|-------------|-------------|--------------|
| 14833.80    | 14833.80    | 23819.90     |

### Elenco forze sismiche di impalcato allo SND

| Imp. | cx   | cy   | Fx<br><daN> | Fy<br><daN> | Mz<br><daNm> |
|------|------|------|-------------|-------------|--------------|
| 2    | 1.00 | 1.00 | 31009.30    | 31009.30    | 49794.30     |

### Totali forze sismiche

| Fx<br><daN> | Fy<br><daN> | Mz<br><daNm> |
|-------------|-------------|--------------|
| 31009.30    | 31009.30    | 49794.30     |

### Domanda in duttilità di curvatura

Direzione X  $\mu_{EdX}=15.78$

Direzione Y  $\mu_{EdY}=15.78$

## Spostamenti dei nodi

#### Simbologia

Nodo = Numero del nodo  
Sx = Spostamento in dir. X  
CC = Numero della combinazione delle condizioni di carico elementari  
TCC = Tipo di combinazione di carico  
SLU = Stato limite ultimo  
SLU S = Stato limite ultimo (azione sismica)  
SLE R = Stato limite d'esercizio, combinazione rara  
SLE F = Stato limite d'esercizio, combinazione frequente  
SLE Q = Stato limite d'esercizio, combinazione quasi permanente  
SLD = Stato limite di danno  
SLV = Stato limite di salvaguardia della vita  
SLC = Stato limite di prevenzione del collasso  
SLO = Stato limite di operatività  
SLU I = Stato limite di resistenza al fuoco  
SND = Stato limite di salvaguardia della vita (non dissipativo)  
Sy = Spostamento in dir. Y  
Sz = Spostamento in dir. Z  
Rx = Rotazione intorno all'asse X  
Ry = Rotazione intorno all'asse Y  
Rz = Rotazione intorno all'asse Z

I valori degli spostamenti nodali per CC di tipo sismico sono amplificati come da normativa

| Nodo |     | Sx<br><cm> | CC | TCC | Sy<br><cm> | CC | TCC | Sz<br><cm> | CC | TCC | Rx<br><rad> | CC | TCC | Ry<br><rad> | CC | TCC | Rz<br><rad> | CC | TCC |
|------|-----|------------|----|-----|------------|----|-----|------------|----|-----|-------------|----|-----|-------------|----|-----|-------------|----|-----|
| -400 | Max | 0.00       | 1  | SND | 0.00       | 1  | SND | 0.02       | 23 | SND | 0.00        | 29 | SND | 0.00        | 17 | SND | 0.00        | 1  | SND |

# Relazione di calcolo

|          |      |      |      |      |       |       |      |       |      |       |      |      |
|----------|------|------|------|------|-------|-------|------|-------|------|-------|------|------|
| -400Min. | 0.00 | 1SND | 0.00 | 1SND | -0.03 | 1SND  | 0.00 | 11SND | 0.00 | 7SND  | 0.00 | 1SND |
| -399Max  | 0.00 | 1SND | 0.00 | 1SND | 0.01  | 31SND | 0.00 | 19SND | 0.00 | 1SND  | 0.00 | 1SND |
| -399Min. | 0.00 | 1SND | 0.00 | 1SND | -0.02 | 9SND  | 0.00 | 5SND  | 0.00 | 23SND | 0.00 | 1SND |
| -398Max  | 0.00 | 1SND | 0.00 | 1SND | 0.01  | 29SND | 0.00 | 31SND | 0.00 | 9SND  | 0.00 | 1SND |
| -398Min. | 0.00 | 1SND | 0.00 | 1SND | -0.01 | 11SND | 0.00 | 9SND  | 0.00 | 31SND | 0.00 | 1SND |
| -397Max  | 0.00 | 1SND | 0.00 | 1SND | 0.00  | 19SND | 0.00 | 19SND | 0.00 | 5SND  | 0.00 | 1SND |
| -397Min. | 0.00 | 1SND | 0.00 | 1SND | -0.00 | 5SND  | 0.00 | 5SND  | 0.00 | 19SND | 0.00 | 1SND |
| -396Max  | 0.00 | 1SND | 0.00 | 1SND | 0.00  | 7SND  | 0.00 | 31SND | 0.00 | 23SND | 0.00 | 1SND |
| -396Min. | 0.00 | 1SND | 0.00 | 1SND | -0.00 | 17SND | 0.00 | 9SND  | 0.00 | 1SND  | 0.00 | 1SND |
| -395Max  | 0.00 | 1SND | 0.00 | 1SND | 0.00  | 31SND | 0.00 | 29SND | 0.00 | 29SND | 0.00 | 1SND |
| -395Min. | 0.00 | 1SND | 0.00 | 1SND | -0.01 | 9SND  | 0.00 | 11SND | 0.00 | 11SND | 0.00 | 1SND |
| -394Max  | 0.00 | 1SND | 0.00 | 1SND | 0.00  | 29SND | 0.00 | 33SLU | 0.00 | 17SND | 0.00 | 1SND |
| -394Min. | 0.00 | 1SND | 0.00 | 1SND | -0.01 | 11SND | 0.00 | 9SND  | 0.00 | 7SND  | 0.00 | 1SND |
| -393Max  | 0.00 | 1SND | 0.00 | 1SND | 0.00  | 19SND | 0.00 | 31SND | 0.00 | 11SND | 0.00 | 1SND |
| -393Min. | 0.00 | 1SND | 0.00 | 1SND | -0.01 | 5SND  | 0.00 | 9SND  | 0.00 | 29SND | 0.00 | 1SND |
| -392Max  | 0.00 | 1SND | 0.00 | 1SND | 0.00  | 11SND | 0.00 | 9SND  | 0.00 | 7SND  | 0.00 | 1SND |
| -392Min. | 0.00 | 1SND | 0.00 | 1SND | 0.00  | 29SND | 0.00 | 31SND | 0.00 | 17SND | 0.00 | 1SND |
| -391Max  | 0.00 | 1SND | 0.00 | 1SND | 0.00  | 31SND | 0.00 | 29SND | 0.00 | 29SND | 0.00 | 1SND |
| -391Min. | 0.00 | 1SND | 0.00 | 1SND | -0.01 | 9SND  | 0.00 | 11SND | 0.00 | 11SND | 0.00 | 1SND |
| -390Max  | 0.00 | 1SND | 0.00 | 1SND | 0.00  | 31SND | 0.00 | 33SLU | 0.00 | 17SND | 0.00 | 1SND |
| -390Min. | 0.00 | 1SND | 0.00 | 1SND | -0.01 | 9SND  | 0.00 | 11SND | 0.00 | 7SND  | 0.00 | 1SND |
| -389Max  | 0.00 | 1SND | 0.00 | 1SND | 0.00  | 29SND | 0.00 | 31SND | 0.00 | 11SND | 0.00 | 1SND |
| -389Min. | 0.00 | 1SND | 0.00 | 1SND | -0.01 | 11SND | 0.00 | 9SND  | 0.00 | 29SND | 0.00 | 1SND |
| -388Max  | 0.00 | 1SND | 0.00 | 1SND | 0.00  | 9SND  | 0.00 | 17SND | 0.00 | 7SND  | 0.00 | 1SND |
| -388Min. | 0.00 | 1SND | 0.00 | 1SND | 0.00  | 31SND | 0.00 | 7SND  | 0.00 | 17SND | 0.00 | 1SND |
| -387Max  | 0.00 | 1SND | 0.00 | 1SND | 0.00  | 7SND  | 0.00 | 7SND  | 0.00 | 7SND  | 0.00 | 1SND |
| -387Min. | 0.00 | 1SND | 0.00 | 1SND | -0.00 | 17SND | 0.00 | 17SND | 0.00 | 17SND | 0.00 | 1SND |
| -386Max  | 0.00 | 1SND | 0.00 | 1SND | 0.00  | 15SND | 0.00 | 29SND | 0.00 | 29SND | 0.00 | 1SND |
| -386Min. | 0.00 | 1SND | 0.00 | 1SND | -0.01 | 25SND | 0.00 | 11SND | 0.00 | 11SND | 0.00 | 1SND |
| -385Max  | 0.00 | 1SND | 0.00 | 1SND | 0.00  | 13SND | 0.00 | 33SLU | 0.00 | 17SND | 0.00 | 1SND |
| -385Min. | 0.00 | 1SND | 0.00 | 1SND | -0.01 | 27SND | 0.00 | 25SND | 0.00 | 7SND  | 0.00 | 1SND |
| -384Max  | 0.00 | 1SND | 0.00 | 1SND | 0.00  | 19SND | 0.00 | 15SND | 0.00 | 11SND | 0.00 | 1SND |
| -384Min. | 0.00 | 1SND | 0.00 | 1SND | -0.01 | 5SND  | 0.00 | 25SND | 0.00 | 29SND | 0.00 | 1SND |
| -383Max  | 0.00 | 1SND | 0.00 | 1SND | 0.00  | 17SND | 0.00 | 33SLU | 0.00 | 5SND  | 0.00 | 1SND |
| -383Min. | 0.00 | 1SND | 0.00 | 1SND | -0.00 | 33SLU | 0.00 | 5SND  | 0.00 | 19SND | 0.00 | 1SND |
| -382Max  | 0.00 | 1SND | 0.00 | 1SND | 0.00  | 5SND  | 0.00 | 33SLU | 0.00 | 19SND | 0.00 | 1SND |
| -382Min. | 0.00 | 1SND | 0.00 | 1SND | -0.00 | 33SLU | 0.00 | 27SND | 0.00 | 5SND  | 0.00 | 1SND |
| -381Max  | 0.00 | 1SND | 0.00 | 1SND | 0.00  | 15SND | 0.00 | 15SND | 0.00 | 15SND | 0.00 | 1SND |
| -381Min. | 0.00 | 1SND | 0.00 | 1SND | -0.00 | 25SND | 0.00 | 25SND | 0.00 | 25SND | 0.00 | 1SND |
| -380Max  | 0.00 | 1SND | 0.00 | 1SND | 0.00  | 15SND | 0.00 | 15SND | 0.00 | 13SND | 0.00 | 1SND |
| -380Min. | 0.00 | 1SND | 0.00 | 1SND | -0.01 | 25SND | 0.00 | 25SND | 0.00 | 27SND | 0.00 | 1SND |
| -379Max  | 0.00 | 1SND | 0.00 | 1SND | 0.01  | 13SND | 0.00 | 15SND | 0.00 | 5SND  | 0.00 | 1SND |
| -379Min. | 0.00 | 1SND | 0.00 | 1SND | -0.01 | 27SND | 0.00 | 25SND | 0.00 | 19SND | 0.00 | 1SND |
| -378Max  | 0.00 | 1SND | 0.00 | 1SND | 0.00  | 13SND | 0.00 | 13SND | 0.00 | 27SND | 0.00 | 1SND |
| -378Min. | 0.00 | 1SND | 0.00 | 1SND | -0.00 | 27SND | 0.00 | 27SND | 0.00 | 13SND | 0.00 | 1SND |
| -377Max  | 0.00 | 1SND | 0.00 | 1SND | 0.00  | 27SND | 0.00 | 33SLU | 0.00 | 21SND | 0.00 | 1SND |
| -377Min. | 0.00 | 1SND | 0.00 | 1SND | -0.00 | 33SLU | 0.00 | 27SND | 0.00 | 3SND  | 0.00 | 1SND |
| -376Max  | 0.00 | 1SND | 0.00 | 1SND | 0.00  | 15SND | 0.00 | 33SLU | 0.00 | 7SND  | 0.00 | 1SND |
| -376Min. | 0.00 | 1SND | 0.00 | 1SND | -0.00 | 33SLU | 0.00 | 27SND | 0.00 | 17SND | 0.00 | 1SND |
| -375Max  | 0.00 | 1SND | 0.00 | 1SND | 0.00  | 15SND | 0.00 | 15SND | 0.00 | 13SND | 0.00 | 1SND |
| -375Min. | 0.00 | 1SND | 0.00 | 1SND | -0.00 | 25SND | 0.00 | 25SND | 0.00 | 27SND | 0.00 | 1SND |
| -374Max  | 0.00 | 1SND | 0.00 | 1SND | 0.01  | 15SND | 0.00 | 13SND | 0.00 | 7SND  | 0.00 | 1SND |
| -374Min. | 0.00 | 1SND | 0.00 | 1SND | -0.01 | 25SND | 0.00 | 27SND | 0.00 | 17SND | 0.00 | 1SND |
| -373Max  | 0.00 | 1SND | 0.00 | 1SND | 0.00  | 13SND | 0.00 | 13SND | 0.00 | 25SND | 0.00 | 1SND |
| -373Min. | 0.00 | 1SND | 0.00 | 1SND | -0.01 | 27SND | 0.00 | 27SND | 0.00 | 15SND | 0.00 | 1SND |
| -372Max  | 0.00 | 1SND | 0.00 | 1SND | 0.00  | 13SND | 0.00 | 13SND | 0.00 | 27SND | 0.00 | 1SND |
| -372Min. | 0.00 | 1SND | 0.00 | 1SND | -0.00 | 27SND | 0.00 | 27SND | 0.00 | 13SND | 0.00 | 1SND |
| -371Max  | 0.00 | 1SND | 0.00 | 1SND | 0.00  | 13SND | 0.00 | 13SND | 0.00 | 21SND | 0.00 | 1SND |
| -371Min. | 0.00 | 1SND | 0.00 | 1SND | -0.00 | 33SLU | 0.00 | 27SND | 0.00 | 3SND  | 0.00 | 1SND |
| -370Max  | 0.00 | 1SND | 0.00 | 1SND | 0.00  | 7SND  | 0.00 | 15SND | 0.00 | 7SND  | 0.00 | 1SND |
| -370Min. | 0.00 | 1SND | 0.00 | 1SND | -0.00 | 17SND | 0.00 | 25SND | 0.00 | 17SND | 0.00 | 1SND |
| -369Max  | 0.00 | 1SND | 0.00 | 1SND | 0.01  | 15SND | 0.00 | 13SND | 0.00 | 13SND | 0.00 | 1SND |
| -369Min. | 0.00 | 1SND | 0.00 | 1SND | -0.01 | 25SND | 0.00 | 27SND | 0.00 | 27SND | 0.00 | 1SND |
| -368Max  | 0.00 | 1SND | 0.00 | 1SND | 0.02  | 13SND | 0.00 | 15SND | 0.00 | 3SND  | 0.00 | 1SND |
| -368Min. | 0.00 | 1SND | 0.00 | 1SND | -0.03 | 27SND | 0.00 | 25SND | 0.00 | 21SND | 0.00 | 1SND |
| -367Max  | 0.00 | 1SND | 0.00 | 1SND | 0.03  | 13SND | 0.00 | 15SND | 0.00 | 19SND | 0.00 | 1SND |
| -367Min. | 0.00 | 1SND | 0.00 | 1SND | -0.04 | 27SND | 0.00 | 25SND | 0.00 | 5SND  | 0.00 | 1SND |
| -366Max  | 0.00 | 1SND | 0.00 | 1SND | 0.02  | 7SND  | 0.00 | 31SND | 0.00 | 17SND | 0.00 | 1SND |
| -366Min. | 0.00 | 1SND | 0.00 | 1SND | -0.03 | 17SND | 0.00 | 9SND  | 0.00 | 7SND  | 0.00 | 1SND |
| -365Max  | 0.00 | 1SND | 0.00 | 1SND | 0.00  | 19SND | 0.00 | 29SND | 0.00 | 5SND  | 0.00 | 1SND |
| -365Min. | 0.00 | 1SND | 0.00 | 1SND | -0.01 | 5SND  | 0.00 | 11SND | 0.00 | 19SND | 0.00 | 1SND |
| -364Max  | 0.00 | 1SND | 0.00 | 1SND | 0.00  | 17SND | 0.00 | 29SND | 0.00 | 5SND  | 0.00 | 1SND |
| -364Min. | 0.00 | 1SND | 0.00 | 1SND | -0.00 | 7SND  | 0.00 | 11SND | 0.00 | 19SND | 0.00 | 1SND |
| -363Max  | 0.00 | 1SND | 0.00 | 1SND | 0.00  | 5SND  | 0.00 | 31SND | 0.00 | 7SND  | 0.00 | 1SND |
| -363Min. | 0.00 | 1SND | 0.00 | 1SND | -0.00 | 33SLU | 0.00 | 9SND  | 0.00 | 17SND | 0.00 | 1SND |
| -362Max  | 0.00 | 1SND | 0.00 | 1SND | -0.00 | 7SND  | 0.00 | 31SND | 0.00 | 23SND | 0.00 | 1SND |
| -362Min. | 0.00 | 1SND | 0.00 | 1SND | -0.01 | 17SND | 0.00 | 9SND  | 0.00 | 1SND  | 0.00 | 1SND |
| -361Max  | 0.00 | 1SND | 0.00 | 1SND | 0.00  | 19SND | 0.00 | 17SND | 0.00 | 5SND  | 0.00 | 1SND |
| -361Min. | 0.00 | 1SND | 0.00 | 1SND | -0.01 | 5SND  | 0.00 | 7SND  | 0.00 | 19SND | 0.00 | 1SND |

# Relazione di calcolo

|      |      |      |       |      |       |       |       |      |       |      |       |      |       |
|------|------|------|-------|------|-------|-------|-------|------|-------|------|-------|------|-------|
| -360 | Max  | 0.00 | 1SND  | 0.00 | 1SND  | 0.00  | 11SND | 0.00 | 31SND | 0.00 | 17SND | 0.00 | 1SND  |
| -360 | Min. | 0.00 | 1SND  | 0.00 | 1SND  | 0.00  | 29SND | 0.00 | 9SND  | 0.00 | 7SND  | 0.00 | 1SND  |
| -359 | Max  | 0.00 | 1SND  | 0.00 | 1SND  | 0.00  | 7SND  | 0.00 | 5SND  | 0.00 | 7SND  | 0.00 | 1SND  |
| -359 | Min. | 0.00 | 1SND  | 0.00 | 1SND  | -0.00 | 17SND | 0.00 | 19SND | 0.00 | 17SND | 0.00 | 1SND  |
| -358 | Max  | 0.00 | 1SND  | 0.00 | 1SND  | 0.00  | 19SND | 0.00 | 19SND | 0.00 | 5SND  | 0.00 | 1SND  |
| -358 | Min. | 0.00 | 1SND  | 0.00 | 1SND  | -0.00 | 5SND  | 0.00 | 5SND  | 0.00 | 19SND | 0.00 | 1SND  |
| -357 | Max  | 0.00 | 1SND  | 0.00 | 1SND  | 0.00  | 5SND  | 0.00 | 29SND | 0.00 | 17SND | 0.00 | 1SND  |
| -357 | Min. | 0.00 | 1SND  | 0.00 | 1SND  | 0.00  | 19SND | 0.00 | 11SND | 0.00 | 7SND  | 0.00 | 1SND  |
| -356 | Max  | 0.00 | 1SND  | 0.00 | 1SND  | 0.00  | 5SND  | 0.00 | 15SND | 0.00 | 15SND | 0.00 | 1SND  |
| -356 | Min. | 0.00 | 1SND  | 0.00 | 1SND  | -0.00 | 33SLU | 0.00 | 25SND | 0.00 | 25SND | 0.00 | 1SND  |
| -355 | Max  | 0.00 | 1SND  | 0.00 | 1SND  | -0.00 | 7SND  | 0.00 | 15SND | 0.00 | 7SND  | 0.00 | 1SND  |
| -355 | Min. | 0.00 | 1SND  | 0.00 | 1SND  | -0.01 | 17SND | 0.00 | 25SND | 0.00 | 17SND | 0.00 | 1SND  |
| -354 | Max  | 0.00 | 1SND  | 0.00 | 1SND  | 0.00  | 19SND | 0.00 | 25SND | 0.00 | 5SND  | 0.00 | 1SND  |
| -354 | Min. | 0.00 | 1SND  | 0.00 | 1SND  | -0.00 | 5SND  | 0.00 | 15SND | 0.00 | 19SND | 0.00 | 1SND  |
| -353 | Max  | 0.00 | 27SND | 0.00 | 13SND | -0.00 | 27SND | 0.00 | 29SND | 0.00 | 11SND | 0.00 | 33SLU |
| -353 | Min. | 0.00 | 33SLU | 0.00 | 27SND | -0.00 | 33SLU | 0.00 | 11SND | 0.00 | 29SND | 0.00 | 25SND |
| -352 | Max  | 0.00 | 25SND | 0.00 | 27SND | -0.00 | 27SND | 0.00 | 33SLU | 0.00 | 5SND  | 0.00 | 13SND |
| -352 | Min. | 0.00 | 33SLU | 0.00 | 33SLU | -0.00 | 33SLU | 0.00 | 27SND | 0.00 | 19SND | 0.00 | 27SND |
| -351 | Max  | 0.00 | 27SND | 0.00 | 27SND | -0.00 | 27SND | 0.00 | 15SND | 0.00 | 19SND | 0.00 | 25SND |
| -351 | Min. | 0.00 | 33SLU | 0.00 | 13SND | -0.00 | 33SLU | 0.00 | 25SND | 0.00 | 5SND  | 0.00 | 15SND |
| -350 | Max  | 0.00 | 25SND | 0.00 | 13SND | -0.00 | 21SND | 0.00 | 15SND | 0.00 | 7SND  | 0.00 | 23SND |
| -350 | Min. | 0.00 | 33SLU | 0.00 | 27SND | -0.01 | 33SLU | 0.00 | 25SND | 0.00 | 17SND | 0.00 | 1SND  |
| -349 | Max  | 0.00 | 7SND  | 0.00 | 15SND | -0.00 | 25SND | 0.00 | 33SLU | 0.00 | 5SND  | 0.00 | 21SND |
| -349 | Min. | 0.00 | 17SND | 0.00 | 25SND | -0.01 | 33SLU | 0.00 | 27SND | 0.00 | 19SND | 0.00 | 3SND  |
| -348 | Max  | 0.00 | 7SND  | 0.00 | 25SND | -0.00 | 27SND | 0.00 | 33SLU | 0.00 | 17SND | 0.00 | 13SND |
| -348 | Min. | 0.00 | 17SND | 0.00 | 15SND | -0.01 | 33SLU | 0.00 | 27SND | 0.00 | 7SND  | 0.00 | 27SND |
| -347 | Max  | 0.00 | 21SND | 0.00 | 21SND | -0.00 | 25SND | 0.00 | 15SND | 0.00 | 19SND | 0.00 | 25SND |
| -347 | Min. | 0.00 | 3SND  | 0.00 | 3SND  | -0.01 | 33SLU | 0.00 | 25SND | 0.00 | 5SND  | 0.00 | 15SND |
| -346 | Max  | 0.00 | 7SND  | 0.00 | 13SND | -0.00 | 21SND | 0.00 | 33SLU | 0.00 | 7SND  | 0.00 | 7SND  |
| -346 | Min. | 0.00 | 17SND | 0.00 | 27SND | -0.01 | 33SLU | 0.00 | 25SND | 0.00 | 17SND | 0.00 | 17SND |
| -345 | Max  | 0.00 | 17SND | 0.00 | 27SND | -0.00 | 25SND | 0.00 | 13SND | 0.00 | 33SLU | 0.00 | 25SND |
| -345 | Min. | 0.00 | 7SND  | 0.00 | 13SND | -0.01 | 33SLU | 0.00 | 27SND | 0.00 | 3SND  | 0.00 | 15SND |
| -344 | Max  | 0.00 | 19SND | 0.00 | 15SND | -0.00 | 25SND | 0.00 | 13SND | 0.00 | 33SLU | 0.00 | 15SND |
| -344 | Min. | 0.00 | 5SND  | 0.00 | 25SND | -0.00 | 33SLU | 0.00 | 27SND | 0.00 | 7SND  | 0.00 | 25SND |
| -343 | Max  | 0.00 | 1SND  | 0.00 | 1SND  | -0.00 | 27SND | 0.00 | 13SND | 0.00 | 5SND  | 0.00 | 1SND  |
| -343 | Min. | 0.00 | 1SND  | 0.00 | 1SND  | -0.00 | 33SLU | 0.00 | 27SND | 0.00 | 19SND | 0.00 | 1SND  |
| -342 | Max  | 0.00 | 1SND  | 0.00 | 1SND  | 0.00  | 7SND  | 0.00 | 15SND | 0.00 | 7SND  | 0.00 | 1SND  |
| -342 | Min. | 0.00 | 1SND  | 0.00 | 1SND  | -0.00 | 17SND | 0.00 | 25SND | 0.00 | 17SND | 0.00 | 1SND  |
| -341 | Max  | 0.00 | 1SND  | 0.00 | 1SND  | 0.01  | 7SND  | 0.00 | 15SND | 0.00 | 7SND  | 0.00 | 1SND  |
| -341 | Min. | 0.00 | 1SND  | 0.00 | 1SND  | -0.01 | 17SND | 0.00 | 25SND | 0.00 | 17SND | 0.00 | 1SND  |
| -340 | Max  | 0.00 | 1SND  | 0.00 | 1SND  | 0.02  | 19SND | 0.00 | 13SND | 0.00 | 17SND | 0.00 | 1SND  |
| -340 | Min. | 0.00 | 1SND  | 0.00 | 1SND  | -0.03 | 5SND  | 0.00 | 27SND | 0.00 | 7SND  | 0.00 | 1SND  |
| -339 | Max  | 0.00 | 1SND  | 0.00 | 1SND  | 0.01  | 5SND  | 0.00 | 23SND | 0.00 | 17SND | 0.00 | 1SND  |
| -339 | Min. | 0.00 | 1SND  | 0.00 | 1SND  | -0.02 | 19SND | 0.00 | 1SND  | 0.00 | 7SND  | 0.00 | 1SND  |
| -338 | Max  | 0.00 | 1SND  | 0.00 | 1SND  | 0.00  | 11SND | 0.00 | 5SND  | 0.00 | 19SND | 0.00 | 1SND  |
| -338 | Min. | 0.00 | 1SND  | 0.00 | 1SND  | -0.01 | 29SND | 0.00 | 19SND | 0.00 | 5SND  | 0.00 | 1SND  |
| -337 | Max  | 0.00 | 1SND  | 0.00 | 1SND  | 0.00  | 1SND  | 0.00 | 19SND | 0.00 | 19SND | 0.00 | 1SND  |
| -337 | Min. | 0.00 | 1SND  | 0.00 | 1SND  | -0.01 | 23SND | 0.00 | 5SND  | 0.00 | 5SND  | 0.00 | 1SND  |
| -336 | Max  | 0.00 | 1SND  | 0.00 | 1SND  | 0.00  | 17SND | 0.00 | 17SND | 0.00 | 7SND  | 0.00 | 1SND  |
| -336 | Min. | 0.00 | 1SND  | 0.00 | 1SND  | -0.00 | 7SND  | 0.00 | 7SND  | 0.00 | 17SND | 0.00 | 1SND  |
| -335 | Max  | 0.00 | 1SND  | 0.00 | 1SND  | 0.00  | 5SND  | 0.00 | 5SND  | 0.00 | 7SND  | 0.00 | 1SND  |
| -335 | Min. | 0.00 | 1SND  | 0.00 | 1SND  | -0.00 | 19SND | 0.00 | 33SLU | 0.00 | 17SND | 0.00 | 1SND  |
| -334 | Max  | 0.00 | 1SND  | 0.00 | 1SND  | -0.00 | 5SND  | 0.00 | 31SND | 0.00 | 9SND  | 0.00 | 1SND  |
| -334 | Min. | 0.00 | 1SND  | 0.00 | 1SND  | -0.00 | 33SLU | 0.00 | 9SND  | 0.00 | 31SND | 0.00 | 1SND  |
| -333 | Max  | 0.00 | 1SND  | 0.00 | 1SND  | -0.00 | 9SND  | 0.00 | 9SND  | 0.00 | 19SND | 0.00 | 1SND  |
| -333 | Min. | 0.00 | 1SND  | 0.00 | 1SND  | -0.01 | 31SND | 0.00 | 33SLU | 0.00 | 5SND  | 0.00 | 1SND  |
| -332 | Max  | 0.00 | 1SND  | 0.00 | 1SND  | 0.00  | 17SND | 0.00 | 19SND | 0.00 | 31SND | 0.00 | 1SND  |
| -332 | Min. | 0.00 | 1SND  | 0.00 | 1SND  | -0.00 | 7SND  | 0.00 | 5SND  | 0.00 | 9SND  | 0.00 | 1SND  |
| -331 | Max  | 0.00 | 1SND  | 0.00 | 1SND  | 0.00  | 23SND | 0.00 | 11SND | 0.00 | 7SND  | 0.00 | 1SND  |
| -331 | Min. | 0.00 | 1SND  | 0.00 | 1SND  | 0.00  | 1SND  | 0.00 | 29SND | 0.00 | 17SND | 0.00 | 1SND  |
| -330 | Max  | 0.00 | 1SND  | 0.00 | 1SND  | 0.00  | 5SND  | 0.00 | 23SND | 0.00 | 9SND  | 0.00 | 1SND  |
| -330 | Min. | 0.00 | 1SND  | 0.00 | 1SND  | -0.00 | 19SND | 0.00 | 1SND  | 0.00 | 31SND | 0.00 | 1SND  |
| -329 | Max  | 0.00 | 1SND  | 0.00 | 1SND  | -0.00 | 11SND | 0.00 | 11SND | 0.00 | 17SND | 0.00 | 1SND  |
| -329 | Min. | 0.00 | 1SND  | 0.00 | 1SND  | -0.01 | 29SND | 0.00 | 33SLU | 0.00 | 7SND  | 0.00 | 1SND  |
| -328 | Max  | 0.00 | 1SND  | 0.00 | 1SND  | -0.00 | 17SND | 0.00 | 19SND | 0.00 | 29SND | 0.00 | 1SND  |
| -328 | Min. | 0.00 | 1SND  | 0.00 | 1SND  | -0.00 | 7SND  | 0.00 | 5SND  | 0.00 | 11SND | 0.00 | 1SND  |
| -327 | Max  | 0.00 | 1SND  | 0.00 | 1SND  | 0.00  | 17SND | 0.00 | 11SND | 0.00 | 5SND  | 0.00 | 1SND  |
| -327 | Min. | 0.00 | 1SND  | 0.00 | 1SND  | 0.00  | 33SLU | 0.00 | 29SND | 0.00 | 19SND | 0.00 | 1SND  |
| -326 | Max  | 0.00 | 1SND  | 0.00 | 1SND  | 0.00  | 5SND  | 0.00 | 11SND | 0.00 | 7SND  | 0.00 | 1SND  |
| -326 | Min. | 0.00 | 1SND  | 0.00 | 1SND  | -0.00 | 19SND | 0.00 | 33SLU | 0.00 | 17SND | 0.00 | 1SND  |
| -325 | Max  | 0.00 | 1SND  | 0.00 | 1SND  | -0.00 | 5SND  | 0.00 | 15SND | 0.00 | 25SND | 0.00 | 1SND  |
| -325 | Min. | 0.00 | 1SND  | 0.00 | 1SND  | -0.00 | 19SND | 0.00 | 25SND | 0.00 | 15SND | 0.00 | 1SND  |
| -324 | Max  | 0.00 | 1SND  | 0.00 | 1SND  | -0.00 | 25SND | 0.00 | 25SND | 0.00 | 17SND | 0.00 | 1SND  |
| -324 | Min. | 0.00 | 1SND  | 0.00 | 1SND  | -0.01 | 15SND | 0.00 | 33SLU | 0.00 | 7SND  | 0.00 | 1SND  |
| -323 | Max  | 0.00 | 1SND  | 0.00 | 1SND  | -0.00 | 17SND | 0.00 | 19SND | 0.00 | 15SND | 0.00 | 1SND  |
| -323 | Min. | 0.00 | 1SND  | 0.00 | 1SND  | -0.00 | 33SLU | 0.00 | 5SND  | 0.00 | 25SND | 0.00 | 1SND  |
| -322 | Max  | 0.00 | 7SND  | 0.00 | 13SND | -0.00 | 27SND | 0.00 | 25SND | 0.00 | 5SND  | 0.00 | 33SLU |
| -322 | Min. | 0.00 | 17SND | 0.00 | 27SND | -0.00 | 33SLU | 0.00 | 15SND | 0.00 | 19SND | 0.00 | 27SND |
| -321 | Max  | 0.00 | 3SND  | 0.00 | 15SND | -0.00 | 25SND | 0.00 | 27SND | 0.00 | 33SLU | 0.00 | 27SND |

# Relazione di calcolo

|      |      |      |    |     |      |    |     |       |    |     |      |    |     |      |    |     |
|------|------|------|----|-----|------|----|-----|-------|----|-----|------|----|-----|------|----|-----|
| -321 | Min. | 0.00 | 21 | SND | 0.00 | 25 | SND | -0.00 | 33 | SLU | 0.00 | 13 | SND | 0.00 | 33 | SLU |
| -320 | Max  | 0.00 | 1  | SND | 0.00 | 1  | SND | 0.00  | 25 | SND | 0.00 | 27 | SND | 0.00 | 33 | SLU |
| -320 | Min. | 0.00 | 1  | SND | 0.00 | 1  | SND | -0.00 | 33 | SLU | 0.00 | 33 | SLU | 0.00 | 3  | SND |
| -319 | Max  | 0.00 | 1  | SND | 0.00 | 1  | SND | 0.00  | 21 | SND | 0.00 | 5  | SND | 0.00 | 7  | SND |
| -319 | Min. | 0.00 | 1  | SND | 0.00 | 1  | SND | -0.00 | 3  | SND | 0.00 | 19 | SND | 0.00 | 17 | SND |
| -318 | Max  | 0.00 | 1  | SND | 0.00 | 1  | SND | 0.00  | 21 | SND | 0.00 | 15 | SND | 0.00 | 25 | SND |
| -318 | Min. | 0.00 | 1  | SND | 0.00 | 1  | SND | -0.01 | 3  | SND | 0.00 | 25 | SND | 0.00 | 15 | SND |
| -317 | Max  | 0.00 | 1  | SND | 0.00 | 1  | SND | 0.01  | 25 | SND | 0.00 | 25 | SND | 0.00 | 17 | SND |
| -317 | Min. | 0.00 | 1  | SND | 0.00 | 1  | SND | -0.01 | 15 | SND | 0.00 | 15 | SND | 0.00 | 7  | SND |
| -316 | Max  | 0.00 | 1  | SND | 0.00 | 1  | SND | 0.01  | 17 | SND | 0.00 | 3  | SND | 0.00 | 17 | SND |
| -316 | Min. | 0.00 | 1  | SND | 0.00 | 1  | SND | -0.02 | 7  | SND | 0.00 | 21 | SND | 0.00 | 7  | SND |
| -315 | Max  | 0.00 | 1  | SND | 0.00 | 1  | SND | 0.00  | 5  | SND | 0.00 | 5  | SND | 0.00 | 19 | SND |
| -315 | Min. | 0.00 | 1  | SND | 0.00 | 1  | SND | -0.01 | 19 | SND | 0.00 | 19 | SND | 0.00 | 5  | SND |
| -314 | Max  | 0.00 | 1  | SND | 0.00 | 1  | SND | 0.00  | 11 | SND | 0.00 | 5  | SND | 0.00 | 19 | SND |
| -314 | Min. | 0.00 | 1  | SND | 0.00 | 1  | SND | -0.01 | 29 | SND | 0.00 | 19 | SND | 0.00 | 5  | SND |
| -313 | Max  | 0.00 | 1  | SND | 0.00 | 1  | SND | 0.00  | 9  | SND | 0.00 | 1  | SND | 0.00 | 29 | SND |
| -313 | Min. | 0.00 | 1  | SND | 0.00 | 1  | SND | -0.00 | 31 | SND | 0.00 | 23 | SND | 0.00 | 11 | SND |
| -312 | Max  | 0.00 | 1  | SND | 0.00 | 1  | SND | 0.00  | 1  | SND | 0.00 | 17 | SND | 0.00 | 23 | SND |
| -312 | Min. | 0.00 | 1  | SND | 0.00 | 1  | SND | -0.00 | 23 | SND | 0.00 | 7  | SND | 0.00 | 1  | SND |
| -311 | Max  | 0.00 | 1  | SND | 0.00 | 1  | SND | 0.00  | 5  | SND | 0.00 | 5  | SND | 0.00 | 5  | SND |
| -311 | Min. | 0.00 | 1  | SND | 0.00 | 1  | SND | -0.00 | 19 | SND | 0.00 | 19 | SND | 0.00 | 19 | SND |
| -310 | Max  | 0.00 | 1  | SND | 0.00 | 1  | SND | 0.00  | 11 | SND | 0.00 | 5  | SND | 0.00 | 9  | SND |
| -310 | Min. | 0.00 | 1  | SND | 0.00 | 1  | SND | -0.00 | 29 | SND | 0.00 | 33 | SLU | 0.00 | 31 | SND |
| -309 | Max  | 0.00 | 1  | SND | 0.00 | 1  | SND | 0.00  | 9  | SND | 0.00 | 9  | SND | 0.00 | 17 | SND |
| -309 | Min. | 0.00 | 1  | SND | 0.00 | 1  | SND | -0.00 | 31 | SND | 0.00 | 31 | SND | 0.00 | 7  | SND |
| -308 | Max  | 0.00 | 1  | SND | 0.00 | 1  | SND | 0.00  | 9  | SND | 0.00 | 17 | SND | 0.00 | 31 | SND |
| -308 | Min. | 0.00 | 1  | SND | 0.00 | 1  | SND | -0.00 | 31 | SND | 0.00 | 7  | SND | 0.00 | 9  | SND |
| -307 | Max  | 0.00 | 1  | SND | 0.00 | 1  | SND | 0.00  | 31 | SND | 0.00 | 33 | SLU | 0.00 | 7  | SND |
| -307 | Min. | 0.00 | 1  | SND | 0.00 | 1  | SND | 0.00  | 9  | SND | 0.00 | 9  | SND | 0.00 | 17 | SND |
| -306 | Max  | 0.00 | 1  | SND | 0.00 | 1  | SND | 0.00  | 11 | SND | 0.00 | 5  | SND | 0.00 | 9  | SND |
| -306 | Min. | 0.00 | 1  | SND | 0.00 | 1  | SND | -0.00 | 29 | SND | 0.00 | 19 | SND | 0.00 | 31 | SND |
| -305 | Max  | 0.00 | 1  | SND | 0.00 | 1  | SND | 0.00  | 9  | SND | 0.00 | 11 | SND | 0.00 | 17 | SND |
| -305 | Min. | 0.00 | 1  | SND | 0.00 | 1  | SND | -0.00 | 31 | SND | 0.00 | 29 | SND | 0.00 | 7  | SND |
| -304 | Max  | 0.00 | 1  | SND | 0.00 | 1  | SND | 0.00  | 9  | SND | 0.00 | 17 | SND | 0.00 | 31 | SND |
| -304 | Min. | 0.00 | 1  | SND | 0.00 | 1  | SND | -0.00 | 31 | SND | 0.00 | 7  | SND | 0.00 | 9  | SND |
| -303 | Max  | 0.00 | 1  | SND | 0.00 | 1  | SND | 0.00  | 19 | SND | 0.00 | 19 | SND | 0.00 | 7  | SND |
| -303 | Min. | 0.00 | 1  | SND | 0.00 | 1  | SND | 0.00  | 33 | SLU | 0.00 | 5  | SND | 0.00 | 17 | SND |
| -302 | Max  | 0.00 | 1  | SND | 0.00 | 1  | SND | 0.00  | 5  | SND | 0.00 | 7  | SND | 0.00 | 11 | SND |
| -302 | Min. | 0.00 | 1  | SND | 0.00 | 1  | SND | -0.00 | 19 | SND | 0.00 | 17 | SND | 0.00 | 29 | SND |
| -301 | Max  | 0.00 | 1  | SND | 0.00 | 1  | SND | 0.00  | 11 | SND | 0.00 | 5  | SND | 0.00 | 25 | SND |
| -301 | Min. | 0.00 | 1  | SND | 0.00 | 1  | SND | -0.00 | 29 | SND | 0.00 | 19 | SND | 0.00 | 15 | SND |
| -300 | Max  | 0.00 | 1  | SND | 0.00 | 1  | SND | 0.00  | 25 | SND | 0.00 | 25 | SND | 0.00 | 17 | SND |
| -300 | Min. | 0.00 | 1  | SND | 0.00 | 1  | SND | -0.00 | 15 | SND | 0.00 | 15 | SND | 0.00 | 7  | SND |
| -299 | Max  | 0.00 | 1  | SND | 0.00 | 1  | SND | -0.00 | 25 | SND | 0.00 | 17 | SND | 0.00 | 15 | SND |
| -299 | Min. | 0.00 | 1  | SND | 0.00 | 1  | SND | -0.00 | 33 | SLU | 0.00 | 7  | SND | 0.00 | 25 | SND |
| -298 | Max  | 0.00 | 15 | SND | 0.00 | 13 | SND | -0.00 | 27 | SND | 0.00 | 19 | SND | 0.00 | 7  | SND |
| -298 | Min. | 0.00 | 25 | SND | 0.00 | 27 | SND | -0.00 | 33 | SLU | 0.00 | 33 | SLU | 0.00 | 17 | SND |
| -297 | Max  | 0.00 | 13 | SND | 0.00 | 33 | SLU | -0.00 | 5  | SND | 0.00 | 19 | SND | 0.00 | 17 | SND |
| -297 | Min. | 0.00 | 27 | SND | 0.00 | 5  | SND | -0.00 | 33 | SLU | 0.00 | 33 | SLU | 0.00 | 7  | SND |
| -296 | Max  | 0.00 | 13 | SND | 0.00 | 33 | SLU | -0.00 | 15 | SND | 0.00 | 7  | SND | 0.00 | 15 | SND |
| -296 | Min. | 0.00 | 27 | SND | 0.00 | 5  | SND | -0.00 | 33 | SLU | 0.00 | 33 | SLU | 0.00 | 25 | SND |
| -295 | Max  | 0.00 | 13 | SND | 0.00 | 33 | SLU | -0.00 | 15 | SND | 0.00 | 7  | SND | 0.00 | 13 | SND |
| -295 | Min. | 0.00 | 27 | SND | 0.00 | 7  | SND | -0.00 | 33 | SLU | 0.00 | 33 | SLU | 0.00 | 27 | SND |
| -294 | Max  | 0.00 | 13 | SND | 0.00 | 33 | SLU | -0.00 | 13 | SND | 0.00 | 21 | SND | 0.00 | 13 | SND |
| -294 | Min. | 0.00 | 27 | SND | 0.00 | 15 | SND | -0.00 | 33 | SLU | 0.00 | 33 | SLU | 0.00 | 27 | SND |
| -293 | Max  | 0.00 | 25 | SND | 0.00 | 33 | SLU | -0.00 | 13 | SND | 0.00 | 21 | SND | 0.00 | 27 | SND |
| -293 | Min. | 0.00 | 15 | SND | 0.00 | 27 | SND | -0.00 | 33 | SLU | 0.00 | 33 | SLU | 0.00 | 13 | SND |
| -292 | Max  | 0.00 | 25 | SND | 0.00 | 33 | SLU | -0.00 | 13 | SND | 0.00 | 5  | SND | 0.00 | 5  | SND |
| -292 | Min. | 0.00 | 15 | SND | 0.00 | 27 | SND | -0.00 | 33 | SLU | 0.00 | 33 | SLU | 0.00 | 33 | SLU |
| -291 | Max  | 0.00 | 25 | SND | 0.00 | 33 | SLU | -0.00 | 13 | SND | 0.00 | 5  | SND | 0.00 | 25 | SND |
| -291 | Min. | 0.00 | 33 | SLU | 0.00 | 27 | SND | -0.00 | 33 | SLU | 0.00 | 33 | SLU | 0.00 | 15 | SND |
| -290 | Max  | 0.00 | 25 | SND | 0.00 | 33 | SLU | -0.00 | 13 | SND | 0.00 | 27 | SND | 0.00 | 5  | SND |
| -290 | Min. | 0.00 | 33 | SLU | 0.00 | 5  | SND | -0.00 | 33 | SLU | 0.00 | 33 | SLU | 0.00 | 33 | SLU |
| -289 | Max  | 0.00 | 25 | SND | 0.00 | 33 | SLU | -0.00 | 19 | SND | 0.00 | 27 | SND | 0.00 | 25 | SND |
| -289 | Min. | 0.00 | 33 | SLU | 0.00 | 5  | SND | -0.00 | 33 | SLU | 0.00 | 13 | SND | 0.00 | 15 | SND |
| -288 | Max  | 0.00 | 25 | SND | 0.00 | 33 | SLU | -0.00 | 17 | SND | 0.00 | 25 | SND | 0.00 | 27 | SND |
| -288 | Min. | 0.00 | 33 | SLU | 0.00 | 27 | SND | -0.00 | 33 | SLU | 0.00 | 15 | SND | 0.00 | 33 | SLU |
| -287 | Max  | 0.00 | 25 | SND | 0.00 | 15 | SND | -0.00 | 25 | SND | 0.00 | 25 | SND | 0.00 | 33 | SLU |
| -287 | Min. | 0.00 | 15 | SND | 0.00 | 25 | SND | -0.00 | 33 | SLU | 0.00 | 33 | SLU | 0.00 | 7  | SND |
| -286 | Max  | 0.00 | 1  | SND | 0.00 | 1  | SND | -0.00 | 27 | SND | 0.00 | 27 | SND | 0.00 | 33 | SLU |
| -286 | Min. | 0.00 | 1  | SND | 0.00 | 1  | SND | -0.00 | 33 | SLU | 0.00 | 13 | SND | 0.00 | 19 | SND |
| -285 | Max  | 0.00 | 1  | SND | 0.00 | 1  | SND | 0.00  | 21 | SND | 0.00 | 7  | SND | 0.00 | 21 | SND |
| -285 | Min. | 0.00 | 1  | SND | 0.00 | 1  | SND | -0.00 | 3  | SND | 0.00 | 17 | SND | 0.00 | 3  | SND |
| -284 | Max  | 0.00 | 1  | SND | 0.00 | 1  | SND | 0.00  | 27 | SND | 0.00 | 21 | SND | 0.00 | 25 | SND |
| -284 | Min. | 0.00 | 1  | SND | 0.00 | 1  | SND | -0.00 | 13 | SND | 0.00 | 3  | SND | 0.00 | 15 | SND |
| -283 | Max  | 0.00 | 1  | SND | 0.00 | 1  | SND | 0.00  | 25 | SND | 0.00 | 25 | SND | 0.00 | 17 | SND |
| -283 | Min. | 0.00 | 1  | SND | 0.00 | 1  | SND | -0.01 | 15 | SND | 0.00 | 15 | SND | 0.00 | 7  | SND |
| -282 | Max  | 0.00 | 1  | SND | 0.00 | 1  | SND | 0.01  | 25 | SND | 0.00 | 17 | SND | 0.00 | 17 | SND |
| -282 | Min. | 0.00 | 1  | SND | 0.00 | 1  | SND | -0.01 | 15 | SND | 0.00 | 7  | SND | 0.00 | 7  | SND |

# Relazione di calcolo

|      |      |      |       |      |       |       |       |      |       |      |       |      |       |
|------|------|------|-------|------|-------|-------|-------|------|-------|------|-------|------|-------|
| -281 | Max  | 0.00 | 1SND  | 0.00 | 1SND  | 0.00  | 11SND | 0.00 | 5SND  | 0.00 | 19SND | 0.00 | 1SND  |
| -281 | Min. | 0.00 | 1SND  | 0.00 | 1SND  | -0.00 | 29SND | 0.00 | 19SND | 0.00 | 5SND  | 0.00 | 1SND  |
| -280 | Max  | 0.00 | 1SND  | 0.00 | 1SND  | 0.00  | 9SND  | 0.00 | 11SND | 0.00 | 19SND | 0.00 | 1SND  |
| -280 | Min. | 0.00 | 1SND  | 0.00 | 1SND  | -0.00 | 31SND | 0.00 | 29SND | 0.00 | 5SND  | 0.00 | 1SND  |
| -279 | Max  | 0.00 | 1SND  | 0.00 | 1SND  | 0.00  | 9SND  | 0.00 | 9SND  | 0.00 | 29SND | 0.00 | 1SND  |
| -279 | Min. | 0.00 | 1SND  | 0.00 | 1SND  | -0.00 | 31SND | 0.00 | 31SND | 0.00 | 11SND | 0.00 | 1SND  |
| -278 | Max  | 0.00 | 1SND  | 0.00 | 1SND  | 0.00  | 9SND  | 0.00 | 1SND  | 0.00 | 23SND | 0.00 | 1SND  |
| -278 | Min. | 0.00 | 1SND  | 0.00 | 1SND  | 0.00  | 31SND | 0.00 | 23SND | 0.00 | 1SND  | 0.00 | 1SND  |
| -277 | Max  | 0.00 | 1SND  | 0.00 | 1SND  | 0.00  | 11SND | 0.00 | 11SND | 0.00 | 5SND  | 0.00 | 1SND  |
| -277 | Min. | 0.00 | 1SND  | 0.00 | 1SND  | 0.00  | 29SND | 0.00 | 29SND | 0.00 | 19SND | 0.00 | 1SND  |
| -276 | Max  | 0.00 | 1SND  | 0.00 | 1SND  | 0.00  | 11SND | 0.00 | 11SND | 0.00 | 9SND  | 0.00 | 1SND  |
| -276 | Min. | 0.00 | 1SND  | 0.00 | 1SND  | -0.00 | 29SND | 0.00 | 29SND | 0.00 | 31SND | 0.00 | 1SND  |
| -275 | Max  | 0.00 | 1SND  | 0.00 | 1SND  | 0.00  | 11SND | 0.00 | 9SND  | 0.00 | 25SND | 0.00 | 1SND  |
| -275 | Min. | 0.00 | 1SND  | 0.00 | 1SND  | -0.00 | 29SND | 0.00 | 31SND | 0.00 | 15SND | 0.00 | 1SND  |
| -274 | Max  | 0.00 | 1SND  | 0.00 | 1SND  | 0.00  | 11SND | 0.00 | 1SND  | 0.00 | 29SND | 0.00 | 1SND  |
| -274 | Min. | 0.00 | 1SND  | 0.00 | 1SND  | 0.00  | 29SND | 0.00 | 23SND | 0.00 | 11SND | 0.00 | 1SND  |
| -273 | Max  | 0.00 | 1SND  | 0.00 | 1SND  | 0.00  | 31SND | 0.00 | 11SND | 0.00 | 19SND | 0.00 | 1SND  |
| -273 | Min. | 0.00 | 1SND  | 0.00 | 1SND  | 0.00  | 33SLU | 0.00 | 29SND | 0.00 | 5SND  | 0.00 | 1SND  |
| -272 | Max  | 0.00 | 1SND  | 0.00 | 1SND  | 0.00  | 9SND  | 0.00 | 11SND | 0.00 | 9SND  | 0.00 | 1SND  |
| -272 | Min. | 0.00 | 1SND  | 0.00 | 1SND  | 0.00  | 31SND | 0.00 | 29SND | 0.00 | 31SND | 0.00 | 1SND  |
| -271 | Max  | 0.00 | 1SND  | 0.00 | 1SND  | 0.00  | 9SND  | 0.00 | 9SND  | 0.00 | 23SND | 0.00 | 1SND  |
| -271 | Min. | 0.00 | 1SND  | 0.00 | 1SND  | 0.00  | 31SND | 0.00 | 31SND | 0.00 | 1SND  | 0.00 | 1SND  |
| -270 | Max  | 0.00 | 1SND  | 0.00 | 1SND  | 0.00  | 11SND | 0.00 | 9SND  | 0.00 | 29SND | 0.00 | 1SND  |
| -270 | Min. | 0.00 | 1SND  | 0.00 | 1SND  | 0.00  | 29SND | 0.00 | 31SND | 0.00 | 11SND | 0.00 | 1SND  |
| -269 | Max  | 0.00 | 1SND  | 0.00 | 1SND  | 0.00  | 23SND | 0.00 | 1SND  | 0.00 | 29SND | 0.00 | 1SND  |
| -269 | Min. | 0.00 | 1SND  | 0.00 | 1SND  | 0.00  | 33SLU | 0.00 | 23SND | 0.00 | 11SND | 0.00 | 1SND  |
| -268 | Max  | 0.00 | 1SND  | 0.00 | 1SND  | 0.00  | 9SND  | 0.00 | 21SND | 0.00 | 11SND | 0.00 | 1SND  |
| -268 | Min. | 0.00 | 1SND  | 0.00 | 1SND  | 0.00  | 33SLU | 0.00 | 3SND  | 0.00 | 29SND | 0.00 | 1SND  |
| -267 | Max  | 0.00 | 1SND  | 0.00 | 1SND  | 0.00  | 9SND  | 0.00 | 11SND | 0.00 | 25SND | 0.00 | 1SND  |
| -267 | Min. | 0.00 | 1SND  | 0.00 | 1SND  | 0.00  | 31SND | 0.00 | 29SND | 0.00 | 15SND | 0.00 | 1SND  |
| -266 | Max  | 0.00 | 1SND  | 0.00 | 1SND  | 0.00  | 25SND | 0.00 | 25SND | 0.00 | 21SND | 0.00 | 1SND  |
| -266 | Min. | 0.00 | 1SND  | 0.00 | 1SND  | 0.00  | 15SND | 0.00 | 15SND | 0.00 | 3SND  | 0.00 | 1SND  |
| -265 | Max  | 0.00 | 1SND  | 0.00 | 1SND  | 0.00  | 27SND | 0.00 | 9SND  | 0.00 | 15SND | 0.00 | 1SND  |
| -265 | Min. | 0.00 | 1SND  | 0.00 | 1SND  | -0.00 | 33SLU | 0.00 | 31SND | 0.00 | 33SLU | 0.00 | 1SND  |
| -264 | Max  | 0.00 | 15SND | 0.00 | 13SND | -0.00 | 21SND | 0.00 | 25SND | 0.00 | 15SND | 0.00 | 25SND |
| -264 | Min. | 0.00 | 33SLU | 0.00 | 27SND | -0.00 | 33SLU | 0.00 | 15SND | 0.00 | 33SLU | 0.00 | 15SND |
| -263 | Max  | 0.00 | 33SLU | 0.00 | 13SND | -0.00 | 17SND | 0.00 | 25SND | 0.00 | 33SLU | 0.00 | 15SND |
| -263 | Min. | 0.00 | 15SND | 0.00 | 27SND | -0.00 | 33SLU | 0.00 | 15SND | 0.00 | 25SND | 0.00 | 25SND |
| -262 | Max  | 0.00 | 1SND  | 0.00 | 1SND  | -0.00 | 25SND | 0.00 | 21SND | 0.00 | 33SLU | 0.00 | 1SND  |
| -262 | Min. | 0.00 | 1SND  | 0.00 | 1SND  | -0.00 | 33SLU | 0.00 | 3SND  | 0.00 | 3SND  | 0.00 | 1SND  |
| -261 | Max  | 0.00 | 1SND  | 0.00 | 1SND  | 0.00  | 27SND | 0.00 | 27SND | 0.00 | 27SND | 0.00 | 1SND  |
| -261 | Min. | 0.00 | 1SND  | 0.00 | 1SND  | -0.00 | 13SND | 0.00 | 13SND | 0.00 | 13SND | 0.00 | 1SND  |
| -260 | Max  | 0.00 | 1SND  | 0.00 | 1SND  | 0.00  | 27SND | 0.00 | 27SND | 0.00 | 27SND | 0.00 | 1SND  |
| -260 | Min. | 0.00 | 1SND  | 0.00 | 1SND  | -0.00 | 13SND | 0.00 | 13SND | 0.00 | 13SND | 0.00 | 1SND  |
| -259 | Max  | 0.00 | 1SND  | 0.00 | 1SND  | 0.00  | 27SND | 0.00 | 25SND | 0.00 | 25SND | 0.00 | 1SND  |
| -259 | Min. | 0.00 | 1SND  | 0.00 | 1SND  | -0.00 | 13SND | 0.00 | 15SND | 0.00 | 15SND | 0.00 | 1SND  |
| -258 | Max  | 0.00 | 1SND  | 0.00 | 1SND  | 0.00  | 25SND | 0.00 | 17SND | 0.00 | 17SND | 0.00 | 1SND  |
| -258 | Min. | 0.00 | 1SND  | 0.00 | 1SND  | -0.00 | 15SND | 0.00 | 7SND  | 0.00 | 7SND  | 0.00 | 1SND  |
| -257 | Max  | 0.00 | 1SND  | 0.00 | 1SND  | 0.00  | 3SND  | 0.00 | 11SND | 0.00 | 11SND | 0.00 | 1SND  |
| -257 | Min. | 0.00 | 1SND  | 0.00 | 1SND  | -0.00 | 21SND | 0.00 | 29SND | 0.00 | 29SND | 0.00 | 1SND  |
| -256 | Max  | 0.00 | 1SND  | 0.00 | 1SND  | 0.00  | 1SND  | 0.00 | 31SND | 0.00 | 3SND  | 0.00 | 1SND  |
| -256 | Min. | 0.00 | 1SND  | 0.00 | 1SND  | -0.00 | 23SND | 0.00 | 9SND  | 0.00 | 21SND | 0.00 | 1SND  |
| -255 | Max  | 0.00 | 1SND  | 0.00 | 1SND  | 0.00  | 19SND | 0.00 | 9SND  | 0.00 | 23SND | 0.00 | 1SND  |
| -255 | Min. | 0.00 | 1SND  | 0.00 | 1SND  | -0.00 | 5SND  | 0.00 | 31SND | 0.00 | 1SND  | 0.00 | 1SND  |
| -254 | Max  | 0.00 | 1SND  | 0.00 | 1SND  | 0.00  | 29SND | 0.00 | 5SND  | 0.00 | 11SND | 0.00 | 1SND  |
| -254 | Min. | 0.00 | 1SND  | 0.00 | 1SND  | 0.00  | 11SND | 0.00 | 19SND | 0.00 | 29SND | 0.00 | 1SND  |
| -253 | Max  | 0.00 | 1SND  | 0.00 | 1SND  | 0.00  | 29SND | 0.00 | 9SND  | 0.00 | 31SND | 0.00 | 1SND  |
| -253 | Min. | 0.00 | 1SND  | 0.00 | 1SND  | 0.00  | 33SLU | 0.00 | 31SND | 0.00 | 9SND  | 0.00 | 1SND  |
| -252 | Max  | 0.00 | 1SND  | 0.00 | 1SND  | 0.00  | 31SND | 0.00 | 11SND | 0.00 | 11SND | 0.00 | 1SND  |
| -252 | Min. | 0.00 | 1SND  | 0.00 | 1SND  | 0.00  | 9SND  | 0.00 | 29SND | 0.00 | 29SND | 0.00 | 1SND  |
| -251 | Max  | 0.00 | 1SND  | 0.00 | 1SND  | 0.00  | 11SND | 0.00 | 29SND | 0.00 | 3SND  | 0.00 | 1SND  |
| -251 | Min. | 0.00 | 1SND  | 0.00 | 1SND  | 0.00  | 29SND | 0.00 | 11SND | 0.00 | 21SND | 0.00 | 1SND  |
| -250 | Max  | 0.00 | 1SND  | 0.00 | 1SND  | 0.00  | 23SND | 0.00 | 9SND  | 0.00 | 23SND | 0.00 | 1SND  |
| -250 | Min. | 0.00 | 1SND  | 0.00 | 1SND  | 0.00  | 1SND  | 0.00 | 31SND | 0.00 | 33SLU | 0.00 | 1SND  |
| -249 | Max  | 0.00 | 1SND  | 0.00 | 1SND  | 0.00  | 9SND  | 0.00 | 31SND | 0.00 | 3SND  | 0.00 | 1SND  |
| -249 | Min. | 0.00 | 1SND  | 0.00 | 1SND  | 0.00  | 33SLU | 0.00 | 9SND  | 0.00 | 21SND | 0.00 | 1SND  |
| -248 | Max  | 0.00 | 1SND  | 0.00 | 1SND  | 0.00  | 19SND | 0.00 | 11SND | 0.00 | 33SLU | 0.00 | 1SND  |
| -248 | Min. | 0.00 | 1SND  | 0.00 | 1SND  | 0.00  | 5SND  | 0.00 | 29SND | 0.00 | 3SND  | 0.00 | 1SND  |
| -247 | Max  | 0.00 | 1SND  | 0.00 | 1SND  | 0.00  | 9SND  | 0.00 | 31SND | 0.00 | 1SND  | 0.00 | 1SND  |
| -247 | Min. | 0.00 | 1SND  | 0.00 | 1SND  | 0.00  | 31SND | 0.00 | 33SLU | 0.00 | 23SND | 0.00 | 1SND  |
| -246 | Max  | 0.00 | 1SND  | 0.00 | 1SND  | 0.00  | 31SND | 0.00 | 9SND  | 0.00 | 31SND | 0.00 | 1SND  |
| -246 | Min. | 0.00 | 1SND  | 0.00 | 1SND  | 0.00  | 9SND  | 0.00 | 31SND | 0.00 | 9SND  | 0.00 | 1SND  |
| -245 | Max  | 0.00 | 1SND  | 0.00 | 1SND  | 0.00  | 27SND | 0.00 | 23SND | 0.00 | 9SND  | 0.00 | 1SND  |
| -245 | Min. | 0.00 | 1SND  | 0.00 | 1SND  | 0.00  | 33SLU | 0.00 | 1SND  | 0.00 | 31SND | 0.00 | 1SND  |
| -244 | Max  | 0.00 | 1SND  | 0.00 | 1SND  | 0.00  | 3SND  | 0.00 | 1SND  | 0.00 | 29SND | 0.00 | 1SND  |
| -244 | Min. | 0.00 | 1SND  | 0.00 | 1SND  | 0.00  | 33SLU | 0.00 | 23SND | 0.00 | 11SND | 0.00 | 1SND  |
| -243 | Max  | 0.00 | 1SND  | 0.00 | 1SND  | 0.00  | 13SND | 0.00 | 27SND | 0.00 | 27SND | 0.00 | 1SND  |
| -243 | Min. | 0.00 | 1SND  | 0.00 | 1SND  | 0.00  | 27SND | 0.00 | 13SND | 0.00 | 13SND | 0.00 | 1SND  |
| -242 | Max  | 0.00 | 1SND  | 0.00 | 1SND  | 0.00  | 9SND  | 0.00 | 29SND | 0.00 | 1SND  | 0.00 | 1SND  |

# Relazione di calcolo

|      |      |      |       |      |       |       |       |      |       |      |       |      |       |
|------|------|------|-------|------|-------|-------|-------|------|-------|------|-------|------|-------|
| -242 | Min. | 0.00 | 1SND  | 0.00 | 1SND  | 0.00  | 31SND | 0.00 | 11SND | 0.00 | 23SND | 0.00 | 1SND  |
| -241 | Max  | 0.00 | 1SND  | 0.00 | 1SND  | 0.00  | 31SND | 0.00 | 9SND  | 0.00 | 31SND | 0.00 | 1SND  |
| -241 | Min. | 0.00 | 1SND  | 0.00 | 1SND  | -0.00 | 33SLU | 0.00 | 31SND | 0.00 | 33SLU | 0.00 | 1SND  |
| -240 | Max  | 0.00 | 1SND  | 0.00 | 15SND | -0.00 | 23SND | 0.00 | 11SND | 0.00 | 9SND  | 0.00 | 13SND |
| -240 | Min. | 0.00 | 23SND | 0.00 | 25SND | -0.00 | 33SLU | 0.00 | 29SND | 0.00 | 33SLU | 0.00 | 27SND |
| -239 | Max  | 0.00 | 33SLU | 0.00 | 33SLU | -0.00 | 5SND  | 0.00 | 27SND | 0.00 | 23SND | 0.00 | 13SND |
| -239 | Min. | 0.00 | 7SND  | 0.00 | 3SND  | -0.00 | 33SLU | 0.00 | 13SND | 0.00 | 1SND  | 0.00 | 33SLU |
| -238 | Max  | 0.00 | 33SLU | 0.00 | 33SLU | -0.00 | 27SND | 0.00 | 13SND | 0.00 | 1SND  | 0.00 | 15SND |
| -238 | Min. | 0.00 | 7SND  | 0.00 | 13SND | -0.00 | 33SLU | 0.00 | 33SLU | 0.00 | 23SND | 0.00 | 33SLU |
| -237 | Max  | 0.00 | 33SLU | 0.00 | 33SLU | -0.00 | 25SND | 0.00 | 13SND | 0.00 | 33SLU | 0.00 | 15SND |
| -237 | Min. | 0.00 | 7SND  | 0.00 | 15SND | -0.00 | 33SLU | 0.00 | 33SLU | 0.00 | 3SND  | 0.00 | 33SLU |
| -236 | Max  | 0.00 | 33SLU | 0.00 | 33SLU | -0.00 | 25SND | 0.00 | 15SND | 0.00 | 1SND  | 0.00 | 13SND |
| -236 | Min. | 0.00 | 15SND | 0.00 | 15SND | -0.00 | 33SLU | 0.00 | 33SLU | 0.00 | 23SND | 0.00 | 33SLU |
| -235 | Max  | 0.00 | 17SND | 0.00 | 33SLU | -0.00 | 25SND | 0.00 | 15SND | 0.00 | 21SND | 0.00 | 15SND |
| -235 | Min. | 0.00 | 7SND  | 0.00 | 15SND | -0.00 | 33SLU | 0.00 | 33SLU | 0.00 | 3SND  | 0.00 | 25SND |
| -234 | Max  | 0.00 | 3SND  | 0.00 | 33SLU | -0.00 | 25SND | 0.00 | 15SND | 0.00 | 1SND  | 0.00 | 21SND |
| -234 | Min. | 0.00 | 33SLU | 0.00 | 15SND | -0.00 | 33SLU | 0.00 | 33SLU | 0.00 | 23SND | 0.00 | 3SND  |
| -233 | Max  | 0.00 | 13SND | 0.00 | 33SLU | -0.00 | 25SND | 0.00 | 15SND | 0.00 | 3SND  | 0.00 | 27SND |
| -233 | Min. | 0.00 | 33SLU | 0.00 | 15SND | -0.00 | 33SLU | 0.00 | 33SLU | 0.00 | 33SLU | 0.00 | 13SND |
| -232 | Max  | 0.00 | 13SND | 0.00 | 33SLU | -0.00 | 1SND  | 0.00 | 15SND | 0.00 | 15SND | 0.00 | 25SND |
| -232 | Min. | 0.00 | 33SLU | 0.00 | 15SND | -0.00 | 33SLU | 0.00 | 33SLU | 0.00 | 33SLU | 0.00 | 15SND |
| -231 | Max  | 0.00 | 13SND | 0.00 | 33SLU | -0.00 | 3SND  | 0.00 | 25SND | 0.00 | 3SND  | 0.00 | 33SLU |
| -231 | Min. | 0.00 | 33SLU | 0.00 | 27SND | -0.00 | 33SLU | 0.00 | 15SND | 0.00 | 33SLU | 0.00 | 15SND |
| -230 | Max  | 0.00 | 13SND | 0.00 | 15SND | -0.00 | 3SND  | 0.00 | 25SND | 0.00 | 13SND | 0.00 | 33SLU |
| -230 | Min. | 0.00 | 33SLU | 0.00 | 25SND | -0.00 | 33SLU | 0.00 | 15SND | 0.00 | 33SLU | 0.00 | 25SND |
| -229 | Max  | 0.00 | 13SND | 0.00 | 13SND | -0.00 | 3SND  | 0.00 | 15SND | 0.00 | 33SLU | 0.00 | 27SND |
| -229 | Min. | 0.00 | 33SLU | 0.00 | 27SND | -0.00 | 33SLU | 0.00 | 25SND | 0.00 | 15SND | 0.00 | 13SND |
| -228 | Max  | 0.00 | 1SND  | 0.00 | 1SND  | 0.00  | 25SND | 0.00 | 25SND | 0.00 | 33SLU | 0.00 | 1SND  |
| -228 | Min. | 0.00 | 1SND  | 0.00 | 1SND  | -0.00 | 33SLU | 0.00 | 15SND | 0.00 | 1SND  | 0.00 | 1SND  |
| -227 | Max  | 0.00 | 1SND  | 0.00 | 1SND  | 0.00  | 15SND | 0.00 | 17SND | 0.00 | 13SND | 0.00 | 1SND  |
| -227 | Min. | 0.00 | 1SND  | 0.00 | 1SND  | 0.00  | 25SND | 0.00 | 7SND  | 0.00 | 27SND | 0.00 | 1SND  |
| -226 | Max  | 0.00 | 1SND  | 0.00 | 1SND  | 0.00  | 15SND | 0.00 | 27SND | 0.00 | 21SND | 0.00 | 1SND  |
| -226 | Min. | 0.00 | 1SND  | 0.00 | 1SND  | -0.00 | 25SND | 0.00 | 13SND | 0.00 | 3SND  | 0.00 | 1SND  |
| -225 | Max  | 0.00 | 1SND  | 0.00 | 1SND  | 0.00  | 21SND | 0.00 | 13SND | 0.00 | 3SND  | 0.00 | 1SND  |
| -225 | Min. | 0.00 | 1SND  | 0.00 | 1SND  | -0.00 | 3SND  | 0.00 | 27SND | 0.00 | 21SND | 0.00 | 1SND  |
| -224 | Max  | 0.00 | 1SND  | 0.00 | 1SND  | 0.00  | 7SND  | 0.00 | 25SND | 0.00 | 15SND | 0.00 | 1SND  |
| -224 | Min. | 0.00 | 1SND  | 0.00 | 1SND  | -0.00 | 17SND | 0.00 | 15SND | 0.00 | 25SND | 0.00 | 1SND  |
| -223 | Max  | 0.00 | 1SND  | 0.00 | 1SND  | 0.00  | 23SND | 0.00 | 1SND  | 0.00 | 1SND  | 0.00 | 1SND  |
| -223 | Min. | 0.00 | 1SND  | 0.00 | 1SND  | -0.01 | 1SND  | 0.00 | 23SND | 0.00 | 23SND | 0.00 | 1SND  |
| -222 | Max  | 0.00 | 1SND  | 0.00 | 1SND  | 0.00  | 31SND | 0.00 | 9SND  | 0.00 | 9SND  | 0.00 | 1SND  |
| -222 | Min. | 0.00 | 1SND  | 0.00 | 1SND  | -0.01 | 9SND  | 0.00 | 31SND | 0.00 | 31SND | 0.00 | 1SND  |
| -221 | Max  | 0.00 | 1SND  | 0.00 | 1SND  | 0.00  | 29SND | 0.00 | 21SND | 0.00 | 1SND  | 0.00 | 1SND  |
| -221 | Min. | 0.00 | 1SND  | 0.00 | 1SND  | -0.00 | 11SND | 0.00 | 3SND  | 0.00 | 23SND | 0.00 | 1SND  |
| -220 | Max  | 0.00 | 1SND  | 0.00 | 1SND  | 0.00  | 19SND | 0.00 | 5SND  | 0.00 | 5SND  | 0.00 | 1SND  |
| -220 | Min. | 0.00 | 1SND  | 0.00 | 1SND  | -0.00 | 5SND  | 0.00 | 19SND | 0.00 | 19SND | 0.00 | 1SND  |
| -219 | Max  | 0.00 | 1SND  | 0.00 | 1SND  | 0.00  | 23SND | 0.00 | 9SND  | 0.00 | 23SND | 0.00 | 1SND  |
| -219 | Min. | 0.00 | 1SND  | 0.00 | 1SND  | -0.00 | 1SND  | 0.00 | 31SND | 0.00 | 1SND  | 0.00 | 1SND  |
| -218 | Max  | 0.00 | 1SND  | 0.00 | 1SND  | 0.00  | 31SND | 0.00 | 33SLU | 0.00 | 29SND | 0.00 | 1SND  |
| -218 | Min. | 0.00 | 1SND  | 0.00 | 1SND  | -0.00 | 9SND  | 0.00 | 21SND | 0.00 | 11SND | 0.00 | 1SND  |
| -217 | Max  | 0.00 | 1SND  | 0.00 | 1SND  | 0.00  | 29SND | 0.00 | 11SND | 0.00 | 21SND | 0.00 | 1SND  |
| -217 | Min. | 0.00 | 1SND  | 0.00 | 1SND  | -0.00 | 11SND | 0.00 | 29SND | 0.00 | 3SND  | 0.00 | 1SND  |
| -216 | Max  | 0.00 | 1SND  | 0.00 | 1SND  | 0.00  | 29SND | 0.00 | 23SND | 0.00 | 9SND  | 0.00 | 1SND  |
| -216 | Min. | 0.00 | 1SND  | 0.00 | 1SND  | -0.00 | 11SND | 0.00 | 1SND  | 0.00 | 31SND | 0.00 | 1SND  |
| -215 | Max  | 0.00 | 1SND  | 0.00 | 1SND  | 0.00  | 11SND | 0.00 | 9SND  | 0.00 | 21SND | 0.00 | 1SND  |
| -215 | Min. | 0.00 | 1SND  | 0.00 | 1SND  | 0.00  | 29SND | 0.00 | 31SND | 0.00 | 3SND  | 0.00 | 1SND  |
| -214 | Max  | 0.00 | 1SND  | 0.00 | 1SND  | 0.00  | 31SND | 0.00 | 3SND  | 0.00 | 29SND | 0.00 | 1SND  |
| -214 | Min. | 0.00 | 1SND  | 0.00 | 1SND  | -0.00 | 9SND  | 0.00 | 21SND | 0.00 | 11SND | 0.00 | 1SND  |
| -213 | Max  | 0.00 | 1SND  | 0.00 | 1SND  | 0.00  | 29SND | 0.00 | 9SND  | 0.00 | 21SND | 0.00 | 1SND  |
| -213 | Min. | 0.00 | 1SND  | 0.00 | 1SND  | -0.00 | 11SND | 0.00 | 31SND | 0.00 | 3SND  | 0.00 | 1SND  |
| -212 | Max  | 0.00 | 1SND  | 0.00 | 1SND  | 0.00  | 29SND | 0.00 | 23SND | 0.00 | 9SND  | 0.00 | 1SND  |
| -212 | Min. | 0.00 | 1SND  | 0.00 | 1SND  | -0.00 | 11SND | 0.00 | 1SND  | 0.00 | 31SND | 0.00 | 1SND  |
| -211 | Max  | 0.00 | 1SND  | 0.00 | 1SND  | 0.00  | 1SND  | 0.00 | 9SND  | 0.00 | 23SND | 0.00 | 1SND  |
| -211 | Min. | 0.00 | 1SND  | 0.00 | 1SND  | 0.00  | 33SLU | 0.00 | 31SND | 0.00 | 1SND  | 0.00 | 1SND  |
| -210 | Max  | 0.00 | 1SND  | 0.00 | 1SND  | 0.00  | 23SND | 0.00 | 9SND  | 0.00 | 23SND | 0.00 | 1SND  |
| -210 | Min. | 0.00 | 1SND  | 0.00 | 1SND  | -0.00 | 1SND  | 0.00 | 31SND | 0.00 | 1SND  | 0.00 | 1SND  |
| -209 | Max  | 0.00 | 1SND  | 0.00 | 1SND  | 0.00  | 31SND | 0.00 | 3SND  | 0.00 | 13SND | 0.00 | 1SND  |
| -209 | Min. | 0.00 | 1SND  | 0.00 | 1SND  | -0.00 | 9SND  | 0.00 | 21SND | 0.00 | 27SND | 0.00 | 1SND  |
| -208 | Max  | 0.00 | 1SND  | 0.00 | 1SND  | 0.00  | 13SND | 0.00 | 27SND | 0.00 | 23SND | 0.00 | 1SND  |
| -208 | Min. | 0.00 | 1SND  | 0.00 | 1SND  | -0.00 | 27SND | 0.00 | 13SND | 0.00 | 1SND  | 0.00 | 1SND  |
| -207 | Max  | 0.00 | 1SND  | 0.00 | 1SND  | -0.00 | 13SND | 0.00 | 23SND | 0.00 | 9SND  | 0.00 | 1SND  |
| -207 | Min. | 0.00 | 1SND  | 0.00 | 1SND  | -0.00 | 33SLU | 0.00 | 1SND  | 0.00 | 31SND | 0.00 | 1SND  |
| -206 | Max  | 0.00 | 21SND | 0.00 | 15SND | -0.00 | 15SND | 0.00 | 33SLU | 0.00 | 21SND | 0.00 | 27SND |
| -206 | Min. | 0.00 | 3SND  | 0.00 | 25SND | -0.00 | 33SLU | 0.00 | 13SND | 0.00 | 3SND  | 0.00 | 13SND |
| -205 | Max  | 0.00 | 27SND | 0.00 | 13SND | -0.00 | 13SND | 0.00 | 25SND | 0.00 | 33SLU | 0.00 | 3SND  |
| -205 | Min. | 0.00 | 13SND | 0.00 | 27SND | -0.00 | 33SLU | 0.00 | 15SND | 0.00 | 27SND | 0.00 | 21SND |
| -204 | Max  | 0.00 | 1SND  | 0.00 | 1SND  | 0.00  | 13SND | 0.00 | 25SND | 0.00 | 33SLU | 0.00 | 1SND  |
| -204 | Min. | 0.00 | 1SND  | 0.00 | 1SND  | -0.00 | 33SLU | 0.00 | 15SND | 0.00 | 3SND  | 0.00 | 1SND  |
| -203 | Max  | 0.00 | 1SND  | 0.00 | 1SND  | 0.00  | 7SND  | 0.00 | 17SND | 0.00 | 23SND | 0.00 | 1SND  |
| -203 | Min. | 0.00 | 1SND  | 0.00 | 1SND  | -0.00 | 17SND | 0.00 | 7SND  | 0.00 | 1SND  | 0.00 | 1SND  |

# Relazione di calcolo

|      |      |      |       |      |       |       |       |      |       |      |       |      |       |
|------|------|------|-------|------|-------|-------|-------|------|-------|------|-------|------|-------|
| -202 | Max  | 0.00 | 1SND  | 0.00 | 1SND  | 0.00  | 15SND | 0.00 | 3SND  | 0.00 | 13SND | 0.00 | 1SND  |
| -202 | Min. | 0.00 | 1SND  | 0.00 | 1SND  | -0.00 | 25SND | 0.00 | 21SND | 0.00 | 27SND | 0.00 | 1SND  |
| -201 | Max  | 0.00 | 1SND  | 0.00 | 1SND  | 0.01  | 13SND | 0.00 | 27SND | 0.00 | 13SND | 0.00 | 1SND  |
| -201 | Min. | 0.00 | 1SND  | 0.00 | 1SND  | -0.01 | 27SND | 0.00 | 13SND | 0.00 | 27SND | 0.00 | 1SND  |
| -200 | Max  | 0.00 | 1SND  | 0.00 | 1SND  | 0.01  | 13SND | 0.00 | 21SND | 0.00 | 3SND  | 0.00 | 1SND  |
| -200 | Min. | 0.00 | 1SND  | 0.00 | 1SND  | -0.01 | 27SND | 0.00 | 3SND  | 0.00 | 21SND | 0.00 | 1SND  |
| -199 | Max  | 0.00 | 1SND  | 0.00 | 1SND  | 0.02  | 21SND | 0.00 | 29SND | 0.00 | 3SND  | 0.00 | 1SND  |
| -199 | Min. | 0.00 | 1SND  | 0.00 | 1SND  | -0.03 | 3SND  | 0.00 | 11SND | 0.00 | 21SND | 0.00 | 1SND  |
| -198 | Max  | 0.00 | 1SND  | 0.00 | 1SND  | 0.00  | 1SND  | 0.00 | 31SND | 0.00 | 23SND | 0.00 | 1SND  |
| -198 | Min. | 0.00 | 1SND  | 0.00 | 1SND  | -0.01 | 23SND | 0.00 | 9SND  | 0.00 | 1SND  | 0.00 | 1SND  |
| -197 | Max  | 0.00 | 1SND  | 0.00 | 1SND  | 0.00  | 3SND  | 0.00 | 31SND | 0.00 | 23SND | 0.00 | 1SND  |
| -197 | Min. | 0.00 | 1SND  | 0.00 | 1SND  | -0.00 | 21SND | 0.00 | 9SND  | 0.00 | 1SND  | 0.00 | 1SND  |
| -196 | Max  | 0.00 | 1SND  | 0.00 | 1SND  | 0.00  | 23SND | 0.00 | 29SND | 0.00 | 21SND | 0.00 | 1SND  |
| -196 | Min. | 0.00 | 1SND  | 0.00 | 1SND  | -0.00 | 1SND  | 0.00 | 11SND | 0.00 | 3SND  | 0.00 | 1SND  |
| -195 | Max  | 0.00 | 1SND  | 0.00 | 1SND  | -0.00 | 21SND | 0.00 | 29SND | 0.00 | 5SND  | 0.00 | 1SND  |
| -195 | Min. | 0.00 | 1SND  | 0.00 | 1SND  | -0.01 | 3SND  | 0.00 | 11SND | 0.00 | 33SLU | 0.00 | 1SND  |
| -194 | Max  | 0.00 | 1SND  | 0.00 | 1SND  | 0.00  | 1SND  | 0.00 | 21SND | 0.00 | 23SND | 0.00 | 1SND  |
| -194 | Min. | 0.00 | 1SND  | 0.00 | 1SND  | -0.01 | 23SND | 0.00 | 3SND  | 0.00 | 1SND  | 0.00 | 1SND  |
| -193 | Max  | 0.00 | 1SND  | 0.00 | 1SND  | 0.00  | 31SND | 0.00 | 29SND | 0.00 | 3SND  | 0.00 | 1SND  |
| -193 | Min. | 0.00 | 1SND  | 0.00 | 1SND  | 0.00  | 9SND  | 0.00 | 11SND | 0.00 | 21SND | 0.00 | 1SND  |
| -192 | Max  | 0.00 | 1SND  | 0.00 | 1SND  | 0.00  | 21SND | 0.00 | 3SND  | 0.00 | 21SND | 0.00 | 1SND  |
| -192 | Min. | 0.00 | 1SND  | 0.00 | 1SND  | -0.00 | 3SND  | 0.00 | 21SND | 0.00 | 3SND  | 0.00 | 1SND  |
| -191 | Max  | 0.00 | 1SND  | 0.00 | 1SND  | 0.00  | 1SND  | 0.00 | 23SND | 0.00 | 23SND | 0.00 | 1SND  |
| -191 | Min. | 0.00 | 1SND  | 0.00 | 1SND  | -0.00 | 23SND | 0.00 | 1SND  | 0.00 | 1SND  | 0.00 | 1SND  |
| -190 | Max  | 0.00 | 1SND  | 0.00 | 1SND  | 0.00  | 31SND | 0.00 | 29SND | 0.00 | 1SND  | 0.00 | 1SND  |
| -190 | Min. | 0.00 | 1SND  | 0.00 | 1SND  | 0.00  | 9SND  | 0.00 | 11SND | 0.00 | 23SND | 0.00 | 1SND  |
| -189 | Max  | 0.00 | 1SND  | 0.00 | 1SND  | 0.00  | 23SND | 0.00 | 13SND | 0.00 | 21SND | 0.00 | 1SND  |
| -189 | Min. | 0.00 | 1SND  | 0.00 | 1SND  | -0.00 | 33SLU | 0.00 | 27SND | 0.00 | 3SND  | 0.00 | 1SND  |
| -188 | Max  | 0.00 | 1SND  | 0.00 | 1SND  | -0.00 | 21SND | 0.00 | 13SND | 0.00 | 21SND | 0.00 | 1SND  |
| -188 | Min. | 0.00 | 1SND  | 0.00 | 1SND  | -0.01 | 3SND  | 0.00 | 27SND | 0.00 | 3SND  | 0.00 | 1SND  |
| -187 | Max  | 0.00 | 1SND  | 0.00 | 1SND  | 0.00  | 1SND  | 0.00 | 27SND | 0.00 | 23SND | 0.00 | 1SND  |
| -187 | Min. | 0.00 | 1SND  | 0.00 | 1SND  | -0.00 | 23SND | 0.00 | 13SND | 0.00 | 1SND  | 0.00 | 1SND  |
| -186 | Max  | 0.00 | 15SND | 0.00 | 15SND | -0.00 | 15SND | 0.00 | 31SND | 0.00 | 23SND | 0.00 | 15SND |
| -186 | Min. | 0.00 | 33SLU | 0.00 | 25SND | -0.00 | 33SLU | 0.00 | 9SND  | 0.00 | 1SND  | 0.00 | 33SLU |
| -185 | Max  | 0.00 | 13SND | 0.00 | 33SLU | -0.00 | 15SND | 0.00 | 15SND | 0.00 | 23SND | 0.00 | 15SND |
| -185 | Min. | 0.00 | 33SLU | 0.00 | 15SND | -0.00 | 33SLU | 0.00 | 33SLU | 0.00 | 1SND  | 0.00 | 25SND |
| -184 | Max  | 0.00 | 13SND | 0.00 | 25SND | -0.00 | 15SND | 0.00 | 13SND | 0.00 | 1SND  | 0.00 | 27SND |
| -184 | Min. | 0.00 | 33SLU | 0.00 | 15SND | -0.00 | 33SLU | 0.00 | 27SND | 0.00 | 23SND | 0.00 | 13SND |
| -183 | Max  | 0.00 | 13SND | 0.00 | 15SND | -0.00 | 7SND  | 0.00 | 13SND | 0.00 | 21SND | 0.00 | 19SND |
| -183 | Min. | 0.00 | 33SLU | 0.00 | 25SND | -0.01 | 33SLU | 0.00 | 27SND | 0.00 | 3SND  | 0.00 | 5SND  |
| -182 | Max  | 0.00 | 21SND | 0.00 | 13SND | -0.00 | 13SND | 0.00 | 15SND | 0.00 | 23SND | 0.00 | 17SND |
| -182 | Min. | 0.00 | 3SND  | 0.00 | 27SND | -0.01 | 33SLU | 0.00 | 33SLU | 0.00 | 1SND  | 0.00 | 7SND  |
| -181 | Max  | 0.00 | 21SND | 0.00 | 27SND | -0.00 | 15SND | 0.00 | 15SND | 0.00 | 3SND  | 0.00 | 15SND |
| -181 | Min. | 0.00 | 3SND  | 0.00 | 13SND | -0.01 | 33SLU | 0.00 | 33SLU | 0.00 | 21SND | 0.00 | 25SND |
| -180 | Max  | 0.00 | 7SND  | 0.00 | 17SND | -0.00 | 13SND | 0.00 | 13SND | 0.00 | 1SND  | 0.00 | 27SND |
| -180 | Min. | 0.00 | 17SND | 0.00 | 7SND  | -0.01 | 33SLU | 0.00 | 33SLU | 0.00 | 23SND | 0.00 | 13SND |
| -179 | Max  | 0.00 | 21SND | 0.00 | 15SND | -0.00 | 7SND  | 0.00 | 3SND  | 0.00 | 21SND | 0.00 | 3SND  |
| -179 | Min. | 0.00 | 3SND  | 0.00 | 25SND | -0.01 | 33SLU | 0.00 | 33SLU | 0.00 | 3SND  | 0.00 | 21SND |
| -178 | Max  | 0.00 | 3SND  | 0.00 | 25SND | -0.00 | 13SND | 0.00 | 15SND | 0.00 | 33SLU | 0.00 | 27SND |
| -178 | Min. | 0.00 | 21SND | 0.00 | 15SND | -0.01 | 33SLU | 0.00 | 25SND | 0.00 | 17SND | 0.00 | 13SND |
| -177 | Max  | 0.00 | 3SND  | 0.00 | 13SND | -0.00 | 13SND | 0.00 | 15SND | 0.00 | 33SLU | 0.00 | 3SND  |
| -177 | Min. | 0.00 | 21SND | 0.00 | 27SND | -0.00 | 33SLU | 0.00 | 25SND | 0.00 | 27SND | 0.00 | 21SND |
| -176 | Max  | 0.00 | 1SND  | 0.00 | 1SND  | -0.00 | 15SND | 0.00 | 15SND | 0.00 | 23SND | 0.00 | 1SND  |
| -176 | Min. | 0.00 | 1SND  | 0.00 | 1SND  | -0.00 | 33SLU | 0.00 | 25SND | 0.00 | 1SND  | 0.00 | 1SND  |
| -175 | Max  | 0.00 | 1SND  | 0.00 | 1SND  | 0.00  | 23SND | 0.00 | 13SND | 0.00 | 21SND | 0.00 | 1SND  |
| -175 | Min. | 0.00 | 1SND  | 0.00 | 1SND  | -0.00 | 1SND  | 0.00 | 27SND | 0.00 | 3SND  | 0.00 | 1SND  |
| -174 | Max  | 0.00 | 1SND  | 0.00 | 1SND  | 0.01  | 21SND | 0.00 | 13SND | 0.00 | 21SND | 0.00 | 1SND  |
| -174 | Min. | 0.00 | 1SND  | 0.00 | 1SND  | -0.01 | 3SND  | 0.00 | 27SND | 0.00 | 3SND  | 0.00 | 1SND  |
| -173 | Max  | 0.00 | 1SND  | 0.00 | 1SND  | 0.02  | 1SND  | 0.00 | 15SND | 0.00 | 3SND  | 0.00 | 1SND  |
| -173 | Min. | 0.00 | 1SND  | 0.00 | 1SND  | -0.03 | 23SND | 0.00 | 25SND | 0.00 | 21SND | 0.00 | 1SND  |
| -172 | Max  | 0.00 | 1SND  | 0.00 | 1SND  | 0.02  | 5SND  | 0.00 | 31SND | 0.00 | 3SND  | 0.00 | 1SND  |
| -172 | Min. | 0.00 | 1SND  | 0.00 | 1SND  | -0.03 | 19SND | 0.00 | 9SND  | 0.00 | 21SND | 0.00 | 1SND  |
| -171 | Max  | 0.00 | 1SND  | 0.00 | 1SND  | 0.01  | 11SND | 0.00 | 23SND | 0.00 | 19SND | 0.00 | 1SND  |
| -171 | Min. | 0.00 | 1SND  | 0.00 | 1SND  | -0.02 | 29SND | 0.00 | 1SND  | 0.00 | 5SND  | 0.00 | 1SND  |
| -170 | Max  | 0.00 | 1SND  | 0.00 | 1SND  | 0.01  | 9SND  | 0.00 | 29SND | 0.00 | 29SND | 0.00 | 1SND  |
| -170 | Min. | 0.00 | 1SND  | 0.00 | 1SND  | -0.01 | 31SND | 0.00 | 11SND | 0.00 | 11SND | 0.00 | 1SND  |
| -169 | Max  | 0.00 | 1SND  | 0.00 | 1SND  | 0.00  | 1SND  | 0.00 | 23SND | 0.00 | 23SND | 0.00 | 1SND  |
| -169 | Min. | 0.00 | 1SND  | 0.00 | 1SND  | -0.00 | 23SND | 0.00 | 1SND  | 0.00 | 1SND  | 0.00 | 1SND  |
| -168 | Max  | 0.00 | 1SND  | 0.00 | 1SND  | 0.00  | 21SND | 0.00 | 29SND | 0.00 | 5SND  | 0.00 | 1SND  |
| -168 | Min. | 0.00 | 1SND  | 0.00 | 1SND  | -0.00 | 3SND  | 0.00 | 11SND | 0.00 | 19SND | 0.00 | 1SND  |
| -167 | Max  | 0.00 | 1SND  | 0.00 | 1SND  | 0.00  | 11SND | 0.00 | 31SND | 0.00 | 9SND  | 0.00 | 1SND  |
| -167 | Min. | 0.00 | 1SND  | 0.00 | 1SND  | -0.01 | 29SND | 0.00 | 9SND  | 0.00 | 31SND | 0.00 | 1SND  |
| -166 | Max  | 0.00 | 1SND  | 0.00 | 1SND  | 0.00  | 9SND  | 0.00 | 29SND | 0.00 | 3SND  | 0.00 | 1SND  |
| -166 | Min. | 0.00 | 1SND  | 0.00 | 1SND  | -0.01 | 31SND | 0.00 | 33SLU | 0.00 | 21SND | 0.00 | 1SND  |
| -165 | Max  | 0.00 | 1SND  | 0.00 | 1SND  | 0.00  | 1SND  | 0.00 | 29SND | 0.00 | 31SND | 0.00 | 1SND  |
| -165 | Min. | 0.00 | 1SND  | 0.00 | 1SND  | -0.01 | 23SND | 0.00 | 11SND | 0.00 | 9SND  | 0.00 | 1SND  |
| -164 | Max  | 0.00 | 1SND  | 0.00 | 1SND  | 0.00  | 31SND | 0.00 | 11SND | 0.00 | 21SND | 0.00 | 1SND  |
| -164 | Min. | 0.00 | 1SND  | 0.00 | 1SND  | 0.00  | 9SND  | 0.00 | 29SND | 0.00 | 3SND  | 0.00 | 1SND  |
| -163 | Max  | 0.00 | 1SND  | 0.00 | 1SND  | 0.00  | 11SND | 0.00 | 31SND | 0.00 | 9SND  | 0.00 | 1SND  |

# Relazione di calcolo

|      |      |      |       |       |       |       |       |      |       |      |       |      |       |
|------|------|------|-------|-------|-------|-------|-------|------|-------|------|-------|------|-------|
| -163 | Min. | 0.00 | 1SND  | 0.00  | 1SND  | -0.01 | 29SND | 0.00 | 9SND  | 0.00 | 31SND | 0.00 | 1SND  |
| -162 | Max  | 0.00 | 1SND  | 0.00  | 1SND  | 0.00  | 11SND | 0.00 | 31SND | 0.00 | 3SND  | 0.00 | 1SND  |
| -162 | Min. | 0.00 | 1SND  | 0.00  | 1SND  | -0.01 | 29SND | 0.00 | 33SLU | 0.00 | 21SND | 0.00 | 1SND  |
| -161 | Max  | 0.00 | 1SND  | 0.00  | 1SND  | 0.00  | 9SND  | 0.00 | 29SND | 0.00 | 31SND | 0.00 | 1SND  |
| -161 | Min. | 0.00 | 1SND  | 0.00  | 1SND  | -0.01 | 31SND | 0.00 | 11SND | 0.00 | 9SND  | 0.00 | 1SND  |
| -160 | Max  | 0.00 | 1SND  | 0.00  | 1SND  | 0.00  | 29SND | 0.00 | 21SND | 0.00 | 21SND | 0.00 | 1SND  |
| -160 | Min. | 0.00 | 1SND  | 0.00  | 1SND  | 0.00  | 11SND | 0.00 | 3SND  | 0.00 | 3SND  | 0.00 | 1SND  |
| -159 | Max  | 0.00 | 1SND  | 0.00  | 1SND  | 0.00  | 21SND | 0.00 | 3SND  | 0.00 | 21SND | 0.00 | 1SND  |
| -159 | Min. | 0.00 | 1SND  | 0.00  | 1SND  | -0.00 | 3SND  | 0.00 | 21SND | 0.00 | 3SND  | 0.00 | 1SND  |
| -158 | Max  | 0.00 | 1SND  | 0.00  | 1SND  | 0.00  | 27SND | 0.00 | 31SND | 0.00 | 9SND  | 0.00 | 1SND  |
| -158 | Min. | 0.00 | 1SND  | 0.00  | 1SND  | -0.01 | 13SND | 0.00 | 9SND  | 0.00 | 31SND | 0.00 | 1SND  |
| -157 | Max  | 0.00 | 1SND  | 0.00  | 1SND  | 0.00  | 25SND | 0.00 | 13SND | 0.00 | 3SND  | 0.00 | 1SND  |
| -157 | Min. | 0.00 | 1SND  | 0.00  | 1SND  | -0.01 | 15SND | 0.00 | 33SLU | 0.00 | 21SND | 0.00 | 1SND  |
| -156 | Max  | 0.00 | 1SND  | 0.00  | 1SND  | 0.00  | 1SND  | 0.00 | 13SND | 0.00 | 31SND | 0.00 | 1SND  |
| -156 | Min. | 0.00 | 1SND  | 0.00  | 1SND  | -0.00 | 23SND | 0.00 | 27SND | 0.00 | 9SND  | 0.00 | 1SND  |
| -155 | Max  | 0.00 | 1SND  | 0.00  | 1SND  | 0.00  | 1SND  | 0.00 | 23SND | 0.00 | 23SND | 0.00 | 1SND  |
| -155 | Min. | 0.00 | 1SND  | 0.00  | 1SND  | -0.00 | 33SLU | 0.00 | 33SLU | 0.00 | 1SND  | 0.00 | 1SND  |
| -154 | Max  | 0.00 | 1SND  | 0.00  | 1SND  | 0.00  | 23SND | 0.00 | 15SND | 0.00 | 1SND  | 0.00 | 1SND  |
| -154 | Min. | 0.00 | 1SND  | 0.00  | 1SND  | -0.00 | 33SLU | 0.00 | 33SLU | 0.00 | 23SND | 0.00 | 1SND  |
| -153 | Max  | 0.00 | 1SND  | 0.00  | 1SND  | 0.00  | 27SND | 0.00 | 13SND | 0.00 | 27SND | 0.00 | 1SND  |
| -153 | Min. | 0.00 | 1SND  | 0.00  | 1SND  | -0.00 | 13SND | 0.00 | 33SLU | 0.00 | 13SND | 0.00 | 1SND  |
| -152 | Max  | 0.00 | 1SND  | 0.00  | 1SND  | 0.00  | 27SND | 0.00 | 13SND | 0.00 | 25SND | 0.00 | 1SND  |
| -152 | Min. | 0.00 | 1SND  | 0.00  | 1SND  | -0.01 | 13SND | 0.00 | 27SND | 0.00 | 15SND | 0.00 | 1SND  |
| -151 | Max  | 0.00 | 1SND  | 0.00  | 1SND  | 0.01  | 25SND | 0.00 | 13SND | 0.00 | 23SND | 0.00 | 1SND  |
| -151 | Min. | 0.00 | 1SND  | 0.00  | 1SND  | -0.01 | 15SND | 0.00 | 27SND | 0.00 | 1SND  | 0.00 | 1SND  |
| -150 | Max  | 0.00 | 1SND  | 0.00  | 1SND  | 0.00  | 25SND | 0.00 | 15SND | 0.00 | 15SND | 0.00 | 1SND  |
| -150 | Min. | 0.00 | 1SND  | 0.00  | 1SND  | -0.00 | 15SND | 0.00 | 25SND | 0.00 | 25SND | 0.00 | 1SND  |
| -149 | Max  | 0.00 | 1SND  | 0.00  | 1SND  | 0.00  | 15SND | 0.00 | 15SND | 0.00 | 7SND  | 0.00 | 1SND  |
| -149 | Min. | 0.00 | 1SND  | 0.00  | 1SND  | -0.00 | 33SLU | 0.00 | 33SLU | 0.00 | 17SND | 0.00 | 1SND  |
| -148 | Max  | 0.00 | 1SND  | 0.00  | 1SND  | 0.00  | 27SND | 0.00 | 15SND | 0.00 | 21SND | 0.00 | 1SND  |
| -148 | Min. | 0.00 | 1SND  | 0.00  | 1SND  | -0.00 | 33SLU | 0.00 | 33SLU | 0.00 | 3SND  | 0.00 | 1SND  |
| -147 | Max  | 0.00 | 1SND  | 0.00  | 1SND  | 0.00  | 27SND | 0.00 | 13SND | 0.00 | 25SND | 0.00 | 1SND  |
| -147 | Min. | 0.00 | 1SND  | 0.00  | 1SND  | -0.00 | 13SND | 0.00 | 27SND | 0.00 | 15SND | 0.00 | 1SND  |
| -146 | Max  | 0.00 | 1SND  | 0.00  | 1SND  | 0.01  | 27SND | 0.00 | 15SND | 0.00 | 21SND | 0.00 | 1SND  |
| -146 | Min. | 0.00 | 1SND  | 0.00  | 1SND  | -0.01 | 13SND | 0.00 | 25SND | 0.00 | 3SND  | 0.00 | 1SND  |
| -145 | Max  | 0.00 | 1SND  | 0.00  | 1SND  | 0.00  | 25SND | 0.00 | 15SND | 0.00 | 13SND | 0.00 | 1SND  |
| -145 | Min. | 0.00 | 1SND  | 0.00  | 1SND  | -0.01 | 15SND | 0.00 | 25SND | 0.00 | 27SND | 0.00 | 1SND  |
| -144 | Max  | 0.00 | 1SND  | 0.00  | 1SND  | 0.00  | 25SND | 0.00 | 15SND | 0.00 | 15SND | 0.00 | 1SND  |
| -144 | Min. | 0.00 | 1SND  | 0.00  | 1SND  | -0.00 | 15SND | 0.00 | 25SND | 0.00 | 25SND | 0.00 | 1SND  |
| -143 | Max  | 0.00 | 1SND  | 0.00  | 1SND  | 0.00  | 17SND | 0.00 | 15SND | 0.00 | 7SND  | 0.00 | 1SND  |
| -143 | Min. | 0.00 | 1SND  | 0.00  | 1SND  | -0.00 | 33SLU | 0.00 | 25SND | 0.00 | 17SND | 0.00 | 1SND  |
| -142 | Max  | 0.00 | 1SND  | 0.00  | 1SND  | 0.00  | 21SND | 0.00 | 13SND | 0.00 | 21SND | 0.00 | 1SND  |
| -142 | Min. | 0.00 | 1SND  | 0.00  | 1SND  | -0.00 | 3SND  | 0.00 | 27SND | 0.00 | 3SND  | 0.00 | 1SND  |
| -141 | Max  | 0.00 | 1SND  | 0.00  | 1SND  | 0.01  | 27SND | 0.00 | 15SND | 0.00 | 25SND | 0.00 | 1SND  |
| -141 | Min. | 0.00 | 1SND  | 0.00  | 1SND  | -0.01 | 13SND | 0.00 | 25SND | 0.00 | 15SND | 0.00 | 1SND  |
| -140 | Max  | 0.00 | 1SND  | 0.00  | 1SND  | 0.02  | 25SND | 0.00 | 13SND | 0.00 | 17SND | 0.00 | 1SND  |
| -140 | Min. | 0.00 | 1SND  | 0.00  | 1SND  | -0.03 | 15SND | 0.00 | 27SND | 0.00 | 7SND  | 0.00 | 1SND  |
| -139 | Max  | 0.00 | 1SND  | 0.00  | 1SND  | 0.03  | 25SND | 0.00 | 13SND | 0.00 | 1SND  | 0.00 | 1SND  |
| -139 | Min. | 0.00 | 1SND  | 0.00  | 1SND  | -0.04 | 15SND | 0.00 | 27SND | 0.00 | 23SND | 0.00 | 1SND  |
| -138 | Max  | 0.00 | 19SND | 0.00  | 33SLU | -0.00 | 27SND | 0.00 | 11SND | 0.00 | 7SND  | 0.00 | 17SND |
| -138 | Min. | 0.00 | 5SND  | 0.00  | 27SND | -0.00 | 33SLU | 0.00 | 29SND | 0.00 | 17SND | 0.00 | 7SND  |
| -137 | Max  | 0.00 | 17SND | 0.00  | 33SLU | -0.00 | 27SND | 0.00 | 13SND | 0.00 | 17SND | 0.00 | 27SND |
| -137 | Min. | 0.00 | 7SND  | 0.00  | 27SND | -0.00 | 33SLU | 0.00 | 33SLU | 0.00 | 7SND  | 0.00 | 33SLU |
| -136 | Max  | 0.00 | 17SND | 0.00  | 33SLU | -0.00 | 27SND | 0.00 | 25SND | 0.00 | 7SND  | 0.00 | 19SND |
| -136 | Min. | 0.00 | 7SND  | 0.00  | 25SND | -0.00 | 33SLU | 0.00 | 15SND | 0.00 | 17SND | 0.00 | 33SLU |
| -135 | Max  | 0.00 | 17SND | 0.00  | 15SND | -0.00 | 27SND | 0.00 | 17SND | 0.00 | 17SND | 0.00 | 25SND |
| -135 | Min. | 0.00 | 7SND  | 0.00  | 25SND | -0.01 | 33SLU | 0.00 | 7SND  | 0.00 | 7SND  | 0.00 | 15SND |
| -134 | Max  | 0.00 | 7SND  | 0.01  | 15SND | -0.00 | 27SND | 0.00 | 25SND | 0.00 | 7SND  | 0.00 | 21SND |
| -134 | Min. | 0.00 | 17SND | -0.00 | 25SND | -0.01 | 33SLU | 0.00 | 15SND | 0.00 | 17SND | 0.00 | 3SND  |
| -133 | Max  | 0.00 | 17SND | 0.00  | 13SND | -0.00 | 25SND | 0.00 | 15SND | 0.00 | 17SND | 0.00 | 15SND |
| -133 | Min. | 0.00 | 7SND  | 0.00  | 27SND | -0.01 | 33SLU | 0.00 | 25SND | 0.00 | 7SND  | 0.00 | 25SND |
| -132 | Max  | 0.00 | 33SLU | 0.00  | 33SLU | -0.00 | 25SND | 0.00 | 27SND | 0.00 | 5SND  | 0.00 | 25SND |
| -132 | Min. | 0.00 | 1SND  | 0.00  | 27SND | -0.01 | 33SLU | 0.00 | 13SND | 0.00 | 19SND | 0.00 | 15SND |
| -131 | Max  | 0.00 | 21SND | 0.00  | 33SLU | -0.00 | 27SND | 0.00 | 25SND | 0.00 | 7SND  | 0.00 | 13SND |
| -131 | Min. | 0.00 | 3SND  | 0.00  | 27SND | -0.01 | 33SLU | 0.00 | 15SND | 0.00 | 17SND | 0.00 | 27SND |
| -130 | Max  | 0.00 | 17SND | 0.00  | 13SND | -0.00 | 27SND | 0.00 | 13SND | 0.00 | 17SND | 0.00 | 27SND |
| -130 | Min. | 0.00 | 7SND  | 0.00  | 27SND | -0.01 | 33SLU | 0.00 | 27SND | 0.00 | 7SND  | 0.00 | 13SND |
| -129 | Max  | 0.00 | 7SND  | 0.01  | 13SND | -0.00 | 27SND | 0.00 | 27SND | 0.00 | 7SND  | 0.00 | 27SND |
| -129 | Min. | 0.00 | 17SND | -0.00 | 27SND | -0.01 | 33SLU | 0.00 | 13SND | 0.00 | 17SND | 0.00 | 13SND |
| -128 | Max  | 0.00 | 25SND | 0.00  | 13SND | -0.00 | 27SND | 0.00 | 27SND | 0.00 | 17SND | 0.00 | 13SND |
| -128 | Min. | 0.00 | 33SLU | -0.00 | 27SND | -0.01 | 33SLU | 0.00 | 13SND | 0.00 | 7SND  | 0.00 | 27SND |
| -127 | Max  | 0.00 | 17SND | 0.00  | 13SND | -0.00 | 25SND | 0.00 | 27SND | 0.00 | 7SND  | 0.00 | 15SND |
| -127 | Min. | 0.00 | 7SND  | 0.00  | 27SND | -0.01 | 33SLU | 0.00 | 13SND | 0.00 | 17SND | 0.00 | 25SND |
| -126 | Max  | 0.00 | 19SND | 0.00  | 33SLU | -0.00 | 27SND | 0.00 | 29SND | 0.00 | 19SND | 0.00 | 33SLU |
| -126 | Min. | 0.00 | 5SND  | 0.00  | 27SND | -0.00 | 33SLU | 0.00 | 11SND | 0.00 | 5SND  | 0.00 | 27SND |
| -125 | Max  | 0.00 | 13SND | 0.00  | 13SND | -0.00 | 25SND | 0.00 | 13SND | 0.00 | 15SND | 0.00 | 27SND |
| -125 | Min. | 0.00 | 27SND | 0.00  | 27SND | -0.00 | 33SLU | 0.00 | 27SND | 0.00 | 33SLU | 0.00 | 13SND |
| -124 | Max  | 0.00 | 19SND | 0.00  | 13SND | -0.00 | 27SND | 0.00 | 27SND | 0.00 | 17SND | 0.00 | 5SND  |
| -124 | Min. | 0.00 | 5SND  | 0.00  | 27SND | -0.00 | 33SLU | 0.00 | 13SND | 0.00 | 7SND  | 0.00 | 19SND |

# Relazione di calcolo

|      |      |      |    |     |       |    |     |       |    |     |      |    |     |      |    |     |      |    |     |
|------|------|------|----|-----|-------|----|-----|-------|----|-----|------|----|-----|------|----|-----|------|----|-----|
| -123 | Max  | 0.00 | 33 | SLU | 0.00  | 19 | SND | -0.00 | 21 | SND | 0.00 | 7  | SND | 0.00 | 15 | SND | 0.00 | 17 | SND |
| -123 | Min. | 0.00 | 21 | SND | 0.00  | 5  | SND | -0.00 | 33 | SLU | 0.00 | 17 | SND | 0.00 | 25 | SND | 0.00 | 33 | SLU |
| -122 | Max  | 0.00 | 13 | SND | 0.00  | 33 | SLU | -0.00 | 15 | SND | 0.00 | 7  | SND | 0.00 | 13 | SND | 0.00 | 15 | SND |
| -122 | Min. | 0.00 | 27 | SND | 0.00  | 5  | SND | -0.00 | 33 | SLU | 0.00 | 33 | SLU | 0.00 | 27 | SND | 0.00 | 33 | SLU |
| -121 | Max  | 0.00 | 13 | SND | 0.00  | 33 | SLU | -0.00 | 15 | SND | 0.00 | 7  | SND | 0.00 | 13 | SND | 0.00 | 13 | SND |
| -121 | Min. | 0.00 | 27 | SND | 0.00  | 15 | SND | -0.00 | 33 | SLU | 0.00 | 33 | SLU | 0.00 | 27 | SND | 0.00 | 27 | SND |
| -120 | Max  | 0.00 | 13 | SND | 0.00  | 33 | SLU | -0.00 | 13 | SND | 0.00 | 7  | SND | 0.00 | 33 | SLU | 0.00 | 17 | SND |
| -120 | Min. | 0.00 | 27 | SND | 0.00  | 15 | SND | -0.00 | 33 | SLU | 0.00 | 33 | SLU | 0.00 | 27 | SND | 0.00 | 7  | SND |
| -119 | Max  | 0.00 | 25 | SND | 0.00  | 33 | SLU | -0.00 | 13 | SND | 0.00 | 21 | SND | 0.00 | 17 | SND | 0.00 | 27 | SND |
| -119 | Min. | 0.00 | 15 | SND | 0.00  | 25 | SND | -0.00 | 33 | SLU | 0.00 | 33 | SLU | 0.00 | 7  | SND | 0.00 | 13 | SND |
| -118 | Max  | 0.00 | 25 | SND | 0.00  | 33 | SLU | -0.00 | 13 | SND | 0.00 | 27 | SND | 0.00 | 25 | SND | 0.00 | 27 | SND |
| -118 | Min. | 0.00 | 33 | SLU | 0.00  | 27 | SND | -0.00 | 33 | SLU | 0.00 | 33 | SLU | 0.00 | 15 | SND | 0.00 | 13 | SND |
| -117 | Max  | 0.00 | 25 | SND | 0.00  | 33 | SLU | -0.00 | 13 | SND | 0.00 | 5  | SND | 0.00 | 5  | SND | 0.00 | 15 | SND |
| -117 | Min. | 0.00 | 33 | SLU | 0.00  | 27 | SND | -0.00 | 33 | SLU | 0.00 | 33 | SLU | 0.00 | 33 | SLU | 0.00 | 25 | SND |
| -116 | Max  | 0.00 | 25 | SND | 0.00  | 33 | SLU | -0.00 | 13 | SND | 0.00 | 5  | SND | 0.00 | 25 | SND | 0.00 | 15 | SND |
| -116 | Min. | 0.00 | 33 | SLU | 0.00  | 7  | SND | -0.00 | 33 | SLU | 0.00 | 33 | SLU | 0.00 | 33 | SLU | 0.00 | 25 | SND |
| -115 | Max  | 0.00 | 25 | SND | 0.00  | 33 | SLU | -0.00 | 3  | SND | 0.00 | 27 | SND | 0.00 | 27 | SND | 0.00 | 33 | SLU |
| -115 | Min. | 0.00 | 33 | SLU | 0.00  | 15 | SND | -0.00 | 33 | SLU | 0.00 | 33 | SLU | 0.00 | 33 | SLU | 0.00 | 7  | SND |
| -114 | Max  | 0.00 | 25 | SND | 0.00  | 33 | SLU | -0.00 | 17 | SND | 0.00 | 27 | SND | 0.00 | 25 | SND | 0.00 | 33 | SLU |
| -114 | Min. | 0.00 | 33 | SLU | 0.00  | 15 | SND | -0.00 | 33 | SLU | 0.00 | 13 | SND | 0.00 | 15 | SND | 0.00 | 15 | SND |
| -113 | Max  | 0.00 | 25 | SND | 0.00  | 13 | SND | -0.00 | 25 | SND | 0.00 | 27 | SND | 0.00 | 7  | SND | 0.00 | 27 | SND |
| -113 | Min. | 0.00 | 33 | SLU | 0.00  | 27 | SND | -0.00 | 33 | SLU | 0.00 | 13 | SND | 0.00 | 33 | SLU | 0.00 | 13 | SND |
| -112 | Max  | 0.00 | 33 | SLU | 0.00  | 13 | SND | -0.00 | 21 | SND | 0.00 | 21 | SND | 0.00 | 25 | SND | 0.00 | 21 | SND |
| -112 | Min. | 0.00 | 13 | SND | 0.00  | 27 | SND | -0.00 | 33 | SLU | 0.00 | 33 | SLU | 0.00 | 15 | SND | 0.00 | 3  | SND |
| -111 | Max  | 0.00 | 25 | SND | 0.00  | 13 | SND | -0.00 | 17 | SND | 0.00 | 15 | SND | 0.00 | 15 | SND | 0.00 | 3  | SND |
| -111 | Min. | 0.00 | 33 | SLU | 0.00  | 27 | SND | -0.00 | 33 | SLU | 0.00 | 33 | SLU | 0.00 | 33 | SLU | 0.00 | 21 | SND |
| -110 | Max  | 0.00 | 33 | SLU | 0.00  | 13 | SND | -0.00 | 7  | SND | 0.00 | 25 | SND | 0.00 | 31 | SND | 0.00 | 3  | SND |
| -110 | Min. | 0.00 | 5  | SND | 0.00  | 27 | SND | -0.00 | 33 | SLU | 0.00 | 15 | SND | 0.00 | 9  | SND | 0.00 | 21 | SND |
| -109 | Max  | 0.00 | 33 | SLU | 0.00  | 33 | SLU | -0.00 | 23 | SND | 0.00 | 3  | SND | 0.00 | 1  | SND | 0.00 | 15 | SND |
| -109 | Min. | 0.00 | 5  | SND | 0.00  | 13 | SND | -0.00 | 33 | SLU | 0.00 | 21 | SND | 0.00 | 23 | SND | 0.00 | 33 | SLU |
| -108 | Max  | 0.00 | 33 | SLU | 0.00  | 33 | SLU | -0.00 | 27 | SND | 0.00 | 13 | SND | 0.00 | 33 | SLU | 0.00 | 15 | SND |
| -108 | Min. | 0.00 | 7  | SND | 0.00  | 15 | SND | -0.00 | 33 | SLU | 0.00 | 33 | SLU | 0.00 | 3  | SND | 0.00 | 33 | SLU |
| -107 | Max  | 0.00 | 33 | SLU | 0.00  | 33 | SLU | -0.00 | 25 | SND | 0.00 | 13 | SND | 0.00 | 1  | SND | 0.00 | 15 | SND |
| -107 | Min. | 0.00 | 7  | SND | 0.00  | 15 | SND | -0.00 | 33 | SLU | 0.00 | 33 | SLU | 0.00 | 23 | SND | 0.00 | 33 | SLU |
| -106 | Max  | 0.00 | 33 | SLU | 0.00  | 33 | SLU | 0.00  | 25 | SND | 0.00 | 15 | SND | 0.00 | 21 | SND | 0.00 | 13 | SND |
| -106 | Min. | 0.00 | 7  | SND | 0.00  | 15 | SND | -0.00 | 33 | SLU | 0.00 | 33 | SLU | 0.00 | 3  | SND | 0.00 | 27 | SND |
| -105 | Max  | 0.00 | 17 | SND | 0.00  | 33 | SLU | 0.00  | 25 | SND | 0.00 | 15 | SND | 0.00 | 1  | SND | 0.00 | 15 | SND |
| -105 | Min. | 0.00 | 7  | SND | 0.00  | 13 | SND | -0.00 | 33 | SLU | 0.00 | 33 | SLU | 0.00 | 23 | SND | 0.00 | 25 | SND |
| -104 | Max  | 0.00 | 3  | SND | 0.00  | 33 | SLU | 0.00  | 25 | SND | 0.00 | 15 | SND | 0.00 | 13 | SND | 0.00 | 7  | SND |
| -104 | Min. | 0.00 | 33 | SLU | 0.00  | 15 | SND | -0.00 | 33 | SLU | 0.00 | 33 | SLU | 0.00 | 33 | SLU | 0.00 | 17 | SND |
| -103 | Max  | 0.00 | 13 | SND | 0.00  | 33 | SLU | 0.00  | 25 | SND | 0.00 | 15 | SND | 0.00 | 17 | SND | 0.00 | 27 | SND |
| -103 | Min. | 0.00 | 33 | SLU | 0.00  | 15 | SND | -0.00 | 33 | SLU | 0.00 | 33 | SLU | 0.00 | 33 | SLU | 0.00 | 13 | SND |
| -102 | Max  | 0.00 | 13 | SND | 0.00  | 33 | SLU | -0.00 | 1  | SND | 0.00 | 15 | SND | 0.00 | 3  | SND | 0.00 | 25 | SND |
| -102 | Min. | 0.00 | 33 | SLU | 0.00  | 15 | SND | -0.00 | 33 | SLU | 0.00 | 33 | SLU | 0.00 | 33 | SLU | 0.00 | 15 | SND |
| -101 | Max  | 0.00 | 13 | SND | 0.00  | 33 | SLU | -0.00 | 3  | SND | 0.00 | 25 | SND | 0.00 | 23 | SND | 0.00 | 33 | SLU |
| -101 | Min. | 0.00 | 33 | SLU | 0.00  | 27 | SND | -0.00 | 33 | SLU | 0.00 | 15 | SND | 0.00 | 33 | SLU | 0.00 | 15 | SND |
| -100 | Max  | 0.00 | 13 | SND | 0.00  | 15 | SND | -0.00 | 3  | SND | 0.00 | 13 | SND | 0.00 | 13 | SND | 0.00 | 33 | SLU |
| -100 | Min. | 0.00 | 33 | SLU | 0.00  | 25 | SND | -0.00 | 33 | SLU | 0.00 | 27 | SND | 0.00 | 27 | SND | 0.00 | 15 | SND |
| -99  | Max  | 0.00 | 13 | SND | 0.00  | 13 | SND | -0.00 | 3  | SND | 0.00 | 25 | SND | 0.00 | 7  | SND | 0.00 | 15 | SND |
| -99  | Min. | 0.00 | 33 | SLU | 0.00  | 27 | SND | -0.00 | 33 | SLU | 0.00 | 15 | SND | 0.00 | 33 | SLU | 0.00 | 25 | SND |
| -98  | Max  | 0.00 | 3  | SND | 0.00  | 15 | SND | -0.00 | 15 | SND | 0.00 | 31 | SND | 0.00 | 3  | SND | 0.00 | 13 | SND |
| -98  | Min. | 0.00 | 21 | SND | 0.00  | 25 | SND | -0.00 | 33 | SLU | 0.00 | 9  | SND | 0.00 | 21 | SND | 0.00 | 33 | SLU |
| -97  | Max  | 0.00 | 25 | SND | 0.00  | 13 | SND | -0.00 | 13 | SND | 0.00 | 15 | SND | 0.00 | 27 | SND | 0.00 | 25 | SND |
| -97  | Min. | 0.00 | 33 | SLU | 0.00  | 33 | SLU | -0.00 | 33 | SLU | 0.00 | 25 | SND | 0.00 | 13 | SND | 0.00 | 15 | SND |
| -96  | Max  | 0.00 | 1  | SND | 0.00  | 15 | SND | -0.00 | 15 | SND | 0.00 | 9  | SND | 0.00 | 25 | SND | 0.00 | 21 | SND |
| -96  | Min. | 0.00 | 23 | SND | 0.00  | 33 | SLU | -0.00 | 33 | SLU | 0.00 | 31 | SND | 0.00 | 15 | SND | 0.00 | 3  | SND |
| -95  | Max  | 0.00 | 3  | SND | 0.00  | 15 | SND | -0.00 | 15 | SND | 0.00 | 15 | SND | 0.00 | 3  | SND | 0.00 | 33 | SLU |
| -95  | Min. | 0.00 | 21 | SND | 0.00  | 33 | SLU | -0.00 | 33 | SLU | 0.00 | 25 | SND | 0.00 | 21 | SND | 0.00 | 15 | SND |
| -94  | Max  | 0.00 | 3  | SND | 0.00  | 13 | SND | -0.00 | 15 | SND | 0.00 | 27 | SND | 0.00 | 21 | SND | 0.00 | 33 | SLU |
| -94  | Min. | 0.00 | 21 | SND | -0.00 | 33 | SLU | -0.00 | 33 | SLU | 0.00 | 13 | SND | 0.00 | 3  | SND | 0.00 | 9  | SND |
| -93  | Max  | 0.00 | 3  | SND | 0.00  | 13 | SND | -0.00 | 15 | SND | 0.00 | 27 | SND | 0.00 | 3  | SND | 0.00 | 27 | SND |
| -93  | Min. | 0.00 | 21 | SND | -0.00 | 27 | SND | -0.01 | 33 | SLU | 0.00 | 13 | SND | 0.00 | 21 | SND | 0.00 | 13 | SND |
| -92  | Max  | 0.00 | 21 | SND | 0.00  | 15 | SND | -0.00 | 15 | SND | 0.00 | 27 | SND | 0.00 | 21 | SND | 0.00 | 17 | SND |
| -92  | Min. | 0.00 | 3  | SND | -0.01 | 25 | SND | -0.01 | 33 | SLU | 0.00 | 13 | SND | 0.00 | 3  | SND | 0.00 | 7  | SND |
| -91  | Max  | 0.00 | 3  | SND | 0.00  | 15 | SND | -0.00 | 13 | SND | 0.00 | 13 | SND | 0.00 | 3  | SND | 0.00 | 13 | SND |
| -91  | Min. | 0.00 | 21 | SND | -0.00 | 25 | SND | -0.01 | 33 | SLU | 0.00 | 27 | SND | 0.00 | 21 | SND | 0.00 | 27 | SND |
| -90  | Max  | 0.00 | 33 | SLU | 0.00  | 15 | SND | -0.00 | 13 | SND | 0.00 | 25 | SND | 0.00 | 23 | SND | 0.00 | 27 | SND |
| -90  | Min. | 0.00 | 19 | SND | -0.00 | 33 | SLU | -0.01 | 33 | SLU | 0.00 | 15 | SND | 0.00 | 1  | SND | 0.00 | 13 | SND |
| -89  | Max  | 0.00 | 7  | SND | 0.00  | 15 | SND | -0.00 | 15 | SND | 0.00 | 27 | SND | 0.00 | 21 | SND | 0.00 | 15 | SND |
| -89  | Min. | 0.00 | 17 | SND | -0.00 | 33 | SLU | -0.01 | 33 | SLU | 0.00 | 13 | SND | 0.00 | 3  | SND | 0.00 | 25 | SND |
| -88  | Max  | 0.00 | 3  | SND | 0.00  | 15 | SND | -0.00 | 15 | SND | 0.00 | 15 | SND | 0.00 | 3  | SND | 0.00 | 25 | SND |
| -88  | Min. | 0.00 | 21 | SND | -0.00 | 25 | SND | -0.01 | 33 | SLU | 0.00 | 25 | SND | 0.00 | 21 | SND | 0.00 | 15 | SND |
| -87  | Max  | 0.00 | 21 | SND | 0.00  | 15 | SND | -0.00 | 15 | SND | 0.00 | 25 | SND | 0.00 | 21 | SND | 0.00 | 25 | SND |
| -87  | Min. | 0.00 | 3  | SND | -0.01 | 25 | SND | -0.01 | 33 | SLU | 0.00 | 15 | SND | 0.00 | 3  | SND | 0.00 | 15 | SND |
| -86  | Max  | 0.00 | 13 | SND | 0.00  | 15 | SND | -0.00 | 15 | SND | 0.00 | 25 | SND | 0.00 | 3  | SND | 0.00 | 15 | SND |
| -86  | Min. | 0.00 | 33 | SLU | -0.00 | 25 | SND | -0.01 | 33 | SLU | 0.00 | 15 | SND | 0.00 | 21 | SND | 0.00 | 25 | SND |
| -85  | Max  | 0.00 | 3  | SND | 0.00  | 15 | SND | -0.00 | 13 | SND | 0.00 | 25 | SND | 0.00 | 21 | SND | 0.00 | 13 | SND |
| -85  | Min. | 0.00 | 21 | SND | 0.00  | 25 | SND | -0.01 | 33 | SLU | 0.00 | 15 | SND | 0.00 | 3  | SND | 0.00 | 27 | SND |
| -84  | Max  | 0.00 | 1  | SND | 0.00  | 1  | SND | -0.00 | 27 | SND | 0.00 | 27 | SND | 0.00 | 17 | SND | 0.00 | 1  | SND |

## Relazione di calcolo

|         |      |      |      |      |            |             |      |       |      |      |
|---------|------|------|------|------|------------|-------------|------|-------|------|------|
| -84Min. | 0.00 | 1SND | 0.00 | 1SND | -0.0033SLU | 0.0033SLU   | 0.00 | 7SND  | 0.00 | 1SND |
| -83Max  | 0.00 | 1SND | 0.00 | 1SND | -0.0027SND | 0.0027SND   | 0.00 | 5SND  | 0.00 | 1SND |
| -83Min. | 0.00 | 1SND | 0.00 | 1SND | -0.0033SLU | 0.0033SLU   | 0.00 | 19SND | 0.00 | 1SND |
| -82Max  | 0.00 | 1SND | 0.00 | 1SND | -0.0027SND | 0.0027SND   | 0.00 | 17SND | 0.00 | 1SND |
| -82Min. | 0.00 | 1SND | 0.00 | 1SND | -0.0033SLU | 0.0033SLU   | 0.00 | 7SND  | 0.00 | 1SND |
| -81Max  | 0.00 | 1SND | 0.00 | 1SND | -0.0027SND | 0.0027SND   | 0.00 | 5SND  | 0.00 | 1SND |
| -81Min. | 0.00 | 1SND | 0.00 | 1SND | -0.0133SLU | 0.0013SND   | 0.00 | 19SND | 0.00 | 1SND |
| -80Max  | 0.00 | 1SND | 0.00 | 1SND | -0.0027SND | 0.0027SND   | 0.00 | 17SND | 0.00 | 1SND |
| -80Min. | 0.00 | 1SND | 0.00 | 1SND | -0.0133SLU | 0.0013SND   | 0.00 | 7SND  | 0.00 | 1SND |
| -79Max  | 0.00 | 1SND | 0.00 | 1SND | -0.0025SND | 0.0025SND   | 0.00 | 7SND  | 0.00 | 1SND |
| -79Min. | 0.00 | 1SND | 0.00 | 1SND | -0.0133SLU | 0.0015SND   | 0.00 | 17SND | 0.00 | 1SND |
| -78Max  | 0.00 | 1SND | 0.00 | 1SND | -0.0027SND | 0.0027SND   | 0.00 | 19SND | 0.00 | 1SND |
| -78Min. | 0.00 | 1SND | 0.00 | 1SND | -0.0133SLU | 0.0033SLU   | 0.00 | 5SND  | 0.00 | 1SND |
| -77Max  | 0.00 | 1SND | 0.00 | 1SND | -0.0027SND | 0.0027SND   | 0.00 | 17SND | 0.00 | 1SND |
| -77Min. | 0.00 | 1SND | 0.00 | 1SND | -0.0133SLU | 0.0033SLU   | 0.00 | 7SND  | 0.00 | 1SND |
| -76Max  | 0.00 | 1SND | 0.00 | 1SND | -0.0027SND | 0.0027SND   | 0.00 | 7SND  | 0.00 | 1SND |
| -76Min. | 0.00 | 1SND | 0.00 | 1SND | -0.0133SLU | 0.0013SND   | 0.00 | 17SND | 0.00 | 1SND |
| -75Max  | 0.00 | 1SND | 0.00 | 1SND | -0.0027SND | 0.0027SND   | 0.00 | 17SND | 0.00 | 1SND |
| -75Min. | 0.00 | 1SND | 0.00 | 1SND | -0.0133SLU | 0.0013SND   | 0.00 | 7SND  | 0.00 | 1SND |
| -74Max  | 0.00 | 1SND | 0.00 | 1SND | -0.0027SND | 0.0027SND   | 0.00 | 7SND  | 0.00 | 1SND |
| -74Min. | 0.00 | 1SND | 0.00 | 1SND | -0.0133SLU | 0.0013SND   | 0.00 | 17SND | 0.00 | 1SND |
| -73Max  | 0.00 | 1SND | 0.00 | 1SND | -0.0025SND | 0.0027SND   | 0.00 | 17SND | 0.00 | 1SND |
| -73Min. | 0.00 | 1SND | 0.00 | 1SND | -0.0133SLU | 0.0013SND   | 0.00 | 7SND  | 0.00 | 1SND |
| -72Max  | 0.00 | 1SND | 0.00 | 1SND | -0.0027SND | 0.0027SND   | 0.00 | 7SND  | 0.00 | 1SND |
| -72Min. | 0.00 | 1SND | 0.00 | 1SND | -0.0033SLU | 0.0013SND   | 0.00 | 17SND | 0.00 | 1SND |
| -71Max  | 0.00 | 1SND | 0.00 | 1SND | -0.0027SND | 0.0027SND   | 0.00 | 19SND | 0.00 | 1SND |
| -71Min. | 0.00 | 1SND | 0.00 | 1SND | -0.0033SLU | 0.0033SLU   | 0.00 | 5SND  | 0.00 | 1SND |
| -70Max  | 0.00 | 1SND | 0.00 | 1SND | -0.005SND  | 0.0027SND   | 0.00 | 7SND  | 0.00 | 1SND |
| -70Min. | 0.00 | 1SND | 0.00 | 1SND | -0.0033SLU | 0.0033SLU   | 0.00 | 17SND | 0.00 | 1SND |
| -69Max  | 0.00 | 1SND | 0.00 | 1SND | -0.0015SND | 0.0021SND   | 0.00 | 19SND | 0.00 | 1SND |
| -69Min. | 0.00 | 1SND | 0.00 | 1SND | -0.0033SLU | 0.0033SLU   | 0.00 | 5SND  | 0.00 | 1SND |
| -68Max  | 0.00 | 1SND | 0.00 | 1SND | -0.0015SND | 0.0027SND   | 0.00 | 5SND  | 0.00 | 1SND |
| -68Min. | 0.00 | 1SND | 0.00 | 1SND | -0.0033SLU | 0.0033SLU   | 0.00 | 19SND | 0.00 | 1SND |
| -67Max  | 0.00 | 1SND | 0.00 | 1SND | -0.0013SND | 0.0025SND   | 0.00 | 25SND | 0.00 | 1SND |
| -67Min. | 0.00 | 1SND | 0.00 | 1SND | -0.0033SLU | 0.0033SLU   | 0.00 | 15SND | 0.00 | 1SND |
| -66Max  | 0.00 | 1SND | 0.00 | 1SND | -0.0027SND | 0.0027SND   | 0.00 | 5SND  | 0.00 | 1SND |
| -66Min. | 0.00 | 1SND | 0.00 | 1SND | -0.0033SLU | 0.0033SLU   | 0.00 | 19SND | 0.00 | 1SND |
| -65Max  | 0.00 | 1SND | 0.00 | 1SND | -0.0027SND | 0.0027SND   | 0.00 | 7SND  | 0.00 | 1SND |
| -65Min. | 0.00 | 1SND | 0.00 | 1SND | -0.0033SLU | 0.0013SND   | 0.00 | 17SND | 0.00 | 1SND |
| -64Max  | 0.00 | 1SND | 0.00 | 1SND | -0.007SND  | 0.0021SND   | 0.00 | 13SND | 0.00 | 1SND |
| -64Min. | 0.00 | 1SND | 0.00 | 1SND | -0.0033SLU | 0.0033SLU   | 0.00 | 27SND | 0.00 | 1SND |
| -63Max  | 0.00 | 1SND | 0.00 | 1SND | -0.0015SND | 0.007SND    | 0.00 | 5SND  | 0.00 | 1SND |
| -63Min. | 0.00 | 1SND | 0.00 | 1SND | -0.0033SLU | 0.0033SLU   | 0.00 | 19SND | 0.00 | 1SND |
| -62Max  | 0.00 | 1SND | 0.00 | 1SND | -0.0015SND | 0.0015SND   | 0.00 | 25SND | 0.00 | 1SND |
| -62Min. | 0.00 | 1SND | 0.00 | 1SND | -0.0033SLU | 0.0033SLU   | 0.00 | 15SND | 0.00 | 1SND |
| -61Max  | 0.00 | 1SND | 0.00 | 1SND | -0.0025SND | 0.0027SND   | 0.00 | 27SND | 0.00 | 1SND |
| -61Min. | 0.00 | 1SND | 0.00 | 1SND | -0.0033SLU | 0.0033SLU   | 0.00 | 33SLU | 0.00 | 1SND |
| -60Max  | 0.00 | 1SND | 0.00 | 1SND | -0.0027SND | 0.0027SND   | 0.00 | 33SLU | 0.00 | 1SND |
| -60Min. | 0.00 | 1SND | 0.00 | 1SND | -0.0033SLU | 0.0033SLU   | 0.00 | 27SND | 0.00 | 1SND |
| -59Max  | 0.00 | 1SND | 0.00 | 1SND | -0.0021SND | 0.0027SND   | 0.00 | 33SLU | 0.00 | 1SND |
| -59Min. | 0.00 | 1SND | 0.00 | 1SND | -0.0033SLU | 0.0013SND   | 0.00 | 27SND | 0.00 | 1SND |
| -58Max  | 0.00 | 1SND | 0.00 | 1SND | -0.0015SND | 0.0027SND   | 0.00 | 13SND | 0.00 | 1SND |
| -58Min. | 0.00 | 1SND | 0.00 | 1SND | -0.0033SLU | 0.0033SLU   | 0.00 | 27SND | 0.00 | 1SND |
| -57Max  | 0.00 | 1SND | 0.00 | 1SND | -0.0015SND | 0.0015SND   | 0.00 | 13SND | 0.00 | 1SND |
| -57Min. | 0.00 | 1SND | 0.00 | 1SND | -0.0033SLU | 0.0033SLU   | 0.00 | 27SND | 0.00 | 1SND |
| -56Max  | 0.00 | 1SND | 0.00 | 1SND | -0.0013SND | 0.0015SND   | 0.00 | 19SND | 0.00 | 1SND |
| -56Min. | 0.00 | 1SND | 0.00 | 1SND | -0.0033SLU | 0.0033SLU   | 0.00 | 5SND  | 0.00 | 1SND |
| -55Max  | 0.00 | 1SND | 0.00 | 1SND | 0.0013SND  | 0.0017SND   | 0.00 | 27SND | 0.00 | 1SND |
| -55Min. | 0.00 | 1SND | 0.00 | 1SND | -0.0033SLU | 0.0033SLU   | 0.00 | 13SND | 0.00 | 1SND |
| -54Max  | 0.00 | 1SND | 0.00 | 1SND | -0.0013SND | 0.0027SND   | 0.00 | 27SND | 0.00 | 1SND |
| -54Min. | 0.00 | 1SND | 0.00 | 1SND | -0.0033SLU | 0.0033SLU   | 0.00 | 13SND | 0.00 | 1SND |
| -53Max  | 0.00 | 1SND | 0.00 | 1SND | -0.0013SND | 0.0027SND   | 0.00 | 13SND | 0.00 | 1SND |
| -53Min. | 0.00 | 1SND | 0.00 | 1SND | -0.0033SLU | 0.0033SLU   | 0.00 | 33SLU | 0.00 | 1SND |
| -52Max  | 0.00 | 1SND | 0.00 | 1SND | -0.0013SND | 0.007SND    | 0.00 | 15SND | 0.00 | 1SND |
| -52Min. | 0.00 | 1SND | 0.00 | 1SND | -0.0033SLU | 0.0033SLU   | 0.00 | 25SND | 0.00 | 1SND |
| -51Max  | 0.00 | 1SND | 0.00 | 1SND | -0.0013SND | 0.0015SND   | 0.00 | 25SND | 0.00 | 1SND |
| -51Min. | 0.00 | 1SND | 0.00 | 1SND | -0.0033SLU | 0.0025SND   | 0.00 | 33SLU | 0.00 | 1SND |
| -50Max  | 0.00 | 1SND | 0.00 | 1SND | -0.0017SND | 0.0015SND   | 0.00 | 25SND | 0.00 | 1SND |
| -50Min. | 0.00 | 1SND | 0.00 | 1SND | -0.0033SLU | 0.0033SLU   | 0.00 | 33SLU | 0.00 | 1SND |
| -49Max  | 0.00 | 1SND | 0.00 | 1SND | -0.0025SND | 0.0013SND   | 0.00 | 25SND | 0.00 | 1SND |
| -49Min. | 0.00 | 1SND | 0.00 | 1SND | -0.0033SLU | 0.0033SLU   | 0.00 | 33SLU | 0.00 | 1SND |
| -48Max  | 0.00 | 1SND | 0.00 | 1SND | -0.0021SND | 0.0027SND   | 0.00 | 33SLU | 0.00 | 1SND |
| -48Min. | 0.00 | 1SND | 0.00 | 1SND | -0.0033SLU | 0.0013SND   | 0.00 | 27SND | 0.00 | 1SND |
| -47Max  | 0.00 | 1SND | 0.00 | 1SND | -0.007SND  | 0.0034SLE R | 0.00 | 33SLU | 0.00 | 1SND |
| -47Min. | 0.00 | 1SND | 0.00 | 1SND | -0.0033SLU | 0.0015SND   | 0.00 | 27SND | 0.00 | 1SND |
| -46Max  | 0.00 | 1SND | 0.00 | 1SND | -0.0013SND | 0.0033SLU   | 0.00 | 13SND | 0.00 | 1SND |
| -46Min. | 0.00 | 1SND | 0.00 | 1SND | -0.0033SLU | 0.0027SND   | 0.00 | 27SND | 0.00 | 1SND |
| -45Max  | 0.00 | 1SND | 0.00 | 1SND | -0.0013SND | 0.0033SLU   | 0.00 | 13SND | 0.00 | 1SND |
| -45Min. | 0.00 | 1SND | 0.00 | 1SND | -0.0033SLU | 0.0027SND   | 0.00 | 27SND | 0.00 | 1SND |

### Relazione di calcolo

|     |      |      |      |      |      |       |       |      |       |      |       |      |      |
|-----|------|------|------|------|------|-------|-------|------|-------|------|-------|------|------|
| -44 | Max  | 0.00 | 1SND | 0.00 | 1SND | 0.00  | 13SND | 0.00 | 33SLU | 0.00 | 7SND  | 0.00 | 1SND |
| -44 | Min. | 0.00 | 1SND | 0.00 | 1SND | -0.00 | 33SLU | 0.00 | 27SND | 0.00 | 17SND | 0.00 | 1SND |
| -43 | Max  | 0.00 | 1SND | 0.00 | 1SND | 0.00  | 13SND | 0.00 | 15SND | 0.00 | 1SND  | 0.00 | 1SND |
| -43 | Min. | 0.00 | 1SND | 0.00 | 1SND | -0.00 | 33SLU | 0.00 | 25SND | 0.00 | 23SND | 0.00 | 1SND |
| -42 | Max  | 0.00 | 1SND | 0.00 | 1SND | 0.00  | 13SND | 0.00 | 13SND | 0.00 | 3SND  | 0.00 | 1SND |
| -42 | Min. | 0.00 | 1SND | 0.00 | 1SND | -0.00 | 33SLU | 0.00 | 27SND | 0.00 | 33SLU | 0.00 | 1SND |
| -41 | Max  | 0.00 | 1SND | 0.00 | 1SND | 0.00  | 13SND | 0.00 | 13SND | 0.00 | 25SND | 0.00 | 1SND |
| -41 | Min. | 0.00 | 1SND | 0.00 | 1SND | -0.00 | 33SLU | 0.00 | 27SND | 0.00 | 33SLU | 0.00 | 1SND |
| -40 | Max  | 0.00 | 1SND | 0.00 | 1SND | 0.00  | 13SND | 0.00 | 33SLU | 0.00 | 25SND | 0.00 | 1SND |
| -40 | Min. | 0.00 | 1SND | 0.00 | 1SND | -0.00 | 33SLU | 0.00 | 27SND | 0.00 | 15SND | 0.00 | 1SND |
| -39 | Max  | 0.00 | 1SND | 0.00 | 1SND | -0.00 | 19SND | 0.00 | 25SND | 0.00 | 25SND | 0.00 | 1SND |
| -39 | Min. | 0.00 | 1SND | 0.00 | 1SND | -0.00 | 33SLU | 0.00 | 15SND | 0.00 | 33SLU | 0.00 | 1SND |
| -38 | Max  | 0.00 | 1SND | 0.00 | 1SND | -0.00 | 17SND | 0.00 | 25SND | 0.00 | 17SND | 0.00 | 1SND |
| -38 | Min. | 0.00 | 1SND | 0.00 | 1SND | -0.00 | 33SLU | 0.00 | 15SND | 0.00 | 33SLU | 0.00 | 1SND |
| -37 | Max  | 0.00 | 1SND | 0.00 | 1SND | -0.00 | 17SND | 0.00 | 25SND | 0.00 | 25SND | 0.00 | 1SND |
| -37 | Min. | 0.00 | 1SND | 0.00 | 1SND | -0.00 | 33SLU | 0.00 | 15SND | 0.00 | 33SLU | 0.00 | 1SND |
| -36 | Max  | 0.00 | 1SND | 0.00 | 1SND | -0.00 | 7SND  | 0.00 | 31SND | 0.00 | 33SLU | 0.00 | 1SND |
| -36 | Min. | 0.00 | 1SND | 0.00 | 1SND | -0.00 | 33SLU | 0.00 | 33SLU | 0.00 | 23SND | 0.00 | 1SND |
| -35 | Max  | 0.00 | 1SND | 0.00 | 1SND | -0.00 | 5SND  | 0.00 | 15SND | 0.00 | 33SLU | 0.00 | 1SND |
| -35 | Min. | 0.00 | 1SND | 0.00 | 1SND | -0.00 | 33SLU | 0.00 | 33SLU | 0.00 | 13SND | 0.00 | 1SND |
| -34 | Max  | 0.00 | 1SND | 0.00 | 1SND | 0.00  | 25SND | 0.00 | 15SND | 0.00 | 1SND  | 0.00 | 1SND |
| -34 | Min. | 0.00 | 1SND | 0.00 | 1SND | -0.00 | 33SLU | 0.00 | 33SLU | 0.00 | 23SND | 0.00 | 1SND |
| -33 | Max  | 0.00 | 1SND | 0.00 | 1SND | 0.00  | 17SND | 0.00 | 15SND | 0.00 | 21SND | 0.00 | 1SND |
| -33 | Min. | 0.00 | 1SND | 0.00 | 1SND | -0.00 | 33SLU | 0.00 | 33SLU | 0.00 | 3SND  | 0.00 | 1SND |
| -32 | Max  | 0.00 | 1SND | 0.00 | 1SND | 0.00  | 25SND | 0.00 | 15SND | 0.00 | 1SND  | 0.00 | 1SND |
| -32 | Min. | 0.00 | 1SND | 0.00 | 1SND | -0.00 | 33SLU | 0.00 | 33SLU | 0.00 | 23SND | 0.00 | 1SND |
| -31 | Max  | 0.00 | 1SND | 0.00 | 1SND | 0.00  | 27SND | 0.00 | 13SND | 0.00 | 23SND | 0.00 | 1SND |
| -31 | Min. | 0.00 | 1SND | 0.00 | 1SND | -0.00 | 33SLU | 0.00 | 33SLU | 0.00 | 1SND  | 0.00 | 1SND |
| -30 | Max  | 0.00 | 1SND | 0.00 | 1SND | 0.00  | 25SND | 0.00 | 15SND | 0.00 | 1SND  | 0.00 | 1SND |
| -30 | Min. | 0.00 | 1SND | 0.00 | 1SND | -0.00 | 33SLU | 0.00 | 33SLU | 0.00 | 23SND | 0.00 | 1SND |
| -29 | Max  | 0.00 | 1SND | 0.00 | 1SND | 0.00  | 25SND | 0.00 | 15SND | 0.00 | 3SND  | 0.00 | 1SND |
| -29 | Min. | 0.00 | 1SND | 0.00 | 1SND | -0.00 | 33SLU | 0.00 | 33SLU | 0.00 | 21SND | 0.00 | 1SND |
| -28 | Max  | 0.00 | 1SND | 0.00 | 1SND | 0.00  | 1SND  | 0.00 | 15SND | 0.00 | 21SND | 0.00 | 1SND |
| -28 | Min. | 0.00 | 1SND | 0.00 | 1SND | -0.00 | 33SLU | 0.00 | 33SLU | 0.00 | 3SND  | 0.00 | 1SND |
| -27 | Max  | 0.00 | 1SND | 0.00 | 1SND | -0.00 | 3SND  | 0.00 | 15SND | 0.00 | 3SND  | 0.00 | 1SND |
| -27 | Min. | 0.00 | 1SND | 0.00 | 1SND | -0.00 | 33SLU | 0.00 | 33SLU | 0.00 | 33SLU | 0.00 | 1SND |
| -26 | Max  | 0.00 | 1SND | 0.00 | 1SND | -0.00 | 3SND  | 0.00 | 27SND | 0.00 | 15SND | 0.00 | 1SND |
| -26 | Min. | 0.00 | 1SND | 0.00 | 1SND | -0.00 | 33SLU | 0.00 | 33SLU | 0.00 | 33SLU | 0.00 | 1SND |
| -25 | Max  | 0.00 | 1SND | 0.00 | 1SND | -0.00 | 3SND  | 0.00 | 15SND | 0.00 | 13SND | 0.00 | 1SND |
| -25 | Min. | 0.00 | 1SND | 0.00 | 1SND | -0.00 | 33SLU | 0.00 | 25SND | 0.00 | 33SLU | 0.00 | 1SND |
| -24 | Max  | 0.00 | 1SND | 0.00 | 1SND | -0.00 | 15SND | 0.00 | 25SND | 0.00 | 33SLU | 0.00 | 1SND |
| -24 | Min. | 0.00 | 1SND | 0.00 | 1SND | -0.00 | 33SLU | 0.00 | 15SND | 0.00 | 7SND  | 0.00 | 1SND |
| -23 | Max  | 0.00 | 1SND | 0.00 | 1SND | -0.00 | 15SND | 0.00 | 25SND | 0.00 | 33SLU | 0.00 | 1SND |
| -23 | Min. | 0.00 | 1SND | 0.00 | 1SND | -0.00 | 33SLU | 0.00 | 15SND | 0.00 | 23SND | 0.00 | 1SND |
| -22 | Max  | 0.00 | 1SND | 0.00 | 1SND | 0.00  | 27SND | 0.00 | 25SND | 0.00 | 27SND | 0.00 | 1SND |
| -22 | Min. | 0.00 | 1SND | 0.00 | 1SND | 0.00  | 33SLU | 0.00 | 15SND | 0.00 | 13SND | 0.00 | 1SND |
| -21 | Max  | 0.00 | 1SND | 0.00 | 1SND | 0.00  | 27SND | 0.00 | 13SND | 0.00 | 1SND  | 0.00 | 1SND |
| -21 | Min. | 0.00 | 1SND | 0.00 | 1SND | -0.00 | 13SND | 0.00 | 27SND | 0.00 | 23SND | 0.00 | 1SND |
| -20 | Max  | 0.00 | 1SND | 0.00 | 1SND | 0.00  | 25SND | 0.00 | 13SND | 0.00 | 21SND | 0.00 | 1SND |
| -20 | Min. | 0.00 | 1SND | 0.00 | 1SND | -0.00 | 15SND | 0.00 | 27SND | 0.00 | 3SND  | 0.00 | 1SND |
| -19 | Max  | 0.00 | 1SND | 0.00 | 1SND | 0.00  | 25SND | 0.00 | 15SND | 0.00 | 13SND | 0.00 | 1SND |
| -19 | Min. | 0.00 | 1SND | 0.00 | 1SND | 0.00  | 15SND | 0.00 | 25SND | 0.00 | 27SND | 0.00 | 1SND |
| -18 | Max  | 0.00 | 1SND | 0.00 | 1SND | 0.00  | 25SND | 0.00 | 25SND | 0.00 | 15SND | 0.00 | 1SND |
| -18 | Min. | 0.00 | 1SND | 0.00 | 1SND | 0.00  | 33SLU | 0.00 | 15SND | 0.00 | 25SND | 0.00 | 1SND |
| -17 | Max  | 0.00 | 1SND | 0.00 | 1SND | 0.00  | 27SND | 0.00 | 25SND | 0.00 | 27SND | 0.00 | 1SND |
| -17 | Min. | 0.00 | 1SND | 0.00 | 1SND | 0.00  | 33SLU | 0.00 | 15SND | 0.00 | 13SND | 0.00 | 1SND |
| -16 | Max  | 0.00 | 1SND | 0.00 | 1SND | 0.00  | 27SND | 0.00 | 13SND | 0.00 | 25SND | 0.00 | 1SND |
| -16 | Min. | 0.00 | 1SND | 0.00 | 1SND | -0.00 | 13SND | 0.00 | 27SND | 0.00 | 15SND | 0.00 | 1SND |
| -15 | Max  | 0.00 | 1SND | 0.00 | 1SND | 0.00  | 27SND | 0.00 | 13SND | 0.00 | 15SND | 0.00 | 1SND |
| -15 | Min. | 0.00 | 1SND | 0.00 | 1SND | -0.00 | 13SND | 0.00 | 27SND | 0.00 | 33SLU | 0.00 | 1SND |
| -14 | Max  | 0.00 | 1SND | 0.00 | 1SND | 0.00  | 25SND | 0.00 | 13SND | 0.00 | 13SND | 0.00 | 1SND |
| -14 | Min. | 0.00 | 1SND | 0.00 | 1SND | -0.00 | 33SLU | 0.00 | 27SND | 0.00 | 27SND | 0.00 | 1SND |
| -13 | Max  | 0.00 | 1SND | 0.00 | 1SND | -0.00 | 3SND  | 0.00 | 33SLU | 0.00 | 15SND | 0.00 | 1SND |
| -13 | Min. | 0.00 | 1SND | 0.00 | 1SND | -0.00 | 33SLU | 0.00 | 15SND | 0.00 | 33SLU | 0.00 | 1SND |
| -12 | Max  | 0.00 | 1SND | 0.00 | 1SND | -0.00 | 15SND | 0.00 | 33SLU | 0.00 | 3SND  | 0.00 | 1SND |
| -12 | Min. | 0.00 | 1SND | 0.00 | 1SND | -0.00 | 33SLU | 0.00 | 15SND | 0.00 | 21SND | 0.00 | 1SND |
| -11 | Max  | 0.00 | 1SND | 0.00 | 1SND | -0.00 | 15SND | 0.00 | 33SLU | 0.00 | 23SND | 0.00 | 1SND |
| -11 | Min. | 0.00 | 1SND | 0.00 | 1SND | -0.00 | 33SLU | 0.00 | 15SND | 0.00 | 1SND  | 0.00 | 1SND |
| -10 | Max  | 0.00 | 1SND | 0.00 | 1SND | -0.00 | 15SND | 0.00 | 33SLU | 0.00 | 3SND  | 0.00 | 1SND |
| -10 | Min. | 0.00 | 1SND | 0.00 | 1SND | -0.00 | 33SLU | 0.00 | 15SND | 0.00 | 21SND | 0.00 | 1SND |
| -9  | Max  | 0.00 | 1SND | 0.00 | 1SND | -0.00 | 15SND | 0.00 | 25SND | 0.00 | 23SND | 0.00 | 1SND |
| -9  | Min. | 0.00 | 1SND | 0.00 | 1SND | -0.01 | 33SLU | 0.00 | 15SND | 0.00 | 1SND  | 0.00 | 1SND |
| -8  | Max  | 0.00 | 1SND | 0.00 | 1SND | -0.00 | 15SND | 0.00 | 25SND | 0.00 | 3SND  | 0.00 | 1SND |
| -8  | Min. | 0.00 | 1SND | 0.00 | 1SND | -0.01 | 33SLU | 0.00 | 15SND | 0.00 | 21SND | 0.00 | 1SND |
| -7  | Max  | 0.00 | 1SND | 0.00 | 1SND | -0.00 | 13SND | 0.00 | 27SND | 0.00 | 21SND | 0.00 | 1SND |
| -7  | Min. | 0.00 | 1SND | 0.00 | 1SND | -0.01 | 33SLU | 0.00 | 13SND | 0.00 | 3SND  | 0.00 | 1SND |
| -6  | Max  | 0.00 | 1SND | 0.00 | 1SND | -0.00 | 15SND | 0.00 | 33SLU | 0.00 | 1SND  | 0.00 | 1SND |
| -6  | Min. | 0.00 | 1SND | 0.00 | 1SND | -0.00 | 33SLU | 0.00 | 15SND | 0.00 | 23SND | 0.00 | 1SND |
| -5  | Max  | 0.00 | 1SND | 0.00 | 1SND | -0.00 | 15SND | 0.00 | 33SLU | 0.00 | 3SND  | 0.00 | 1SND |

# Relazione di calcolo

|         |       |       |       |       |       |       |       |       |       |       |      |       |
|---------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|------|-------|
| -5Min.  | 0.00  | 1SND  | 0.00  | 1SND  | -0.00 | 33SLU | 0.00  | 15SND | 0.00  | 21SND | 0.00 | 1SND  |
| -4Max   | 0.00  | 1SND  | 0.00  | 1SND  | -0.00 | 15SND | 0.00  | 25SND | 0.00  | 21SND | 0.00 | 1SND  |
| -4Min.  | 0.00  | 1SND  | 0.00  | 1SND  | -0.01 | 33SLU | 0.00  | 15SND | 0.00  | 3SND  | 0.00 | 1SND  |
| -3Max   | 0.00  | 1SND  | 0.00  | 1SND  | -0.00 | 15SND | 0.00  | 25SND | 0.00  | 3SND  | 0.00 | 1SND  |
| -3Min.  | 0.00  | 1SND  | 0.00  | 1SND  | -0.01 | 33SLU | 0.00  | 15SND | 0.00  | 21SND | 0.00 | 1SND  |
| -2Max   | 0.00  | 1SND  | 0.00  | 1SND  | -0.00 | 15SND | 0.00  | 25SND | 0.00  | 25SND | 0.00 | 1SND  |
| -2Min.  | 0.00  | 1SND  | 0.00  | 1SND  | -0.01 | 33SLU | 0.00  | 15SND | 0.00  | 15SND | 0.00 | 1SND  |
| -1Max   | 0.00  | 1SND  | 0.00  | 1SND  | -0.00 | 13SND | 0.00  | 25SND | 0.00  | 3SND  | 0.00 | 1SND  |
| -1Min.  | 0.00  | 1SND  | 0.00  | 1SND  | -0.01 | 33SLU | 0.00  | 15SND | 0.00  | 21SND | 0.00 | 1SND  |
| 1Max    | 0.00  | 1SND  | 0.00  | 1SND  | 0.00  | 17SND | 0.00  | 15SND | 0.00  | 3SND  | 0.00 | 1SND  |
| 1Min.   | 0.00  | 1SND  | 0.00  | 1SND  | -0.01 | 7SND  | 0.00  | 25SND | 0.00  | 21SND | 0.00 | 1SND  |
| 2Max    | 0.00  | 3SND  | 0.00  | 27SND | -0.00 | 15SND | 0.00  | 15SND | 0.00  | 3SND  | 0.00 | 5SND  |
| 2Min.   | 0.00  | 21SND | 0.00  | 13SND | -0.01 | 33SLU | 0.00  | 25SND | 0.00  | 21SND | 0.00 | 19SND |
| 3Max    | 0.00  | 3SND  | 0.00  | 25SND | -0.00 | 13SND | 0.00  | 15SND | 0.00  | 3SND  | 0.00 | 7SND  |
| 3Min.   | 0.00  | 21SND | 0.00  | 15SND | -0.01 | 33SLU | 0.00  | 25SND | 0.00  | 21SND | 0.00 | 17SND |
| 4Max    | 0.00  | 1SND  | 0.00  | 1SND  | -0.01 | 9SND  | 0.00  | 15SND | 0.00  | 3SND  | 0.00 | 1SND  |
| 4Min.   | 0.00  | 1SND  | 0.00  | 1SND  | -0.01 | 33SLU | 0.00  | 25SND | 0.00  | 21SND | 0.00 | 1SND  |
| 5Max    | 0.00  | 1SND  | 0.00  | 1SND  | -0.01 | 11SND | 0.00  | 29SND | 0.00  | 3SND  | 0.00 | 1SND  |
| 5Min.   | 0.00  | 1SND  | 0.00  | 1SND  | -0.01 | 33SLU | 0.00  | 11SND | 0.00  | 21SND | 0.00 | 1SND  |
| 6Max    | 0.00  | 1SND  | 0.00  | 1SND  | -0.00 | 1SND  | 0.00  | 31SND | 0.00  | 3SND  | 0.00 | 1SND  |
| 6Min.   | 0.00  | 1SND  | 0.00  | 1SND  | -0.01 | 33SLU | 0.00  | 9SND  | 0.00  | 21SND | 0.00 | 1SND  |
| 7Max    | 0.00  | 1SND  | 0.00  | 1SND  | 0.00  | 5SND  | 0.00  | 29SND | 0.00  | 3SND  | 0.00 | 1SND  |
| 7Min.   | 0.00  | 1SND  | 0.00  | 1SND  | -0.01 | 19SND | 0.00  | 11SND | 0.00  | 21SND | 0.00 | 1SND  |
| 8Max    | 0.00  | 1SND  | 0.00  | 1SND  | 0.00  | 3SND  | 0.00  | 13SND | 0.00  | 17SND | 0.00 | 1SND  |
| 8Min.   | 0.00  | 1SND  | 0.00  | 1SND  | -0.01 | 21SND | 0.00  | 27SND | 0.00  | 7SND  | 0.00 | 1SND  |
| 9Max    | 0.00  | 17SND | 0.00  | 25SND | -0.00 | 27SND | 0.00  | 13SND | 0.00  | 17SND | 0.00 | 1SND  |
| 9Min.   | 0.00  | 7SND  | 0.00  | 15SND | -0.01 | 33SLU | 0.00  | 27SND | 0.00  | 7SND  | 0.00 | 23SND |
| 10Max   | 0.00  | 17SND | 0.00  | 27SND | -0.00 | 25SND | 0.00  | 15SND | 0.00  | 17SND | 0.00 | 3SND  |
| 10Min.  | 0.00  | 7SND  | 0.00  | 13SND | -0.01 | 33SLU | 0.00  | 25SND | 0.00  | 7SND  | 0.00 | 21SND |
| 11Max   | 0.00  | 1SND  | 0.00  | 1SND  | -0.01 | 29SND | 0.00  | 13SND | 0.00  | 17SND | 0.00 | 1SND  |
| 11Min.  | 0.00  | 1SND  | 0.00  | 1SND  | -0.01 | 33SLU | 0.00  | 27SND | 0.00  | 7SND  | 0.00 | 1SND  |
| 12Max   | 0.00  | 1SND  | 0.00  | 1SND  | -0.01 | 31SND | 0.00  | 31SND | 0.00  | 17SND | 0.00 | 1SND  |
| 12Min.  | 0.00  | 1SND  | 0.00  | 1SND  | -0.01 | 33SLU | 0.00  | 9SND  | 0.00  | 7SND  | 0.00 | 1SND  |
| 13Max   | 0.00  | 1SND  | 0.00  | 1SND  | -0.00 | 19SND | 0.00  | 29SND | 0.00  | 17SND | 0.00 | 1SND  |
| 13Min.  | 0.00  | 1SND  | 0.00  | 1SND  | -0.01 | 33SLU | 0.00  | 11SND | 0.00  | 7SND  | 0.00 | 1SND  |
| 14Max   | 0.00  | 1SND  | 0.00  | 1SND  | 0.00  | 23SND | 0.00  | 31SND | 0.00  | 17SND | 0.00 | 1SND  |
| 14Min.  | 0.00  | 1SND  | 0.00  | 1SND  | -0.01 | 1SND  | 0.00  | 9SND  | 0.00  | 7SND  | 0.00 | 1SND  |
| 201Max  | 0.59  | 3SND  | 1.40  | 25SND | 0.00  | 25SND | 0.00  | 15SND | 0.00  | 3SND  | 0.00 | 15SND |
| 201Min. | -0.59 | 21SND | -1.40 | 15SND | -0.02 | 15SND | -0.00 | 25SND | 0.00  | 21SND | 0.00 | 25SND |
| 202Max  | 0.59  | 3SND  | 1.30  | 25SND | -0.01 | 21SND | 0.00  | 15SND | 0.00  | 21SND | 0.00 | 15SND |
| 202Min. | -0.59 | 21SND | -1.30 | 15SND | -0.03 | 33SLU | -0.00 | 25SND | 0.00  | 3SND  | 0.00 | 25SND |
| 203Max  | 0.59  | 3SND  | 1.18  | 25SND | -0.02 | 25SND | 0.00  | 15SND | 0.00  | 3SND  | 0.00 | 15SND |
| 203Min. | -0.59 | 21SND | -1.18 | 15SND | -0.03 | 33SLU | -0.00 | 25SND | 0.00  | 21SND | 0.00 | 25SND |
| 204Max  | 0.59  | 3SND  | 1.06  | 25SND | -0.02 | 9SND  | 0.00  | 13SND | 0.00  | 3SND  | 0.00 | 15SND |
| 204Min. | -0.59 | 21SND | -1.06 | 15SND | -0.03 | 33SLU | -0.00 | 27SND | 0.00  | 21SND | 0.00 | 25SND |
| 205Max  | 0.59  | 3SND  | 1.00  | 11SND | -0.02 | 11SND | 0.00  | 29SND | 0.00  | 3SND  | 0.00 | 15SND |
| 205Min. | -0.59 | 21SND | -1.00 | 29SND | -0.03 | 33SLU | -0.00 | 11SND | 0.00  | 21SND | 0.00 | 25SND |
| 206Max  | 0.59  | 3SND  | 0.94  | 11SND | -0.01 | 1SND  | 0.00  | 29SND | 0.00  | 23SND | 0.00 | 15SND |
| 206Min. | -0.59 | 21SND | -0.94 | 29SND | -0.03 | 33SLU | -0.00 | 11SND | 0.00  | 1SND  | 0.00 | 25SND |
| 207Max  | 0.59  | 3SND  | 0.89  | 11SND | 0.00  | 5SND  | 0.00  | 29SND | 0.00  | 3SND  | 0.00 | 15SND |
| 207Min. | -0.59 | 21SND | -0.89 | 29SND | -0.02 | 19SND | -0.00 | 11SND | -0.00 | 21SND | 0.00 | 25SND |
| 208Max  | 0.59  | 17SND | 1.40  | 25SND | 0.00  | 13SND | 0.00  | 15SND | 0.00  | 17SND | 0.00 | 15SND |
| 208Min. | -0.59 | 7SND  | -1.40 | 15SND | -0.02 | 27SND | -0.00 | 25SND | 0.00  | 7SND  | 0.00 | 25SND |
| 209Max  | 0.59  | 17SND | 1.30  | 25SND | -0.01 | 7SND  | 0.00  | 15SND | 0.00  | 7SND  | 0.00 | 15SND |
| 209Min. | -0.59 | 7SND  | -1.30 | 15SND | -0.03 | 33SLU | -0.00 | 25SND | 0.00  | 17SND | 0.00 | 25SND |
| 210Max  | 0.59  | 17SND | 1.18  | 25SND | -0.02 | 13SND | 0.00  | 15SND | 0.00  | 17SND | 0.00 | 15SND |
| 210Min. | -0.59 | 7SND  | -1.18 | 15SND | -0.03 | 33SLU | -0.00 | 25SND | 0.00  | 7SND  | 0.00 | 25SND |
| 211Max  | 0.59  | 17SND | 1.06  | 25SND | -0.02 | 29SND | 0.00  | 15SND | 0.00  | 17SND | 0.00 | 15SND |
| 211Min. | -0.59 | 7SND  | -1.06 | 15SND | -0.03 | 33SLU | -0.00 | 25SND | 0.00  | 7SND  | 0.00 | 25SND |
| 212Max  | 0.59  | 17SND | 1.00  | 11SND | -0.02 | 31SND | 0.00  | 29SND | 0.00  | 17SND | 0.00 | 15SND |
| 212Min. | -0.59 | 7SND  | -1.00 | 29SND | -0.03 | 33SLU | -0.00 | 11SND | 0.00  | 7SND  | 0.00 | 25SND |
| 213Max  | 0.59  | 17SND | 0.94  | 11SND | -0.01 | 19SND | 0.00  | 29SND | 0.00  | 5SND  | 0.00 | 15SND |
| 213Min. | -0.59 | 7SND  | -0.94 | 29SND | -0.03 | 33SLU | -0.00 | 11SND | 0.00  | 19SND | 0.00 | 25SND |
| 214Max  | 0.59  | 17SND | 0.89  | 11SND | 0.00  | 23SND | 0.00  | 29SND | 0.00  | 17SND | 0.00 | 15SND |
| 214Min. | -0.59 | 7SND  | -0.89 | 29SND | -0.02 | 1SND  | -0.00 | 11SND | -0.00 | 7SND  | 0.00 | 25SND |
| 215Max  | 0.59  | 3SND  | 1.40  | 25SND | 0.10  | 25SND | 0.00  | 15SND | 0.00  | 3SND  | 0.00 | 15SND |
| 215Min. | -0.59 | 21SND | -1.40 | 15SND | -0.11 | 15SND | -0.00 | 25SND | 0.00  | 21SND | 0.00 | 25SND |
| 216Max  | 0.59  | 3SND  | 0.88  | 11SND | 0.09  | 5SND  | 0.00  | 29SND | 0.00  | 3SND  | 0.00 | 15SND |
| 216Min. | -0.59 | 21SND | -0.88 | 29SND | -0.08 | 19SND | -0.00 | 11SND | -0.00 | 21SND | 0.00 | 25SND |
| 217Max  | 0.59  | 3SND  | 0.88  | 11SND | 0.07  | 21SND | 0.00  | 29SND | 0.00  | 3SND  | 0.00 | 15SND |
| 217Min. | -0.59 | 21SND | -0.88 | 29SND | -0.08 | 3SND  | -0.00 | 11SND | -0.00 | 21SND | 0.00 | 25SND |
| 218Max  | 0.59  | 17SND | 0.88  | 11SND | 0.06  | 7SND  | 0.00  | 29SND | 0.00  | 17SND | 0.00 | 15SND |
| 218Min. | -0.59 | 7SND  | -0.88 | 29SND | -0.08 | 17SND | 0.00  | 11SND | -0.00 | 7SND  | 0.00 | 25SND |
| 219Max  | 0.60  | 17SND | 1.40  | 25SND | 0.10  | 13SND | 0.00  | 15SND | 0.00  | 17SND | 0.00 | 15SND |
| 219Min. | -0.59 | 7SND  | -1.40 | 15SND | -0.11 | 27SND | -0.00 | 25SND | 0.00  | 7SND  | 0.00 | 25SND |
| 220Max  | 0.60  | 17SND | 0.88  | 11SND | 0.09  | 23SND | 0.00  | 29SND | 0.00  | 17SND | 0.00 | 15SND |
| 220Min. | -0.59 | 7SND  | -0.88 | 29SND | -0.08 | 1SND  | 0.00  | 11SND | -0.00 | 7SND  | 0.00 | 25SND |

Min = -1.40

## Relazione di calcolo

Max = 1.40

### Reazioni vincolari

#### Simbologia

Nodo = Numero del nodo

CC = Numero della combinazione delle condizioni di carico elementari

TCC = Tipo di combinazione di carico

SLU = Stato limite ultimo

SLU S = Stato limite ultimo (azione sismica)

SLE R = Stato limite d'esercizio, combinazione rara

SLE F = Stato limite d'esercizio, combinazione frequente

SLE Q = Stato limite d'esercizio, combinazione quasi permanente

SLD = Stato limite di danno

SLV = Stato limite di salvaguardia della vita

SLC = Stato limite di prevenzione del collasso

SLO = Stato limite di operatività

SLU I = Stato limite di resistenza al fuoco

SND = Stato limite di salvaguardia della vita (non dissipativo)

Fx = Reazione vincolare (forza) in dir. X

Fy = Reazione vincolare (forza) in dir. Y

Fz = Reazione vincolare (forza) in dir. Z

Mx = Reazione vincolare (momento) intorno all'asse X

My = Reazione vincolare (momento) intorno all'asse Y

Mz = Reazione vincolare (momento) intorno all'asse Z

| Nodo |     | CC | TCC | Fx<br><daN> | CC | TCC | Fy<br><daN> | CC | TCC   | Fz<br><daN> | CC | TCC   | Mx<br><daNm> | CC | TCC   | My<br><daNm> | CC | TCC | Mz<br><daNm> |
|------|-----|----|-----|-------------|----|-----|-------------|----|-------|-------------|----|-------|--------------|----|-------|--------------|----|-----|--------------|
| -400 | Max | 1  | SND | 0.02        | 9  | SND | 0.01        | 5  | SND   | 0.00        | 23 | SND   | 0.00         | 23 | SND   | 0.00         | 11 | SND | 0.00         |
| -400 | Min | 23 | SND | -0.01       | 31 | SND | -0.01       | 19 | SND   | 0.00        | 1  | SND   | 0.00         | 29 | SND   | 0.00         | 1  | SND | 0.00         |
| -399 | Max | 5  | SND | 0.01        | 11 | SND | 0.01        | 17 | SND   | 0.00        | 9  | SND   | 0.00         | 9  | SND   | 0.00         | 17 | SND | 0.00         |
| -399 | Min | 19 | SND | -0.01       | 29 | SND | -0.01       | 5  | SND   | 0.00        | 31 | SND   | 0.00         | 31 | SND   | 0.00         | 1  | SND | 0.00         |
| -398 | Max | 9  | SND | 0.00        | 11 | SND | 0.01        | 9  | SND   | 0.00        | 3  | SND   | 0.00         | 9  | SND   | 0.00         | 5  | SND | 0.00         |
| -398 | Min | 31 | SND | 0.00        | 29 | SND | -0.01       | 31 | SND   | 0.00        | 21 | SND   | 0.00         | 29 | SND   | 0.00         | 1  | SND | 0.00         |
| -397 | Max | 5  | SND | 0.00        | 11 | SND | 0.00        | 5  | SND   | 0.00        | 17 | SND   | 0.00         | 5  | SND   | 0.00         | 7  | SND | 0.00         |
| -397 | Min | 19 | SND | -0.00       | 29 | SND | -0.00       | 19 | SND   | 0.00        | 7  | SND   | 0.00         | 19 | SND   | 0.00         | 1  | SND | 0.00         |
| -396 | Max | 7  | SND | 0.00        | 9  | SND | 0.00        | 23 | SND   | 0.00        | 7  | SND   | 0.00         | 19 | SND   | 0.00         | 19 | SND | 0.00         |
| -396 | Min | 17 | SND | -0.00       | 31 | SND | -0.00       | 33 | SLU   | 0.00        | 17 | SND   | 0.00         | 5  | SND   | 0.00         | 1  | SND | 0.00         |
| -395 | Max | 29 | SND | -0.00       | 9  | SND | 0.00        | 11 | SND   | 0.00        | 9  | SND   | 0.00         | 19 | SND   | 0.00         | 23 | SND | 0.00         |
| -395 | Min | 33 | SLU | -0.00       | 31 | SND | -0.00       | 29 | SND   | 0.00        | 31 | SND   | 0.00         | 33 | SLU   | 0.00         | 1  | SND | 0.00         |
| -394 | Max | 19 | SND | 0.00        | 9  | SND | 0.01        | 25 | SND   | 0.00        | 33 | SLU   | 0.00         | 21 | SND   | 0.00         | 17 | SND | 0.00         |
| -394 | Min | 5  | SND | -0.00       | 31 | SND | -0.01       | 15 | SND   | 0.00        | 25 | SND   | 0.00         | 7  | SND   | 0.00         | 1  | SND | 0.00         |
| -393 | Max | 33 | SLU | 0.01        | 11 | SND | 0.00        | 17 | SND   | 0.00        | 25 | SND   | 0.00         | 13 | SND   | 0.00         | 5  | SND | 0.00         |
| -393 | Min | 19 | SND | 0.00        | 29 | SND | -0.00       | 7  | SND   | 0.00        | 15 | SND   | 0.00         | 27 | SND   | 0.00         | 1  | SND | 0.00         |
| -392 | Max | 7  | SND | 0.00        | 19 | SND | -0.00       | 7  | SND   | 0.00        | 9  | SND   | 0.00         | 17 | SND   | 0.00         | 17 | SND | 0.00         |
| -392 | Min | 17 | SND | 0.00        | 33 | SLU | -0.00       | 34 | SLE R | 0.00        | 31 | SND   | 0.00         | 7  | SND   | 0.00         | 1  | SND | 0.00         |
| -391 | Max | 31 | SND | -0.00       | 9  | SND | 0.00        | 11 | SND   | 0.00        | 5  | SND   | 0.00         | 33 | SLU   | 0.00         | 7  | SND | 0.00         |
| -391 | Min | 33 | SLU | -0.01       | 31 | SND | -0.00       | 29 | SND   | 0.00        | 19 | SND   | 0.00         | 17 | SND   | 0.00         | 1  | SND | 0.00         |
| -390 | Max | 17 | SND | 0.00        | 11 | SND | 0.01        | 31 | SND   | 0.00        | 9  | SND   | 0.00         | 9  | SND   | 0.00         | 17 | SND | 0.00         |
| -390 | Min | 7  | SND | -0.00       | 29 | SND | -0.01       | 9  | SND   | 0.00        | 33 | SLU   | 0.00         | 31 | SND   | 0.00         | 1  | SND | 0.00         |
| -389 | Max | 33 | SLU | 0.00        | 11 | SND | 0.00        | 29 | SND   | 0.00        | 25 | SND   | 0.00         | 13 | SND   | 0.00         | 5  | SND | 0.00         |
| -389 | Min | 29 | SND | 0.00        | 29 | SND | -0.00       | 33 | SLU   | 0.00        | 15 | SND   | 0.00         | 27 | SND   | 0.00         | 1  | SND | 0.00         |
| -388 | Max | 5  | SND | 0.00        | 11 | SND | 0.00        | 17 | SND   | 0.00        | 33 | SLU   | 0.00         | 19 | SND   | 0.00         | 19 | SND | 0.00         |
| -388 | Min | 19 | SND | 0.00        | 33 | SLU | -0.00       | 7  | SND   | 0.00        | 31 | SND   | 0.00         | 33 | SLU   | 0.00         | 1  | SND | 0.00         |
| -387 | Max | 7  | SND | 0.00        | 25 | SND | 0.00        | 7  | SND   | 0.00        | 19 | SND   | 0.00         | 25 | SND   | 0.00         | 33 | SLU | 0.00         |
| -387 | Min | 33 | SLU | -0.00       | 15 | SND | -0.00       | 17 | SND   | 0.00        | 5  | SND   | 0.00         | 15 | SND   | 0.00         | 1  | SND | 0.00         |
| -386 | Max | 15 | SND | -0.00       | 25 | SND | 0.00        | 31 | SND   | 0.00        | 25 | SND   | 0.00         | 7  | SND   | 0.00         | 7  | SND | 0.00         |
| -386 | Min | 33 | SLU | -0.00       | 15 | SND | -0.00       | 9  | SND   | 0.00        | 15 | SND   | 0.00         | 33 | SLU   | 0.00         | 1  | SND | 0.00         |
| -385 | Max | 17 | SND | 0.00        | 11 | SND | 0.01        | 27 | SND   | 0.00        | 13 | SND   | 0.00         | 3  | SND   | 0.00         | 19 | SND | 0.00         |
| -385 | Min | 7  | SND | -0.00       | 29 | SND | -0.01       | 13 | SND   | 0.00        | 33 | SLU   | 0.00         | 21 | SND   | 0.00         | 1  | SND | 0.00         |
| -384 | Max | 33 | SLU | 333.64      | 33 | SLU | 113.30      | 19 | SND   | 0.00        | 11 | SND   | 0.00         | 13 | SND   | 0.00         | 27 | SND | -12.66       |
| -384 | Min | 27 | SND | 174.62      | 25 | SND | 58.41       | 5  | SND   | 0.00        | 33 | SLU   | 0.00         | 33 | SLU   | 0.00         | 1  | SND | -23.94       |
| -383 | Max | 33 | SLU | 729.63      | 33 | SLU | 350.22      | 31 | SND   | 0.00        | 33 | SLU   | 0.00         | 17 | SND   | 0.00         | 33 | SLU | 10.80        |
| -383 | Min | 25 | SND | 391.52      | 25 | SND | 175.39      | 9  | SND   | 0.00        | 25 | SND   | 0.00         | 15 | SND   | 0.00         | 1  | SND | 6.05         |
| -382 | Max | 33 | SLU | 1366.26     | 33 | SLU | 548.89      | 25 | SND   | 0.00        | 29 | SND   | 0.00         | 34 | SLE R | 0.00         | 15 | SND | 11.50        |
| -382 | Min | 27 | SND | 694.42      | 25 | SND | 263.25      | 33 | SLU   | 0.00        | 33 | SLU   | 0.00         | 25 | SND   | 0.00         | 1  | SND | -9.23        |
| -381 | Max | 33 | SLU | 2204.78     | 33 | SLU | 513.34      | 15 | SND   | 0.00        | 31 | SND   | 0.00         | 29 | SND   | 0.00         | 1  | SND | 23.21        |
| -381 | Min | 25 | SND | 1337.72     | 19 | SND | 220.49      | 33 | SLU   | 0.00        | 33 | SLU   | 0.00         | 23 | SND   | 0.00         | 1  | SND | 0.28         |
| -380 | Max | 7  | SND | 1898.20     | 15 | SND | 457.58      | 15 | SND   | 0.00        | 33 | SLU   | 0.00         | 29 | SND   | 0.00         | 29 | SND | 65.69        |
| -380 | Min | 17 | SND | 56.22       | 25 | SND | -1303.21    | 25 | SND   | 0.00        | 29 | SND   | 0.00         | 11 | SND   | 0.00         | 1  | SND | 13.93        |
| -379 | Max | 7  | SND | 649.69      | 13 | SND | 1544.00     | 33 | SLU   | 0.00        | 11 | SND   | 0.00         | 21 | SND   | 0.00         | 7  | SND | 65.80        |
| -379 | Min | 17 | SND | 162.94      | 27 | SND | -3767.77    | 13 | SND   | 0.00        | 29 | SND   | 0.00         | 17 | SND   | 0.00         | 1  | SND | -52.16       |
| -378 | Max | 21 | SND | 376.17      | 3  | SND | 525.10      | 33 | SLU   | 0.00        | 11 | SND   | 0.00         | 31 | SND   | 0.00         | 25 | SND | -1.06        |
| -378 | Min | 3  | SND | -929.88     | 21 | SND | -1058.15    | 9  | SND   | 0.00        | 33 | SLU   | 0.00         | 15 | SND   | 0.00         | 1  | SND | -90.19       |
| -377 | Max | 3  | SND | -160.59     | 33 | SLU | 854.27      | 13 | SND   | 0.00        | 34 | SLE R | 0.00         | 33 | SLU   | 0.00         | 13 | SND | 14.55        |
| -377 | Min | 21 | SND | -872.37     | 17 | SND | 516.19      | 33 | SLU   | 0.00        | 31 | SND   | 0.00         | 27 | SND   | 0.00         | 1  | SND | -42.15       |
| -376 | Max | 17 | SND | 752.15      | 33 | SLU | 880.61      | 13 | SND   | 0.00        | 33 | SLU   | 0.00         | 17 | SND   | 0.00         | 25 | SND | 52.12        |
| -376 | Min | 7  | SND | -185.43     | 15 | SND | 441.17      | 27 | SND   | 0.00        | 1  | SND   | 0.00         | 15 | SND   | 0.00         | 1  | SND | -32.70       |
| -375 | Max | 15 | SND | 1191.11     | 15 | SND | 1110.86     | 13 | SND   | 0.00        | 7  | SND   | 0.00         | 19 | SND   | 0.00         | 29 | SND | 82.58        |
| -375 | Min | 25 | SND | -734.82     | 25 | SND | -1245.48    | 27 | SND   | 0.00        | 17 | SND   | 0.00         | 11 | SND   | 0.00         | 1  | SND | -38.63       |

# Relazione di calcolo

|      |     |    |     |         |    |     |          |    |     |      |    |       |      |    |     |      |    |     |        |
|------|-----|----|-----|---------|----|-----|----------|----|-----|------|----|-------|------|----|-----|------|----|-----|--------|
| -374 | Max | 3  | SND | 81.92   | 15 | SND | 2042.81  | 25 | SND | 0.00 | 27 | SND   | 0.00 | 5  | SND | 0.00 | 5  | SND | 44.41  |
| -374 | Min | 21 | SND | -206.38 | 25 | SND | -3155.86 | 15 | SND | 0.00 | 13 | SND   | 0.00 | 19 | SND | 0.00 | 1  | SND | -62.86 |
| -373 | Max | 21 | SND | 914.52  | 13 | SND | 861.78   | 29 | SND | 0.00 | 27 | SND   | 0.00 | 25 | SND | 0.00 | 27 | SND | 34.01  |
| -373 | Min | 3  | SND | -918.68 | 27 | SND | -1762.21 | 11 | SND | 0.00 | 13 | SND   | 0.00 | 15 | SND | 0.00 | 1  | SND | -55.61 |
| -372 | Max | 5  | SND | 99.55   | 19 | SND | 147.83   | 33 | SLU | 0.00 | 31 | SND   | 0.00 | 29 | SND | 0.00 | 15 | SND | -10.34 |
| -372 | Min | 19 | SND | -860.91 | 5  | SND | -697.63  | 3  | SND | 0.00 | 9  | SND   | 0.00 | 33 | SLU | 0.00 | 1  | SND | -26.26 |
| -371 | Max | 7  | SND | -0.49   | 17 | SND | 57.90    | 3  | SND | 0.00 | 33 | SLU   | 0.00 | 5  | SND | 0.00 | 33 | SLU | 36.88  |
| -371 | Min | 17 | SND | -292.02 | 7  | SND | -240.81  | 21 | SND | 0.00 | 21 | SND   | 0.00 | 19 | SND | 0.00 | 1  | SND | 14.62  |
| -370 | Max | 7  | SND | 0.00    | 25 | SND | 0.00     | 25 | SND | 0.00 | 23 | SND   | 0.00 | 1  | SND | 0.00 | 21 | SND | 0.00   |
| -370 | Min | 17 | SND | -0.00   | 15 | SND | -0.00    | 15 | SND | 0.00 | 1  | SND   | 0.00 | 23 | SND | 0.00 | 1  | SND | 0.00   |
| -369 | Max | 7  | SND | 0.00    | 25 | SND | 0.00     | 9  | SND | 0.00 | 13 | SND   | 0.00 | 21 | SND | 0.00 | 7  | SND | 0.00   |
| -369 | Min | 17 | SND | -0.00   | 15 | SND | -0.00    | 31 | SND | 0.00 | 27 | SND   | 0.00 | 17 | SND | 0.00 | 1  | SND | 0.00   |
| -368 | Max | 19 | SND | 0.01    | 25 | SND | 0.01     | 31 | SND | 0.00 | 31 | SND   | 0.00 | 1  | SND | 0.00 | 27 | SND | 0.00   |
| -368 | Min | 5  | SND | -0.01   | 15 | SND | -0.01    | 9  | SND | 0.00 | 9  | SND   | 0.00 | 23 | SND | 0.00 | 1  | SND | 0.00   |
| -367 | Max | 21 | SND | 0.01    | 27 | SND | 0.00     | 19 | SND | 0.00 | 25 | SND   | 0.00 | 19 | SND | 0.00 | 27 | SND | 0.00   |
| -367 | Min | 3  | SND | -0.00   | 13 | SND | -0.00    | 5  | SND | 0.00 | 15 | SND   | 0.00 | 13 | SND | 0.00 | 1  | SND | 0.00   |
| -366 | Max | 11 | SND | -0.00   | 7  | SND | 0.01     | 21 | SND | 0.00 | 9  | SND   | 0.00 | 23 | SND | 0.00 | 29 | SND | 0.00   |
| -366 | Min | 33 | SLU | -0.01   | 17 | SND | -0.02    | 3  | SND | 0.00 | 31 | SND   | 0.00 | 11 | SND | 0.00 | 1  | SND | 0.00   |
| -365 | Max | 23 | SND | -0.00   | 29 | SND | -0.00    | 23 | SND | 0.00 | 17 | SND   | 0.00 | 23 | SND | 0.00 | 1  | SND | 0.00   |
| -365 | Min | 1  | SND | -0.02   | 11 | SND | -0.05    | 13 | SND | 0.00 | 7  | SND   | 0.00 | 23 | SND | 0.00 | 1  | SND | -0.00  |
| -364 | Max | 19 | SND | 0.00    | 29 | SND | 0.01     | 17 | SND | 0.00 | 15 | SND   | 0.00 | 13 | SND | 0.00 | 1  | SND | 0.00   |
| -364 | Min | 5  | SND | -0.01   | 11 | SND | -0.01    | 7  | SND | 0.00 | 25 | SND   | 0.00 | 27 | SND | 0.00 | 1  | SND | 0.00   |
| -363 | Max | 17 | SND | 0.01    | 31 | SND | 0.00     | 1  | SND | 0.00 | 33 | SLU   | 0.00 | 5  | SND | 0.00 | 5  | SND | 0.00   |
| -363 | Min | 7  | SND | 0.00    | 9  | SND | -0.01    | 33 | SLU | 0.00 | 21 | SND   | 0.00 | 19 | SND | 0.00 | 1  | SND | 0.00   |
| -362 | Max | 33 | SLU | 0.02    | 31 | SND | 0.00     | 3  | SND | 0.00 | 11 | SND   | 0.00 | 17 | SND | 0.00 | 19 | SND | 0.00   |
| -362 | Min | 19 | SND | 0.01    | 9  | SND | -0.03    | 33 | SLU | 0.00 | 29 | SND   | 0.00 | 7  | SND | 0.00 | 1  | SND | 0.00   |
| -361 | Max | 17 | SND | -0.01   | 29 | SND | -0.00    | 5  | SND | 0.00 | 33 | SLU   | 0.00 | 33 | SLU | 0.00 | 17 | SND | 0.00   |
| -361 | Min | 33 | SLU | -0.03   | 11 | SND | -0.04    | 19 | SND | 0.00 | 7  | SND   | 0.00 | 7  | SND | 0.00 | 1  | SND | -0.00  |
| -360 | Max | 17 | SND | 0.00    | 33 | SLU | 0.01     | 3  | SND | 0.00 | 1  | SND   | 0.00 | 5  | SND | 0.00 | 7  | SND | 0.00   |
| -360 | Min | 7  | SND | -0.00   | 9  | SND | 0.00     | 21 | SND | 0.00 | 23 | SND   | 0.00 | 19 | SND | 0.00 | 1  | SND | 0.00   |
| -359 | Max | 33 | SLU | 0.03    | 31 | SND | -0.00    | 23 | SND | 0.00 | 33 | SLU   | 0.00 | 7  | SND | 0.00 | 19 | SND | 0.00   |
| -359 | Min | 7  | SND | 0.01    | 9  | SND | 0.00     | 1  | SND | 0.00 | 3  | SND   | 0.00 | 17 | SND | 0.00 | 1  | SND | 0.00   |
| -358 | Max | 19 | SND | -0.01   | 29 | SND | -0.00    | 5  | SND | 0.00 | 31 | SND   | 0.00 | 3  | SND | 0.00 | 17 | SND | 0.00   |
| -358 | Min | 33 | SLU | -0.03   | 11 | SND | -0.03    | 19 | SND | 0.00 | 9  | SND   | 0.00 | 21 | SND | 0.00 | 1  | SND | -0.00  |
| -357 | Max | 19 | SND | 0.00    | 31 | SND | 0.00     | 5  | SND | 0.00 | 5  | SND   | 0.00 | 19 | SND | 0.00 | 33 | SLU | 0.00   |
| -357 | Min | 5  | SND | -0.00   | 9  | SND | 0.00     | 19 | SND | 0.00 | 19 | SND   | 0.00 | 17 | SND | 0.00 | 1  | SND | 0.00   |
| -356 | Max | 33 | SLU | 0.01    | 15 | SND | 0.00     | 1  | SND | 0.00 | 33 | SLU   | 0.00 | 3  | SND | 0.00 | 7  | SND | 0.00   |
| -356 | Min | 7  | SND | 0.00    | 25 | SND | -0.00    | 23 | SND | 0.00 | 21 | SND   | 0.00 | 33 | SLU | 0.00 | 1  | SND | 0.00   |
| -355 | Max | 33 | SLU | 0.02    | 15 | SND | 0.00     | 15 | SND | 0.00 | 17 | SND   | 0.00 | 19 | SND | 0.00 | 19 | SND | 0.00   |
| -355 | Min | 7  | SND | 0.01    | 25 | SND | -0.04    | 33 | SLU | 0.00 | 33 | SLU   | 0.00 | 5  | SND | 0.00 | 1  | SND | 0.00   |
| -354 | Max | 33 | SLU | 616.64  | 25 | SND | -162.66  | 33 | SLU | 0.00 | 9  | SND   | 0.00 | 1  | SND | 0.00 | 27 | SND | -9.48  |
| -354 | Min | 27 | SND | 305.81  | 33 | SLU | -298.94  | 17 | SND | 0.00 | 33 | SLU   | 0.00 | 33 | SLU | 0.00 | 1  | SND | -17.46 |
| -343 | Max | 7  | SND | 187.75  | 27 | SND | -331.11  | 25 | SND | 0.00 | 29 | SND   | 0.00 | 11 | SND | 0.00 | 33 | SLU | 35.08  |
| -343 | Min | 17 | SND | -271.72 | 33 | SLU | -704.34  | 15 | SND | 0.00 | 9  | SND   | 0.00 | 33 | SLU | 0.00 | 1  | SND | 15.36  |
| -342 | Max | 17 | SND | 0.01    | 15 | SND | 0.01     | 33 | SLU | 0.00 | 17 | SND   | 0.00 | 19 | SND | 0.00 | 13 | SND | 0.00   |
| -342 | Min | 7  | SND | -0.01   | 25 | SND | -0.01    | 9  | SND | 0.00 | 7  | SND   | 0.00 | 27 | SND | 0.00 | 1  | SND | 0.00   |
| -341 | Max | 5  | SND | 0.02    | 15 | SND | 0.05     | 19 | SND | 0.00 | 25 | SND   | 0.00 | 17 | SND | 0.00 | 3  | SND | 0.00   |
| -341 | Min | 19 | SND | 0.00    | 25 | SND | -0.07    | 5  | SND | 0.00 | 13 | SND   | 0.00 | 21 | SND | 0.00 | 1  | SND | -0.00  |
| -340 | Max | 7  | SND | 0.06    | 3  | SND | 0.02     | 19 | SND | 0.00 | 7  | SND   | 0.00 | 31 | SND | 0.00 | 17 | SND | 0.00   |
| -340 | Min | 17 | SND | -0.04   | 21 | SND | -0.04    | 5  | SND | 0.00 | 17 | SND   | 0.00 | 9  | SND | 0.00 | 1  | SND | 0.00   |
| -339 | Max | 7  | SND | 0.02    | 5  | SND | 0.02     | 1  | SND | 0.00 | 5  | SND   | 0.00 | 29 | SND | 0.00 | 17 | SND | 0.00   |
| -339 | Min | 17 | SND | -0.05   | 19 | SND | -0.04    | 23 | SND | 0.00 | 19 | SND   | 0.00 | 11 | SND | 0.00 | 1  | SND | 0.00   |
| -338 | Max | 17 | SND | 0.08    | 9  | SND | 0.06     | 7  | SND | 0.00 | 27 | SND   | 0.00 | 21 | SND | 0.00 | 9  | SND | 0.00   |
| -338 | Min | 7  | SND | -0.04   | 31 | SND | -0.01    | 17 | SND | 0.00 | 13 | SND   | 0.00 | 31 | SND | 0.00 | 1  | SND | 0.00   |
| -337 | Max | 19 | SND | 0.02    | 11 | SND | 0.04     | 19 | SND | 0.00 | 17 | SND   | 0.00 | 27 | SND | 0.00 | 19 | SND | 0.00   |
| -337 | Min | 5  | SND | 0.01    | 29 | SND | -0.01    | 5  | SND | 0.00 | 7  | SND   | 0.00 | 13 | SND | 0.00 | 1  | SND | -0.00  |
| -336 | Max | 7  | SND | 0.01    | 5  | SND | 0.02     | 5  | SND | 0.00 | 33 | SLU   | 0.00 | 5  | SND | 0.00 | 17 | SND | 0.00   |
| -336 | Min | 17 | SND | -0.00   | 19 | SND | -0.00    | 17 | SND | 0.00 | 3  | SND   | 0.00 | 19 | SND | 0.00 | 1  | SND | 0.00   |
| -335 | Max | 7  | SND | 0.00    | 33 | SLU | 0.02     | 3  | SND | 0.00 | 15 | SND   | 0.00 | 5  | SND | 0.00 | 11 | SND | 0.00   |
| -335 | Min | 17 | SND | -0.01   | 29 | SND | 0.01     | 21 | SND | 0.00 | 25 | SND   | 0.00 | 33 | SLU | 0.00 | 1  | SND | 0.00   |
| -334 | Max | 17 | SND | -0.01   | 33 | SLU | 0.04     | 25 | SND | 0.00 | 21 | SND   | 0.00 | 13 | SND | 0.00 | 33 | SLU | 0.00   |
| -334 | Min | 33 | SLU | -0.02   | 31 | SND | 0.01     | 33 | SLU | 0.00 | 3  | SND   | 0.00 | 27 | SND | 0.00 | 1  | SND | 0.00   |
| -333 | Max | 17 | SND | 0.01    | 11 | SND | 0.07     | 31 | SND | 0.00 | 31 | SND   | 0.00 | 9  | SND | 0.00 | 7  | SND | 0.00   |
| -333 | Min | 7  | SND | -0.01   | 29 | SND | 0.02     | 9  | SND | 0.00 | 9  | SND   | 0.00 | 31 | SND | 0.00 | 1  | SND | 0.00   |
| -332 | Max | 33 | SLU | 0.03    | 33 | SLU | 0.04     | 21 | SND | 0.00 | 1  | SND   | 0.00 | 15 | SND | 0.00 | 17 | SND | 0.00   |
| -332 | Min | 17 | SND | 0.01    | 19 | SND | 0.01     | 3  | SND | 0.00 | 23 | SND   | 0.00 | 25 | SND | 0.00 | 1  | SND | -0.00  |
| -331 | Max | 7  | SND | 0.00    | 33 | SLU | 0.01     | 7  | SND | 0.00 | 11 | SND   | 0.00 | 1  | SND | 0.00 | 7  | SND | 0.00   |
| -331 | Min | 17 | SND | -0.00   | 29 | SND | 0.01     | 33 | SLU | 0.00 | 29 | SND   | 0.00 | 21 | SND | 0.00 | 1  | SND | 0.00   |
| -330 | Max | 5  | SND | -0.02   | 33 | SLU | 0.04     | 33 | SLU | 0.00 | 11 | SND   | 0.00 | 3  | SND | 0.00 | 17 | SND | 0.00   |
| -330 | Min | 33 | SLU | -0.03   | 31 | SND | 0.01     | 27 | SND | 0.00 | 29 | SND   | 0.00 | 21 | SND | 0.00 | 1  | SND | 0.00   |
| -329 | Max | 17 | SND | 0.01    | 33 | SLU | 0.08     | 25 | SND | 0.00 | 33 | SLU   | 0.00 | 29 | SND | 0.00 | 7  | SND | 0.00   |
| -329 | Min | 7  | SND | -0.01   | 31 | SND | 0.03     | 15 | SND | 0.00 | 29 | SND   | 0.00 | 17 | SND | 0.00 | 1  | SND | -0.00  |
| -328 | Max | 33 | SLU | 0.03    | 33 | SLU | 0.04     | 21 | SND | 0.00 | 29 | SND   | 0.00 | 11 | SND | 0.00 | 17 | SND | 0.00   |
| -328 | Min | 17 | SND | 0.01    | 29 | SND | 0.02     | 3  | SND | 0.00 | 34 | SLE R | 0.00 | 33 | SLU | 0.00 | 1  | SND | -0.00  |
| -327 | Max | 5  | SND | 0.00    | 33 | SLU | 0.01     | 1  | SND | 0.00 | 21 | SND   | 0.00 | 25 | SND | 0.00 | 33 | SLU | 0.00   |
| -327 | Min | 19 | SND | 0.00    | 19 | SND | 0.01     | 33 | SLU | 0.00 | 33 | SLU   | 0.00 | 17 | SND | 0.00 | 1  | SND | 0.00   |
| -326 | Max | 7  | SND | -0.00   | 33 | SLU | 0.01     | 5  | SND | 0.00 | 31 | SND   | 0.00 | 5  | SND | 0.00 | 5  | SND | 0.00   |
| -326 | Min | 33 | SLU | -0.01   | 7  | SND | 0.01     | 19 | SND | 0.00 | 9  | SND   | 0.00 | 33 | SLU | 0.00 | 1  | SND | 0.00   |
| -325 | Max | 5  | SND | -0.01   | 33 | SLU | 0.04     | 19 | SND | 0.00 | 33 | SLU   | 0.00 | 21 | SND | 0.00 | 17 | SND | 0.00   |

# Relazione di calcolo

|      |     |    |     |         |    |     |         |    |     |      |    |       |      |    |     |      |    |     |        |
|------|-----|----|-----|---------|----|-----|---------|----|-----|------|----|-------|------|----|-----|------|----|-----|--------|
| -325 | Min | 33 | SLU | -0.02   | 15 | SND | 0.01    | 5  | SND | 0.00 | 13 | SND   | 0.00 | 7  | SND | 0.00 | 1  | SND | 0.00   |
| -324 | Max | 17 | SND | 0.01    | 33 | SLU | 0.08    | 29 | SND | 0.00 | 13 | SND   | 0.00 | 33 | SLU | 0.00 | 7  | SND | 0.00   |
| -324 | Min | 7  | SND | -0.01   | 13 | SND | 0.03    | 33 | SLU | 0.00 | 27 | SND   | 0.00 | 17 | SND | 0.00 | 1  | SND | 0.00   |
| -323 | Max | 33 | SLU | 107.93  | 27 | SND | -330.17 | 33 | SLU | 0.00 | 29 | SND   | 0.00 | 9  | SND | 0.00 | 33 | SLU | 17.10  |
| -323 | Min | 7  | SND | -48.80  | 33 | SLU | -613.14 | 17 | SND | 0.00 | 11 | SND   | 0.00 | 31 | SND | 0.00 | 1  | SND | 9.44   |
| -320 | Max | 7  | SND | 312.26  | 27 | SND | -469.33 | 29 | SND | 0.00 | 15 | SND   | 0.00 | 33 | SLU | 0.00 | 27 | SND | -20.32 |
| -320 | Min | 17 | SND | -35.11  | 33 | SLU | -883.71 | 11 | SND | 0.00 | 25 | SND   | 0.00 | 33 | SLU | 0.00 | 1  | SND | -45.74 |
| -319 | Max | 7  | SND | 0.01    | 25 | SND | 0.02    | 5  | SND | 0.00 | 13 | SND   | 0.00 | 19 | SND | 0.00 | 19 | SND | 0.00   |
| -319 | Min | 17 | SND | -0.01   | 15 | SND | -0.01   | 19 | SND | 0.00 | 27 | SND   | 0.00 | 5  | SND | 0.00 | 1  | SND | 0.00   |
| -318 | Max | 17 | SND | -0.01   | 27 | SND | 0.06    | 31 | SND | 0.00 | 7  | SND   | 0.00 | 5  | SND | 0.00 | 17 | SND | 0.00   |
| -318 | Min | 33 | SLU | -0.01   | 13 | SND | -0.02   | 9  | SND | 0.00 | 17 | SND   | 0.00 | 19 | SND | 0.00 | 1  | SND | -0.00  |
| -317 | Max | 17 | SND | 0.08    | 27 | SND | 0.11    | 27 | SND | 0.00 | 5  | SND   | 0.00 | 13 | SND | 0.00 | 13 | SND | 0.00   |
| -317 | Min | 7  | SND | -0.14   | 13 | SND | -0.04   | 13 | SND | 0.00 | 19 | SND   | 0.00 | 27 | SND | 0.00 | 1  | SND | 0.00   |
| -316 | Max | 7  | SND | 0.09    | 17 | SND | 0.02    | 27 | SND | 0.00 | 17 | SND   | 0.00 | 3  | SND | 0.00 | 17 | SND | 0.00   |
| -316 | Min | 17 | SND | -0.06   | 7  | SND | -0.06   | 13 | SND | 0.00 | 7  | SND   | 0.00 | 21 | SND | 0.00 | 1  | SND | -0.00  |
| -315 | Max | 5  | SND | 0.02    | 5  | SND | 0.00    | 5  | SND | 0.00 | 15 | SND   | 0.00 | 19 | SND | 0.00 | 29 | SND | 0.00   |
| -315 | Min | 19 | SND | -0.03   | 19 | SND | -0.02   | 19 | SND | 0.00 | 33 | SLU   | 0.00 | 11 | SND | 0.00 | 1  | SND | 0.00   |
| -314 | Max | 19 | SND | 0.04    | 19 | SND | 0.02    | 17 | SND | 0.00 | 3  | SND   | 0.00 | 19 | SND | 0.00 | 19 | SND | 0.00   |
| -314 | Min | 5  | SND | -0.02   | 5  | SND | -0.01   | 7  | SND | 0.00 | 21 | SND   | 0.00 | 5  | SND | 0.00 | 1  | SND | 0.00   |
| -313 | Max | 11 | SND | 0.00    | 29 | SND | -0.00   | 31 | SND | 0.00 | 1  | SND   | 0.00 | 1  | SND | 0.00 | 19 | SND | 0.00   |
| -313 | Min | 29 | SND | 0.00    | 33 | SLU | -0.00   | 9  | SND | 0.00 | 23 | SND   | 0.00 | 23 | SND | 0.00 | 1  | SND | 0.00   |
| -312 | Max | 17 | SND | 0.00    | 19 | SND | 0.00    | 31 | SND | 0.00 | 3  | SND   | 0.00 | 31 | SND | 0.00 | 7  | SND | 0.00   |
| -312 | Min | 7  | SND | -0.00   | 5  | SND | -0.00   | 9  | SND | 0.00 | 21 | SND   | 0.00 | 17 | SND | 0.00 | 1  | SND | 0.00   |
| -311 | Max | 17 | SND | 0.00    | 1  | SND | -0.00   | 31 | SND | 0.00 | 33 | SLU   | 0.00 | 11 | SND | 0.00 | 7  | SND | 0.00   |
| -311 | Min | 7  | SND | 0.00    | 33 | SLU | -0.00   | 33 | SLU | 0.00 | 9  | SND   | 0.00 | 33 | SLU | 0.00 | 1  | SND | 0.00   |
| -310 | Max | 33 | SLU | 0.00    | 7  | SND | -0.00   | 31 | SND | 0.00 | 33 | SLU   | 0.00 | 5  | SND | 0.00 | 9  | SND | 0.00   |
| -310 | Min | 9  | SND | 0.00    | 33 | SLU | -0.01   | 9  | SND | 0.00 | 9  | SND   | 0.00 | 31 | SND | 0.00 | 1  | SND | 0.00   |
| -309 | Max | 5  | SND | 0.00    | 9  | SND | -0.01   | 3  | SND | 0.00 | 31 | SND   | 0.00 | 19 | SND | 0.00 | 17 | SND | 0.00   |
| -309 | Min | 19 | SND | 0.00    | 33 | SLU | -0.01   | 21 | SND | 0.00 | 9  | SND   | 0.00 | 7  | SND | 0.00 | 1  | SND | 0.00   |
| -308 | Max | 9  | SND | -0.00   | 19 | SND | -0.00   | 17 | SND | 0.00 | 11 | SND   | 0.00 | 3  | SND | 0.00 | 33 | SLU | 0.00   |
| -308 | Min | 33 | SLU | -0.00   | 33 | SLU | -0.01   | 7  | SND | 0.00 | 29 | SND   | 0.00 | 21 | SND | 0.00 | 1  | SND | 0.00   |
| -307 | Max | 17 | SND | 0.00    | 9  | SND | -0.00   | 9  | SND | 0.00 | 5  | SND   | 0.00 | 19 | SND | 0.00 | 7  | SND | 0.00   |
| -307 | Min | 7  | SND | 0.00    | 33 | SLU | -0.00   | 31 | SND | 0.00 | 19 | SND   | 0.00 | 17 | SND | 0.00 | 1  | SND | 0.00   |
| -306 | Max | 33 | SLU | 0.00    | 7  | SND | -0.00   | 27 | SND | 0.00 | 5  | SND   | 0.00 | 31 | SND | 0.00 | 9  | SND | 0.00   |
| -306 | Min | 9  | SND | 0.00    | 33 | SLU | -0.01   | 33 | SLU | 0.00 | 19 | SND   | 0.00 | 33 | SLU | 0.00 | 1  | SND | 0.00   |
| -305 | Max | 7  | SND | 0.00    | 11 | SND | -0.01   | 11 | SND | 0.00 | 33 | SLU   | 0.00 | 31 | SND | 0.00 | 17 | SND | 0.00   |
| -305 | Min | 17 | SND | 0.00    | 33 | SLU | -0.01   | 29 | SND | 0.00 | 3  | SND   | 0.00 | 9  | SND | 0.00 | 1  | SND | 0.00   |
| -304 | Max | 11 | SND | -0.00   | 19 | SND | -0.00   | 17 | SND | 0.00 | 11 | SND   | 0.00 | 9  | SND | 0.00 | 33 | SLU | 0.00   |
| -304 | Min | 33 | SLU | -0.00   | 33 | SLU | -0.01   | 7  | SND | 0.00 | 29 | SND   | 0.00 | 29 | SND | 0.00 | 1  | SND | 0.00   |
| -303 | Max | 19 | SND | 0.00    | 25 | SND | -0.00   | 11 | SND | 0.00 | 11 | SND   | 0.00 | 7  | SND | 0.00 | 11 | SND | 0.00   |
| -303 | Min | 5  | SND | 0.00    | 33 | SLU | -0.00   | 33 | SLU | 0.00 | 29 | SND   | 0.00 | 29 | SND | 0.00 | 1  | SND | 0.00   |
| -302 | Max | 33 | SLU | 0.00    | 7  | SND | -0.00   | 1  | SND | 0.00 | 23 | SND   | 0.00 | 33 | SLU | 0.00 | 15 | SND | 0.00   |
| -302 | Min | 5  | SND | 0.00    | 33 | SLU | -0.00   | 33 | SLU | 0.00 | 1  | SND   | 0.00 | 25 | SND | 0.00 | 1  | SND | 0.00   |
| -301 | Max | 33 | SLU | 0.00    | 7  | SND | -0.00   | 25 | SND | 0.00 | 13 | SND   | 0.00 | 29 | SND | 0.00 | 25 | SND | 0.00   |
| -301 | Min | 25 | SND | 0.00    | 33 | SLU | -0.01   | 15 | SND | 0.00 | 11 | SND   | 0.00 | 15 | SND | 0.00 | 1  | SND | 0.00   |
| -300 | Max | 29 | SND | -0.00   | 11 | SND | -0.00   | 31 | SND | 0.00 | 31 | SND   | 0.00 | 11 | SND | 0.00 | 17 | SND | 0.00   |
| -300 | Min | 33 | SLU | -0.00   | 33 | SLU | -0.01   | 33 | SLU | 0.00 | 9  | SND   | 0.00 | 13 | SND | 0.00 | 1  | SND | 0.00   |
| -299 | Max | 25 | SND | -68.17  | 27 | SND | -126.05 | 33 | SLU | 0.00 | 13 | SND   | 0.00 | 19 | SND | 0.00 | 19 | SND | -2.39  |
| -299 | Min | 15 | SND | -256.58 | 33 | SLU | -305.12 | 25 | SND | 0.00 | 27 | SND   | 0.00 | 33 | SLU | 0.00 | 1  | SND | -5.23  |
| -286 | Max | 7  | SND | 34.88   | 25 | SND | -179.96 | 31 | SND | 0.00 | 11 | SND   | 0.00 | 15 | SND | 0.00 | 25 | SND | 5.14   |
| -286 | Min | 33 | SLU | -53.08  | 15 | SND | -586.85 | 9  | SND | 0.00 | 34 | SLE R | 0.00 | 33 | SLU | 0.00 | 1  | SND | -2.62  |
| -285 | Max | 19 | SND | 0.00    | 7  | SND | 0.00    | 21 | SND | 0.00 | 1  | SND   | 0.00 | 23 | SND | 0.00 | 7  | SND | 0.00   |
| -285 | Min | 5  | SND | 0.00    | 17 | SND | -0.00   | 3  | SND | 0.00 | 23 | SND   | 0.00 | 17 | SND | 0.00 | 1  | SND | 0.00   |
| -284 | Max | 15 | SND | 0.01    | 7  | SND | -0.00   | 3  | SND | 0.00 | 11 | SND   | 0.00 | 19 | SND | 0.00 | 27 | SND | 0.00   |
| -284 | Min | 25 | SND | -0.00   | 33 | SLU | -0.00   | 21 | SND | 0.00 | 29 | SND   | 0.00 | 13 | SND | 0.00 | 1  | SND | 0.00   |
| -283 | Max | 17 | SND | 0.04    | 7  | SND | 0.03    | 25 | SND | 0.00 | 7  | SND   | 0.00 | 15 | SND | 0.00 | 17 | SND | 0.00   |
| -283 | Min | 7  | SND | -0.07   | 17 | SND | -0.01   | 13 | SND | 0.00 | 17 | SND   | 0.00 | 25 | SND | 0.00 | 1  | SND | -0.00  |
| -282 | Max | 7  | SND | 0.06    | 17 | SND | 0.01    | 17 | SND | 0.00 | 29 | SND   | 0.00 | 15 | SND | 0.00 | 25 | SND | 0.00   |
| -282 | Min | 17 | SND | -0.04   | 7  | SND | -0.03   | 7  | SND | 0.00 | 11 | SND   | 0.00 | 25 | SND | 0.00 | 1  | SND | 0.00   |
| -281 | Max | 5  | SND | 0.01    | 5  | SND | 0.00    | 5  | SND | 0.00 | 29 | SND   | 0.00 | 13 | SND | 0.00 | 5  | SND | 0.00   |
| -281 | Min | 19 | SND | -0.01   | 19 | SND | -0.01   | 19 | SND | 0.00 | 11 | SND   | 0.00 | 19 | SND | 0.00 | 1  | SND | 0.00   |
| -280 | Max | 19 | SND | 0.02    | 19 | SND | 0.01    | 29 | SND | 0.00 | 11 | SND   | 0.00 | 3  | SND | 0.00 | 1  | SND | 0.00   |
| -280 | Min | 5  | SND | -0.01   | 5  | SND | -0.00   | 11 | SND | 0.00 | 29 | SND   | 0.00 | 23 | SND | 0.00 | 1  | SND | 0.00   |
| -279 | Max | 33 | SLU | 0.00    | 31 | SND | 0.00    | 31 | SND | 0.00 | 11 | SND   | 0.00 | 5  | SND | 0.00 | 23 | SND | 0.00   |
| -279 | Min | 5  | SND | 0.00    | 33 | SLU | -0.00   | 9  | SND | 0.00 | 29 | SND   | 0.00 | 19 | SND | 0.00 | 1  | SND | 0.00   |
| -278 | Max | 9  | SND | 0.00    | 17 | SND | 0.00    | 17 | SND | 0.00 | 33 | SLU   | 0.00 | 7  | SND | 0.00 | 7  | SND | 0.00   |
| -278 | Min | 31 | SND | 0.00    | 7  | SND | -0.00   | 7  | SND | 0.00 | 1  | SND   | 0.00 | 17 | SND | 0.00 | 1  | SND | 0.00   |
| -277 | Max | 19 | SND | 0.00    | 1  | SND | 0.00    | 33 | SLU | 0.00 | 11 | SND   | 0.00 | 7  | SND | 0.00 | 5  | SND | 0.00   |
| -277 | Min | 5  | SND | 0.00    | 33 | SLU | -0.00   | 11 | SND | 0.00 | 29 | SND   | 0.00 | 19 | SND | 0.00 | 1  | SND | 0.00   |
| -276 | Max | 33 | SLU | 0.00    | 11 | SND | -0.00   | 33 | SLU | 0.00 | 11 | SND   | 0.00 | 27 | SND | 0.00 | 9  | SND | 0.00   |
| -276 | Min | 9  | SND | 0.00    | 33 | SLU | -0.00   | 15 | SND | 0.00 | 29 | SND   | 0.00 | 33 | SLU | 0.00 | 1  | SND | 0.00   |
| -275 | Max | 5  | SND | 0.00    | 9  | SND | -0.00   | 29 | SND | 0.00 | 29 | SND   | 0.00 | 11 | SND | 0.00 | 9  | SND | 0.00   |
| -275 | Min | 19 | SND | 0.00    | 33 | SLU | -0.00   | 11 | SND | 0.00 | 11 | SND   | 0.00 | 31 | SND | 0.00 | 1  | SND | 0.00   |
| -274 | Max | 9  | SND | 0.00    | 17 | SND | -0.00   | 21 | SND | 0.00 | 3  | SND   | 0.00 | 29 | SND | 0.00 | 31 | SND | 0.00   |
| -274 | Min | 33 | SLU | 0.00    | 33 | SLU | -0.00   | 33 | SLU | 0.00 | 33 | SLU   | 0.00 | 11 | SND | 0.00 | 1  | SND | 0.00   |
| -273 | Max | 1  | SND | 0.00    | 9  | SND | 0.00    | 31 | SND | 0.00 | 15 | SND   | 0.00 | 29 | SND | 0.00 | 7  | SND | 0.00   |
| -273 | Min | 23 | SND | 0.00    | 33 | SLU | 0.00    | 33 | SLU | 0.00 | 33 | SLU   | 0.00 | 17 | SND | 0.00 | 1  | SND | 0.00   |
| -272 | Max | 33 | SLU | 0.00    | 7  | SND | -0.00   | 5  | SND | 0.00 | 5  | SND   | 0.00 | 33 | SLU | 0.00 | 11 | SND | 0.00   |
| -272 | Min | 9  | SND | 0.00    | 33 | SLU | -0.00   | 33 | SLU | 0.00 | 33 | SLU   | 0.00 | 29 | SND | 0.00 | 1  | SND | 0.00   |

# Relazione di calcolo

|      |     |    |     |         |    |     |         |    |     |      |    |     |      |    |       |      |    |     |        |
|------|-----|----|-----|---------|----|-----|---------|----|-----|------|----|-----|------|----|-------|------|----|-----|--------|
| -271 | Max | 7  | SND | 0.00    | 11 | SND | -0.00   | 33 | SLU | 0.00 | 25 | SND | 0.00 | 33 | SLU   | 0.00 | 19 | SND | 0.00   |
| -271 | Min | 17 | SND | 0.00    | 33 | SLU | -0.00   | 9  | SND | 0.00 | 15 | SND | 0.00 | 15 | SND   | 0.00 | 1  | SND | 0.00   |
| -270 | Max | 11 | SND | 0.00    | 19 | SND | -0.00   | 7  | SND | 0.00 | 31 | SND | 0.00 | 33 | SLU   | 0.00 | 31 | SND | 0.00   |
| -270 | Min | 33 | SLU | 0.00    | 33 | SLU | -0.00   | 33 | SLU | 0.00 | 9  | SND | 0.00 | 13 | SND   | 0.00 | 1  | SND | 0.00   |
| -269 | Max | 1  | SND | 0.00    | 17 | SND | 0.00    | 33 | SLU | 0.00 | 33 | SLU | 0.00 | 33 | SLU   | 0.00 | 11 | SND | 0.00   |
| -269 | Min | 23 | SND | 0.00    | 33 | SLU | 0.00    | 9  | SND | 0.00 | 19 | SND | 0.00 | 29 | SND   | 0.00 | 1  | SND | 0.00   |
| -268 | Max | 29 | SND | 0.00    | 5  | SND | 0.00    | 33 | SLU | 0.00 | 15 | SND | 0.00 | 29 | SND   | 0.00 | 15 | SND | 0.00   |
| -268 | Min | 11 | SND | 0.00    | 33 | SLU | 0.00    | 9  | SND | 0.00 | 25 | SND | 0.00 | 33 | SLU   | 0.00 | 1  | SND | 0.00   |
| -267 | Max | 33 | SLU | 0.00    | 7  | SND | -0.00   | 31 | SND | 0.00 | 29 | SND | 0.00 | 33 | SLU   | 0.00 | 27 | SND | 0.00   |
| -267 | Min | 25 | SND | 0.00    | 33 | SLU | -0.00   | 9  | SND | 0.00 | 11 | SND | 0.00 | 15 | SND   | 0.00 | 1  | SND | 0.00   |
| -266 | Max | 27 | SND | -0.00   | 11 | SND | 0.00    | 33 | SLU | 0.00 | 29 | SND | 0.00 | 15 | SND   | 0.00 | 33 | SLU | 0.00   |
| -266 | Min | 33 | SLU | -0.00   | 33 | SLU | -0.00   | 13 | SND | 0.00 | 11 | SND | 0.00 | 25 | SND   | 0.00 | 1  | SND | 0.00   |
| -265 | Max | 33 | SLU | 24.27   | 27 | SND | -137.76 | 27 | SND | 0.00 | 27 | SND | 0.00 | 9  | SND   | 0.00 | 33 | SLU | 12.11  |
| -265 | Min | 13 | SND | -100.95 | 33 | SLU | -277.12 | 33 | SLU | 0.00 | 13 | SND | 0.00 | 31 | SND   | 0.00 | 1  | SND | 6.89   |
| -262 | Max | 7  | SND | 38.63   | 27 | SND | -103.72 | 17 | SND | 0.00 | 33 | SLU | 0.00 | 33 | SLU   | 0.00 | 15 | SND | -7.74  |
| -262 | Min | 33 | SLU | -97.05  | 13 | SND | -538.01 | 33 | SLU | 0.00 | 17 | SND | 0.00 | 34 | SLE R | 0.00 | 1  | SND | -19.97 |
| -261 | Max | 13 | SND | 0.00    | 7  | SND | 0.00    | 27 | SND | 0.00 | 29 | SND | 0.00 | 3  | SND   | 0.00 | 7  | SND | 0.00   |
| -261 | Min | 27 | SND | 0.00    | 17 | SND | -0.00   | 13 | SND | 0.00 | 11 | SND | 0.00 | 21 | SND   | 0.00 | 1  | SND | 0.00   |
| -260 | Max | 15 | SND | 0.00    | 25 | SND | 0.00    | 33 | SLU | 0.00 | 15 | SND | 0.00 | 5  | SND   | 0.00 | 21 | SND | 0.00   |
| -260 | Min | 25 | SND | 0.00    | 15 | SND | -0.00   | 23 | SND | 0.00 | 25 | SND | 0.00 | 19 | SND   | 0.00 | 1  | SND | 0.00   |
| -259 | Max | 17 | SND | 0.02    | 15 | SND | 0.02    | 33 | SLU | 0.00 | 15 | SND | 0.00 | 29 | SND   | 0.00 | 3  | SND | 0.00   |
| -259 | Min | 7  | SND | -0.04   | 25 | SND | -0.01   | 1  | SND | 0.00 | 25 | SND | 0.00 | 21 | SND   | 0.00 | 1  | SND | 0.00   |
| -258 | Max | 7  | SND | 0.02    | 25 | SND | 0.01    | 15 | SND | 0.00 | 5  | SND | 0.00 | 29 | SND   | 0.00 | 7  | SND | 0.00   |
| -258 | Min | 17 | SND | -0.01   | 15 | SND | -0.02   | 25 | SND | 0.00 | 17 | SND | 0.00 | 17 | SND   | 0.00 | 1  | SND | 0.00   |
| -257 | Max | 23 | SND | 0.00    | 9  | SND | 0.00    | 33 | SLU | 0.00 | 13 | SND | 0.00 | 15 | SND   | 0.00 | 1  | SND | 0.00   |
| -257 | Min | 1  | SND | -0.00   | 31 | SND | -0.00   | 25 | SND | 0.00 | 27 | SND | 0.00 | 25 | SND   | 0.00 | 1  | SND | 0.00   |
| -256 | Max | 1  | SND | 0.01    | 31 | SND | 0.00    | 11 | SND | 0.00 | 9  | SND | 0.00 | 1  | SND   | 0.00 | 1  | SND | 0.00   |
| -256 | Min | 23 | SND | -0.00   | 9  | SND | -0.01   | 29 | SND | 0.00 | 31 | SND | 0.00 | 23 | SND   | 0.00 | 1  | SND | 0.00   |
| -255 | Max | 9  | SND | 0.00    | 31 | SND | 0.00    | 33 | SLU | 0.00 | 19 | SND | 0.00 | 9  | SND   | 0.00 | 9  | SND | 0.00   |
| -255 | Min | 31 | SND | 0.00    | 9  | SND | -0.00   | 19 | SND | 0.00 | 5  | SND | 0.00 | 31 | SND   | 0.00 | 1  | SND | 0.00   |
| -254 | Max | 11 | SND | 0.00    | 1  | SND | 0.00    | 19 | SND | 0.00 | 23 | SND | 0.00 | 25 | SND   | 0.00 | 23 | SND | 0.00   |
| -254 | Min | 29 | SND | 0.00    | 23 | SND | -0.00   | 33 | SLU | 0.00 | 1  | SND | 0.00 | 15 | SND   | 0.00 | 1  | SND | 0.00   |
| -253 | Max | 23 | SND | 0.00    | 17 | SND | 0.00    | 17 | SND | 0.00 | 33 | SLU | 0.00 | 7  | SND   | 0.00 | 23 | SND | 0.00   |
| -253 | Min | 1  | SND | 0.00    | 33 | SLU | -0.00   | 7  | SND | 0.00 | 3  | SND | 0.00 | 33 | SLU   | 0.00 | 1  | SND | 0.00   |
| -252 | Max | 29 | SND | 0.00    | 23 | SND | -0.00   | 33 | SLU | 0.00 | 9  | SND | 0.00 | 15 | SND   | 0.00 | 3  | SND | 0.00   |
| -252 | Min | 11 | SND | 0.00    | 33 | SLU | -0.00   | 7  | SND | 0.00 | 31 | SND | 0.00 | 25 | SND   | 0.00 | 1  | SND | 0.00   |
| -251 | Max | 33 | SLU | 0.00    | 29 | SND | -0.00   | 33 | SLU | 0.00 | 11 | SND | 0.00 | 33 | SLU   | 0.00 | 33 | SLU | 0.00   |
| -251 | Min | 31 | SND | 0.00    | 33 | SLU | -0.00   | 29 | SND | 0.00 | 33 | SLU | 0.00 | 5  | SND   | 0.00 | 1  | SND | 0.00   |
| -250 | Max | 9  | SND | 0.00    | 3  | SND | -0.00   | 23 | SND | 0.00 | 15 | SND | 0.00 | 23 | SND   | 0.00 | 1  | SND | 0.00   |
| -250 | Min | 31 | SND | 0.00    | 33 | SLU | -0.00   | 1  | SND | 0.00 | 25 | SND | 0.00 | 23 | SND   | 0.00 | 1  | SND | 0.00   |
| -249 | Max | 21 | SND | 0.00    | 11 | SND | 0.00    | 13 | SND | 0.00 | 9  | SND | 0.00 | 25 | SND   | 0.00 | 21 | SND | 0.00   |
| -249 | Min | 3  | SND | 0.00    | 33 | SLU | 0.00    | 33 | SLU | 0.00 | 31 | SND | 0.00 | 15 | SND   | 0.00 | 1  | SND | 0.00   |
| -248 | Max | 29 | SND | 0.00    | 23 | SND | -0.00   | 9  | SND | 0.00 | 23 | SND | 0.00 | 33 | SLU   | 0.00 | 3  | SND | 0.00   |
| -248 | Min | 11 | SND | 0.00    | 33 | SLU | -0.00   | 31 | SND | 0.00 | 1  | SND | 0.00 | 31 | SND   | 0.00 | 1  | SND | 0.00   |
| -247 | Max | 3  | SND | 0.00    | 31 | SND | -0.00   | 27 | SND | 0.00 | 33 | SLU | 0.00 | 33 | SLU   | 0.00 | 21 | SND | 0.00   |
| -247 | Min | 21 | SND | 0.00    | 33 | SLU | -0.01   | 13 | SND | 0.00 | 29 | SND | 0.00 | 5  | SND   | 0.00 | 1  | SND | 0.00   |
| -246 | Max | 9  | SND | 0.00    | 3  | SND | -0.00   | 13 | SND | 0.00 | 29 | SND | 0.00 | 25 | SND   | 0.00 | 1  | SND | 0.00   |
| -246 | Min | 31 | SND | 0.00    | 33 | SLU | -0.00   | 33 | SLU | 0.00 | 11 | SND | 0.00 | 23 | SND   | 0.00 | 1  | SND | 0.00   |
| -245 | Max | 5  | SND | 0.00    | 3  | SND | 0.00    | 17 | SND | 0.00 | 15 | SND | 0.00 | 9  | SND   | 0.00 | 23 | SND | 0.00   |
| -245 | Min | 19 | SND | 0.00    | 33 | SLU | 0.00    | 7  | SND | 0.00 | 25 | SND | 0.00 | 33 | SLU   | 0.00 | 1  | SND | 0.00   |
| -244 | Max | 31 | SND | 0.00    | 21 | SND | 0.00    | 11 | SND | 0.00 | 27 | SND | 0.00 | 33 | SLU   | 0.00 | 21 | SND | 0.00   |
| -244 | Min | 9  | SND | 0.00    | 33 | SLU | 0.00    | 29 | SND | 0.00 | 33 | SLU | 0.00 | 33 | SLU   | 0.00 | 1  | SND | 0.00   |
| -243 | Max | 31 | SND | 0.00    | 31 | SND | -0.00   | 3  | SND | 0.00 | 13 | SND | 0.00 | 31 | SND   | 0.00 | 13 | SND | 0.00   |
| -243 | Min | 9  | SND | -0.00   | 33 | SLU | -0.01   | 21 | SND | 0.00 | 33 | SLU | 0.00 | 33 | SLU   | 0.00 | 1  | SND | 0.00   |
| -242 | Max | 31 | SND | -0.00   | 15 | SND | -0.00   | 13 | SND | 0.00 | 29 | SND | 0.00 | 9  | SND   | 0.00 | 31 | SND | 0.00   |
| -242 | Min | 33 | SLU | -0.00   | 25 | SND | -0.01   | 27 | SND | 0.00 | 33 | SLU | 0.00 | 33 | SLU   | 0.00 | 1  | SND | 0.00   |
| -241 | Max | 33 | SLU | 18.88   | 25 | SND | 177.96  | 25 | SND | 0.00 | 31 | SND | 0.00 | 29 | SND   | 0.00 | 33 | SLU | 15.26  |
| -241 | Min | 25 | SND | -133.70 | 15 | SND | -83.40  | 33 | SLU | 0.00 | 9  | SND | 0.00 | 34 | SLE R | 0.00 | 1  | SND | 9.49   |
| -228 | Max | 15 | SND | -51.22  | 27 | SND | 600.08  | 27 | SND | 0.00 | 31 | SND | 0.00 | 33 | SLU   | 0.00 | 23 | SND | -12.47 |
| -228 | Min | 33 | SLU | -300.97 | 13 | SND | -92.29  | 13 | SND | 0.00 | 9  | SND | 0.00 | 33 | SLU   | 0.00 | 1  | SND | -21.52 |
| -227 | Max | 15 | SND | 0.00    | 23 | SND | 0.00    | 3  | SND | 0.00 | 17 | SND | 0.00 | 9  | SND   | 0.00 | 21 | SND | 0.00   |
| -227 | Min | 25 | SND | 0.00    | 33 | SLU | -0.00   | 21 | SND | 0.00 | 7  | SND | 0.00 | 31 | SND   | 0.00 | 1  | SND | 0.00   |
| -226 | Max | 33 | SLU | 0.00    | 27 | SND | 0.00    | 15 | SND | 0.00 | 31 | SND | 0.00 | 1  | SND   | 0.00 | 25 | SND | 0.00   |
| -226 | Min | 25 | SND | 0.00    | 13 | SND | -0.00   | 25 | SND | 0.00 | 9  | SND | 0.00 | 33 | SLU   | 0.00 | 1  | SND | 0.00   |
| -225 | Max | 3  | SND | 0.01    | 13 | SND | 0.02    | 31 | SND | 0.00 | 27 | SND | 0.00 | 13 | SND   | 0.00 | 3  | SND | 0.00   |
| -225 | Min | 21 | SND | -0.03   | 27 | SND | -0.02   | 9  | SND | 0.00 | 13 | SND | 0.00 | 27 | SND   | 0.00 | 1  | SND | 0.00   |
| -224 | Max | 21 | SND | 0.01    | 27 | SND | 0.02    | 19 | SND | 0.00 | 7  | SND | 0.00 | 11 | SND   | 0.00 | 13 | SND | 0.00   |
| -224 | Min | 3  | SND | -0.00   | 13 | SND | -0.02   | 5  | SND | 0.00 | 17 | SND | 0.00 | 29 | SND   | 0.00 | 1  | SND | -0.00  |
| -223 | Max | 31 | SND | 0.00    | 9  | SND | 0.02    | 7  | SND | 0.00 | 17 | SND | 0.00 | 3  | SND   | 0.00 | 21 | SND | 0.00   |
| -223 | Min | 9  | SND | -0.00   | 31 | SND | -0.01   | 17 | SND | 0.00 | 7  | SND | 0.00 | 21 | SND   | 0.00 | 1  | SND | 0.00   |
| -222 | Max | 9  | SND | 0.01    | 31 | SND | 0.00    | 1  | SND | 0.00 | 9  | SND | 0.00 | 7  | SND   | 0.00 | 5  | SND | 0.00   |
| -222 | Min | 31 | SND | 0.00    | 9  | SND | -0.01   | 23 | SND | 0.00 | 31 | SND | 0.00 | 19 | SND   | 0.00 | 1  | SND | 0.00   |
| -221 | Max | 11 | SND | 0.00    | 11 | SND | 0.00    | 27 | SND | 0.00 | 3  | SND | 0.00 | 11 | SND   | 0.00 | 21 | SND | 0.00   |
| -221 | Min | 29 | SND | 0.00    | 29 | SND | -0.00   | 13 | SND | 0.00 | 21 | SND | 0.00 | 29 | SND   | 0.00 | 1  | SND | 0.00   |
| -220 | Max | 23 | SND | 0.00    | 9  | SND | 0.00    | 5  | SND | 0.00 | 1  | SND | 0.00 | 17 | SND   | 0.00 | 21 | SND | 0.00   |
| -220 | Min | 1  | SND | 0.00    | 31 | SND | -0.00   | 19 | SND | 0.00 | 23 | SND | 0.00 | 7  | SND   | 0.00 | 1  | SND | 0.00   |
| -219 | Max | 21 | SND | 0.00    | 1  | SND | 0.00    | 3  | SND | 0.00 | 7  | SND | 0.00 | 7  | SND   | 0.00 | 3  | SND | 0.00   |
| -219 | Min | 3  | SND | -0.00   | 33 | SLU | -0.00   | 33 | SLU | 0.00 | 17 | SND | 0.00 | 21 | SND   | 0.00 | 1  | SND | 0.00   |
| -218 | Max | 5  | SND | -0.00   | 9  | SND | 0.00    | 25 | SND | 0.00 | 9  | SND | 0.00 | 11 | SND   | 0.00 | 23 | SND | 0.00   |

# Relazione di calcolo

|      |     |    |     |         |    |     |         |    |     |      |    |     |      |    |     |      |    |     |        |
|------|-----|----|-----|---------|----|-----|---------|----|-----|------|----|-----|------|----|-----|------|----|-----|--------|
| -218 | Min | 33 | SLU | -0.00   | 31 | SND | -0.00   | 15 | SND | 0.00 | 31 | SND | 0.00 | 33 | SLU | 0.00 | 1  | SND | 0.00   |
| -217 | Max | 3  | SND | 0.00    | 9  | SND | 0.00    | 13 | SND | 0.00 | 11 | SND | 0.00 | 5  | SND | 0.00 | 3  | SND | 0.00   |
| -217 | Min | 21 | SND | -0.00   | 31 | SND | -0.01   | 11 | SND | 0.00 | 29 | SND | 0.00 | 21 | SND | 0.00 | 1  | SND | 0.00   |
| -216 | Max | 33 | SLU | 0.00    | 9  | SND | 0.00    | 5  | SND | 0.00 | 17 | SND | 0.00 | 5  | SND | 0.00 | 21 | SND | 0.00   |
| -216 | Min | 1  | SND | 0.00    | 31 | SND | -0.00   | 19 | SND | 0.00 | 7  | SND | 0.00 | 19 | SND | 0.00 | 1  | SND | 0.00   |
| -215 | Max | 23 | SND | 0.00    | 29 | SND | -0.00   | 33 | SLU | 0.00 | 21 | SND | 0.00 | 19 | SND | 0.00 | 3  | SND | 0.00   |
| -215 | Min | 1  | SND | 0.00    | 33 | SLU | -0.00   | 11 | SND | 0.00 | 3  | SND | 0.00 | 21 | SND | 0.00 | 1  | SND | 0.00   |
| -214 | Max | 21 | SND | -0.00   | 11 | SND | 0.00    | 27 | SND | 0.00 | 15 | SND | 0.00 | 1  | SND | 0.00 | 23 | SND | 0.00   |
| -214 | Min | 33 | SLU | -0.00   | 29 | SND | -0.00   | 13 | SND | 0.00 | 25 | SND | 0.00 | 33 | SLU | 0.00 | 1  | SND | 0.00   |
| -213 | Max | 1  | SND | 0.00    | 11 | SND | 0.00    | 29 | SND | 0.00 | 31 | SND | 0.00 | 11 | SND | 0.00 | 3  | SND | 0.00   |
| -213 | Min | 23 | SND | 0.00    | 29 | SND | -0.01   | 11 | SND | 0.00 | 9  | SND | 0.00 | 29 | SND | 0.00 | 1  | SND | 0.00   |
| -212 | Max | 33 | SLU | 0.00    | 9  | SND | 0.00    | 11 | SND | 0.00 | 33 | SLU | 0.00 | 31 | SND | 0.00 | 21 | SND | 0.00   |
| -212 | Min | 1  | SND | 0.00    | 31 | SND | -0.00   | 29 | SND | 0.00 | 11 | SND | 0.00 | 9  | SND | 0.00 | 1  | SND | 0.00   |
| -211 | Max | 23 | SND | 0.00    | 3  | SND | -0.00   | 33 | SLU | 0.00 | 13 | SND | 0.00 | 23 | SND | 0.00 | 3  | SND | 0.00   |
| -211 | Min | 1  | SND | 0.00    | 33 | SLU | -0.00   | 5  | SND | 0.00 | 33 | SLU | 0.00 | 33 | SLU | 0.00 | 1  | SND | 0.00   |
| -210 | Max | 21 | SND | 0.00    | 21 | SND | -0.00   | 19 | SND | 0.00 | 31 | SND | 0.00 | 29 | SND | 0.00 | 33 | SLU | 0.00   |
| -210 | Min | 33 | SLU | -0.00   | 33 | SLU | -0.00   | 33 | SLU | 0.00 | 9  | SND | 0.00 | 21 | SND | 0.00 | 1  | SND | 0.00   |
| -209 | Max | 31 | SND | -0.00   | 21 | SND | -0.00   | 11 | SND | 0.00 | 29 | SND | 0.00 | 29 | SND | 0.00 | 27 | SND | 0.00   |
| -209 | Min | 9  | SND | -0.00   | 33 | SLU | -0.00   | 29 | SND | 0.00 | 11 | SND | 0.00 | 33 | SLU | 0.00 | 1  | SND | 0.00   |
| -208 | Max | 9  | SND | 0.00    | 9  | SND | 0.02    | 9  | SND | 0.00 | 15 | SND | 0.00 | 5  | SND | 0.00 | 33 | SLU | 0.00   |
| -208 | Min | 31 | SND | -0.00   | 31 | SND | 0.00    | 31 | SND | 0.00 | 25 | SND | 0.00 | 31 | SND | 0.00 | 1  | SND | 0.00   |
| -207 | Max | 33 | SLU | 313.03  | 33 | SLU | 731.63  | 33 | SLU | 0.00 | 15 | SND | 0.00 | 5  | SND | 0.00 | 15 | SND | -20.53 |
| -207 | Min | 21 | SND | 66.76   | 15 | SND | 338.23  | 5  | SND | 0.00 | 25 | SND | 0.00 | 33 | SLU | 0.00 | 1  | SND | -33.04 |
| -204 | Max | 23 | SND | -157.91 | 33 | SLU | 1307.83 | 7  | SND | 0.00 | 33 | SLU | 0.00 | 7  | SND | 0.00 | 33 | SLU | 73.22  |
| -204 | Min | 33 | SLU | -504.62 | 13 | SND | 577.86  | 17 | SND | 0.00 | 27 | SND | 0.00 | 17 | SND | 0.00 | 1  | SND | 28.51  |
| -203 | Max | 21 | SND | 0.00    | 27 | SND | 0.00    | 19 | SND | 0.00 | 1  | SND | 0.00 | 27 | SND | 0.00 | 7  | SND | 0.00   |
| -203 | Min | 3  | SND | -0.00   | 13 | SND | -0.00   | 5  | SND | 0.00 | 23 | SND | 0.00 | 17 | SND | 0.00 | 1  | SND | 0.00   |
| -202 | Max | 21 | SND | 0.00    | 25 | SND | 0.01    | 9  | SND | 0.00 | 3  | SND | 0.00 | 7  | SND | 0.00 | 7  | SND | 0.00   |
| -202 | Min | 3  | SND | -0.00   | 15 | SND | -0.01   | 31 | SND | 0.00 | 21 | SND | 0.00 | 17 | SND | 0.00 | 1  | SND | 0.00   |
| -201 | Max | 3  | SND | 0.04    | 3  | SND | 0.01    | 9  | SND | 0.00 | 11 | SND | 0.00 | 29 | SND | 0.00 | 21 | SND | 0.00   |
| -201 | Min | 21 | SND | -0.07   | 21 | SND | -0.04   | 31 | SND | 0.00 | 29 | SND | 0.00 | 11 | SND | 0.00 | 1  | SND | -0.00  |
| -200 | Max | 21 | SND | 0.05    | 27 | SND | 0.05    | 19 | SND | 0.00 | 17 | SND | 0.00 | 15 | SND | 0.00 | 27 | SND | 0.00   |
| -200 | Min | 3  | SND | -0.03   | 13 | SND | -0.03   | 5  | SND | 0.00 | 5  | SND | 0.00 | 25 | SND | 0.00 | 1  | SND | -0.00  |
| -199 | Max | 3  | SND | 0.03    | 9  | SND | 0.02    | 23 | SND | 0.00 | 3  | SND | 0.00 | 21 | SND | 0.00 | 19 | SND | 0.00   |
| -199 | Min | 21 | SND | -0.03   | 31 | SND | -0.02   | 1  | SND | 0.00 | 21 | SND | 0.00 | 5  | SND | 0.00 | 1  | SND | 0.00   |
| -198 | Max | 23 | SND | 0.00    | 21 | SND | 0.01    | 23 | SND | 0.00 | 15 | SND | 0.00 | 7  | SND | 0.00 | 23 | SND | 0.00   |
| -198 | Min | 1  | SND | -0.01   | 3  | SND | -0.01   | 1  | SND | 0.00 | 25 | SND | 0.00 | 17 | SND | 0.00 | 1  | SND | 0.00   |
| -197 | Max | 31 | SND | 0.00    | 11 | SND | 0.00    | 23 | SND | 0.00 | 29 | SND | 0.00 | 19 | SND | 0.00 | 21 | SND | 0.00   |
| -197 | Min | 9  | SND | -0.00   | 29 | SND | -0.00   | 1  | SND | 0.00 | 11 | SND | 0.00 | 5  | SND | 0.00 | 1  | SND | 0.00   |
| -196 | Max | 5  | SND | 0.00    | 1  | SND | 0.00    | 3  | SND | 0.00 | 33 | SLU | 0.00 | 23 | SND | 0.00 | 9  | SND | 0.00   |
| -196 | Min | 19 | SND | 0.00    | 23 | SND | -0.00   | 21 | SND | 0.00 | 11 | SND | 0.00 | 31 | SND | 0.00 | 1  | SND | 0.00   |
| -195 | Max | 11 | SND | 0.00    | 1  | SND | 0.01    | 27 | SND | 0.00 | 21 | SND | 0.00 | 19 | SND | 0.00 | 5  | SND | 0.00   |
| -195 | Min | 29 | SND | 0.00    | 23 | SND | 0.00    | 33 | SLU | 0.00 | 3  | SND | 0.00 | 33 | SLU | 0.00 | 1  | SND | 0.00   |
| -194 | Max | 31 | SND | 0.00    | 5  | SND | 0.01    | 19 | SND | 0.00 | 13 | SND | 0.00 | 3  | SND | 0.00 | 23 | SND | 0.00   |
| -194 | Min | 9  | SND | 0.00    | 19 | SND | 0.00    | 5  | SND | 0.00 | 27 | SND | 0.00 | 21 | SND | 0.00 | 1  | SND | 0.00   |
| -193 | Max | 21 | SND | 0.00    | 9  | SND | -0.00   | 1  | SND | 0.00 | 15 | SND | 0.00 | 1  | SND | 0.00 | 3  | SND | 0.00   |
| -193 | Min | 3  | SND | 0.00    | 33 | SLU | -0.00   | 23 | SND | 0.00 | 25 | SND | 0.00 | 23 | SND | 0.00 | 1  | SND | 0.00   |
| -192 | Max | 11 | SND | 0.00    | 9  | SND | 0.01    | 13 | SND | 0.00 | 29 | SND | 0.00 | 11 | SND | 0.00 | 21 | SND | 0.00   |
| -192 | Min | 29 | SND | -0.00   | 31 | SND | 0.00    | 27 | SND | 0.00 | 11 | SND | 0.00 | 29 | SND | 0.00 | 1  | SND | 0.00   |
| -191 | Max | 31 | SND | 0.00    | 11 | SND | 0.01    | 33 | SLU | 0.00 | 15 | SND | 0.00 | 31 | SND | 0.00 | 23 | SND | 0.00   |
| -191 | Min | 9  | SND | 0.00    | 29 | SND | 0.00    | 1  | SND | 0.00 | 25 | SND | 0.00 | 9  | SND | 0.00 | 1  | SND | 0.00   |
| -190 | Max | 31 | SND | 0.00    | 9  | SND | 0.00    | 1  | SND | 0.00 | 19 | SND | 0.00 | 5  | SND | 0.00 | 1  | SND | 0.00   |
| -190 | Min | 9  | SND | 0.00    | 31 | SND | -0.00   | 23 | SND | 0.00 | 33 | SLU | 0.00 | 33 | SLU | 0.00 | 1  | SND | 0.00   |
| -189 | Max | 27 | SND | 0.00    | 27 | SND | 0.00    | 21 | SND | 0.00 | 15 | SND | 0.00 | 23 | SND | 0.00 | 33 | SLU | 0.00   |
| -189 | Min | 13 | SND | 0.00    | 13 | SND | -0.00   | 33 | SLU | 0.00 | 25 | SND | 0.00 | 33 | SLU | 0.00 | 1  | SND | 0.00   |
| -188 | Max | 9  | SND | 0.00    | 9  | SND | 0.00    | 5  | SND | 0.00 | 15 | SND | 0.00 | 5  | SND | 0.00 | 21 | SND | 0.00   |
| -188 | Min | 31 | SND | -0.00   | 31 | SND | 0.00    | 19 | SND | 0.00 | 25 | SND | 0.00 | 33 | SLU | 0.00 | 1  | SND | 0.00   |
| -187 | Max | 33 | SLU | 889.92  | 33 | SLU | 432.05  | 19 | SND | 0.00 | 27 | SND | 0.00 | 1  | SND | 0.00 | 33 | SLU | 19.68  |
| -187 | Min | 7  | SND | 456.89  | 15 | SND | 198.05  | 5  | SND | 0.00 | 13 | SND | 0.00 | 33 | SLU | 0.00 | 1  | SND | 11.09  |
| -176 | Max | 21 | SND | 13.16   | 33 | SLU | 828.34  | 27 | SND | 0.00 | 33 | SLU | 0.00 | 33 | SLU | 0.00 | 15 | SND | -9.73  |
| -176 | Min | 3  | SND | -621.92 | 15 | SND | 374.45  | 13 | SND | 0.00 | 27 | SND | 0.00 | 27 | SND | 0.00 | 1  | SND | -35.53 |
| -175 | Max | 27 | SND | 0.00    | 27 | SND | 0.00    | 25 | SND | 0.00 | 21 | SND | 0.00 | 5  | SND | 0.00 | 23 | SND | 0.00   |
| -175 | Min | 13 | SND | -0.00   | 13 | SND | -0.00   | 15 | SND | 0.00 | 3  | SND | 0.00 | 19 | SND | 0.00 | 1  | SND | 0.00   |
| -174 | Max | 21 | SND | 0.01    | 3  | SND | 0.01    | 23 | SND | 0.00 | 7  | SND | 0.00 | 5  | SND | 0.00 | 21 | SND | 0.00   |
| -174 | Min | 3  | SND | -0.00   | 21 | SND | -0.01   | 1  | SND | 0.00 | 17 | SND | 0.00 | 19 | SND | 0.00 | 1  | SND | 0.00   |
| -173 | Max | 21 | SND | 0.05    | 21 | SND | 0.02    | 3  | SND | 0.00 | 15 | SND | 0.00 | 3  | SND | 0.00 | 13 | SND | 0.00   |
| -173 | Min | 3  | SND | -0.03   | 3  | SND | -0.01   | 21 | SND | 0.00 | 25 | SND | 0.00 | 27 | SND | 0.00 | 1  | SND | -0.00  |
| -172 | Max | 21 | SND | 0.00    | 29 | SND | 0.01    | 7  | SND | 0.00 | 29 | SND | 0.00 | 7  | SND | 0.00 | 9  | SND | 0.00   |
| -172 | Min | 3  | SND | -0.00   | 11 | SND | -0.01   | 17 | SND | 0.00 | 11 | SND | 0.00 | 31 | SND | 0.00 | 1  | SND | 0.00   |
| -171 | Max | 23 | SND | 0.01    | 31 | SND | 0.01    | 27 | SND | 0.00 | 13 | SND | 0.00 | 15 | SND | 0.00 | 9  | SND | 0.00   |
| -171 | Min | 1  | SND | -0.01   | 9  | SND | -0.02   | 13 | SND | 0.00 | 27 | SND | 0.00 | 31 | SND | 0.00 | 1  | SND | 0.00   |
| -170 | Max | 5  | SND | 0.00    | 31 | SND | 0.01    | 23 | SND | 0.00 | 11 | SND | 0.00 | 9  | SND | 0.00 | 21 | SND | 0.00   |
| -170 | Min | 19 | SND | -0.01   | 9  | SND | -0.01   | 1  | SND | 0.00 | 29 | SND | 0.00 | 31 | SND | 0.00 | 1  | SND | 0.00   |
| -169 | Max | 1  | SND | 0.00    | 31 | SND | 0.00    | 19 | SND | 0.00 | 23 | SND | 0.00 | 17 | SND | 0.00 | 21 | SND | 0.00   |
| -169 | Min | 23 | SND | -0.00   | 9  | SND | -0.00   | 5  | SND | 0.00 | 1  | SND | 0.00 | 7  | SND | 0.00 | 1  | SND | 0.00   |
| -168 | Max | 3  | SND | 0.00    | 29 | SND | 0.00    | 29 | SND | 0.00 | 7  | SND | 0.00 | 25 | SND | 0.00 | 1  | SND | 0.00   |
| -168 | Min | 21 | SND | 0.00    | 11 | SND | -0.00   | 9  | SND | 0.00 | 17 | SND | 0.00 | 33 | SLU | 0.00 | 1  | SND | 0.00   |
| -167 | Max | 33 | SLU | 0.00    | 29 | SND | 0.00    | 9  | SND | 0.00 | 31 | SND | 0.00 | 27 | SND | 0.00 | 5  | SND | 0.00   |
| -167 | Min | 1  | SND | 0.00    | 11 | SND | -0.00   | 31 | SND | 0.00 | 9  | SND | 0.00 | 19 | SND | 0.00 | 1  | SND | 0.00   |

# Relazione di calcolo

|      |     |    |     |          |    |     |          |    |       |      |    |     |      |    |     |      |    |     |         |
|------|-----|----|-----|----------|----|-----|----------|----|-------|------|----|-----|------|----|-----|------|----|-----|---------|
| -166 | Max | 21 | SND | 0.00     | 29 | SND | 0.00     | 31 | SND   | 0.00 | 33 | SLU | 0.00 | 17 | SND | 0.00 | 3  | SND | 0.00    |
| -166 | Min | 3  | SND | -0.00    | 11 | SND | -0.01    | 9  | SND   | 0.00 | 5  | SND | 0.00 | 21 | SND | 0.00 | 1  | SND | 0.00    |
| -165 | Max | 1  | SND | -0.00    | 31 | SND | 0.00     | 3  | SND   | 0.00 | 13 | SND | 0.00 | 15 | SND | 0.00 | 23 | SND | 0.00    |
| -165 | Min | 33 | SLU | -0.01    | 9  | SND | -0.00    | 21 | SND   | 0.00 | 27 | SND | 0.00 | 25 | SND | 0.00 | 1  | SND | 0.00    |
| -164 | Max | 3  | SND | 0.00     | 19 | SND | -0.00    | 33 | SLU   | 0.00 | 33 | SLU | 0.00 | 21 | SND | 0.00 | 3  | SND | 0.00    |
| -164 | Min | 21 | SND | 0.00     | 33 | SLU | -0.00    | 9  | SND   | 0.00 | 9  | SND | 0.00 | 21 | SND | 0.00 | 1  | SND | 0.00    |
| -163 | Max | 33 | SLU | 0.01     | 29 | SND | 0.00     | 33 | SLU   | 0.00 | 5  | SND | 0.00 | 17 | SND | 0.00 | 21 | SND | 0.00    |
| -163 | Min | 11 | SND | 0.00     | 11 | SND | -0.00    | 3  | SND   | 0.00 | 19 | SND | 0.00 | 7  | SND | 0.00 | 1  | SND | 0.00    |
| -162 | Max | 21 | SND | 0.00     | 31 | SND | 0.01     | 29 | SND   | 0.00 | 13 | SND | 0.00 | 3  | SND | 0.00 | 3  | SND | 0.00    |
| -162 | Min | 3  | SND | -0.00    | 9  | SND | -0.01    | 11 | SND   | 0.00 | 27 | SND | 0.00 | 21 | SND | 0.00 | 1  | SND | 0.00    |
| -161 | Max | 9  | SND | -0.00    | 31 | SND | 0.00     | 25 | SND   | 0.00 | 25 | SND | 0.00 | 11 | SND | 0.00 | 23 | SND | 0.00    |
| -161 | Min | 33 | SLU | -0.00    | 9  | SND | -0.00    | 15 | SND   | 0.00 | 15 | SND | 0.00 | 29 | SND | 0.00 | 1  | SND | 0.00    |
| -160 | Max | 1  | SND | 0.00     | 31 | SND | 0.00     | 9  | SND   | 0.00 | 33 | SLU | 0.00 | 5  | SND | 0.00 | 1  | SND | 0.00    |
| -160 | Min | 23 | SND | 0.00     | 33 | SLU | -0.00    | 29 | SND   | 0.00 | 7  | SND | 0.00 | 33 | SLU | 0.00 | 1  | SND | 0.00    |
| -159 | Max | 33 | SLU | 0.00     | 13 | SND | 0.00     | 25 | SND   | 0.00 | 33 | SLU | 0.00 | 5  | SND | 0.00 | 33 | SLU | 0.00    |
| -159 | Min | 21 | SND | 0.00     | 27 | SND | -0.00    | 15 | SND   | 0.00 | 21 | SND | 0.00 | 27 | SND | 0.00 | 1  | SND | 0.00    |
| -158 | Max | 33 | SLU | 0.00     | 13 | SND | 0.00     | 13 | SND   | 0.00 | 31 | SND | 0.00 | 25 | SND | 0.00 | 21 | SND | 0.00    |
| -158 | Min | 9  | SND | 0.00     | 27 | SND | -0.00    | 27 | SND   | 0.00 | 9  | SND | 0.00 | 13 | SND | 0.00 | 1  | SND | 0.00    |
| -157 | Max | 21 | SND | 0.00     | 31 | SND | 0.01     | 15 | SND   | 0.00 | 13 | SND | 0.00 | 27 | SND | 0.00 | 3  | SND | 0.00    |
| -157 | Min | 3  | SND | -0.00    | 9  | SND | -0.01    | 25 | SND   | 0.00 | 27 | SND | 0.00 | 21 | SND | 0.00 | 1  | SND | 0.00    |
| -156 | Max | 33 | SLU | 279.23   | 15 | SND | -56.60   | 1  | SND   | 0.00 | 33 | SLU | 0.00 | 11 | SND | 0.00 | 33 | SLU | 20.33   |
| -156 | Min | 15 | SND | 143.96   | 33 | SLU | -103.31  | 23 | SND   | 0.00 | 29 | SND | 0.00 | 29 | SND | 0.00 | 1  | SND | 9.96    |
| -155 | Max | 33 | SLU | 697.87   | 13 | SND | -186.80  | 23 | SND   | 0.00 | 19 | SND | 0.00 | 11 | SND | 0.00 | 27 | SND | -5.32   |
| -155 | Min | 13 | SND | 369.93   | 33 | SLU | -359.87  | 33 | SLU   | 0.00 | 33 | SLU | 0.00 | 33 | SLU | 0.00 | 1  | SND | -10.51  |
| -154 | Max | 33 | SLU | 1212.18  | 13 | SND | -270.97  | 33 | SLU   | 0.00 | 33 | SLU | 0.00 | 33 | SLU | 0.00 | 13 | SND | 9.83    |
| -154 | Min | 15 | SND | 602.65   | 33 | SLU | -560.31  | 15 | SND   | 0.00 | 15 | SND | 0.00 | 31 | SND | 0.00 | 1  | SND | -10.11  |
| -153 | Max | 33 | SLU | 2078.17  | 1  | SND | -192.61  | 27 | SND   | 0.00 | 33 | SLU | 0.00 | 11 | SND | 0.00 | 5  | SND | -0.53   |
| -153 | Min | 3  | SND | 1246.14  | 33 | SLU | -451.76  | 13 | SND   | 0.00 | 13 | SND | 0.00 | 29 | SND | 0.00 | 1  | SND | -23.25  |
| -152 | Max | 21 | SND | 1824.67  | 13 | SND | 1341.33  | 3  | SND   | 0.00 | 25 | SND | 0.00 | 15 | SND | 0.00 | 31 | SND | -14.00  |
| -152 | Min | 3  | SND | -19.00   | 27 | SND | -440.83  | 21 | SND   | 0.00 | 15 | SND | 0.00 | 25 | SND | 0.00 | 1  | SND | -65.10  |
| -151 | Max | 21 | SND | 592.79   | 15 | SND | 3811.03  | 13 | SND   | 0.00 | 9  | SND | 0.00 | 1  | SND | 0.00 | 3  | SND | 52.57   |
| -151 | Min | 3  | SND | 133.36   | 25 | SND | -1549.55 | 27 | SND   | 0.00 | 33 | SLU | 0.00 | 23 | SND | 0.00 | 1  | SND | -65.12  |
| -150 | Max | 7  | SND | 381.90   | 7  | SND | 1090.18  | 21 | SND   | 0.00 | 33 | SLU | 0.00 | 27 | SND | 0.00 | 27 | SND | 89.22   |
| -150 | Min | 17 | SND | -950.25  | 17 | SND | -505.39  | 3  | SND   | 0.00 | 15 | SND | 0.00 | 13 | SND | 0.00 | 1  | SND | 0.76    |
| -149 | Max | 17 | SND | -136.14  | 3  | SND | -473.44  | 19 | SND   | 0.00 | 13 | SND | 0.00 | 23 | SND | 0.00 | 15 | SND | 41.93   |
| -149 | Min | 7  | SND | -851.25  | 33 | SLU | -779.31  | 34 | SLE R | 0.00 | 33 | SLU | 0.00 | 33 | SLU | 0.00 | 1  | SND | -15.31  |
| -148 | Max | 3  | SND | 801.03   | 27 | SND | -408.83  | 9  | SND   | 0.00 | 33 | SLU | 0.00 | 15 | SND | 0.00 | 27 | SND | 33.43   |
| -148 | Min | 21 | SND | -118.79  | 33 | SLU | -805.73  | 33 | SLU   | 0.00 | 7  | SND | 0.00 | 25 | SND | 0.00 | 1  | SND | -51.78  |
| -147 | Max | 27 | SND | 1346.24  | 13 | SND | 1286.52  | 27 | SND   | 0.00 | 23 | SND | 0.00 | 7  | SND | 0.00 | 31 | SND | 40.74   |
| -147 | Min | 13 | SND | -636.59  | 27 | SND | -1090.40 | 13 | SND   | 0.00 | 33 | SLU | 0.00 | 17 | SND | 0.00 | 1  | SND | -80.37  |
| -146 | Max | 25 | SND | 262.89   | 13 | SND | 3177.19  | 31 | SND   | 0.00 | 31 | SND | 0.00 | 9  | SND | 0.00 | 1  | SND | 59.75   |
| -146 | Min | 15 | SND | -84.84   | 27 | SND | -2059.68 | 9  | SND   | 0.00 | 9  | SND | 0.00 | 31 | SND | 0.00 | 1  | SND | -47.66  |
| -145 | Max | 7  | SND | 1002.05  | 15 | SND | 1788.53  | 13 | SND   | 0.00 | 13 | SND | 0.00 | 9  | SND | 0.00 | 25 | SND | 52.37   |
| -145 | Min | 17 | SND | -820.54  | 25 | SND | -877.00  | 11 | SND   | 0.00 | 27 | SND | 0.00 | 31 | SND | 0.00 | 1  | SND | -33.98  |
| -144 | Max | 23 | SND | 171.83   | 23 | SND | 733.35   | 33 | SLU   | 0.00 | 31 | SND | 0.00 | 17 | SND | 0.00 | 33 | SLU | 25.11   |
| -144 | Min | 1  | SND | -779.74  | 1  | SND | -112.83  | 29 | SND   | 0.00 | 9  | SND | 0.00 | 33 | SLU | 0.00 | 1  | SND | 9.37    |
| -143 | Max | 21 | SND | 65.11    | 21 | SND | 266.61   | 3  | SND   | 0.00 | 23 | SND | 0.00 | 23 | SND | 0.00 | 21 | SND | -13.85  |
| -143 | Min | 3  | SND | -224.49  | 3  | SND | -21.17   | 21 | SND   | 0.00 | 33 | SLU | 0.00 | 33 | SLU | 0.00 | 1  | SND | -35.58  |
| -142 | Max | 3  | SND | 0.00     | 13 | SND | 0.00     | 3  | SND   | 0.00 | 15 | SND | 0.00 | 21 | SND | 0.00 | 7  | SND | 0.00    |
| -142 | Min | 21 | SND | -0.00    | 27 | SND | -0.00    | 5  | SND   | 0.00 | 25 | SND | 0.00 | 17 | SND | 0.00 | 1  | SND | 0.00    |
| -141 | Max | 7  | SND | 0.01     | 13 | SND | 0.01     | 25 | SND   | 0.00 | 9  | SND | 0.00 | 11 | SND | 0.00 | 23 | SND | 0.00    |
| -141 | Min | 17 | SND | -0.00    | 27 | SND | -0.01    | 15 | SND   | 0.00 | 31 | SND | 0.00 | 29 | SND | 0.00 | 1  | SND | 0.00    |
| -140 | Max | 3  | SND | 0.01     | 13 | SND | 0.01     | 9  | SND   | 0.00 | 31 | SND | 0.00 | 29 | SND | 0.00 | 3  | SND | 0.00    |
| -140 | Min | 21 | SND | -0.01    | 27 | SND | -0.01    | 31 | SND   | 0.00 | 9  | SND | 0.00 | 21 | SND | 0.00 | 1  | SND | 0.00    |
| -139 | Max | 7  | SND | 0.02     | 15 | SND | 0.01     | 7  | SND   | 0.00 | 5  | SND | 0.00 | 9  | SND | 0.00 | 25 | SND | 0.00    |
| -139 | Min | 17 | SND | -0.01    | 25 | SND | -0.01    | 17 | SND   | 0.00 | 19 | SND | 0.00 | 29 | SND | 0.00 | 1  | SND | 0.00    |
| -84  | Max | 27 | SND | -340.51  | 33 | SLU | 748.93   | 9  | SND   | 0.00 | 15 | SND | 0.00 | 11 | SND | 0.00 | 33 | SLU | 27.28   |
| -84  | Min | 33 | SLU | -657.10  | 27 | SND | 387.60   | 33 | SLU   | 0.00 | 25 | SND | 0.00 | 33 | SLU | 0.00 | 1  | SND | 13.70   |
| -83  | Max | 27 | SND | -1140.84 | 33 | SLU | 147.69   | 21 | SND   | 0.00 | 15 | SND | 0.00 | 33 | SLU | 0.00 | 33 | SLU | 62.90   |
| -83  | Min | 33 | SLU | -2217.58 | 7  | SND | 62.52    | 33 | SLU   | 0.00 | 25 | SND | 0.00 | 25 | SND | 0.00 | 1  | SND | 30.42   |
| -82  | Max | 21 | SND | -2205.33 | 17 | SND | -44.42   | 27 | SND   | 0.00 | 33 | SLU | 0.00 | 33 | SLU | 0.00 | 15 | SND | 64.05   |
| -82  | Min | 33 | SLU | -4282.71 | 33 | SLU | -113.09  | 33 | SLU   | 0.00 | 27 | SND | 0.00 | 25 | SND | 0.00 | 1  | SND | 2.88    |
| -81  | Max | 17 | SND | -1360.42 | 25 | SND | 928.46   | 11 | SND   | 0.00 | 31 | SND | 0.00 | 19 | SND | 0.00 | 13 | SND | 168.56  |
| -81  | Min | 33 | SLU | -3685.51 | 15 | SND | -1053.56 | 33 | SLU   | 0.00 | 33 | SLU | 0.00 | 33 | SLU | 0.00 | 1  | SND | -110.56 |
| -80  | Max | 7  | SND | 350.02   | 27 | SND | 430.66   | 34 | SLE R | 0.00 | 33 | SLU | 0.00 | 13 | SND | 0.00 | 25 | SND | 22.39   |
| -80  | Min | 17 | SND | -477.03  | 13 | SND | -418.11  | 29 | SND   | 0.00 | 27 | SND | 0.00 | 27 | SND | 0.00 | 1  | SND | -11.00  |
| -79  | Max | 33 | SLU | 2872.79  | 27 | SND | 865.37   | 15 | SND   | 0.00 | 29 | SND | 0.00 | 33 | SLU | 0.00 | 25 | SND | 136.82  |
| -79  | Min | 5  | SND | 1090.47  | 13 | SND | -1034.85 | 25 | SND   | 0.00 | 11 | SND | 0.00 | 15 | SND | 0.00 | 1  | SND | -169.00 |
| -78  | Max | 7  | SND | 2370.29  | 15 | SND | 26.48    | 33 | SLU   | 0.00 | 27 | SND | 0.00 | 23 | SND | 0.00 | 11 | SND | -2.96   |
| -78  | Min | 17 | SND | 196.69   | 25 | SND | -187.04  | 29 | SND   | 0.00 | 13 | SND | 0.00 | 33 | SLU | 0.00 | 1  | SND | -9.44   |
| -77  | Max | 5  | SND | 206.65   | 13 | SND | -13.55   | 33 | SLU   | 0.00 | 33 | SLU | 0.00 | 5  | SND | 0.00 | 15 | SND | 9.04    |
| -77  | Min | 19 | SND | -1767.92 | 27 | SND | -155.45  | 21 | SND   | 0.00 | 1  | SND | 0.00 | 33 | SLU | 0.00 | 1  | SND | -11.69  |
| -76  | Max | 17 | SND | -842.56  | 25 | SND | 931.97   | 33 | SLU   | 0.00 | 29 | SND | 0.00 | 19 | SND | 0.00 | 13 | SND | 186.36  |
| -76  | Min | 33 | SLU | -2025.49 | 15 | SND | -1090.03 | 25 | SND   | 0.00 | 11 | SND | 0.00 | 27 | SND | 0.00 | 1  | SND | -186.62 |
| -75  | Max | 7  | SND | 746.03   | 25 | SND | 58.20    | 33 | SLU   | 0.00 | 11 | SND | 0.00 | 23 | SND | 0.00 | 27 | SND | -14.38  |
| -75  | Min | 17 | SND | 131.79   | 15 | SND | -91.00   | 27 | SND   | 0.00 | 29 | SND | 0.00 | 33 | SLU | 0.00 | 1  | SND | -33.32  |
| -74  | Max | 19 | SND | 1960.97  | 25 | SND | 1223.96  | 33 | SLU   | 0.00 | 27 | SND | 0.00 | 29 | SND | 0.00 | 27 | SND | 78.02   |
| -74  | Min | 5  | SND | 423.20   | 15 | SND | -831.41  | 19 | SND   | 0.00 | 33 | SLU | 0.00 | 33 | SLU | 0.00 | 1  | SND | -150.61 |
| -73  | Max | 33 | SLU | 1895.23  | 33 | SLU | 1849.71  | 34 | SLE R | 0.00 | 27 | SND | 0.00 | 27 | SND | 0.00 | 25 | SND | 40.76   |

# Relazione di calcolo

|     |     |    |       |         |    |     |         |    |       |      |    |       |      |    |       |      |    |     |        |
|-----|-----|----|-------|---------|----|-----|---------|----|-------|------|----|-------|------|----|-------|------|----|-----|--------|
| -73 | Min | 21 | SND   | 862.89  | 27 | SND | 1087.62 | 31 | SND   | 0.00 | 13 | SND   | 0.00 | 15 | SND   | 0.00 | 1  | SND | -83.53 |
| -72 | Max | 19 | SND   | 125.63  | 33 | SLU | 784.31  | 33 | SLU   | 0.00 | 33 | SLU   | 0.00 | 29 | SND   | 0.00 | 31 | SND | -5.13  |
| -72 | Min | 5  | SND   | 4.63    | 27 | SND | 441.78  | 23 | SND   | 0.00 | 11 | SND   | 0.00 | 33 | SLU   | 0.00 | 1  | SND | -8.95  |
| -71 | Max | 1  | SND   | 0.00    | 1  | SND | 0.00    | 29 | SND   | 0.00 | 11 | SND   | 0.00 | 9  | SND   | 0.00 | 1  | SND | 0.00   |
| -71 | Min | 1  | SND   | 0.00    | 1  | SND | 0.00    | 33 | SLU   | 0.00 | 33 | SLU   | 0.00 | 33 | SLU   | 0.00 | 1  | SND | 0.00   |
| -70 | Max | 1  | SND   | 0.00    | 1  | SND | 0.00    | 7  | SND   | 0.00 | 34 | SLE R | 0.00 | 33 | SLU   | 0.00 | 1  | SND | 0.00   |
| -70 | Min | 1  | SND   | 0.00    | 1  | SND | 0.00    | 34 | SLE R | 0.00 | 33 | SLU   | 0.00 | 15 | SND   | 0.00 | 1  | SND | 0.00   |
| -69 | Max | 1  | SND   | 0.00    | 1  | SND | 0.00    | 33 | SLU   | 0.00 | 33 | SLU   | 0.00 | 17 | SND   | 0.00 | 1  | SND | 0.00   |
| -69 | Min | 1  | SND   | 0.00    | 1  | SND | 0.00    | 21 | SND   | 0.00 | 34 | SLE R | 0.00 | 7  | SND   | 0.00 | 1  | SND | 0.00   |
| -68 | Max | 1  | SND   | 0.00    | 1  | SND | 0.00    | 15 | SND   | 0.00 | 29 | SND   | 0.00 | 19 | SND   | 0.00 | 1  | SND | 0.00   |
| -68 | Min | 1  | SND   | 0.00    | 1  | SND | 0.00    | 25 | SND   | 0.00 | 11 | SND   | 0.00 | 33 | SLU   | 0.00 | 1  | SND | 0.00   |
| -67 | Max | 1  | SND   | 0.00    | 1  | SND | 0.00    | 5  | SND   | 0.00 | 27 | SND   | 0.00 | 21 | SND   | 0.00 | 1  | SND | 0.00   |
| -67 | Min | 1  | SND   | 0.00    | 1  | SND | 0.00    | 33 | SLU   | 0.00 | 33 | SLU   | 0.00 | 33 | SLU   | 0.00 | 1  | SND | 0.00   |
| -66 | Max | 1  | SND   | 0.00    | 1  | SND | 0.00    | 33 | SLU   | 0.00 | 33 | SLU   | 0.00 | 11 | SND   | 0.00 | 1  | SND | 0.00   |
| -66 | Min | 1  | SND   | 0.00    | 1  | SND | 0.00    | 11 | SND   | 0.00 | 3  | SND   | 0.00 | 33 | SLU   | 0.00 | 1  | SND | 0.00   |
| -65 | Max | 1  | SND   | 0.00    | 1  | SND | 0.00    | 9  | SND   | 0.00 | 9  | SND   | 0.00 | 33 | SLU   | 0.00 | 1  | SND | 0.00   |
| -65 | Min | 1  | SND   | 0.00    | 1  | SND | 0.00    | 33 | SLU   | 0.00 | 33 | SLU   | 0.00 | 9  | SND   | 0.00 | 1  | SND | 0.00   |
| -64 | Max | 1  | SND   | 0.00    | 1  | SND | 0.00    | 33 | SLU   | 0.00 | 34 | SLE R | 0.00 | 34 | SLE R | 0.00 | 1  | SND | 0.00   |
| -64 | Min | 1  | SND   | 0.00    | 1  | SND | 0.00    | 15 | SND   | 0.00 | 25 | SND   | 0.00 | 29 | SND   | 0.00 | 1  | SND | 0.00   |
| -63 | Max | 1  | SND   | 0.00    | 1  | SND | 0.00    | 33 | SLU   | 0.00 | 33 | SLU   | 0.00 | 9  | SND   | 0.00 | 1  | SND | 0.00   |
| -63 | Min | 1  | SND   | 0.00    | 1  | SND | 0.00    | 3  | SND   | 0.00 | 13 | SND   | 0.00 | 33 | SLU   | 0.00 | 1  | SND | 0.00   |
| -62 | Max | 1  | SND   | 0.00    | 1  | SND | 0.00    | 19 | SND   | 0.00 | 27 | SND   | 0.00 | 33 | SLU   | 0.00 | 1  | SND | 0.00   |
| -62 | Min | 1  | SND   | 0.00    | 1  | SND | 0.00    | 33 | SLU   | 0.00 | 13 | SND   | 0.00 | 7  | SND   | 0.00 | 1  | SND | 0.00   |
| -61 | Max | 27 | SND   | 32.41   | 33 | SLU | 2001.37 | 33 | SLU   | 0.00 | 15 | SND   | 0.00 | 29 | SND   | 0.00 | 3  | SND | 7.17   |
| -61 | Min | 13 | SND   | -267.55 | 25 | SND | 1236.81 | 25 | SND   | 0.00 | 25 | SND   | 0.00 | 34 | SLE R | 0.00 | 1  | SND | 0.34   |
| -60 | Max | 33 | SLU   | 226.21  | 33 | SLU | 508.87  | 33 | SLU   | 0.00 | 21 | SND   | 0.00 | 33 | SLU   | 0.00 | 19 | SND | -1.42  |
| -60 | Min | 34 | SLE R | 167.67  | 27 | SND | 273.81  | 15 | SND   | 0.00 | 33 | SLU   | 0.00 | 34 | SLE R | 0.00 | 1  | SND | -11.65 |
| -59 | Max | 15 | SND   | 388.88  | 33 | SLU | 97.55   | 33 | SLU   | 0.00 | 29 | SND   | 0.00 | 33 | SLU   | 0.00 | 33 | SLU | 10.43  |
| -59 | Min | 25 | SND   | 132.94  | 17 | SND | 58.15   | 21 | SND   | 0.00 | 33 | SLU   | 0.00 | 31 | SND   | 0.00 | 1  | SND | 6.93   |
| -58 | Max | 15 | SND   | 286.50  | 33 | SLU | 18.00   | 33 | SLU   | 0.00 | 11 | SND   | 0.00 | 34 | SLE R | 0.00 | 33 | SLU | 11.43  |
| -58 | Min | 25 | SND   | 62.84   | 25 | SND | 8.22    | 15 | SND   | 0.00 | 33 | SLU   | 0.00 | 33 | SLU   | 0.00 | 1  | SND | 6.58   |
| -57 | Max | 15 | SND   | 110.36  | 17 | SND | 6.48    | 29 | SND   | 0.00 | 1  | SND   | 0.00 | 11 | SND   | 0.00 | 33 | SLU | 7.07   |
| -57 | Min | 25 | SND   | -44.08  | 7  | SND | -1.01   | 33 | SLU   | 0.00 | 33 | SLU   | 0.00 | 34 | SLE R | 0.00 | 1  | SND | 3.36   |
| -56 | Max | 27 | SND   | 26.06   | 27 | SND | 14.49   | 29 | SND   | 0.00 | 25 | SND   | 0.00 | 34 | SLE R | 0.00 | 7  | SND | 2.81   |
| -56 | Min | 13 | SND   | -1.43   | 13 | SND | 0.11    | 33 | SLU   | 0.00 | 33 | SLU   | 0.00 | 25 | SND   | 0.00 | 1  | SND | 0.76   |
| -55 | Max | 27 | SND   | 151.83  | 5  | SND | 7.36    | 13 | SND   | 0.00 | 9  | SND   | 0.00 | 33 | SLU   | 0.00 | 13 | SND | 1.15   |
| -55 | Min | 13 | SND   | 9.74    | 19 | SND | -3.44   | 34 | SLE R | 0.00 | 33 | SLU   | 0.00 | 27 | SND   | 0.00 | 1  | SND | -3.79  |
| -54 | Max | 33 | SLU   | 211.88  | 13 | SND | 2.72    | 33 | SLU   | 0.00 | 33 | SLU   | 0.00 | 9  | SND   | 0.00 | 13 | SND | -0.43  |
| -54 | Min | 29 | SND   | 107.78  | 27 | SND | -11.00  | 31 | SND   | 0.00 | 27 | SND   | 0.00 | 33 | SLU   | 0.00 | 1  | SND | -3.03  |
| -53 | Max | 15 | SND   | 149.01  | 15 | SND | 4.14    | 33 | SLU   | 0.00 | 9  | SND   | 0.00 | 34 | SLE R | 0.00 | 25 | SND | 1.24   |
| -53 | Min | 25 | SND   | 38.85   | 25 | SND | -15.64  | 13 | SND   | 0.00 | 33 | SLU   | 0.00 | 15 | SND   | 0.00 | 1  | SND | -2.64  |
| -52 | Max | 34 | SLE R | -185.35 | 25 | SND | 8.31    | 34 | SLE R | 0.00 | 25 | SND   | 0.00 | 34 | SLE R | 0.00 | 25 | SND | 0.84   |
| -52 | Min | 33 | SLU   | -250.89 | 15 | SND | -3.10   | 33 | SLU   | 0.00 | 33 | SLU   | 0.00 | 27 | SND   | 0.00 | 1  | SND | -4.69  |
| -51 | Max | 25 | SND   | -307.54 | 25 | SND | 38.15   | 13 | SND   | 0.00 | 34 | SLE R | 0.00 | 34 | SLE R | 0.00 | 5  | SND | -4.74  |
| -51 | Min | 33 | SLU   | -519.02 | 15 | SND | 8.05    | 33 | SLU   | 0.00 | 33 | SLU   | 0.00 | 33 | SLU   | 0.00 | 1  | SND | -7.71  |
| -50 | Max | 25 | SND   | -161.78 | 33 | SLU | 116.85  | 34 | SLE R | 0.00 | 15 | SND   | 0.00 | 11 | SND   | 0.00 | 15 | SND | -4.36  |
| -50 | Min | 15 | SND   | -458.23 | 15 | SND | 75.10   | 23 | SND   | 0.00 | 33 | SLU   | 0.00 | 33 | SLU   | 0.00 | 1  | SND | -9.13  |
| -49 | Max | 25 | SND   | -334.95 | 33 | SLU | 1222.44 | 11 | SND   | 0.00 | 31 | SND   | 0.00 | 7  | SND   | 0.00 | 15 | SND | 2.73   |
| -49 | Min | 33 | SLU   | -612.04 | 25 | SND | 771.29  | 29 | SND   | 0.00 | 33 | SLU   | 0.00 | 33 | SLU   | 0.00 | 1  | SND | -4.70  |
| -48 | Max | 33 | SLU   | 83.23   | 33 | SLU | 324.11  | 5  | SND   | 0.00 | 5  | SND   | 0.00 | 34 | SLE R | 0.00 | 1  | SND | -0.99  |
| -48 | Min | 23 | SND   | 39.44   | 27 | SND | 185.76  | 33 | SLU   | 0.00 | 33 | SLU   | 0.00 | 33 | SLU   | 0.00 | 1  | SND | -5.11  |
| -47 | Max | 1  | SND   | 0.00    | 1  | SND | 0.00    | 21 | SND   | 0.00 | 33 | SLU   | 0.00 | 13 | SND   | 0.00 | 1  | SND | 0.00   |
| -47 | Min | 1  | SND   | 0.00    | 1  | SND | 0.00    | 33 | SLU   | 0.00 | 23 | SND   | 0.00 | 33 | SLU   | 0.00 | 1  | SND | 0.00   |
| -46 | Max | 1  | SND   | 0.00    | 1  | SND | 0.00    | 33 | SLU   | 0.00 | 33 | SLU   | 0.00 | 11 | SND   | 0.00 | 1  | SND | 0.00   |
| -46 | Min | 1  | SND   | 0.00    | 1  | SND | 0.00    | 25 | SND   | 0.00 | 31 | SND   | 0.00 | 33 | SLU   | 0.00 | 1  | SND | 0.00   |
| -45 | Max | 1  | SND   | 0.00    | 1  | SND | 0.00    | 34 | SLE R | 0.00 | 25 | SND   | 0.00 | 11 | SND   | 0.00 | 1  | SND | 0.00   |
| -45 | Min | 1  | SND   | 0.00    | 1  | SND | 0.00    | 33 | SLU   | 0.00 | 34 | SLE R | 0.00 | 33 | SLU   | 0.00 | 1  | SND | 0.00   |
| -44 | Max | 1  | SND   | 0.00    | 1  | SND | 0.00    | 33 | SLU   | 0.00 | 11 | SND   | 0.00 | 34 | SLE R | 0.00 | 1  | SND | 0.00   |
| -44 | Min | 1  | SND   | 0.00    | 1  | SND | 0.00    | 15 | SND   | 0.00 | 33 | SLU   | 0.00 | 29 | SND   | 0.00 | 1  | SND | 0.00   |
| -43 | Max | 1  | SND   | 0.00    | 1  | SND | 0.00    | 34 | SLE R | 0.00 | 33 | SLU   | 0.00 | 33 | SLU   | 0.00 | 1  | SND | 0.00   |
| -43 | Min | 1  | SND   | 0.00    | 1  | SND | 0.00    | 33 | SLU   | 0.00 | 11 | SND   | 0.00 | 13 | SND   | 0.00 | 1  | SND | 0.00   |
| -41 | Max | 1  | SND   | 0.00    | 1  | SND | 0.00    | 11 | SND   | 0.00 | 34 | SLE R | 0.00 | 34 | SLE R | 0.00 | 1  | SND | 0.00   |
| -41 | Min | 1  | SND   | 0.00    | 1  | SND | 0.00    | 34 | SLE R | 0.00 | 29 | SND   | 0.00 | 9  | SND   | 0.00 | 1  | SND | 0.00   |
| -40 | Max | 1  | SND   | 0.00    | 1  | SND | 0.00    | 33 | SLU   | 0.00 | 33 | SLU   | 0.00 | 34 | SLE R | 0.00 | 1  | SND | 0.00   |
| -40 | Min | 1  | SND   | 0.00    | 1  | SND | 0.00    | 13 | SND   | 0.00 | 15 | SND   | 0.00 | 27 | SND   | 0.00 | 1  | SND | 0.00   |
| -39 | Max | 1  | SND   | 0.00    | 1  | SND | 0.00    | 33 | SLU   | 0.00 | 1  | SND   | 0.00 | 34 | SLE R | 0.00 | 1  | SND | 0.00   |
| -39 | Min | 1  | SND   | 0.00    | 1  | SND | 0.00    | 17 | SND   | 0.00 | 33 | SLU   | 0.00 | 33 | SLU   | 0.00 | 1  | SND | 0.00   |
| -38 | Max | 1  | SND   | 0.00    | 1  | SND | 0.00    | 33 | SLU   | 0.00 | 34 | SLE R | 0.00 | 33 | SLU   | 0.00 | 1  | SND | 0.00   |
| -38 | Min | 1  | SND   | 0.00    | 1  | SND | 0.00    | 27 | SND   | 0.00 | 33 | SLU   | 0.00 | 27 | SND   | 0.00 | 1  | SND | 0.00   |
| -37 | Max | 15 | SND   | -57.03  | 33 | SLU | 691.76  | 33 | SLU   | 0.00 | 31 | SND   | 0.00 | 33 | SLU   | 0.00 | 27 | SND | 1.30   |
| -37 | Min | 33 | SLU   | -139.68 | 27 | SND | 347.97  | 9  | SND   | 0.00 | 33 | SLU   | 0.00 | 23 | SND   | 0.00 | 1  | SND | -1.23  |
| -36 | Max | 33 | SLU   | 290.08  | 15 | SND | 5.19    | 34 | SLE R | 0.00 | 33 | SLU   | 0.00 | 11 | SND   | 0.00 | 21 | SND | 10.34  |
| -36 | Min | 34 | SLE R | 218.20  | 25 | SND | -192.78 | 5  | SND   | 0.00 | 5  | SND   | 0.00 | 33 | SLU   | 0.00 | 1  | SND | 0.19   |
| -35 | Max | 9  | SND   | 203.60  | 33 | SLU | 75.16   | 33 | SLU   | 0.00 | 33 | SLU   | 0.00 | 33 | SLU   | 0.00 | 33 | SLU | 11.92  |
| -35 | Min | 33 | SLU   | 48.46   | 21 | SND | 32.65   | 34 | SLE R | 0.00 | 15 | SND   | 0.00 | 15 | SND   | 0.00 | 1  | SND | 6.07   |
| -34 | Max | 1  | SND   | 245.19  | 33 | SLU | 32.32   | 11 | SND   | 0.00 | 31 | SND   | 0.00 | 33 | SLU   | 0.00 | 33 | SLU | 10.79  |
| -34 | Min | 34 | SLE R | 151.50  | 15 | SND | 11.97   | 33 | SLU   | 0.00 | 33 | SLU   | 0.00 | 21 | SND   | 0.00 | 1  | SND | 5.83   |
| -33 | Max | 7  | SND   | 94.73   | 13 | SND | 7.95    | 19 | SND   | 0.00 | 11 | SND   | 0.00 | 7  | SND   | 0.00 | 33 | SLU | 5.15   |
| -33 | Min | 34 | SLE R | 65.95   | 27 | SND | -1.36   | 33 | SLU   | 0.00 | 33 | SLU   | 0.00 | 33 | SLU   | 0.00 | 1  | SND | 2.79   |

# Relazione di calcolo

|     |     |    |       |          |    |     |          |    |       |      |    |       |      |    |       |      |    |     |         |
|-----|-----|----|-------|----------|----|-----|----------|----|-------|------|----|-------|------|----|-------|------|----|-----|---------|
| -32 | Max | 21 | SND   | 7.18     | 25 | SND | 5.16     | 13 | SND   | 0.00 | 9  | SND   | 0.00 | 29 | SND   | 0.00 | 27 | SND | 1.10    |
| -32 | Min | 3  | SND   | -45.54   | 15 | SND | 0.47     | 33 | SLU   | 0.00 | 33 | SLU   | 0.00 | 13 | SND   | 0.00 | 1  | SND | 0.03    |
| -31 | Max | 27 | SND   | 25.82    | 15 | SND | 1.87     | 11 | SND   | 0.00 | 29 | SND   | 0.00 | 5  | SND   | 0.00 | 27 | SND | -0.36   |
| -31 | Min | 13 | SND   | -46.02   | 25 | SND | -4.46    | 33 | SLU   | 0.00 | 33 | SLU   | 0.00 | 33 | SLU   | 0.00 | 1  | SND | -1.29   |
| -30 | Max | 33 | SLU   | 129.06   | 11 | SND | -1.77    | 33 | SLU   | 0.00 | 33 | SLU   | 0.00 | 33 | SLU   | 0.00 | 17 | SND | 0.03    |
| -30 | Min | 15 | SND   | 62.37    | 29 | SND | -5.85    | 34 | SLE R | 0.00 | 15 | SND   | 0.00 | 9  | SND   | 0.00 | 1  | SND | -0.84   |
| -29 | Max | 33 | SLU   | 196.29   | 25 | SND | -5.49    | 21 | SND   | 0.00 | 17 | SND   | 0.00 | 33 | SLU   | 0.00 | 13 | SND | 1.19    |
| -29 | Min | 21 | SND   | 118.40   | 33 | SLU | -10.57   | 33 | SLU   | 0.00 | 33 | SLU   | 0.00 | 34 | SLE R | 0.00 | 1  | SND | -0.33   |
| -28 | Max | 34 | SLE R | -93.69   | 33 | SLU | 18.82    | 33 | SLU   | 0.00 | 33 | SLU   | 0.00 | 13 | SND   | 0.00 | 15 | SND | -0.58   |
| -28 | Min | 27 | SND   | -156.07  | 15 | SND | 9.31     | 19 | SND   | 0.00 | 23 | SND   | 0.00 | 33 | SLU   | 0.00 | 1  | SND | -4.62   |
| -27 | Max | 34 | SLE R | -308.37  | 33 | SLU | 70.49    | 34 | SLE R | 0.00 | 7  | SND   | 0.00 | 25 | SND   | 0.00 | 15 | SND | -4.30   |
| -27 | Min | 33 | SLU   | -407.39  | 15 | SND | 29.69    | 11 | SND   | 0.00 | 33 | SLU   | 0.00 | 33 | SLU   | 0.00 | 1  | SND | -11.21  |
| -26 | Max | 25 | SND   | -227.61  | 33 | SLU | 100.64   | 7  | SND   | 0.00 | 29 | SND   | 0.00 | 33 | SLU   | 0.00 | 15 | SND | -6.33   |
| -26 | Min | 15 | SND   | -347.41  | 15 | SND | 52.68    | 33 | SLU   | 0.00 | 11 | SND   | 0.00 | 33 | SLU   | 0.00 | 1  | SND | -11.93  |
| -25 | Max | 17 | SND   | -426.85  | 13 | SND | -261.10  | 33 | SLU   | 0.00 | 33 | SLU   | 0.00 | 11 | SND   | 0.00 | 25 | SND | 6.36    |
| -25 | Min | 33 | SLU   | -597.48  | 33 | SLU | -704.90  | 1  | SND   | 0.00 | 11 | SND   | 0.00 | 34 | SLE R | 0.00 | 1  | SND | -1.17   |
| -24 | Max | 33 | SLU   | 300.49   | 15 | SND | -482.74  | 33 | SLU   | 0.00 | 33 | SLU   | 0.00 | 33 | SLU   | 0.00 | 33 | SLU | 15.35   |
| -24 | Min | 13 | SND   | 174.73   | 33 | SLU | -915.02  | 34 | SLE R | 0.00 | 34 | SLE R | 0.00 | 27 | SND   | 0.00 | 1  | SND | 7.97    |
| -23 | Max | 1  | SND   | 0.00     | 1  | SND | 0.00     | 33 | SLU   | 0.00 | 33 | SLU   | 0.00 | 33 | SLU   | 0.00 | 1  | SND | 0.00    |
| -23 | Min | 1  | SND   | 0.00     | 1  | SND | 0.00     | 21 | SND   | 0.00 | 15 | SND   | 0.00 | 5  | SND   | 0.00 | 1  | SND | 0.00    |
| -22 | Max | 1  | SND   | 0.00     | 1  | SND | 0.00     | 33 | SLU   | 0.00 | 33 | SLU   | 0.00 | 15 | SND   | 0.00 | 1  | SND | 0.00    |
| -22 | Min | 1  | SND   | 0.00     | 1  | SND | 0.00     | 11 | SND   | 0.00 | 5  | SND   | 0.00 | 25 | SND   | 0.00 | 1  | SND | 0.00    |
| -21 | Max | 1  | SND   | 0.00     | 1  | SND | 0.00     | 33 | SLU   | 0.00 | 9  | SND   | 0.00 | 29 | SND   | 0.00 | 1  | SND | 0.00    |
| -21 | Min | 1  | SND   | 0.00     | 1  | SND | 0.00     | 27 | SND   | 0.00 | 31 | SND   | 0.00 | 11 | SND   | 0.00 | 1  | SND | 0.00    |
| -20 | Max | 1  | SND   | 0.00     | 1  | SND | 0.00     | 29 | SND   | 0.00 | 9  | SND   | 0.00 | 33 | SLU   | 0.00 | 1  | SND | 0.00    |
| -20 | Min | 1  | SND   | 0.00     | 1  | SND | 0.00     | 11 | SND   | 0.00 | 31 | SND   | 0.00 | 17 | SND   | 0.00 | 1  | SND | 0.00    |
| -19 | Max | 1  | SND   | 0.00     | 1  | SND | 0.00     | 13 | SND   | 0.00 | 31 | SND   | 0.00 | 13 | SND   | 0.00 | 1  | SND | 0.00    |
| -19 | Min | 1  | SND   | 0.00     | 1  | SND | 0.00     | 27 | SND   | 0.00 | 33 | SLU   | 0.00 | 33 | SLU   | 0.00 | 1  | SND | 0.00    |
| -18 | Max | 1  | SND   | 0.00     | 1  | SND | 0.00     | 33 | SLU   | 0.00 | 29 | SND   | 0.00 | 15 | SND   | 0.00 | 1  | SND | 0.00    |
| -18 | Min | 1  | SND   | 0.00     | 1  | SND | 0.00     | 21 | SND   | 0.00 | 33 | SLU   | 0.00 | 25 | SND   | 0.00 | 1  | SND | 0.00    |
| -17 | Max | 1  | SND   | 0.00     | 1  | SND | 0.00     | 33 | SLU   | 0.00 | 25 | SND   | 0.00 | 33 | SLU   | 0.00 | 1  | SND | 0.00    |
| -17 | Min | 1  | SND   | 0.00     | 1  | SND | 0.00     | 7  | SND   | 0.00 | 15 | SND   | 0.00 | 13 | SND   | 0.00 | 1  | SND | 0.00    |
| -16 | Max | 1  | SND   | 0.00     | 1  | SND | 0.00     | 34 | SLE R | 0.00 | 33 | SLU   | 0.00 | 21 | SND   | 0.00 | 1  | SND | 0.00    |
| -16 | Min | 1  | SND   | 0.00     | 1  | SND | 0.00     | 29 | SND   | 0.00 | 27 | SND   | 0.00 | 33 | SLU   | 0.00 | 1  | SND | 0.00    |
| -15 | Max | 1  | SND   | 0.00     | 1  | SND | 0.00     | 33 | SLU   | 0.00 | 11 | SND   | 0.00 | 9  | SND   | 0.00 | 1  | SND | 0.00    |
| -15 | Min | 1  | SND   | 0.00     | 1  | SND | 0.00     | 21 | SND   | 0.00 | 29 | SND   | 0.00 | 31 | SND   | 0.00 | 1  | SND | 0.00    |
| -14 | Max | 1  | SND   | 0.00     | 1  | SND | 0.00     | 13 | SND   | 0.00 | 27 | SND   | 0.00 | 25 | SND   | 0.00 | 1  | SND | 0.00    |
| -14 | Min | 1  | SND   | 0.00     | 1  | SND | 0.00     | 27 | SND   | 0.00 | 13 | SND   | 0.00 | 15 | SND   | 0.00 | 1  | SND | 0.00    |
| -13 | Max | 15 | SND   | -2.74    | 1  | SND | -1656.06 | 33 | SLU   | 0.00 | 33 | SLU   | 0.00 | 13 | SND   | 0.00 | 15 | SND | 3.84    |
| -13 | Min | 25 | SND   | -455.58  | 33 | SLU | -2640.55 | 1  | SND   | 0.00 | 29 | SND   | 0.00 | 33 | SLU   | 0.00 | 1  | SND | -10.56  |
| -12 | Max | 15 | SND   | -306.43  | 15 | SND | -511.80  | 29 | SND   | 0.00 | 21 | SND   | 0.00 | 29 | SND   | 0.00 | 3  | SND | -12.65  |
| -12 | Min | 33 | SLU   | -608.69  | 33 | SLU | -1050.69 | 11 | SND   | 0.00 | 33 | SLU   | 0.00 | 33 | SLU   | 0.00 | 1  | SND | -27.44  |
| -11 | Max | 15 | SND   | -1070.73 | 21 | SND | -125.72  | 7  | SND   | 0.00 | 29 | SND   | 0.00 | 29 | SND   | 0.00 | 13 | SND | -35.23  |
| -11 | Min | 33 | SLU   | -2139.73 | 33 | SLU | -269.37  | 17 | SND   | 0.00 | 33 | SLU   | 0.00 | 33 | SLU   | 0.00 | 1  | SND | -72.20  |
| -10 | Max | 23 | SND   | -2091.28 | 23 | SND | -5.70    | 33 | SLU   | 0.00 | 27 | SND   | 0.00 | 34 | SLE R | 0.00 | 13 | SND | -4.85   |
| -10 | Min | 33 | SLU   | -4198.71 | 1  | SND | -34.68   | 27 | SND   | 0.00 | 13 | SND   | 0.00 | 33 | SLU   | 0.00 | 1  | SND | -63.01  |
| -9  | Max | 3  | SND   | -1261.15 | 27 | SND | 1014.94  | 23 | SND   | 0.00 | 31 | SND   | 0.00 | 13 | SND   | 0.00 | 15 | SND | 113.14  |
| -9  | Min | 33 | SLU   | -3613.08 | 13 | SND | -992.24  | 33 | SLU   | 0.00 | 9  | SND   | 0.00 | 33 | SLU   | 0.00 | 1  | SND | -163.09 |
| -8  | Max | 21 | SND   | 428.60   | 25 | SND | 383.23   | 13 | SND   | 0.00 | 9  | SND   | 0.00 | 33 | SLU   | 0.00 | 27 | SND | 13.80   |
| -8  | Min | 3  | SND   | -506.32  | 15 | SND | -480.48  | 33 | SLU   | 0.00 | 31 | SND   | 0.00 | 13 | SND   | 0.00 | 1  | SND | -20.19  |
| -7  | Max | 33 | SLU   | 2848.17  | 25 | SND | 998.64   | 33 | SLU   | 0.00 | 11 | SND   | 0.00 | 9  | SND   | 0.00 | 27 | SND | 168.00  |
| -7  | Min | 23 | SND   | 1041.12  | 15 | SND | -928.39  | 31 | SND   | 0.00 | 29 | SND   | 0.00 | 31 | SND   | 0.00 | 1  | SND | -136.87 |
| -6  | Max | 21 | SND   | 2345.59  | 13 | SND | 133.41   | 33 | SLU   | 0.00 | 34 | SLE R | 0.00 | 9  | SND   | 0.00 | 33 | SLU | 8.19    |
| -6  | Min | 3  | SND   | 180.46   | 27 | SND | -70.05   | 9  | SND   | 0.00 | 33 | SLU   | 0.00 | 33 | SLU   | 0.00 | 1  | SND | 2.56    |
| -5  | Max | 23 | SND   | 190.10   | 15 | SND | 104.03   | 33 | SLU   | 0.00 | 9  | SND   | 0.00 | 29 | SND   | 0.00 | 13 | SND | 8.16    |
| -5  | Min | 1  | SND   | -1808.46 | 25 | SND | -33.71   | 13 | SND   | 0.00 | 33 | SLU   | 0.00 | 33 | SLU   | 0.00 | 1  | SND | -13.66  |
| -4  | Max | 3  | SND   | -858.18  | 27 | SND | 1001.72  | 27 | SND   | 0.00 | 15 | SND   | 0.00 | 15 | SND   | 0.00 | 15 | SND | 183.43  |
| -4  | Min | 33 | SLU   | -2065.21 | 13 | SND | -1024.47 | 33 | SLU   | 0.00 | 33 | SLU   | 0.00 | 25 | SND   | 0.00 | 1  | SND | -188.82 |
| -3  | Max | 21 | SND   | 635.30   | 27 | SND | -28.60   | 33 | SLU   | 0.00 | 5  | SND   | 0.00 | 7  | SND   | 0.00 | 33 | SLU | 36.27   |
| -3  | Min | 3  | SND   | -74.54   | 13 | SND | -136.27  | 19 | SND   | 0.00 | 3  | SND   | 0.00 | 33 | SLU   | 0.00 | 1  | SND | 13.75   |
| -2  | Max | 1  | SND   | 1869.30  | 25 | SND | 780.70   | 15 | SND   | 0.00 | 15 | SND   | 0.00 | 9  | SND   | 0.00 | 25 | SND | 156.38  |
| -2  | Min | 23 | SND   | 235.84   | 15 | SND | -1312.07 | 25 | SND   | 0.00 | 25 | SND   | 0.00 | 33 | SLU   | 0.00 | 1  | SND | -70.96  |
| -1  | Max | 33 | SLU   | 1770.52  | 15 | SND | -1448.34 | 33 | SLU   | 0.00 | 31 | SND   | 0.00 | 33 | SLU   | 0.00 | 27 | SND | 80.96   |
| -1  | Min | 7  | SND   | 760.93   | 33 | SLU | -2389.32 | 7  | SND   | 0.00 | 33 | SLU   | 0.00 | 25 | SND   | 0.00 | 1  | SND | -40.42  |
| 1   | Max | 21 | SND   | 4891.16  | 15 | SND | 5383.98  | 3  | SND   | 0.00 | 5  | SND   | 0.00 | 21 | SND   | 0.00 | 25 | SND | 143.40  |
| 1   | Min | 3  | SND   | -3328.74 | 25 | SND | -5029.54 | 21 | SND   | 0.00 | 17 | SND   | 0.00 | 15 | SND   | 0.00 | 1  | SND | -143.49 |
| 4   | Max | 21 | SND   | 1663.48  | 13 | SND | 1722.09  | 3  | SND   | 0.00 | 31 | SND   | 0.00 | 7  | SND   | 0.00 | 25 | SND | 51.18   |
| 4   | Min | 3  | SND   | -1679.80 | 27 | SND | -1423.14 | 21 | SND   | 0.00 | 9  | SND   | 0.00 | 17 | SND   | 0.00 | 1  | SND | -51.21  |
| 5   | Max | 21 | SND   | 1622.27  | 29 | SND | 1684.33  | 3  | SND   | 0.00 | 13 | SND   | 0.00 | 7  | SND   | 0.00 | 25 | SND | 51.18   |
| 5   | Min | 3  | SND   | -1603.75 | 11 | SND | -1381.24 | 33 | SLU   | 0.00 | 25 | SND   | 0.00 | 17 | SND   | 0.00 | 1  | SND | -51.21  |
| 6   | Max | 21 | SND   | 1753.40  | 29 | SND | 1730.76  | 15 | SND   | 0.00 | 31 | SND   | 0.00 | 1  | SND   | 0.00 | 25 | SND | 51.18   |
| 6   | Min | 3  | SND   | -1945.63 | 11 | SND | -1434.60 | 25 | SND   | 0.00 | 9  | SND   | 0.00 | 23 | SND   | 0.00 | 1  | SND | -51.21  |
| 7   | Max | 21 | SND   | 3331.94  | 29 | SND | 3627.56  | 17 | SND   | 0.00 | 11 | SND   | 0.00 | 11 | SND   | 0.00 | 25 | SND | 143.40  |
| 7   | Min | 3  | SND   | -4793.35 | 11 | SND | -3197.75 | 7  | SND   | 0.00 | 29 | SND   | 0.00 | 29 | SND   | 0.00 | 1  | SND | -143.49 |
| 8   | Max | 7  | SND   | 4809.22  | 15 | SND | 5009.33  | 27 | SND   | 0.00 | 29 | SND   | 0.00 | 7  | SND   | 0.00 | 25 | SND | 143.40  |
| 8   | Min | 17 | SND   | -3264.70 | 25 | SND | -5362.06 | 13 | SND   | 0.00 | 11 | SND   | 0.00 | 17 | SND   | 0.00 | 1  | SND | -143.49 |
| 11  | Max | 7  | SND   | 1661.40  | 15 | SND | 1421.08  | 15 | SND   | 0.00 | 29 | SND   | 0.00 | 17 | SND   | 0.00 | 25 | SND | 51.18   |
| 11  | Min | 17 | SND   | -1677.28 | 25 | SND | -1718.67 | 33 | SLU   | 0.00 | 33 | SLU   | 0.00 | 15 | SND   | 0.00 | 1  | SND | -51.21  |
| 12  | Max | 7  | SND   | 1620.96  | 29 | SND | 1379.63  | 11 | SND   | 0.00 | 29 | SND   | 0.00 | 7  | SND   | 0.00 | 25 | SND | 51.18   |

## Relazione di calcolo

|    |     |    |     |          |    |     |          |    |     |      |    |     |      |    |     |      |    |     |         |
|----|-----|----|-----|----------|----|-----|----------|----|-----|------|----|-----|------|----|-----|------|----|-----|---------|
| 12 | Min | 17 | SND | -1602.52 | 11 | SND | -1681.91 | 29 | SND | 0.00 | 11 | SND | 0.00 | 17 | SND | 0.00 | 1  | SND | -51.21  |
| 13 | Max | 7  | SND | 1749.26  | 29 | SND | 1431.84  | 1  | SND | 0.00 | 9  | SND | 0.00 | 1  | SND | 0.00 | 25 | SND | 51.18   |
| 13 | Min | 17 | SND | -1940.02 | 11 | SND | -1727.53 | 23 | SND | 0.00 | 31 | SND | 0.00 | 23 | SND | 0.00 | 1  | SND | -51.21  |
| 14 | Max | 7  | SND | 3263.20  | 29 | SND | 3184.85  | 11 | SND | 0.00 | 11 | SND | 0.00 | 17 | SND | 0.00 | 25 | SND | 143.40  |
| 14 | Min | 17 | SND | -4706.94 | 11 | SND | -3614.95 | 29 | SND | 0.00 | 29 | SND | 0.00 | 15 | SND | 0.00 | 1  | SND | -143.49 |

## Tensioni sul terreno

### Simbologia

Nodo = Numero del nodo

CC = Numero della combinazione delle condizioni di carico elementari

TCC = Tipo di combinazione di carico

SLU = Stato limite ultimo

SLU S = Stato limite ultimo (azione sismica)

SLE R = Stato limite d'esercizio, combinazione rara

SLE F = Stato limite d'esercizio, combinazione frequente

SLE Q = Stato limite d'esercizio, combinazione quasi permanente

SLD = Stato limite di danno

SLV = Stato limite di salvaguardia della vita

SLC = Stato limite di prevenzione del collasso

SLO = Stato limite di operatività

SLU I = Stato limite di resistenza al fuoco

SND = Stato limite di salvaguardia della vita (non dissipativo)

$\sigma_t$  = Tensione sul terreno

| Nodo |     | CC | TCC | $\sigma_t$<br><daN/cm <sup>2</sup> > | Nodo |      | CC | TCC | $\sigma_t$<br><daN/cm <sup>2</sup> > | Nodo |     | CC | TCC | $\sigma_t$<br><daN/cm <sup>2</sup> > | Nodo |      | CC | TCC   | $\sigma_t$<br><daN/cm <sup>2</sup> > |
|------|-----|----|-----|--------------------------------------|------|------|----|-----|--------------------------------------|------|-----|----|-----|--------------------------------------|------|------|----|-------|--------------------------------------|
| -400 | Max | 1  | SND | 2.19                                 | -400 | Min. | 23 | SND | -0.73                                | -399 | Max | 9  | SND | 1.56                                 | -399 | Min. | 31 | SND   | -0.47                                |
| -398 | Max | 11 | SND | 0.82                                 | -398 | Min. | 29 | SND | -0.23                                | -397 | Max | 5  | SND | 0.31                                 | -397 | Min. | 19 | SND   | -0.14                                |
| -396 | Max | 17 | SND | 0.16                                 | -396 | Min. | 7  | SND | 0.07                                 | -395 | Max | 9  | SND | 0.59                                 | -395 | Min. | 31 | SND   | 0.20                                 |
| -394 | Max | 11 | SND | 0.92                                 | -394 | Min. | 29 | SND | 0.23                                 | -393 | Max | 5  | SND | 0.48                                 | -393 | Min. | 19 | SND   | 0.13                                 |
| -392 | Max | 29 | SND | 0.03                                 | -392 | Min. | 11 | SND | -0.06                                | -391 | Max | 33 | SLU | 0.46                                 | -391 | Min. | 31 | SND   | 0.17                                 |
| -390 | Max | 9  | SND | 0.92                                 | -390 | Min. | 31 | SND | 0.26                                 | -389 | Max | 33 | SLU | 0.49                                 | -389 | Min. | 29 | SND   | 0.19                                 |
| -388 | Max | 31 | SND | 0.07                                 | -388 | Min. | 9  | SND | 0.02                                 | -387 | Max | 17 | SND | 0.15                                 | -387 | Min. | 7  | SND   | 0.06                                 |
| -386 | Max | 25 | SND | 0.59                                 | -386 | Min. | 15 | SND | 0.19                                 | -385 | Max | 27 | SND | 0.91                                 | -385 | Min. | 13 | SND   | 0.23                                 |
| -384 | Max | 33 | SLU | 0.46                                 | -384 | Min. | 19 | SND | 0.19                                 | -383 | Max | 33 | SLU | 0.20                                 | -383 | Min. | 17 | SND   | 0.12                                 |
| -382 | Max | 33 | SLU | 0.16                                 | -382 | Min. | 5  | SND | 0.10                                 | -381 | Max | 33 | SLU | 0.17                                 | -381 | Min. | 15 | SND   | 0.08                                 |
| -380 | Max | 25 | SND | 0.41                                 | -380 | Min. | 15 | SND | -0.05                                | -379 | Max | 27 | SND | 0.62                                 | -379 | Min. | 13 | SND   | -0.21                                |
| -378 | Max | 27 | SND | 0.31                                 | -378 | Min. | 13 | SND | 0.02                                 | -377 | Max | 33 | SLU | 0.14                                 | -377 | Min. | 27 | SND   | 0.10                                 |
| -376 | Max | 33 | SLU | 0.14                                 | -376 | Min. | 15 | SND | 0.10                                 | -375 | Max | 25 | SND | 0.36                                 | -375 | Min. | 15 | SND   | -0.03                                |
| -374 | Max | 25 | SND | 0.70                                 | -374 | Min. | 15 | SND | -0.23                                | -373 | Max | 27 | SND | 0.62                                 | -373 | Min. | 13 | SND   | -0.10                                |
| -372 | Max | 27 | SND | 0.36                                 | -372 | Min. | 13 | SND | 0.06                                 | -371 | Max | 33 | SLU | 0.18                                 | -371 | Min. | 13 | SND   | 0.12                                 |
| -370 | Max | 17 | SND | 0.32                                 | -370 | Min. | 7  | SND | -0.12                                | -369 | Max | 25 | SND | 0.95                                 | -369 | Min. | 15 | SND   | -0.50                                |
| -368 | Max | 27 | SND | 1.92                                 | -368 | Min. | 13 | SND | -0.97                                | -367 | Max | 27 | SND | 2.39                                 | -367 | Min. | 13 | SND   | -1.12                                |
| -366 | Max | 17 | SND | 2.03                                 | -366 | Min. | 7  | SND | -0.52                                | -365 | Max | 5  | SND | 0.68                                 | -365 | Min. | 19 | SND   | -0.08                                |
| -364 | Max | 7  | SND | 0.23                                 | -364 | Min. | 17 | SND | -0.01                                | -363 | Max | 33 | SLU | 0.17                                 | -363 | Min. | 5  | SND   | 0.10                                 |
| -362 | Max | 33 | SLU | 0.56                                 | -362 | Min. | 7  | SND | 0.26                                 | -361 | Max | 5  | SND | 0.42                                 | -361 | Min. | 19 | SND   | 0.14                                 |
| -360 | Max | 29 | SND | 0.03                                 | -360 | Min. | 11 | SND | -0.01                                | -359 | Max | 33 | SLU | 0.42                                 | -359 | Min. | 7  | SND   | 0.17                                 |
| -358 | Max | 33 | SLU | 0.44                                 | -358 | Min. | 19 | SND | 0.19                                 | -357 | Max | 19 | SND | 0.08                                 | -357 | Min. | 5  | SND   | 0.05                                 |
| -356 | Max | 33 | SLU | 0.16                                 | -356 | Min. | 5  | SND | 0.11                                 | -355 | Max | 33 | SLU | 0.54                                 | -355 | Min. | 7  | SND   | 0.24                                 |
| -354 | Max | 33 | SLU | 0.45                                 | -354 | Min. | 19 | SND | 0.20                                 | -353 | Max | 33 | SLU | 0.34                                 | -353 | Min. | 27 | SND   | 0.22                                 |
| -352 | Max | 33 | SLU | 0.43                                 | -352 | Min. | 27 | SND | 0.26                                 | -351 | Max | 33 | SLU | 0.52                                 | -351 | Min. | 27 | SND   | 0.31                                 |
| -350 | Max | 33 | SLU | 0.64                                 | -350 | Min. | 21 | SND | 0.38                                 | -349 | Max | 33 | SLU | 0.64                                 | -349 | Min. | 25 | SND   | 0.37                                 |
| -348 | Max | 33 | SLU | 0.59                                 | -348 | Min. | 27 | SND | 0.35                                 | -347 | Max | 33 | SLU | 0.58                                 | -347 | Min. | 25 | SND   | 0.35                                 |
| -346 | Max | 33 | SLU | 0.61                                 | -346 | Min. | 21 | SND | 0.34                                 | -345 | Max | 33 | SLU | 0.71                                 | -345 | Min. | 25 | SND   | 0.42                                 |
| -344 | Max | 33 | SLU | 0.52                                 | -344 | Min. | 25 | SND | 0.32                                 | -343 | Max | 33 | SLU | 0.27                                 | -343 | Min. | 27 | SND   | 0.16                                 |
| -342 | Max | 17 | SND | 0.22                                 | -342 | Min. | 7  | SND | 0.02                                 | -341 | Max | 17 | SND | 0.67                                 | -341 | Min. | 7  | SND   | -0.20                                |
| -340 | Max | 5  | SND | 1.91                                 | -340 | Min. | 19 | SND | -0.58                                | -339 | Max | 19 | SND | 1.23                                 | -339 | Min. | 5  | SND   | -0.23                                |
| -338 | Max | 29 | SND | 0.73                                 | -338 | Min. | 11 | SND | 0.07                                 | -337 | Max | 23 | SND | 0.40                                 | -337 | Min. | 1  | SND   | 0.05                                 |
| -336 | Max | 7  | SND | 0.20                                 | -336 | Min. | 17 | SND | -0.02                                | -335 | Max | 33 | SLU | 0.14                                 | -335 | Min. | 5  | SND   | 0.07                                 |
| -334 | Max | 33 | SLU | 0.38                                 | -334 | Min. | 5  | SND | 0.20                                 | -333 | Max | 33 | SLU | 0.55                                 | -333 | Min. | 9  | SND   | 0.24                                 |
| -332 | Max | 33 | SLU | 0.29                                 | -332 | Min. | 17 | SND | 0.13                                 | -331 | Max | 1  | SND | 0.04                                 | -331 | Min. | 34 | SLE R | 0.02                                 |
| -330 | Max | 33 | SLU | 0.30                                 | -330 | Min. | 5  | SND | 0.15                                 | -329 | Max | 33 | SLU | 0.57                                 | -329 | Min. | 11 | SND   | 0.26                                 |
| -328 | Max | 33 | SLU | 0.32                                 | -328 | Min. | 17 | SND | 0.17                                 | -327 | Max | 33 | SLU | 0.08                                 | -327 | Min. | 34 | SLE R | 0.06                                 |
| -326 | Max | 33 | SLU | 0.13                                 | -326 | Min. | 5  | SND | 0.08                                 | -325 | Max | 33 | SLU | 0.37                                 | -325 | Min. | 5  | SND   | 0.19                                 |
| -324 | Max | 33 | SLU | 0.54                                 | -324 | Min. | 25 | SND | 0.24                                 | -323 | Max | 33 | SLU | 0.38                                 | -323 | Min. | 17 | SND   | 0.21                                 |
| -322 | Max | 33 | SLU | 0.32                                 | -322 | Min. | 27 | SND | 0.21                                 | -321 | Max | 33 | SLU | 0.46                                 | -321 | Min. | 25 | SND   | 0.28                                 |
| -320 | Max | 33 | SLU | 0.25                                 | -320 | Min. | 25 | SND | 0.14                                 | -319 | Max | 3  | SND | 0.20                                 | -319 | Min. | 21 | SND   | 0.00                                 |
| -318 | Max | 3  | SND | 0.38                                 | -318 | Min. | 21 | SND | -0.02                                | -317 | Max | 15 | SND | 0.87                                 | -317 | Min. | 25 | SND   | -0.15                                |
| -316 | Max | 7  | SND | 1.25                                 | -316 | Min. | 17 | SND | -0.33                                | -315 | Max | 19 | SND | 0.71                                 | -315 | Min. | 5  | SND   | -0.09                                |
| -314 | Max | 29 | SND | 0.46                                 | -314 | Min. | 11 | SND | 0.05                                 | -313 | Max | 31 | SND | 0.29                                 | -313 | Min. | 9  | SND   | 0.02                                 |
| -312 | Max | 23 | SND | 0.15                                 | -312 | Min. | 1  | SND | -0.00                                | -311 | Max | 33 | SLU | 0.11                                 | -311 | Min. | 5  | SND   | 0.06                                 |
| -310 | Max | 33 | SLU | 0.22                                 | -310 | Min. | 11 | SND | 0.10                                 | -309 | Max | 33 | SLU | 0.27                                 | -309 | Min. | 9  | SND   | 0.12                                 |
| -308 | Max | 33 | SLU | 0.19                                 | -308 | Min. | 9  | SND | 0.09                                 | -307 | Max | 33 | SLU | 0.07                                 | -307 | Min. | 31 | SND   | 0.05                                 |
| -306 | Max | 33 | SLU | 0.19                                 | -306 | Min. | 11 | SND | 0.10                                 | -305 | Max | 33 | SLU | 0.28                                 | -305 | Min. | 9  | SND   | 0.12                                 |
| -304 | Max | 33 | SLU | 0.20                                 | -304 | Min. | 9  | SND | 0.10                                 | -303 | Max | 33 | SLU | 0.09                                 | -303 | Min. | 19 | SND   | 0.06                                 |
| -302 | Max | 33 | SLU | 0.11                                 | -302 | Min. | 5  | SND | 0.07                                 | -301 | Max | 33 | SLU | 0.22                                 | -301 | Min. | 11 | SND   | 0.10                                 |
| -300 | Max | 33 | SLU | 0.25                                 | -300 | Min. | 25 | SND | 0.10                                 | -299 | Max | 33 | SLU | 0.27                                 | -299 | Min. | 25 | SND   | 0.15                                 |
| -298 | Max | 33 | SLU | 0.30                                 | -298 | Min. | 27 | SND | 0.20                                 | -287 | Max | 33 | SLU | 0.40                                 | -287 | Min. | 25 | SND   | 0.25                                 |

# Relazione di calcolo

|      |     |    |     |      |      |      |    |     |       |      |     |    |     |      |      |      |    |     |       |
|------|-----|----|-----|------|------|------|----|-----|-------|------|-----|----|-----|------|------|------|----|-----|-------|
| -286 | Max | 33 | SLU | 0.21 | -286 | Min. | 27 | SND | 0.13  | -285 | Max | 3  | SND | 0.15 | -285 | Min. | 21 | SND | 0.01  |
| -284 | Max | 13 | SND | 0.29 | -284 | Min. | 27 | SND | -0.04 | -283 | Max | 15 | SND | 0.56 | -283 | Min. | 25 | SND | -0.08 |
| -282 | Max | 15 | SND | 0.79 | -282 | Min. | 25 | SND | -0.20 | -281 | Max | 29 | SND | 0.28 | -281 | Min. | 11 | SND | 0.04  |
| -280 | Max | 31 | SND | 0.22 | -280 | Min. | 9  | SND | 0.06  | -279 | Max | 31 | SND | 0.16 | -279 | Min. | 9  | SND | 0.02  |
| -278 | Max | 31 | SND | 0.09 | -278 | Min. | 9  | SND | 0.04  | -277 | Max | 33 | SLU | 0.08 | -277 | Min. | 11 | SND | 0.05  |
| -276 | Max | 29 | SND | 0.09 | -276 | Min. | 11 | SND | 0.04  | -275 | Max | 29 | SND | 0.09 | -275 | Min. | 11 | SND | 0.04  |
| -274 | Max | 29 | SND | 0.09 | -274 | Min. | 11 | SND | 0.05  | -273 | Max | 33 | SLU | 0.10 | -273 | Min. | 31 | SND | 0.07  |
| -272 | Max | 31 | SND | 0.08 | -272 | Min. | 9  | SND | 0.05  | -271 | Max | 31 | SND | 0.08 | -271 | Min. | 9  | SND | 0.04  |
| -270 | Max | 29 | SND | 0.08 | -270 | Min. | 11 | SND | 0.04  | -269 | Max | 33 | SLU | 0.10 | -269 | Min. | 23 | SND | 0.07  |
| -268 | Max | 33 | SLU | 0.09 | -268 | Min. | 9  | SND | 0.07  | -267 | Max | 31 | SND | 0.08 | -267 | Min. | 9  | SND | 0.03  |
| -266 | Max | 15 | SND | 0.07 | -266 | Min. | 25 | SND | 0.02  | -265 | Max | 33 | SLU | 0.15 | -265 | Min. | 27 | SND | 0.09  |
| -264 | Max | 33 | SLU | 0.27 | -264 | Min. | 21 | SND | 0.18  | -263 | Max | 33 | SLU | 0.35 | -263 | Min. | 17 | SND | 0.23  |
| -262 | Max | 33 | SLU | 0.16 | -262 | Min. | 25 | SND | 0.11  | -261 | Max | 13 | SND | 0.09 | -261 | Min. | 27 | SND | 0.03  |
| -260 | Max | 13 | SND | 0.16 | -260 | Min. | 27 | SND | -0.01 | -259 | Max | 13 | SND | 0.26 | -259 | Min. | 27 | SND | 0.02  |
| -258 | Max | 15 | SND | 0.35 | -258 | Min. | 25 | SND | -0.03 | -257 | Max | 33 | SLU | 0.15 | -257 | Min. | 3  | SND | 0.07  |
| -256 | Max | 23 | SND | 0.14 | -256 | Min. | 1  | SND | 0.06  | -255 | Max | 5  | SND | 0.09 | -255 | Min. | 19 | SND | 0.05  |
| -254 | Max | 33 | SLU | 0.07 | -254 | Min. | 29 | SND | 0.05  | -253 | Max | 33 | SLU | 0.07 | -253 | Min. | 29 | SND | 0.06  |
| -252 | Max | 9  | SND | 0.05 | -252 | Min. | 31 | SND | 0.03  | -251 | Max | 29 | SND | 0.03 | -251 | Min. | 11 | SND | -0.00 |
| -250 | Max | 1  | SND | 0.07 | -250 | Min. | 23 | SND | 0.03  | -249 | Max | 33 | SLU | 0.11 | -249 | Min. | 9  | SND | 0.08  |
| -248 | Max | 5  | SND | 0.06 | -248 | Min. | 19 | SND | 0.04  | -247 | Max | 31 | SND | 0.03 | -247 | Min. | 9  | SND | -0.01 |
| -246 | Max | 9  | SND | 0.06 | -246 | Min. | 31 | SND | 0.03  | -245 | Max | 33 | SLU | 0.10 | -245 | Min. | 27 | SND | 0.08  |
| -244 | Max | 33 | SLU | 0.09 | -244 | Min. | 3  | SND | 0.07  | -243 | Max | 27 | SND | 0.05 | -243 | Min. | 13 | SND | 0.02  |
| -242 | Max | 31 | SND | 0.01 | -242 | Min. | 33 | SLU | -0.03 | -241 | Max | 33 | SLU | 0.12 | -241 | Min. | 31 | SND | 0.08  |
| -240 | Max | 33 | SLU | 0.26 | -240 | Min. | 23 | SND | 0.17  | -229 | Max | 33 | SLU | 0.33 | -229 | Min. | 3  | SND | 0.21  |
| -228 | Max | 33 | SLU | 0.15 | -228 | Min. | 25 | SND | 0.11  | -227 | Max | 25 | SND | 0.07 | -227 | Min. | 15 | SND | 0.04  |
| -226 | Max | 25 | SND | 0.10 | -226 | Min. | 15 | SND | 0.03  | -225 | Max | 3  | SND | 0.15 | -225 | Min. | 21 | SND | 0.07  |
| -224 | Max | 33 | SLU | 0.17 | -224 | Min. | 7  | SND | 0.09  | -223 | Max | 1  | SND | 0.77 | -223 | Min. | 23 | SND | -0.11 |
| -222 | Max | 9  | SND | 0.61 | -222 | Min. | 31 | SND | -0.10 | -221 | Max | 11 | SND | 0.33 | -221 | Min. | 29 | SND | -0.00 |
| -220 | Max | 5  | SND | 0.16 | -220 | Min. | 19 | SND | -0.00 | -219 | Max | 33 | SLU | 0.12 | -219 | Min. | 23 | SND | 0.06  |
| -218 | Max | 33 | SLU | 0.24 | -218 | Min. | 31 | SND | 0.10  | -217 | Max | 11 | SND | 0.33 | -217 | Min. | 29 | SND | 0.06  |
| -216 | Max | 33 | SLU | 0.20 | -216 | Min. | 29 | SND | 0.10  | -215 | Max | 29 | SND | 0.07 | -215 | Min. | 11 | SND | 0.04  |
| -214 | Max | 33 | SLU | 0.20 | -214 | Min. | 31 | SND | 0.10  | -213 | Max | 11 | SND | 0.33 | -213 | Min. | 29 | SND | 0.07  |
| -212 | Max | 33 | SLU | 0.21 | -212 | Min. | 29 | SND | 0.11  | -211 | Max | 33 | SLU | 0.09 | -211 | Min. | 1  | SND | 0.06  |
| -210 | Max | 33 | SLU | 0.12 | -210 | Min. | 23 | SND | 0.07  | -209 | Max | 33 | SLU | 0.23 | -209 | Min. | 31 | SND | 0.10  |
| -208 | Max | 27 | SND | 0.32 | -208 | Min. | 13 | SND | 0.05  | -207 | Max | 33 | SLU | 0.28 | -207 | Min. | 13 | SND | 0.15  |
| -206 | Max | 33 | SLU | 0.29 | -206 | Min. | 15 | SND | 0.19  | -205 | Max | 33 | SLU | 0.42 | -205 | Min. | 13 | SND | 0.26  |
| -204 | Max | 33 | SLU | 0.21 | -204 | Min. | 13 | SND | 0.12  | -203 | Max | 17 | SND | 0.16 | -203 | Min. | 7  | SND | 0.01  |
| -202 | Max | 25 | SND | 0.34 | -202 | Min. | 15 | SND | -0.07 | -201 | Max | 27 | SND | 0.78 | -201 | Min. | 13 | SND | -0.30 |
| -200 | Max | 27 | SND | 0.97 | -200 | Min. | 13 | SND | -0.35 | -199 | Max | 3  | SND | 2.02 | -199 | Min. | 21 | SND | -0.54 |
| -198 | Max | 23 | SND | 0.67 | -198 | Min. | 1  | SND | -0.08 | -197 | Max | 21 | SND | 0.23 | -197 | Min. | 3  | SND | -0.02 |
| -196 | Max | 33 | SLU | 0.16 | -196 | Min. | 23 | SND | 0.10  | -195 | Max | 33 | SLU | 0.55 | -195 | Min. | 21 | SND | 0.26  |
| -194 | Max | 23 | SND | 0.41 | -194 | Min. | 1  | SND | 0.14  | -193 | Max | 9  | SND | 0.03 | -193 | Min. | 31 | SND | -0.01 |
| -192 | Max | 33 | SLU | 0.41 | -192 | Min. | 21 | SND | 0.17  | -191 | Max | 33 | SLU | 0.44 | -191 | Min. | 1  | SND | 0.19  |
| -190 | Max | 9  | SND | 0.08 | -190 | Min. | 31 | SND | 0.05  | -189 | Max | 33 | SLU | 0.16 | -189 | Min. | 23 | SND | 0.10  |
| -188 | Max | 33 | SLU | 0.53 | -188 | Min. | 21 | SND | 0.24  | -187 | Max | 33 | SLU | 0.45 | -187 | Min. | 1  | SND | 0.20  |
| -186 | Max | 33 | SLU | 0.34 | -186 | Min. | 15 | SND | 0.21  | -185 | Max | 33 | SLU | 0.42 | -185 | Min. | 15 | SND | 0.25  |
| -184 | Max | 33 | SLU | 0.51 | -184 | Min. | 15 | SND | 0.30  | -183 | Max | 33 | SLU | 0.63 | -183 | Min. | 7  | SND | 0.36  |
| -182 | Max | 33 | SLU | 0.62 | -182 | Min. | 13 | SND | 0.36  | -181 | Max | 33 | SLU | 0.58 | -181 | Min. | 15 | SND | 0.33  |
| -180 | Max | 33 | SLU | 0.57 | -180 | Min. | 13 | SND | 0.33  | -179 | Max | 33 | SLU | 0.60 | -179 | Min. | 7  | SND | 0.33  |
| -178 | Max | 33 | SLU | 0.71 | -178 | Min. | 13 | SND | 0.41  | -177 | Max | 33 | SLU | 0.53 | -177 | Min. | 13 | SND | 0.32  |
| -176 | Max | 33 | SLU | 0.27 | -176 | Min. | 15 | SND | 0.16  | -175 | Max | 1  | SND | 0.23 | -175 | Min. | 23 | SND | 0.01  |
| -174 | Max | 3  | SND | 0.66 | -174 | Min. | 21 | SND | -0.20 | -173 | Max | 23 | SND | 1.90 | -173 | Min. | 1  | SND | -0.59 |
| -172 | Max | 19 | SND | 2.13 | -172 | Min. | 5  | SND | -0.73 | -171 | Max | 29 | SND | 1.50 | -171 | Min. | 11 | SND | -0.45 |
| -170 | Max | 31 | SND | 0.79 | -170 | Min. | 9  | SND | -0.22 | -169 | Max | 23 | SND | 0.31 | -169 | Min. | 1  | SND | -0.15 |
| -168 | Max | 3  | SND | 0.16 | -168 | Min. | 21 | SND | 0.06  | -167 | Max | 29 | SND | 0.56 | -167 | Min. | 11 | SND | 0.19  |
| -166 | Max | 31 | SND | 0.87 | -166 | Min. | 9  | SND | 0.22  | -165 | Max | 23 | SND | 0.45 | -165 | Min. | 1  | SND | 0.12  |
| -164 | Max | 9  | SND | 0.03 | -164 | Min. | 31 | SND | -0.06 | -163 | Max | 33 | SLU | 0.43 | -163 | Min. | 11 | SND | 0.16  |
| -162 | Max | 29 | SND | 0.88 | -162 | Min. | 11 | SND | 0.25  | -161 | Max | 33 | SLU | 0.47 | -161 | Min. | 9  | SND | 0.18  |
| -160 | Max | 11 | SND | 0.06 | -160 | Min. | 29 | SND | 0.02  | -159 | Max | 3  | SND | 0.15 | -159 | Min. | 21 | SND | 0.06  |
| -158 | Max | 13 | SND | 0.56 | -158 | Min. | 27 | SND | 0.18  | -157 | Max | 15 | SND | 0.87 | -157 | Min. | 25 | SND | 0.22  |
| -156 | Max | 33 | SLU | 0.44 | -156 | Min. | 1  | SND | 0.18  | -155 | Max | 33 | SLU | 0.20 | -155 | Min. | 1  | SND | 0.12  |
| -154 | Max | 33 | SLU | 0.15 | -154 | Min. | 23 | SND | 0.10  | -153 | Max | 33 | SLU | 0.15 | -153 | Min. | 27 | SND | 0.07  |
| -152 | Max | 13 | SND | 0.40 | -152 | Min. | 27 | SND | -0.06 | -151 | Max | 15 | SND | 0.61 | -151 | Min. | 25 | SND | -0.22 |
| -150 | Max | 15 | SND | 0.30 | -150 | Min. | 25 | SND | 0.01  | -149 | Max | 33 | SLU | 0.13 | -149 | Min. | 15 | SND | 0.09  |
| -148 | Max | 33 | SLU | 0.12 | -148 | Min. | 27 | SND | 0.09  | -147 | Max | 13 | SND | 0.34 | -147 | Min. | 27 | SND | -0.04 |
| -146 | Max | 13 | SND | 0.69 | -146 | Min. | 27 | SND | -0.23 | -145 | Max | 15 | SND | 0.61 | -145 | Min. | 25 | SND | -0.10 |
| -144 | Max | 15 | SND | 0.35 | -144 | Min. | 25 | SND | 0.07  | -143 | Max | 33 | SLU | 0.18 | -143 | Min. | 17 | SND | 0.12  |
| -142 | Max | 3  | SND | 0.31 | -142 | Min. | 21 | SND | -0.13 | -141 | Max | 13 | SND | 0.92 | -141 | Min. | 27 | SND | -0.48 |
| -140 | Max | 15 | SND | 1.85 | -140 | Min. | 25 | SND | -0.93 | -139 | Max | 15 | SND | 2.31 | -139 | Min. | 25 | SND | -1.08 |
| -84  | Max | 33 | SLU | 0.63 | -84  | Min. | 27 | SND | 0.40  | -83  | Max | 33 | SLU | 0.68 | -83  | Min. | 27 | SND | 0.43  |
| -82  | Max | 33 | SLU | 0.84 | -82  | Min. | 27 | SND | 0.51  | -81  | Max | 33 | SLU | 1.02 | -81  | Min. | 27 | SND | 0.61  |
| -80  | Max | 33 | SLU | 1.14 | -80  | Min. | 27 | SND | 0.67  | -79  | Max | 33 | SLU | 1.06 | -79  | Min. | 25 | SND | 0.62  |
| -78  | Max | 33 | SLU | 0.96 | -78  | Min. | 27 | SND | 0.58  | -77  | Max | 33 | SLU | 0.94 | -77  | Min. | 27 | SND | 0.56  |
| -76  | Max | 33 | SLU | 1.02 | -76  | Min. | 27 | SND | 0.59  | -75  | Max | 33 | SLU | 1.06 | -75  | Min. | 27 | SND | 0.62  |
| -74  | Max | 33 | SLU | 1.01 | -74  | Min. | 27 | SND | 0.60  | -73  | Max | 33 | SLU | 0.98 | -73  | Min. | 25 | SND | 0.59  |
| -72  | Max | 33 | SLU | 0.53 | -72  | Min. | 27 | SND | 0.34  | -71  | Max | 33 | SLU | 0.46 | -71  | Min. | 27 | SND | 0.30  |
| -70  | Max | 33 | SLU | 0.45 | -70  | Min. | 5  | SND | 0.30  | -69  | Max | 33 | SLU | 0.49 | -69  | Min. | 15 | SND | 0.31  |
| -68  | Max | 33 | SLU | 0.51 | -68  | Min. | 15 | SND | 0.31  | -67  | Max | 33 | SLU | 0.48 | -67  | Min. | 13 | SND | 0.31  |
| -66  | Max | 33 | SLU | 0.45 | -66  | Min. | 27 | SND | 0.29  | -65  | Max | 33 | SLU | 0.46 | -65  | Min. | 27 | SND | 0.29  |

## Relazione di calcolo

|     |     |    |     |      |     |      |    |     |      |     |     |    |     |      |     |      |    |     |      |
|-----|-----|----|-----|------|-----|------|----|-----|------|-----|-----|----|-----|------|-----|------|----|-----|------|
| -64 | Max | 33 | SLU | 0.50 | -64 | Min. | 7  | SND | 0.32 | -63 | Max | 33 | SLU | 0.57 | -63 | Min. | 15 | SND | 0.35 |
| -62 | Max | 33 | SLU | 0.61 | -62 | Min. | 15 | SND | 0.39 | -61 | Max | 33 | SLU | 0.74 | -61 | Min. | 25 | SND | 0.48 |
| -60 | Max | 33 | SLU | 0.49 | -60 | Min. | 27 | SND | 0.33 | -59 | Max | 33 | SLU | 0.42 | -59 | Min. | 21 | SND | 0.28 |
| -58 | Max | 33 | SLU | 0.37 | -58 | Min. | 15 | SND | 0.24 | -57 | Max | 33 | SLU | 0.35 | -57 | Min. | 15 | SND | 0.21 |
| -56 | Max | 33 | SLU | 0.34 | -56 | Min. | 13 | SND | 0.20 | -55 | Max | 33 | SLU | 0.33 | -55 | Min. | 13 | SND | 0.20 |
| -54 | Max | 33 | SLU | 0.33 | -54 | Min. | 13 | SND | 0.20 | -53 | Max | 33 | SLU | 0.34 | -53 | Min. | 13 | SND | 0.21 |
| -52 | Max | 33 | SLU | 0.37 | -52 | Min. | 13 | SND | 0.23 | -51 | Max | 33 | SLU | 0.46 | -51 | Min. | 13 | SND | 0.30 |
| -50 | Max | 33 | SLU | 0.52 | -50 | Min. | 17 | SND | 0.34 | -49 | Max | 33 | SLU | 0.66 | -49 | Min. | 25 | SND | 0.43 |
| -48 | Max | 33 | SLU | 0.46 | -48 | Min. | 21 | SND | 0.31 | -47 | Max | 33 | SLU | 0.36 | -47 | Min. | 7  | SND | 0.24 |
| -46 | Max | 33 | SLU | 0.30 | -46 | Min. | 13 | SND | 0.19 | -45 | Max | 33 | SLU | 0.28 | -45 | Min. | 13 | SND | 0.17 |
| -44 | Max | 33 | SLU | 0.26 | -44 | Min. | 13 | SND | 0.16 | -43 | Max | 33 | SLU | 0.25 | -43 | Min. | 13 | SND | 0.15 |
| -42 | Max | 33 | SLU | 0.26 | -42 | Min. | 13 | SND | 0.15 | -41 | Max | 33 | SLU | 0.27 | -41 | Min. | 13 | SND | 0.16 |
| -40 | Max | 33 | SLU | 0.30 | -40 | Min. | 13 | SND | 0.18 | -39 | Max | 33 | SLU | 0.37 | -39 | Min. | 19 | SND | 0.24 |
| -38 | Max | 33 | SLU | 0.42 | -38 | Min. | 17 | SND | 0.28 | -37 | Max | 33 | SLU | 0.59 | -37 | Min. | 17 | SND | 0.39 |
| -36 | Max | 33 | SLU | 0.45 | -36 | Min. | 7  | SND | 0.30 | -35 | Max | 33 | SLU | 0.36 | -35 | Min. | 5  | SND | 0.24 |
| -34 | Max | 33 | SLU | 0.29 | -34 | Min. | 25 | SND | 0.18 | -33 | Max | 33 | SLU | 0.26 | -33 | Min. | 17 | SND | 0.16 |
| -32 | Max | 33 | SLU | 0.24 | -32 | Min. | 25 | SND | 0.14 | -31 | Max | 33 | SLU | 0.23 | -31 | Min. | 27 | SND | 0.14 |
| -30 | Max | 33 | SLU | 0.23 | -30 | Min. | 25 | SND | 0.14 | -29 | Max | 33 | SLU | 0.25 | -29 | Min. | 25 | SND | 0.15 |
| -28 | Max | 33 | SLU | 0.27 | -28 | Min. | 1  | SND | 0.16 | -27 | Max | 33 | SLU | 0.35 | -27 | Min. | 3  | SND | 0.22 |
| -26 | Max | 33 | SLU | 0.41 | -26 | Min. | 3  | SND | 0.26 | -25 | Max | 33 | SLU | 0.56 | -25 | Min. | 3  | SND | 0.37 |
| -24 | Max | 33 | SLU | 0.46 | -24 | Min. | 15 | SND | 0.31 | -23 | Max | 33 | SLU | 0.28 | -23 | Min. | 15 | SND | 0.19 |
| -22 | Max | 33 | SLU | 0.17 | -22 | Min. | 27 | SND | 0.11 | -21 | Max | 33 | SLU | 0.18 | -21 | Min. | 27 | SND | 0.09 |
| -20 | Max | 33 | SLU | 0.18 | -20 | Min. | 25 | SND | 0.07 | -19 | Max | 33 | SLU | 0.17 | -19 | Min. | 25 | SND | 0.09 |
| -18 | Max | 33 | SLU | 0.17 | -18 | Min. | 25 | SND | 0.11 | -17 | Max | 33 | SLU | 0.17 | -17 | Min. | 27 | SND | 0.11 |
| -16 | Max | 33 | SLU | 0.16 | -16 | Min. | 27 | SND | 0.08 | -15 | Max | 33 | SLU | 0.24 | -15 | Min. | 27 | SND | 0.12 |
| -14 | Max | 33 | SLU | 0.35 | -14 | Min. | 25 | SND | 0.20 | -13 | Max | 33 | SLU | 0.64 | -13 | Min. | 3  | SND | 0.42 |
| -12 | Max | 33 | SLU | 0.61 | -12 | Min. | 15 | SND | 0.38 | -11 | Max | 33 | SLU | 0.65 | -11 | Min. | 15 | SND | 0.40 |
| -10 | Max | 33 | SLU | 0.79 | -10 | Min. | 15 | SND | 0.47 | -9  | Max | 33 | SLU | 0.97 | -9  | Min. | 15 | SND | 0.57 |
| -8  | Max | 33 | SLU | 1.08 | -8  | Min. | 15 | SND | 0.63 | -7  | Max | 33 | SLU | 1.01 | -7  | Min. | 13 | SND | 0.58 |
| -6  | Max | 33 | SLU | 0.91 | -6  | Min. | 15 | SND | 0.54 | -5  | Max | 33 | SLU | 0.89 | -5  | Min. | 15 | SND | 0.52 |
| -4  | Max | 33 | SLU | 0.97 | -4  | Min. | 15 | SND | 0.56 | -3  | Max | 33 | SLU | 1.02 | -3  | Min. | 15 | SND | 0.59 |
| -2  | Max | 33 | SLU | 0.98 | -2  | Min. | 15 | SND | 0.57 | -1  | Max | 33 | SLU | 0.98 | -1  | Min. | 13 | SND | 0.58 |
| 1   | Max | 7  | SND | 1.03 | 1   | Min. | 17 | SND | 0.11 | 2   | Max | 33 | SLU | 0.86 | 2   | Min. | 15 | SND | 0.49 |
| 3   | Max | 33 | SLU | 0.89 | 3   | Min. | 13 | SND | 0.51 | 4   | Max | 33 | SLU | 1.05 | 4   | Min. | 9  | SND | 0.62 |
| 5   | Max | 33 | SLU | 1.07 | 5   | Min. | 11 | SND | 0.64 | 6   | Max | 33 | SLU | 1.04 | 6   | Min. | 1  | SND | 0.59 |
| 7   | Max | 19 | SND | 1.10 | 7   | Min. | 5  | SND | 0.21 | 8   | Max | 21 | SND | 1.07 | 8   | Min. | 3  | SND | 0.12 |
| 9   | Max | 33 | SLU | 0.87 | 9   | Min. | 27 | SND | 0.50 | 10  | Max | 33 | SLU | 0.90 | 10  | Min. | 25 | SND | 0.53 |
| 11  | Max | 33 | SLU | 1.10 | 11  | Min. | 29 | SND | 0.65 | 12  | Max | 33 | SLU | 1.12 | 12  | Min. | 31 | SND | 0.66 |
| 13  | Max | 33 | SLU | 1.09 | 13  | Min. | 19 | SND | 0.62 | 14  | Max | 1  | SND | 1.14 | 14  | Min. | 23 | SND | 0.22 |

## Sollecitazioni aste

### Simbologia

Asta=Numero dell'asta

N1 =Nodo1

N2 =Nodo2

X =Coordinata progressiva rispetto al nodo iniziale

N =Sforzo normale

CC =Numero della combinazione delle condizioni di carico elementari

Ty =Taglio in dir. Y

Mz =Momento flettente intorno all'asse Z

Tz =Taglio in dir. Z

My =Momento flettente intorno all'asse Y

Mx =Momento torcente intorno all'asse X

Tipo di combinazione di carico: SND

| Asta | N1   | N2   |      | X<br><cm> | N<br><daN> | CC | Ty<br><daN> | CC | Mz<br><daNm> | CC | Tz<br><daN> | CC | My<br><daNm> | CC | Mx<br><daNm> | CC |
|------|------|------|------|-----------|------------|----|-------------|----|--------------|----|-------------|----|--------------|----|--------------|----|
| 0    | -264 | -298 | Max  | 0.00      | 97.16      | 1  | 18.55       | 13 | -7.04        | 21 | 69.94       | 17 | 0.24         | 15 | 16.06        | 5  |
| 0    | -264 | -298 | Max  | 25.29     |            |    |             |    | -2.83        | 31 |             |    | 7.40         | 31 |              |    |
| 0    | -264 | -298 | Max  | 65.00     | 97.16      | 1  | 18.55       | 13 | 4.45         | 15 | -76.31      | 17 | -8.98        | 29 | 16.06        | 5  |
| 0    | -264 | -298 | Min. | 0.00      | 78.22      | 23 | 14.84       | 27 | -7.75        | 3  | 54.82       | 7  | -10.47       | 25 | 7.66         | 19 |
| 0    | -264 | -298 | Min. | 28.52     |            |    |             |    | -2.90        | 11 |             |    | -0.24        | 11 |              |    |
| 0    | -264 | -298 | Min. | 65.00     | 78.22      | 23 | 14.84       | 27 | 2.47         | 25 | -91.43      | 7  | -15.22       | 11 | 7.66         | 19 |
| 0    | -322 | -353 | Max  | 0.00      | -147.92    | 27 | -6.11       | 17 | 2.67         | 7  | 266.47      | 29 | 17.55        | 5  | 6.29         | 17 |
| 0    | -322 | -353 | Max  | 56.28     |            |    |             |    | -5.85        | 23 |             |    | 44.02        | 23 |              |    |
| 0    | -322 | -353 | Max  | 60.50     | -147.92    | 27 | -6.11       | 17 | -3.90        | 17 | 130.34      | 29 | 96.51        | 29 | 6.29         | 17 |
| 0    | -322 | -353 | Min. | 0.00      | -236.14    | 13 | -15.49      | 7  | -0.20        | 17 | 60.25       | 11 | -27.08       | 19 | -21.82       | 7  |
| 0    | -322 | -353 | Min. | 28.70     |            |    |             |    | -1.42        | 27 |             |    | 21.69        | 27 |              |    |
| 0    | -322 | -353 | Min. | 60.50     | -236.14    | 13 | -15.49      | 7  | -6.70        | 7  | -75.87      | 11 | 9.26         | 11 | -21.82       | 7  |
| 1    | 1    | 201  | Max  | 0.00      | -2178.86   | 25 | 5384.00     | 15 | 9243.33      | 25 | 3328.77     | 3  | 8558.92      | 21 | 143.49       | 15 |
| 1    | 1    | 201  | Max  | 330.00    | -941.36    | 25 | 5384.00     | 15 | 8154.75      | 15 | 3328.77     | 3  | 3770.09      | 3  | 143.49       | 15 |
| 1    | 1    | 201  | Min. | 0.00      | -10144.60  | 15 | -5029.55    | 25 | -9612.45     | 15 | -4891.21    | 21 | -7214.86     | 3  | -143.40      | 25 |
| 1    | 1    | 201  | Min. | 330.00    | -8907.10   | 15 | -5029.55    | 25 | -7354.20     | 25 | -4891.21    | 21 | -7582.08     | 21 | -143.40      | 25 |
| 2    | 2    | 202  | Max  | 0.00      | -9621.48   | 21 | 2305.52     | 15 | 4232.59      | 25 | 1758.83     | 3  | 3059.88      | 21 | 52.28        | 13 |
| 2    | 2    | 202  | Max  | 330.00    | -8878.98   | 21 | 2305.52     | 15 | 2909.59      | 15 | 1758.83     | 3  | 2890.02      | 3  | 52.28        | 13 |
| 2    | 2    | 202  | Min. | 0.00      | -14039.10  | 3  | -1961.23    | 25 | -4698.63     | 15 | -1897.67    | 21 | -2914.13     | 3  | -51.08       | 27 |
| 2    | 2    | 202  | Min. | 330.00    | -13296.60  | 3  | -1961.23    | 25 | -2239.46     | 25 | -1897.67    | 21 | -3202.44     | 21 | -51.08       | 27 |
| 3    | 3    | 203  | Max  | 0.00      | -11564.70  | 25 | 1964.71     | 15 | 3603.25      | 25 | 1618.41     | 3  | 2694.38      | 21 | 50.61        | 13 |

# Relazione di calcolo

|     |     |     |      |        |           |    |          |    |          |    |          |    |          |    |         |    |
|-----|-----|-----|------|--------|-----------|----|----------|----|----------|----|----------|----|----------|----|---------|----|
| 3   | 3   | 203 | Max  | 330.00 | -10822.20 | 25 | 1964.71  | 15 | 2372.61  | 15 | 1618.41  | 3  | 2573.68  | 3  | 50.61   | 13 |
| 3   | 3   | 203 | Min. | 0.00   | -13466.60 | 15 | -1596.83 | 25 | -4110.94 | 15 | -1566.72 | 21 | -2767.08 | 3  | -51.03  | 27 |
| 3   | 3   | 203 | Min. | 330.00 | -12724.10 | 15 | -1596.83 | 25 | -1666.28 | 25 | -1566.72 | 21 | -2475.80 | 21 | -51.03  | 27 |
| 4   | 4   | 204 | Max  | 0.00   | -11506.60 | 25 | 1722.09  | 13 | 3279.70  | 27 | 1679.80  | 3  | 2824.49  | 21 | 51.21   | 15 |
| 4   | 4   | 204 | Max  | 330.00 | -10764.10 | 25 | 1722.09  | 13 | 2091.36  | 13 | 1679.80  | 3  | 2689.30  | 3  | 51.21   | 15 |
| 4   | 4   | 204 | Min. | 0.00   | -13122.60 | 15 | -1423.15 | 27 | -3591.54 | 13 | -1663.48 | 21 | -2854.05 | 3  | -51.18  | 25 |
| 4   | 4   | 204 | Min. | 330.00 | -12380.10 | 15 | -1423.15 | 27 | -1416.70 | 27 | -1663.48 | 21 | -2665.00 | 21 | -51.18  | 25 |
| 5   | 5   | 205 | Max  | 0.00   | -11660.50 | 11 | 1684.32  | 29 | 3181.53  | 11 | 1603.75  | 3  | 2780.44  | 21 | 51.21   | 15 |
| 5   | 5   | 205 | Max  | 330.00 | -10918.00 | 11 | 1684.32  | 29 | 2060.58  | 29 | 1603.75  | 3  | 2523.18  | 3  | 51.21   | 15 |
| 5   | 5   | 205 | Min. | 0.00   | -13385.30 | 29 | -1381.25 | 11 | -3497.68 | 29 | -1622.27 | 21 | -2769.19 | 3  | -51.18  | 25 |
| 5   | 5   | 205 | Min. | 330.00 | -12642.80 | 29 | -1381.25 | 11 | -1376.60 | 11 | -1622.27 | 21 | -2573.06 | 21 | -51.18  | 25 |
| 6   | 6   | 206 | Max  | 0.00   | -9727.25  | 1  | 1730.75  | 29 | 3186.49  | 11 | 1945.63  | 3  | 2926.23  | 21 | 51.21   | 15 |
| 6   | 6   | 206 | Max  | 330.00 | -8984.75  | 1  | 1730.75  | 29 | 2216.42  | 29 | 1945.63  | 3  | 3264.43  | 3  | 51.21   | 15 |
| 6   | 6   | 206 | Min. | 0.00   | -13798.00 | 23 | -1434.62 | 11 | -3495.05 | 29 | -1753.40 | 21 | -3156.13 | 3  | -51.18  | 25 |
| 6   | 6   | 206 | Min. | 330.00 | -13055.50 | 23 | -1434.62 | 11 | -1547.75 | 11 | -1753.40 | 21 | -2859.98 | 21 | -51.18  | 25 |
| 7   | 7   | 207 | Max  | 0.00   | -4283.45  | 11 | 3627.56  | 29 | 5937.63  | 11 | 4793.34  | 3  | 7138.78  | 21 | 143.49  | 15 |
| 7   | 7   | 207 | Max  | 330.00 | -3045.95  | 11 | 3627.56  | 29 | 5589.47  | 29 | 4793.34  | 3  | 7391.31  | 3  | 143.49  | 15 |
| 7   | 7   | 207 | Min. | 0.00   | -10498.50 | 29 | -3197.75 | 11 | -6381.49 | 29 | -3331.93 | 21 | -8426.72 | 3  | -143.40 | 25 |
| 7   | 7   | 207 | Min. | 330.00 | -9260.96  | 29 | -3197.75 | 11 | -4614.95 | 11 | -3331.93 | 21 | -3856.61 | 21 | -143.40 | 25 |
| 8   | 8   | 208 | Max  | 0.00   | -2190.84  | 13 | 5009.28  | 15 | 9552.77  | 25 | 3264.71  | 17 | 8321.90  | 7  | 143.49  | 15 |
| 8   | 8   | 208 | Max  | 330.00 | -953.34   | 13 | 5009.28  | 15 | 7342.16  | 15 | 3264.71  | 17 | 3748.28  | 17 | 143.49  | 15 |
| 8   | 8   | 208 | Min. | 0.00   | -10127.60 | 27 | -5361.98 | 25 | -9188.46 | 15 | -4809.22 | 7  | -7025.25 | 17 | -143.40 | 25 |
| 8   | 8   | 208 | Min. | 330.00 | -8890.14  | 27 | -5361.98 | 25 | -8141.78 | 25 | -4809.22 | 7  | -7548.51 | 7  | -143.40 | 25 |
| 9   | 9   | 209 | Max  | 0.00   | -9634.90  | 7  | 1962.15  | 15 | 4702.78  | 25 | 1762.63  | 17 | 3070.06  | 7  | 51.55   | 15 |
| 9   | 9   | 209 | Max  | 330.00 | -8892.40  | 7  | 1962.14  | 15 | 2241.34  | 15 | 1762.63  | 17 | 2896.21  | 17 | 51.55   | 15 |
| 9   | 9   | 209 | Min. | 0.00   | -14032.60 | 17 | -2307.80 | 25 | -4233.74 | 15 | -1902.92 | 7  | -2920.48 | 17 | -52.62  | 25 |
| 9   | 9   | 209 | Min. | 330.00 | -13290.10 | 17 | -2307.80 | 25 | -2912.97 | 25 | -1902.92 | 7  | -3209.56 | 7  | -52.62  | 25 |
| 10  | 10  | 210 | Max  | 0.00   | -11566.40 | 13 | 1595.25  | 15 | 4113.55  | 25 | 1624.08  | 17 | 2704.36  | 7  | 51.48   | 15 |
| 10  | 10  | 210 | Max  | 330.00 | -10823.90 | 13 | 1595.25  | 15 | 1665.68  | 15 | 1624.08  | 17 | 2583.01  | 17 | 51.48   | 15 |
| 10  | 10  | 210 | Min. | 0.00   | -13464.40 | 27 | -1966.06 | 25 | -3598.63 | 15 | -1573.05 | 7  | -2776.44 | 17 | -50.97  | 25 |
| 10  | 10  | 210 | Min. | 330.00 | -12721.90 | 27 | -1966.06 | 25 | -2374.44 | 25 | -1573.05 | 7  | -2486.71 | 7  | -50.97  | 25 |
| 11  | 11  | 211 | Max  | 0.00   | -11506.20 | 15 | 1421.08  | 15 | 3581.26  | 25 | 1677.28  | 17 | 2815.52  | 7  | 51.21   | 15 |
| 11  | 11  | 211 | Max  | 330.00 | -10763.70 | 15 | 1421.08  | 15 | 1416.30  | 15 | 1677.28  | 17 | 2690.57  | 17 | 51.21   | 15 |
| 11  | 11  | 211 | Min. | 0.00   | -13122.30 | 25 | -1718.60 | 25 | -3273.25 | 15 | -1661.38 | 7  | -2844.45 | 17 | -51.18  | 25 |
| 11  | 11  | 211 | Min. | 330.00 | -12379.80 | 25 | -1718.60 | 25 | -2090.12 | 25 | -1661.38 | 7  | -2667.04 | 7  | -51.18  | 25 |
| 12  | 12  | 212 | Max  | 0.00   | -11662.40 | 31 | 1379.64  | 29 | 3489.46  | 11 | 1602.51  | 17 | 2772.89  | 7  | 51.21   | 15 |
| 12  | 12  | 212 | Max  | 330.00 | -10919.90 | 31 | 1379.64  | 29 | 1376.75  | 29 | 1602.51  | 17 | 2526.39  | 17 | 51.21   | 15 |
| 12  | 12  | 212 | Min. | 0.00   | -13383.20 | 9  | -1681.83 | 11 | -3176.05 | 29 | -1620.95 | 7  | -2761.90 | 17 | -51.18  | 25 |
| 12  | 12  | 212 | Min. | 330.00 | -12640.70 | 9  | -1681.83 | 11 | -2060.59 | 11 | -1620.95 | 7  | -2576.25 | 7  | -51.18  | 25 |
| 13  | 13  | 213 | Max  | 0.00   | -9740.08  | 19 | 1431.84  | 29 | 3484.20  | 11 | 1940.01  | 17 | 2914.47  | 7  | 51.21   | 15 |
| 13  | 13  | 213 | Max  | 330.00 | -8997.58  | 19 | 1431.85  | 29 | 1547.39  | 29 | 1940.00  | 17 | 3260.60  | 17 | 51.21   | 15 |
| 13  | 13  | 213 | Min. | 0.00   | -13788.80 | 5  | -1727.45 | 11 | -3177.70 | 29 | -1749.25 | 7  | -3141.41 | 17 | -51.18  | 25 |
| 13  | 13  | 213 | Min. | 330.00 | -13046.30 | 5  | -1727.45 | 11 | -2216.39 | 11 | -1749.25 | 7  | -2858.05 | 7  | -51.18  | 25 |
| 14  | 14  | 214 | Max  | 0.00   | -4295.74  | 31 | 3184.81  | 29 | 6345.55  | 11 | 4706.88  | 17 | 6940.21  | 7  | 143.49  | 15 |
| 14  | 14  | 214 | Max  | 330.00 | -3058.24  | 31 | 3184.81  | 29 | 4606.46  | 29 | 4706.88  | 17 | 7353.33  | 17 | 143.49  | 15 |
| 14  | 14  | 214 | Min. | 0.00   | -10483.80 | 9  | -3614.89 | 11 | -5903.41 | 29 | -3263.17 | 7  | -8179.38 | 17 | -143.40 | 25 |
| 14  | 14  | 214 | Min. | 330.00 | -9246.28  | 9  | -3614.89 | 11 | -5583.59 | 11 | -3263.17 | 7  | -3828.25 | 7  | -143.40 | 25 |
| 201 | 202 | 201 | Max  | 15.00  | 0.00      | 1  | 0.00     | 1  | 0.00     | 1  | 6971.27  | 3  | -1174.72 | 21 | 565.25  | 15 |
| 201 | 202 | 201 | Max  | 360.86 |           |    |          |    |          |    |          |    | 5367.37  | 3  |         |    |
| 201 | 202 | 201 | Max  | 400.00 | 0.00      | 1  | 0.00     | 1  | 0.00     | 1  | -788.89  | 3  | 5212.99  | 3  | 565.25  | 15 |
| 201 | 202 | 201 | Min. | 15.00  | 0.00      | 1  | 0.00     | 1  | 0.00     | 1  | 2638.24  | 21 | -6688.10 | 3  | -601.92 | 25 |
| 201 | 202 | 201 | Min. | 151.58 |           |    |          |    |          |    |          |    | 549.03   | 23 |         |    |
| 201 | 202 | 201 | Min. | 400.00 | 0.00      | 1  | 0.00     | 1  | 0.00     | 1  | -5121.92 | 21 | -5955.80 | 21 | -601.92 | 25 |
| 201 | 203 | 202 | Max  | 15.00  | 0.00      | 1  | 0.00     | 13 | 0.00     | 9  | 5643.61  | 3  | -3490.75 | 21 | 39.36   | 17 |
| 201 | 203 | 202 | Max  | 265.98 |           |    |          |    |          |    |          |    | 2857.40  | 21 |         |    |
| 201 | 203 | 202 | Max  | 535.00 | 0.00      | 1  | 0.00     | 13 | 0.00     | 13 | -4837.65 | 3  | -3666.29 | 1  | 39.36   | 17 |
| 201 | 203 | 202 | Min. | 15.00  | 0.00      | 1  | 0.00     | 9  | 0.00     | 13 | 5058.75  | 21 | -5771.50 | 3  | -45.61  | 7  |
| 201 | 203 | 202 | Min. | 294.99 |           |    |          |    |          |    |          |    | 2129.34  | 3  |         |    |
| 201 | 203 | 202 | Min. | 535.00 | 0.00      | 1  | 0.00     | 9  | 0.00     | 9  | -5422.50 | 21 | -4446.22 | 23 | -45.61  | 7  |
| 201 | 204 | 203 | Max  | 15.00  | 0.00      | 1  | 0.00     | 13 | 0.00     | 13 | 5808.32  | 3  | -2985.17 | 21 | 105.09  | 25 |
| 201 | 204 | 203 | Max  | 303.17 |           |    |          |    |          |    |          |    | 2473.37  | 3  |         |    |
| 201 | 204 | 203 | Max  | 535.00 | 0.00      | 1  | 0.00     | 13 | 0.00     | 13 | -4672.93 | 3  | -2943.39 | 3  | 105.09  | 25 |
| 201 | 204 | 203 | Min. | 15.00  | 0.00      | 1  | 0.00     | 9  | 0.00     | 9  | 4616.12  | 21 | -5895.39 | 3  | -127.15 | 15 |
| 201 | 204 | 203 | Min. | 261.97 |           |    |          |    |          |    |          |    | 2275.50  | 27 |         |    |
| 201 | 204 | 203 | Min. | 535.00 | 0.00      | 1  | 0.00     | 9  | 0.00     | 9  | -5865.13 | 21 | -6232.59 | 21 | -127.15 | 15 |
| 201 | 205 | 204 | Max  | 15.00  | 0.00      | 1  | 0.00     | 1  | 0.00     | 1  | 5871.31  | 3  | -2958.53 | 21 | 135.73  | 25 |
| 201 | 205 | 204 | Max  | 247.08 |           |    |          |    |          |    |          |    | 2469.67  | 21 |         |    |
| 201 | 205 | 204 | Max  | 535.00 | 0.00      | 1  | 0.00     | 1  | 0.00     | 1  | -4609.93 | 3  | -2968.93 | 3  | 135.73  | 25 |
| 201 | 205 | 204 | Min. | 15.00  | 0.00      | 1  | 0.00     | 1  | 0.00     | 1  | 4677.87  | 21 | -6248.51 | 3  | -138.49 | 15 |
| 201 | 205 | 204 | Min. | 284.20 |           |    |          |    |          |    |          |    | 2278.01  | 9  |         |    |
| 201 | 205 | 204 | Min. | 535.00 | 0.00      | 1  | 0.00     | 1  | 0.00     | 1  | -5803.38 | 21 | -5884.87 | 21 | -138.49 | 15 |
| 201 | 206 | 205 | Max  | 15.00  | 0.00      | 1  | 0.00     | 1  | 0.00     | 1  | 5435.60  | 3  | -3606.31 | 21 | 178.13  | 25 |
| 201 | 206 | 205 | Max  | 284.67 |           |    |          |    |          |    |          |    | 2862.88  | 3  |         |    |
| 201 | 206 | 205 | Max  | 535.00 | 0.00      | 1  | 0.00     | 1  | 0.00     | 1  | -5045.65 | 3  | -3452.42 | 3  | 178.13  | 25 |
| 201 | 206 | 205 | Min. | 15.00  | 0.00      | 1  | 0.00     | 1  | 0.00     | 1  | 4821.51  | 21 | -4466.30 | 3  | -173.90 | 15 |
| 201 | 206 | 205 | Min. | 254.21 |           |    |          |    |          |    |          |    | 2160.38  | 21 |         |    |
| 201 | 206 | 205 | Min. | 535.00 | 0.00      | 1  | 0.00     | 1  | 0.00     | 1  | -5659.74 | 21 | -5785.71 | 21 | -173.90 | 15 |
| 201 | 207 | 206 | Max  | 50.00  | 0.00      | 1  | 0.00     | 1  | 0.00     | 1  | 5166.98  | 3  | 4967.78  | 21 | 541.68  | 11 |
| 201 | 207 | 206 | Max  | 93.48  |           |    |          |    |          |    |          |    | 5158.33  | 21 |         |    |

# Relazione di calcolo

|     |     |     |      |        |      |   |      |    |      |    |          |    |          |    |         |    |
|-----|-----|-----|------|--------|------|---|------|----|------|----|----------|----|----------|----|---------|----|
| 201 | 207 | 206 | Max  | 435.00 | 0.00 | 1 | 0.00 | 1  | 0.00 | 1  | -2593.18 | 3  | -1140.92 | 3  | 541.68  | 11 |
| 201 | 207 | 206 | Min. | 50.00  | 0.00 | 1 | 0.00 | 1  | 0.00 | 1  | 876.45   | 21 | -6095.49 | 3  | -510.63 | 29 |
| 201 | 207 | 206 | Min. | 306.35 |      |   |      |    |      |    |          |    | 527.19   | 3  |         |    |
| 201 | 207 | 206 | Min. | 435.00 | 0.00 | 1 | 0.00 | 1  | 0.00 | 1  | -6883.71 | 21 | -6596.22 | 21 | -510.63 | 29 |
| 201 | 217 | 207 | Max  | 0.00   | 0.00 | 1 | 0.00 | 15 | 0.00 | 11 | -177.65  | 11 | 6.43     | 13 | 145.05  | 11 |
| 201 | 217 | 207 | Max  | 50.17  | 0.00 | 1 | 0.00 | 15 | 0.00 | 15 | -1094.76 | 11 | -321.73  | 11 | 145.05  | 11 |
| 201 | 217 | 207 | Min. | 0.00   | 0.00 | 1 | 0.00 | 25 | 0.00 | 29 | -408.24  | 29 | -6.36    | 27 | -460.84 | 29 |
| 201 | 217 | 207 | Min. | 50.17  | 0.00 | 1 | 0.00 | 25 | 0.00 | 25 | -1325.35 | 29 | -432.21  | 29 | -460.84 | 29 |
| 202 | 208 | 209 | Max  | 50.00  | 0.00 | 1 | 0.00 | 1  | 0.00 | 1  | 5108.63  | 7  | 5183.27  | 17 | 605.40  | 13 |
| 202 | 208 | 209 | Max  | 89.57  |      |   |      |    |      |    |          |    | 5341.04  | 17 |         |    |
| 202 | 208 | 209 | Max  | 435.00 | 0.00 | 1 | 0.00 | 1  | 0.00 | 1  | -2651.53 | 7  | -1183.22 | 7  | 605.40  | 13 |
| 202 | 208 | 209 | Min. | 50.00  | 0.00 | 1 | 0.00 | 1  | 0.00 | 1  | 797.50   | 17 | -5913.13 | 7  | -569.27 | 27 |
| 202 | 208 | 209 | Min. | 297.69 |      |   |      |    |      |    |          |    | 557.91   | 5  |         |    |
| 202 | 208 | 209 | Min. | 435.00 | 0.00 | 1 | 0.00 | 1  | 0.00 | 1  | -6962.65 | 17 | -6684.64 | 17 | -569.27 | 27 |
| 202 | 209 | 210 | Max  | 15.00  | 0.00 | 1 | 0.00 | 13 | 0.00 | 9  | 5427.67  | 7  | -3655.06 | 19 | 46.54   | 17 |
| 202 | 209 | 210 | Max  | 284.28 |      |   |      |    |      |    |          |    | 2854.03  | 7  |         |    |
| 202 | 209 | 210 | Max  | 535.00 | 0.00 | 1 | 0.00 | 13 | 0.00 | 13 | -5053.59 | 7  | -3481.16 | 7  | 46.54   | 17 |
| 202 | 209 | 210 | Min. | 15.00  | 0.00 | 1 | 0.00 | 9  | 0.00 | 13 | 4834.07  | 17 | -4463.94 | 5  | -40.85  | 7  |
| 202 | 209 | 210 | Min. | 254.83 |      |   |      |    |      |    |          |    | 2131.54  | 17 |         |    |
| 202 | 209 | 210 | Min. | 535.00 | 0.00 | 1 | 0.00 | 9  | 0.00 | 9  | -5647.19 | 17 | -5779.33 | 17 | -40.85  | 7  |
| 202 | 210 | 211 | Max  | 15.00  | 0.00 | 1 | 0.00 | 13 | 0.00 | 13 | 5865.92  | 7  | -2941.24 | 17 | 128.15  | 25 |
| 202 | 210 | 211 | Max  | 246.81 |      |   |      |    |      |    |          |    | 2474.35  | 17 |         |    |
| 202 | 210 | 211 | Max  | 535.00 | 0.00 | 1 | 0.00 | 13 | 0.00 | 13 | -4615.34 | 7  | -2983.15 | 7  | 128.15  | 25 |
| 202 | 210 | 211 | Min. | 15.00  | 0.00 | 1 | 0.00 | 9  | 0.00 | 9  | 4672.43  | 17 | -6234.65 | 7  | -105.54 | 15 |
| 202 | 210 | 211 | Min. | 288.06 |      |   |      |    |      |    |          |    | 2275.61  | 15 |         |    |
| 202 | 210 | 211 | Min. | 535.00 | 0.00 | 1 | 0.00 | 9  | 0.00 | 9  | -5808.82 | 17 | -5895.86 | 17 | -105.54 | 15 |
| 202 | 211 | 212 | Max  | 15.00  | 0.00 | 1 | 0.00 | 1  | 0.00 | 1  | 5803.01  | 7  | -2968.83 | 17 | 138.43  | 25 |
| 202 | 211 | 212 | Max  | 302.90 |      |   |      |    |      |    |          |    | 2469.11  | 7  |         |    |
| 202 | 211 | 212 | Max  | 535.00 | 0.00 | 1 | 0.00 | 1  | 0.00 | 1  | -4678.24 | 7  | -2959.96 | 7  | 138.43  | 25 |
| 202 | 211 | 212 | Min. | 15.00  | 0.00 | 1 | 0.00 | 1  | 0.00 | 1  | 4610.21  | 17 | -5884.35 | 7  | -135.76 | 15 |
| 202 | 211 | 212 | Min. | 265.82 |      |   |      |    |      |    |          |    | 2278.03  | 29 |         |    |
| 202 | 211 | 212 | Min. | 535.00 | 0.00 | 1 | 0.00 | 1  | 0.00 | 1  | -5871.04 | 17 | -6246.99 | 17 | -135.76 | 15 |
| 202 | 212 | 213 | Max  | 15.00  | 0.00 | 1 | 0.00 | 1  | 0.00 | 1  | 5662.45  | 7  | -3448.27 | 17 | 174.01  | 25 |
| 202 | 212 | 213 | Max  | 265.18 |      |   |      |    |      |    |          |    | 2859.79  | 17 |         |    |
| 202 | 212 | 213 | Max  | 535.00 | 0.00 | 1 | 0.00 | 1  | 0.00 | 1  | -4818.80 | 7  | -3596.29 | 7  | 174.01  | 25 |
| 202 | 212 | 213 | Min. | 15.00  | 0.00 | 1 | 0.00 | 1  | 0.00 | 1  | 5042.75  | 17 | -5789.78 | 7  | -178.35 | 15 |
| 202 | 212 | 213 | Min. | 295.93 |      |   |      |    |      |    |          |    | 2163.92  | 7  |         |    |
| 202 | 212 | 213 | Min. | 535.00 | 0.00 | 1 | 0.00 | 1  | 0.00 | 1  | -5438.50 | 17 | -4477.21 | 17 | -178.35 | 15 |
| 202 | 213 | 214 | Max  | 15.00  | 0.00 | 1 | 0.00 | 1  | 0.00 | 1  | 6871.23  | 7  | -1155.68 | 17 | 512.03  | 9  |
| 202 | 213 | 214 | Max  | 355.90 |      |   |      |    |      |    |          |    | 5127.78  | 7  |         |    |
| 202 | 213 | 214 | Max  | 400.00 | 0.00 | 1 | 0.00 | 1  | 0.00 | 1  | -888.93  | 7  | 4931.76  | 7  | 512.03  | 9  |
| 202 | 213 | 214 | Min. | 15.00  | 0.00 | 1 | 0.00 | 1  | 0.00 | 1  | 2609.13  | 17 | -6584.16 | 7  | -542.89 | 31 |
| 202 | 213 | 214 | Min. | 144.44 |      |   |      |    |      |    |          |    | 533.02   | 17 |         |    |
| 202 | 213 | 214 | Min. | 400.00 | 0.00 | 1 | 0.00 | 1  | 0.00 | 1  | -5151.03 | 17 | -6048.83 | 17 | -542.89 | 31 |
| 202 | 218 | 214 | Max  | 0.00   | 0.00 | 1 | 0.00 | 15 | 0.00 | 11 | -177.70  | 29 | 6.36     | 27 | 460.39  | 11 |
| 202 | 218 | 214 | Max  | 50.17  | 0.00 | 1 | 0.00 | 15 | 0.00 | 15 | -1094.81 | 29 | -321.82  | 29 | 460.39  | 11 |
| 202 | 218 | 214 | Min. | 0.00   | 0.00 | 1 | 0.00 | 25 | 0.00 | 29 | -408.29  | 11 | -6.43    | 13 | -144.32 | 29 |
| 202 | 218 | 214 | Min. | 50.17  | 0.00 | 1 | 0.00 | 25 | 0.00 | 25 | -1325.40 | 11 | -432.30  | 11 | -144.32 | 29 |
| 203 | 215 | 201 | Max  | 0.00   | 0.00 | 1 | 0.00 | 27 | 0.00 | 3  | 0.00     | 15 | 0.00     | 13 | 0.00    | 1  |
| 203 | 215 | 201 | Max  | 35.00  | 0.00 | 1 | 0.00 | 27 | 0.00 | 17 | -32.81   | 1  | -5.74    | 1  | 0.00    | 1  |
| 203 | 215 | 201 | Min. | 0.00   | 0.00 | 1 | 0.00 | 13 | 0.00 | 21 | 0.00     | 9  | 0.00     | 25 | 0.00    | 1  |
| 203 | 215 | 201 | Min. | 35.00  | 0.00 | 1 | 0.00 | 13 | 0.00 | 7  | -32.81   | 1  | -5.74    | 1  | 0.00    | 1  |
| 203 | 201 | 208 | Max  | 15.00  | 0.00 | 1 | 0.00 | 1  | 0.00 | 1  | 4443.08  | 15 | 8770.90  | 25 | 59.28   | 27 |
| 203 | 201 | 208 | Max  | 456.84 |      |   |      |    |      |    |          |    | 1235.79  | 23 |         |    |
| 203 | 201 | 208 | Max  | 510.00 | 0.00 | 1 | 0.00 | 1  | 0.00 | 1  | 2896.21  | 15 | 8756.99  | 15 | 59.28   | 27 |
| 203 | 201 | 208 | Min. | 15.00  | 0.00 | 1 | 0.00 | 1  | 0.00 | 1  | -2896.05 | 25 | -9407.74 | 15 | -58.81  | 13 |
| 203 | 201 | 208 | Min. | 448.05 |      |   |      |    |      |    |          |    | 1167.03  | 19 |         |    |
| 203 | 201 | 208 | Min. | 510.00 | 0.00 | 1 | 0.00 | 1  | 0.00 | 1  | -4442.92 | 25 | -9393.05 | 25 | -58.81  | 13 |
| 203 | 208 | 219 | Max  | 15.00  | 0.00 | 1 | 0.00 | 17 | 0.00 | 29 | 32.81    | 1  | -5.74    | 1  | 0.00    | 1  |
| 203 | 208 | 219 | Max  | 43.00  |      |   |      |    |      |    |          |    | -0.23    | 1  |         |    |
| 203 | 208 | 219 | Max  | 50.00  | 0.00 | 1 | 0.00 | 17 | 0.00 | 17 | 0.00     | 1  | 0.00     | 9  | 0.00    | 1  |
| 203 | 208 | 219 | Min. | 15.00  | 0.00 | 1 | 0.00 | 7  | 0.00 | 11 | 32.81    | 1  | -5.74    | 1  | 0.00    | 1  |
| 203 | 208 | 219 | Min. | 43.00  |      |   |      |    |      |    |          |    | -0.23    | 1  |         |    |
| 203 | 208 | 219 | Min. | 50.00  | 0.00 | 1 | 0.00 | 7  | 0.00 | 7  | 0.00     | 21 | 0.00     | 31 | 0.00    | 1  |
| 204 | 202 | 209 | Max  | 15.00  | 0.00 | 1 | 0.00 | 1  | 0.00 | 5  | 1409.31  | 15 | 2018.48  | 25 | 5.00    | 13 |
| 204 | 202 | 209 | Max  | 443.79 |      |   |      |    |      |    |          |    | 560.78   | 7  |         |    |
| 204 | 202 | 209 | Max  | 510.00 | 0.00 | 1 | 0.00 | 1  | 0.00 | 1  | 481.19   | 15 | 2017.26  | 15 | 5.00    | 13 |
| 204 | 202 | 209 | Min. | 15.00  | 0.00 | 1 | 0.00 | 5  | 0.00 | 1  | -481.54  | 25 | -2661.72 | 15 | -5.14   | 27 |
| 204 | 202 | 209 | Min. | 358.60 |      |   |      |    |      |    |          |    | 338.19   | 19 |         |    |
| 204 | 202 | 209 | Min. | 510.00 | 0.00 | 1 | 0.00 | 5  | 0.00 | 5  | -1409.66 | 25 | -2662.24 | 25 | -5.14   | 27 |
| 205 | 203 | 210 | Max  | 15.00  | 0.00 | 1 | 0.00 | 1  | 0.00 | 5  | 1374.63  | 15 | 1934.72  | 25 | 8.71    | 25 |
| 205 | 203 | 210 | Max  | 100.09 |      |   |      |    |      |    |          |    | 501.49   | 17 |         |    |
| 205 | 203 | 210 | Max  | 510.00 | 0.00 | 1 | 0.00 | 1  | 0.00 | 1  | 446.51   | 15 | 1933.49  | 15 | 8.71    | 25 |
| 205 | 203 | 210 | Min. | 15.00  | 0.00 | 1 | 0.00 | 5  | 0.00 | 1  | -446.90  | 25 | -2573.83 | 15 | -8.59   | 15 |
| 205 | 203 | 210 | Min. | 377.80 |      |   |      |    |      |    |          |    | 378.75   | 19 |         |    |
| 205 | 203 | 210 | Min. | 510.00 | 0.00 | 1 | 0.00 | 5  | 0.00 | 5  | -1375.02 | 25 | -2574.53 | 25 | -8.59   | 15 |
| 206 | 204 | 211 | Max  | 15.00  | 0.00 | 1 | 0.00 | 17 | 0.00 | 21 | 1273.94  | 15 | 1692.10  | 27 | 5.59    | 27 |
| 206 | 204 | 211 | Max  | 132.79 |      |   |      |    |      |    |          |    | 419.66   | 21 |         |    |
| 206 | 204 | 211 | Max  | 510.00 | 0.00 | 1 | 0.00 | 17 | 0.00 | 17 | 345.82   | 15 | 1691.59  | 15 | 5.59    | 27 |

# Relazione di calcolo

|     |     |     |      |        |      |   |      |    |      |    |          |    |          |    |        |    |
|-----|-----|-----|------|--------|------|---|------|----|------|----|----------|----|----------|----|--------|----|
| 206 | 204 | 211 | Min. | 15.00  | 0.00 | 1 | 0.00 | 5  | 0.00 | 1  | -345.71  | 25 | -2317.33 | 13 | -5.56  | 13 |
| 206 | 204 | 211 | Min. | 391.79 |      |   |      |    |      |    |          |    | 418.36   | 19 |        |    |
| 206 | 204 | 211 | Min. | 510.00 | 0.00 | 1 | 0.00 | 5  | 0.00 | 5  | -1273.84 | 25 | -2316.30 | 25 | -5.56  | 13 |
| 207 | 205 | 212 | Max  | 15.00  | 0.00 | 1 | 0.00 | 1  | 0.00 | 5  | 1243.23  | 29 | 1617.11  | 11 | 7.00   | 27 |
| 207 | 205 | 212 | Max  | 121.55 |      |   |      |    |      |    |          |    | 449.08   | 5  |        |    |
| 207 | 205 | 212 | Max  | 510.00 | 0.00 | 1 | 0.00 | 1  | 0.00 | 1  | 315.10   | 29 | 1616.45  | 29 | 7.00   | 27 |
| 207 | 205 | 212 | Min. | 15.00  | 0.00 | 1 | 0.00 | 5  | 0.00 | 1  | -315.04  | 11 | -2240.41 | 29 | -7.02  | 13 |
| 207 | 205 | 212 | Min. | 357.37 |      |   |      |    |      |    |          |    | 346.96   | 7  |        |    |
| 207 | 205 | 212 | Min. | 510.00 | 0.00 | 1 | 0.00 | 5  | 0.00 | 5  | -1243.16 | 11 | -2239.43 | 11 | -7.02  | 13 |
| 208 | 206 | 213 | Max  | 15.00  | 0.00 | 1 | 0.00 | 1  | 0.00 | 5  | 1166.07  | 29 | 1424.95  | 11 | 1.29   | 9  |
| 208 | 206 | 213 | Max  | 120.39 |      |   |      |    |      |    |          |    | 450.77   | 5  |        |    |
| 208 | 206 | 213 | Max  | 510.00 | 0.00 | 1 | 0.00 | 1  | 0.00 | 1  | 237.94   | 29 | 1423.89  | 29 | 1.29   | 9  |
| 208 | 206 | 213 | Min. | 15.00  | 0.00 | 1 | 0.00 | 5  | 0.00 | 1  | -237.92  | 11 | -2051.03 | 29 | -1.26  | 31 |
| 208 | 206 | 213 | Min. | 320.33 |      |   |      |    |      |    |          |    | 292.50   | 7  |        |    |
| 208 | 206 | 213 | Min. | 510.00 | 0.00 | 1 | 0.00 | 5  | 0.00 | 5  | -1166.05 | 11 | -2049.88 | 11 | -1.26  | 31 |
| 209 | 214 | 207 | Max  | 15.00  | 0.00 | 1 | 0.00 | 1  | 0.00 | 1  | 3125.67  | 11 | 5567.26  | 29 | 62.85  | 27 |
| 209 | 214 | 207 | Max  | 188.18 |      |   |      |    |      |    |          |    | 802.08   | 3  |        |    |
| 209 | 214 | 207 | Max  | 510.00 | 0.00 | 1 | 0.00 | 1  | 0.00 | 1  | 1578.79  | 11 | 5577.71  | 11 | 62.85  | 27 |
| 209 | 214 | 207 | Min. | 15.00  | 0.00 | 1 | 0.00 | 1  | 0.00 | 1  | -1578.30 | 29 | -6065.84 | 11 | -63.58 | 13 |
| 209 | 214 | 207 | Min. | 196.68 |      |   |      |    |      |    |          |    | 767.56   | 7  |        |    |
| 209 | 214 | 207 | Min. | 510.00 | 0.00 | 1 | 0.00 | 1  | 0.00 | 1  | -3125.18 | 29 | -6073.85 | 29 | -63.58 | 13 |
| 210 | 216 | 217 | Max  | 0.00   | 0.00 | 1 | 0.00 | 21 | 0.00 | 3  | 0.00     | 25 | 0.00     | 29 | 0.00   | 1  |
| 210 | 216 | 217 | Max  | 50.00  | 0.00 | 1 | 0.00 | 21 | 0.00 | 21 | -46.88   | 1  | -11.72   | 1  | 0.00   | 1  |
| 210 | 216 | 217 | Min. | 0.00   | 0.00 | 1 | 0.00 | 3  | 0.00 | 21 | 0.00     | 13 | 0.00     | 9  | 0.00   | 1  |
| 210 | 216 | 217 | Min. | 50.00  | 0.00 | 1 | 0.00 | 3  | 0.00 | 3  | -46.88   | 1  | -11.72   | 1  | 0.00   | 1  |
| 210 | 217 | 218 | Max  | 0.00   | 0.00 | 1 | 0.00 | 1  | 0.00 | 1  | 361.36   | 29 | 133.33   | 11 | 6.36   | 27 |
| 210 | 217 | 218 | Max  | 139.49 |      |   |      |    |      |    |          |    | 224.54   | 11 |        |    |
| 210 | 217 | 218 | Max  | 525.00 | 0.00 | 1 | 0.00 | 1  | 0.00 | 1  | -130.82  | 29 | 132.60   | 29 | 6.36   | 27 |
| 210 | 217 | 218 | Min. | 0.00   | 0.00 | 1 | 0.00 | 1  | 0.00 | 5  | 130.77   | 11 | -472.56  | 29 | -6.43  | 13 |
| 210 | 217 | 218 | Min. | 271.98 |      |   |      |    |      |    |          |    | 153.19   | 7  |        |    |
| 210 | 217 | 218 | Min. | 525.00 | 0.00 | 1 | 0.00 | 1  | 0.00 | 5  | -361.42  | 11 | -472.11  | 11 | -6.43  | 13 |
| 210 | 218 | 220 | Max  | 0.00   | 0.00 | 1 | 0.00 | 23 | 0.00 | 17 | 46.88    | 1  | -11.72   | 1  | 0.00   | 1  |
| 210 | 218 | 220 | Max  | 40.00  |      |   |      |    |      |    |          |    | -0.47    | 1  |        |    |
| 210 | 218 | 220 | Max  | 50.00  | 0.00 | 1 | 0.00 | 23 | 0.00 | 21 | 0.00     | 5  | 0.00     | 23 | 0.00   | 1  |
| 210 | 218 | 220 | Min. | 0.00   | 0.00 | 1 | 0.00 | 1  | 0.00 | 7  | 46.88    | 1  | -11.72   | 1  | 0.00   | 1  |
| 210 | 218 | 220 | Min. | 40.00  |      |   |      |    |      |    |          |    | -0.47    | 1  |        |    |
| 210 | 218 | 220 | Min. | 50.00  | 0.00 | 1 | 0.00 | 1  | 0.00 | 3  | 0.00     | 17 | 0.00     | 1  | 0.00   | 1  |

Tipo di combinazione di carico: SLD

| Asta | N1   | N2   |      | X<br><cm> | N<br><daN> | CC | Ty<br><daN> | CC | Mz<br><daNm> | CC | Tz<br><daN> | CC | My<br><daNm> | CC | Mx<br><daNm> | CC |
|------|------|------|------|-----------|------------|----|-------------|----|--------------|----|-------------|----|--------------|----|--------------|----|
| 0    | -264 | -298 | Max  | 0.00      | 92.22      | 2  | 17.59       | 14 | -7.22        | 22 | 65.99       | 18 | -2.55        | 16 | 13.87        | 6  |
| 0    | -264 | -298 | Max  | 26.56     |            |    |             |    | -2.79        | 32 |             |    | 5.37         | 32 |              |    |
| 0    | -264 | -298 | Max  | 65.00     | 92.22      | 2  | 17.59       | 14 | 3.94         | 16 | -80.26      | 18 | -10.61       | 30 | 13.87        | 6  |
| 0    | -264 | -298 | Min. | 0.00      | 83.16      | 24 | 15.81       | 28 | -7.56        | 4  | 58.76       | 8  | -7.67        | 26 | 9.85         | 20 |
| 0    | -264 | -298 | Min. | 28.10     |            |    |             |    | -2.82        | 12 |             |    | 1.73         | 12 |              |    |
| 0    | -264 | -298 | Min. | 65.00     | 83.16      | 24 | 15.81       | 28 | 2.99         | 26 | -87.49      | 8  | -13.59       | 12 | 9.85         | 20 |
| 0    | -322 | -353 | Max  | 0.00      | -170.93    | 28 | -8.55       | 18 | 1.92         | 8  | 212.68      | 30 | 5.91         | 6  | -1.04        | 18 |
| 0    | -322 | -353 | Max  | 59.59     |            |    |             |    | -4.58        | 26 |             |    | 38.46        | 26 |              |    |
| 0    | -322 | -353 | Max  | 60.50     | -170.93    | 28 | -8.55       | 18 | -4.63        | 18 | 76.56       | 30 | 73.76        | 30 | -1.04        | 18 |
| 0    | -322 | -353 | Min. | 0.00      | -213.13    | 14 | -13.04      | 8  | 0.55         | 18 | 114.04      | 12 | -15.44       | 20 | -14.49       | 8  |
| 0    | -322 | -353 | Min. | 50.68     |            |    |             |    | -4.02        | 12 |             |    | 33.10        | 12 |              |    |
| 0    | -322 | -353 | Min. | 60.50     | -213.13    | 14 | -13.04      | 8  | -5.97        | 8  | -22.09      | 12 | 32.02        | 12 | -14.49       | 8  |
| 1    | 1    | 201  | Max  | 0.00      | -4256.46   | 26 | 2667.97     | 16 | 4325.43      | 26 | 1184.86     | 4  | 4444.86      | 22 | 68.66        | 16 |
| 1    | 1    | 201  | Max  | 330.00    | -3018.96   | 26 | 2667.97     | 16 | 4109.76      | 16 | 1184.86     | 4  | 809.25       | 4  | 68.66        | 16 |
| 1    | 1    | 201  | Min. | 0.00      | -8067.00   | 16 | -2313.53    | 26 | -4694.55     | 16 | -2747.30    | 22 | -3100.80     | 4  | -68.58       | 26 |
| 1    | 1    | 201  | Min. | 330.00    | -6829.50   | 16 | -2313.53    | 26 | -3309.21     | 26 | -2747.30    | 22 | -4621.25     | 22 | -68.58       | 26 |
| 2    | 2    | 202  | Max  | 0.00      | -10773.70  | 22 | 1192.68     | 16 | 1903.18      | 26 | 805.16      | 4  | 1501.76      | 22 | 25.32        | 14 |
| 2    | 2    | 202  | Max  | 330.00    | -10031.20  | 22 | 1192.68     | 16 | 1566.63      | 16 | 805.16      | 4  | 1301.01      | 4  | 25.32        | 14 |
| 2    | 2    | 202  | Min. | 0.00      | -12886.90  | 4  | -848.39     | 26 | -2369.22     | 16 | -944.00     | 22 | -1356.01     | 4  | -24.12       | 28 |
| 2    | 2    | 202  | Min. | 330.00    | -12144.40  | 4  | -848.39     | 26 | -896.50      | 26 | -943.99     | 22 | -1613.42     | 22 | -24.12       | 28 |
| 3    | 3    | 203  | Max  | 0.00      | -12060.70  | 26 | 1035.80     | 16 | 1591.26      | 26 | 787.67      | 4  | 1269.94      | 22 | 24.10        | 14 |
| 3    | 3    | 203  | Max  | 330.00    | -11318.20  | 26 | 1035.80     | 16 | 1319.20      | 16 | 787.67      | 4  | 1256.69      | 4  | 24.10        | 14 |
| 3    | 3    | 203  | Min. | 0.00      | -12970.60  | 16 | -667.92     | 26 | -2098.95     | 16 | -735.99     | 22 | -1342.64     | 4  | -24.52       | 28 |
| 3    | 3    | 203  | Min. | 330.00    | -12228.10  | 16 | -667.92     | 26 | -612.87      | 26 | -735.99     | 22 | -1158.82     | 22 | -24.52       | 28 |
| 4    | 4    | 204  | Max  | 0.00      | -11928.00  | 26 | 901.76      | 14 | 1487.57      | 28 | 807.82      | 4  | 1343.43      | 22 | 24.51        | 16 |
| 4    | 4    | 204  | Max  | 330.00    | -11185.50  | 26 | 901.76      | 14 | 1176.40      | 14 | 807.82      | 4  | 1292.81      | 4  | 24.51        | 16 |
| 4    | 4    | 204  | Min. | 0.00      | -12701.10  | 16 | -602.82     | 28 | -1799.41     | 14 | -791.50     | 22 | -1373.00     | 4  | -24.48       | 26 |
| 4    | 4    | 204  | Min. | 330.00    | -11958.60  | 16 | -602.82     | 28 | -501.74      | 28 | -791.50     | 22 | -1268.51     | 22 | -24.48       | 26 |
| 5    | 5    | 205  | Max  | 0.00      | -12110.40  | 12 | 884.77      | 30 | 1439.48      | 12 | 762.35      | 4  | 1333.00      | 22 | 24.51        | 16 |
| 5    | 5    | 205  | Max  | 330.00    | -11367.90  | 12 | 884.77      | 30 | 1164.11      | 30 | 762.35      | 4  | 1193.99      | 4  | 24.51        | 16 |
| 5    | 5    | 205  | Min. | 0.00      | -12935.50  | 30 | -581.70     | 12 | -1755.63     | 30 | -780.87     | 22 | -1321.75     | 4  | -24.48       | 26 |
| 5    | 5    | 205  | Min. | 330.00    | -12193.00  | 30 | -581.70     | 12 | -480.13      | 12 | -780.87     | 22 | -1243.88     | 22 | -24.48       | 26 |
| 6    | 6    | 206  | Max  | 0.00      | -10789.00  | 2  | 905.17      | 30 | 1443.83      | 12 | 980.86      | 4  | 1339.85      | 22 | 24.51        | 16 |
| 6    | 6    | 206  | Max  | 330.00    | -10046.50  | 2  | 905.17      | 30 | 1234.66      | 30 | 980.86      | 4  | 1667.09      | 4  | 24.51        | 16 |
| 6    | 6    | 206  | Min. | 0.00      | -12736.30  | 24 | -609.04     | 12 | -1752.40     | 30 | -788.63     | 22 | -1569.75     | 4  | -24.48       | 26 |
| 6    | 6    | 206  | Min. | 330.00    | -11993.80  | 24 | -609.04     | 12 | -565.99      | 12 | -788.63     | 22 | -1262.63     | 22 | -24.48       | 26 |
| 7    | 7    | 207  | Max  | 0.00      | -5904.43   | 12 | 1847.41     | 30 | 2724.60      | 12 | 2674.13     | 4  | 3079.04      | 22 | 68.66        | 16 |

# Relazione di calcolo

|     |     |     |      |        |           |    |          |    |          |    |          |    |          |    |         |    |
|-----|-----|-----|------|--------|-----------|----|----------|----|----------|----|----------|----|----------|----|---------|----|
| 7   | 7   | 207 | Max  | 330.00 | -4666.93  | 12 | 1847.41  | 30 | 2927.99  | 30 | 2674.13  | 4  | 4457.67  | 4  | 68.66   | 16 |
| 7   | 7   | 207 | Min. | 0.00   | -8877.48  | 30 | -1417.60 | 12 | -3168.45 | 30 | -1212.73 | 22 | -4366.98 | 4  | -68.58  | 26 |
| 7   | 7   | 207 | Min. | 330.00 | -7639.98  | 30 | -1417.60 | 12 | -1953.47 | 12 | -1212.73 | 22 | -922.96  | 22 | -68.58  | 26 |
| 8   | 8   | 208 | Max  | 0.00   | -4260.89  | 14 | 2304.28  | 16 | 4664.75  | 26 | 1158.90  | 18 | 4319.11  | 8  | 68.66   | 16 |
| 8   | 8   | 208 | Max  | 330.00 | -3023.39  | 14 | 2304.28  | 16 | 3303.69  | 16 | 1158.89  | 18 | 801.89   | 18 | 68.66   | 16 |
| 8   | 8   | 208 | Min. | 0.00   | -8057.59  | 28 | -2656.99 | 26 | -4300.43 | 16 | -2703.40 | 8  | -3022.46 | 18 | -68.58  | 26 |
| 8   | 8   | 208 | Min. | 330.00 | -6820.09  | 28 | -2656.99 | 26 | -4103.31 | 26 | -2703.40 | 8  | -4602.12 | 8  | -68.58  | 26 |
| 9   | 9   | 209 | Max  | 0.00   | -10781.90 | 8  | 848.47   | 16 | 2371.98  | 26 | 806.60   | 18 | 1507.63  | 8  | 24.38   | 16 |
| 9   | 9   | 209 | Max  | 330.00 | -10039.40 | 8  | 848.47   | 16 | 897.01   | 16 | 806.60   | 18 | 1303.72  | 18 | 24.38   | 16 |
| 9   | 9   | 209 | Min. | 0.00   | -12885.60 | 18 | -1194.13 | 26 | -1902.95 | 16 | -946.88  | 8  | -1358.05 | 18 | -25.45  | 26 |
| 9   | 9   | 209 | Min. | 330.00 | -12143.10 | 18 | -1194.13 | 26 | -1568.64 | 26 | -946.88  | 8  | -1617.08 | 8  | -25.45  | 26 |
| 10  | 10  | 210 | Max  | 0.00   | -12061.40 | 14 | 666.40   | 16 | 2102.09  | 26 | 790.21   | 18 | 1274.88  | 8  | 24.76   | 16 |
| 10  | 10  | 210 | Max  | 330.00 | -11318.90 | 14 | 666.40   | 16 | 611.95   | 16 | 790.21   | 18 | 1260.75  | 18 | 24.76   | 16 |
| 10  | 10  | 210 | Min. | 0.00   | -12969.30 | 28 | -1037.21 | 26 | -1587.16 | 16 | -739.19  | 8  | -1346.95 | 18 | -24.25  | 26 |
| 10  | 10  | 210 | Min. | 330.00 | -12226.80 | 28 | -1037.21 | 26 | -1320.71 | 26 | -739.19  | 8  | -1164.44 | 8  | -24.25  | 26 |
| 11  | 11  | 211 | Max  | 0.00   | -11927.70 | 16 | 602.20   | 16 | 1793.49  | 26 | 806.50   | 18 | 1339.30  | 8  | 24.51   | 16 |
| 11  | 11  | 211 | Max  | 330.00 | -11185.20 | 16 | 602.20   | 16 | 501.77   | 16 | 806.50   | 18 | 1293.22  | 18 | 24.51   | 16 |
| 11  | 11  | 211 | Min. | 0.00   | -12700.80 | 26 | -899.72  | 26 | -1485.48 | 16 | -790.60  | 8  | -1368.23 | 18 | -24.48  | 26 |
| 11  | 11  | 211 | Min. | 330.00 | -11958.30 | 26 | -899.72  | 26 | -1175.59 | 26 | -790.60  | 8  | -1269.69 | 8  | -24.48  | 26 |
| 12  | 12  | 212 | Max  | 0.00   | -12111.30 | 32 | 581.15   | 30 | 1750.98  | 12 | 761.78   | 18 | 1329.33  | 8  | 24.51   | 16 |
| 12  | 12  | 212 | Max  | 330.00 | -11368.80 | 32 | 581.15   | 30 | 480.23   | 30 | 761.78   | 18 | 1195.54  | 18 | 24.51   | 16 |
| 12  | 12  | 212 | Min. | 0.00   | -12934.40 | 10 | -883.35  | 12 | -1437.58 | 30 | -780.22  | 8  | -1318.33 | 18 | -24.48  | 26 |
| 12  | 12  | 212 | Min. | 330.00 | -12191.90 | 10 | -883.35  | 12 | -1164.07 | 12 | -780.22  | 8  | -1245.40 | 8  | -24.48  | 26 |
| 13  | 13  | 213 | Max  | 0.00   | -10796.10 | 20 | 607.85   | 30 | 1746.67  | 12 | 977.79   | 18 | 1335.00  | 8  | 24.51   | 16 |
| 13  | 13  | 213 | Max  | 330.00 | -10053.60 | 20 | 607.85   | 30 | 565.74   | 30 | 977.79   | 18 | 1664.75  | 18 | 24.51   | 16 |
| 13  | 13  | 213 | Min. | 0.00   | -12732.80 | 6  | -903.46  | 12 | -1440.16 | 30 | -787.03  | 8  | -1561.94 | 18 | -24.48  | 26 |
| 13  | 13  | 213 | Min. | 330.00 | -11990.30 | 6  | -903.46  | 12 | -1234.73 | 12 | -787.03  | 8  | -1262.21 | 8  | -24.48  | 26 |
| 14  | 14  | 214 | Max  | 0.00   | -5909.69  | 32 | 1411.33  | 30 | 3150.82  | 12 | 2628.16  | 18 | 2996.77  | 8  | 68.66   | 16 |
| 14  | 14  | 214 | Max  | 330.00 | -4672.19  | 32 | 1411.33  | 30 | 1948.73  | 30 | 2628.16  | 18 | 4436.99  | 18 | 68.66   | 16 |
| 14  | 14  | 214 | Min. | 0.00   | -8869.84  | 10 | -1841.42 | 12 | -2708.68 | 30 | -1184.45 | 8  | -4235.94 | 18 | -68.58  | 26 |
| 14  | 14  | 214 | Min. | 330.00 | -7632.34  | 10 | -1841.42 | 12 | -2925.86 | 12 | -1184.45 | 8  | -911.91  | 8  | -68.58  | 26 |
| 201 | 202 | 201 | Max  | 15.00  | 0.00      | 2  | 0.00     | 2  | 0.00     | 2  | 5841.14  | 4  | -2612.70 | 22 | 260.83  | 16 |
| 201 | 202 | 201 | Max  | 304.79 |           |    |          |    |          |    |          |    | 3213.50  | 4  |         |    |
| 201 | 202 | 201 | Max  | 400.00 | 0.00      | 2  | 0.00     | 2  | 0.00     | 2  | -1919.01 | 4  | 2299.98  | 4  | 260.83  | 16 |
| 201 | 202 | 201 | Min. | 15.00  | 0.00      | 2  | 0.00     | 2  | 0.00     | 2  | 3768.37  | 22 | -5250.12 | 4  | -297.50 | 26 |
| 201 | 202 | 201 | Min. | 201.96 |           |    |          |    |          |    |          |    | 909.92   | 22 |         |    |
| 201 | 202 | 201 | Min. | 400.00 | 0.00      | 2  | 0.00     | 2  | 0.00     | 2  | -3991.79 | 22 | -3042.79 | 22 | -297.50 | 26 |
| 201 | 203 | 202 | Max  | 15.00  | 0.00      | 2  | 0.00     | 14 | 0.00     | 10 | 5491.07  | 4  | -4085.61 | 22 | 17.20   | 18 |
| 201 | 203 | 202 | Max  | 273.55 |           |    |          |    |          |    |          |    | 2651.15  | 22 |         |    |
| 201 | 203 | 202 | Max  | 535.00 | 0.00      | 2  | 0.00     | 14 | 0.00     | 14 | -4990.19 | 4  | -3869.71 | 2  | 17.20   | 18 |
| 201 | 203 | 202 | Min. | 15.00  | 0.00      | 2  | 0.00     | 10 | 0.00     | 14 | 5211.29  | 22 | -5176.64 | 4  | -23.45  | 8  |
| 201 | 203 | 202 | Min. | 287.43 |           |    |          |    |          |    |          |    | 2302.87  | 4  |         |    |
| 201 | 203 | 202 | Min. | 535.00 | 0.00      | 2  | 0.00     | 10 | 0.00     | 10 | -5269.96 | 22 | -4242.80 | 24 | -23.45  | 8  |
| 201 | 204 | 203 | Max  | 15.00  | 0.00      | 2  | 0.00     | 14 | 0.00     | 14 | 5497.37  | 4  | -3744.21 | 22 | 44.52   | 26 |
| 201 | 204 | 203 | Max  | 287.74 |           |    |          |    |          |    |          |    | 2360.36  | 4  |         |    |
| 201 | 204 | 203 | Max  | 535.00 | 0.00      | 2  | 0.00     | 14 | 0.00     | 14 | -4983.88 | 4  | -3801.27 | 4  | 44.52   | 26 |
| 201 | 204 | 203 | Min. | 15.00  | 0.00      | 2  | 0.00     | 10 | 0.00     | 10 | 4927.07  | 22 | -5136.36 | 4  | -66.58  | 16 |
| 201 | 204 | 203 | Min. | 259.44 |           |    |          |    |          |    |          |    | 2277.75  | 22 |         |    |
| 201 | 204 | 203 | Min. | 535.00 | 0.00      | 2  | 0.00     | 10 | 0.00     | 10 | -5554.19 | 22 | -5374.71 | 22 | -66.58  | 16 |
| 201 | 205 | 204 | Max  | 15.00  | 0.00      | 2  | 0.00     | 2  | 0.00     | 2  | 5560.04  | 4  | -3816.61 | 22 | 64.20   | 26 |
| 201 | 205 | 204 | Max  | 262.52 |           |    |          |    |          |    |          |    | 2358.02  | 22 |         |    |
| 201 | 205 | 204 | Max  | 535.00 | 0.00      | 2  | 0.00     | 2  | 0.00     | 2  | -4921.21 | 4  | -3729.46 | 4  | 64.20   | 26 |
| 201 | 205 | 204 | Min. | 15.00  | 0.00      | 2  | 0.00     | 2  | 0.00     | 2  | 4989.14  | 22 | -5390.43 | 4  | -66.97  | 16 |
| 201 | 205 | 204 | Min. | 290.25 |           |    |          |    |          |    |          |    | 2277.03  | 2  |         |    |
| 201 | 205 | 204 | Min. | 535.00 | 0.00      | 2  | 0.00     | 2  | 0.00     | 2  | -5492.11 | 22 | -5124.34 | 22 | -66.97  | 16 |
| 201 | 206 | 205 | Max  | 15.00  | 0.00      | 2  | 0.00     | 2  | 0.00     | 2  | 5275.44  | 4  | -3830.61 | 22 | 86.31   | 26 |
| 201 | 206 | 205 | Max  | 276.73 |           |    |          |    |          |    |          |    | 2661.62  | 4  |         |    |
| 201 | 206 | 205 | Max  | 535.00 | 0.00      | 2  | 0.00     | 2  | 0.00     | 2  | -5205.81 | 4  | -4060.98 | 4  | 86.31   | 26 |
| 201 | 206 | 205 | Min. | 15.00  | 0.00      | 2  | 0.00     | 2  | 0.00     | 2  | 4981.68  | 22 | -4242.00 | 4  | -82.08  | 16 |
| 201 | 206 | 205 | Min. | 262.15 |           |    |          |    |          |    |          |    | 2325.57  | 22 |         |    |
| 201 | 206 | 205 | Min. | 535.00 | 0.00      | 2  | 0.00     | 2  | 0.00     | 2  | -5499.57 | 22 | -5177.15 | 22 | -82.08  | 16 |
| 201 | 207 | 206 | Max  | 50.00  | 0.00      | 2  | 0.00     | 2  | 0.00     | 2  | 4047.94  | 4  | 2082.29  | 22 | 267.22  | 12 |
| 201 | 207 | 206 | Max  | 149.00 |           |    |          |    |          |    |          |    | 3070.07  | 22 |         |    |
| 201 | 207 | 206 | Max  | 435.00 | 0.00      | 2  | 0.00     | 2  | 0.00     | 2  | -3712.22 | 4  | -2563.75 | 4  | 267.22  | 12 |
| 201 | 207 | 206 | Min. | 50.00  | 0.00      | 2  | 0.00     | 2  | 0.00     | 2  | 1995.49  | 22 | -3210.01 | 4  | -236.17 | 30 |
| 201 | 207 | 206 | Min. | 250.83 |           |    |          |    |          |    |          |    | 854.69   | 4  |         |    |
| 201 | 207 | 206 | Min. | 435.00 | 0.00      | 2  | 0.00     | 2  | 0.00     | 2  | -5764.67 | 22 | -5173.38 | 22 | -236.17 | 30 |
| 201 | 217 | 207 | Max  | 0.00   | 0.00      | 2  | 0.00     | 16 | 0.00     | 12 | -237.79  | 12 | 3.09     | 14 | -12.98  | 12 |
| 201 | 217 | 207 | Max  | 50.17  | 0.00      | 2  | 0.00     | 16 | 0.00     | 16 | -1154.90 | 12 | -350.55  | 12 | -12.98  | 12 |
| 201 | 217 | 207 | Min. | 0.00   | 0.00      | 2  | 0.00     | 26 | 0.00     | 30 | -348.10  | 30 | -3.03    | 28 | -302.82 | 30 |
| 201 | 217 | 207 | Min. | 50.17  | 0.00      | 2  | 0.00     | 26 | 0.00     | 26 | -1265.21 | 30 | -403.39  | 30 | -302.82 | 30 |
| 202 | 208 | 209 | Max  | 50.00  | 0.00      | 2  | 0.00     | 2  | 0.00     | 2  | 3984.21  | 8  | 2289.15  | 18 | 299.03  | 14 |
| 202 | 208 | 209 | Max  | 145.35 |           |    |          |    |          |    |          |    | 3205.43  | 18 |         |    |
| 202 | 208 | 209 | Max  | 435.00 | 0.00      | 2  | 0.00     | 2  | 0.00     | 2  | -3775.94 | 8  | -2618.08 | 8  | 299.03  | 14 |
| 202 | 208 | 209 | Min. | 50.00  | 0.00      | 2  | 0.00     | 2  | 0.00     | 2  | 1921.92  | 18 | -3019.00 | 8  | -262.90 | 28 |
| 202 | 208 | 209 | Min. | 247.67 |           |    |          |    |          |    |          |    | 918.73   | 8  |         |    |
| 202 | 208 | 209 | Min. | 435.00 | 0.00      | 2  | 0.00     | 2  | 0.00     | 2  | -5838.24 | 18 | -5249.78 | 18 | -262.90 | 28 |
| 202 | 209 | 210 | Max  | 15.00  | 0.00      | 2  | 0.00     | 14 | 0.00     | 10 | 5272.85  | 8  | -3866.03 | 20 | 23.75   | 18 |
| 202 | 209 | 210 | Max  | 276.60 |           |    |          |    |          |    |          |    | 2648.74  | 8  |         |    |

# Relazione di calcolo

|     |     |     |      |        |      |   |      |    |      |    |          |    |          |    |         |    |
|-----|-----|-----|------|--------|------|---|------|----|------|----|----------|----|----------|----|---------|----|
| 202 | 209 | 210 | Max  | 535.00 | 0.00 | 2 | 0.00 | 14 | 0.00 | 14 | -5208.41 | 8  | -4080.56 | 8  | 23.75   | 18 |
| 202 | 209 | 210 | Min. | 15.00  | 0.00 | 2 | 0.00 | 10 | 0.00 | 14 | 4988.89  | 18 | -4252.97 | 6  | -18.06  | 8  |
| 202 | 209 | 210 | Min. | 262.51 |      |   |      |    |      |    |          |    | 2303.12  | 18 |         |    |
| 202 | 209 | 210 | Min. | 535.00 | 0.00 | 2 | 0.00 | 10 | 0.00 | 10 | -5492.36 | 18 | -5179.93 | 18 | -18.06  | 8  |
| 202 | 210 | 211 | Max  | 15.00  | 0.00 | 2 | 0.00 | 14 | 0.00 | 14 | 5554.63  | 8  | -3800.22 | 18 | 67.20   | 26 |
| 202 | 210 | 211 | Max  | 262.25 |      |   |      |    |      |    |          |    | 2360.99  | 18 |         |    |
| 202 | 210 | 211 | Max  | 535.00 | 0.00 | 2 | 0.00 | 14 | 0.00 | 14 | -4926.62 | 8  | -3742.83 | 8  | 67.20   | 26 |
| 202 | 210 | 211 | Min. | 15.00  | 0.00 | 2 | 0.00 | 10 | 0.00 | 10 | 4983.71  | 18 | -5375.67 | 8  | -44.59  | 16 |
| 202 | 210 | 211 | Min. | 290.58 |      |   |      |    |      |    |          |    | 2278.02  | 8  |         |    |
| 202 | 210 | 211 | Min. | 535.00 | 0.00 | 2 | 0.00 | 10 | 0.00 | 10 | -5497.54 | 18 | -5136.18 | 18 | -44.59  | 16 |
| 202 | 211 | 212 | Max  | 15.00  | 0.00 | 2 | 0.00 | 2  | 0.00 | 2  | 5491.90  | 8  | -3729.24 | 18 | 66.91   | 26 |
| 202 | 211 | 212 | Max  | 287.47 |      |   |      |    |      |    |          |    | 2357.87  | 8  |         |    |
| 202 | 211 | 212 | Max  | 535.00 | 0.00 | 2 | 0.00 | 2  | 0.00 | 2  | -4989.34 | 8  | -3817.27 | 8  | 66.91   | 26 |
| 202 | 211 | 212 | Min. | 15.00  | 0.00 | 2 | 0.00 | 2  | 0.00 | 2  | 4921.31  | 18 | -5123.93 | 8  | -64.25  | 16 |
| 202 | 211 | 212 | Min. | 259.77 |      |   |      |    |      |    |          |    | 2277.40  | 20 |         |    |
| 202 | 211 | 212 | Min. | 535.00 | 0.00 | 2 | 0.00 | 2  | 0.00 | 2  | -5559.94 | 18 | -5389.68 | 18 | -64.25  | 16 |
| 202 | 212 | 213 | Max  | 15.00  | 0.00 | 2 | 0.00 | 2  | 0.00 | 2  | 5500.82  | 8  | -4058.97 | 18 | 82.11   | 26 |
| 202 | 212 | 213 | Max  | 273.20 |      |   |      |    |      |    |          |    | 2659.93  | 18 |         |    |
| 202 | 212 | 213 | Max  | 535.00 | 0.00 | 2 | 0.00 | 2  | 0.00 | 2  | -4980.43 | 8  | -3826.05 | 8  | 82.11   | 26 |
| 202 | 212 | 213 | Min. | 15.00  | 0.00 | 2 | 0.00 | 2  | 0.00 | 2  | 5204.38  | 18 | -5179.08 | 8  | -86.45  | 16 |
| 202 | 212 | 213 | Min. | 287.91 |      |   |      |    |      |    |          |    | 2327.04  | 8  |         |    |
| 202 | 212 | 213 | Min. | 535.00 | 0.00 | 2 | 0.00 | 2  | 0.00 | 2  | -5276.87 | 18 | -4247.45 | 18 | -86.45  | 16 |
| 202 | 213 | 214 | Max  | 15.00  | 0.00 | 2 | 0.00 | 2  | 0.00 | 2  | 5759.60  | 8  | -2571.52 | 18 | 236.89  | 10 |
| 202 | 213 | 214 | Max  | 300.75 |      |   |      |    |      |    |          |    | 3060.64  | 8  |         |    |
| 202 | 213 | 214 | Max  | 400.00 | 0.00 | 2 | 0.00 | 2  | 0.00 | 2  | -2000.56 | 8  | 2067.84  | 8  | 236.89  | 10 |
| 202 | 213 | 214 | Min. | 15.00  | 0.00 | 2 | 0.00 | 2  | 0.00 | 2  | 3720.76  | 18 | -5168.33 | 8  | -267.75 | 32 |
| 202 | 213 | 214 | Min. | 199.60 |      |   |      |    |      |    |          |    | 862.66   | 18 |         |    |
| 202 | 213 | 214 | Min. | 400.00 | 0.00 | 2 | 0.00 | 2  | 0.00 | 2  | -4039.40 | 18 | -3184.91 | 18 | -267.75 | 32 |
| 202 | 218 | 214 | Max  | 0.00   | 0.00 | 2 | 0.00 | 16 | 0.00 | 12 | -237.84  | 30 | 3.03     | 28 | 302.67  | 12 |
| 202 | 218 | 214 | Max  | 50.17  | 0.00 | 2 | 0.00 | 16 | 0.00 | 16 | -1154.95 | 30 | -350.64  | 30 | 302.67  | 12 |
| 202 | 218 | 214 | Min. | 0.00   | 0.00 | 2 | 0.00 | 26 | 0.00 | 30 | -348.15  | 12 | -3.09    | 14 | 13.40   | 30 |
| 202 | 218 | 214 | Min. | 50.17  | 0.00 | 2 | 0.00 | 26 | 0.00 | 26 | -1265.26 | 12 | -403.49  | 12 | 13.40   | 30 |
| 203 | 215 | 201 | Max  | 0.00   | 0.00 | 2 | 0.00 | 28 | 0.00 | 4  | 0.00     | 16 | 0.00     | 14 | 0.00    | 2  |
| 203 | 215 | 201 | Max  | 35.00  | 0.00 | 2 | 0.00 | 28 | 0.00 | 18 | -32.81   | 2  | -5.74    | 2  | 0.00    | 2  |
| 203 | 215 | 201 | Min. | 0.00   | 0.00 | 2 | 0.00 | 14 | 0.00 | 22 | 0.00     | 10 | 0.00     | 26 | 0.00    | 2  |
| 203 | 215 | 201 | Min. | 35.00  | 0.00 | 2 | 0.00 | 14 | 0.00 | 8  | -32.81   | 2  | -5.74    | 2  | 0.00    | 2  |
| 203 | 201 | 208 | Max  | 15.00  | 0.00 | 2 | 0.00 | 2  | 0.00 | 2  | 2528.91  | 16 | 4029.61  | 26 | 28.48   | 28 |
| 203 | 201 | 208 | Max  | 474.67 |      |   |      |    |      |    |          |    | 1344.55  | 8  |         |    |
| 203 | 201 | 208 | Max  | 510.00 | 0.00 | 2 | 0.00 | 2  | 0.00 | 2  | 982.04   | 16 | 4023.16  | 16 | 28.48   | 28 |
| 203 | 201 | 208 | Min. | 15.00  | 0.00 | 2 | 0.00 | 2  | 0.00 | 2  | -981.88  | 26 | -4666.45 | 16 | -28.01  | 14 |
| 203 | 201 | 208 | Min. | 351.28 |      |   |      |    |      |    |          |    | 757.34   | 20 |         |    |
| 203 | 201 | 208 | Min. | 510.00 | 0.00 | 2 | 0.00 | 2  | 0.00 | 2  | -2528.76 | 26 | -4659.22 | 26 | -28.01  | 14 |
| 203 | 208 | 219 | Max  | 15.00  | 0.00 | 2 | 0.00 | 18 | 0.00 | 30 | 32.81    | 2  | -5.74    | 2  | 0.00    | 2  |
| 203 | 208 | 219 | Max  | 43.00  |      |   |      |    |      |    |          |    | -0.23    | 2  |         |    |
| 203 | 208 | 219 | Max  | 50.00  | 0.00 | 2 | 0.00 | 18 | 0.00 | 18 | 0.00     | 2  | 0.00     | 10 | 0.00    | 2  |
| 203 | 208 | 219 | Min. | 15.00  | 0.00 | 2 | 0.00 | 8  | 0.00 | 12 | 32.81    | 2  | -5.74    | 2  | 0.00    | 2  |
| 203 | 208 | 219 | Min. | 43.00  |      |   |      |    |      |    |          |    | -0.23    | 2  |         |    |
| 203 | 208 | 219 | Min. | 50.00  | 0.00 | 2 | 0.00 | 8  | 0.00 | 8  | 0.00     | 22 | 0.00     | 32 | 0.00    | 2  |
| 204 | 202 | 209 | Max  | 15.00  | 0.00 | 2 | 0.00 | 2  | 0.00 | 6  | 916.15   | 16 | 797.80   | 26 | 2.35    | 14 |
| 204 | 202 | 209 | Max  | 21.20  |      |   |      |    |      |    |          |    | 798.16   | 26 |         |    |
| 204 | 202 | 209 | Max  | 510.00 | 0.00 | 2 | 0.00 | 2  | 0.00 | 2  | -11.98   | 16 | 796.76   | 16 | 2.35    | 14 |
| 204 | 202 | 209 | Min. | 15.00  | 0.00 | 2 | 0.00 | 6  | 0.00 | 2  | 11.63    | 26 | -1441.05 | 16 | -2.50   | 28 |
| 204 | 202 | 209 | Min. | 308.42 |      |   |      |    |      |    |          |    | 271.70   | 20 |         |    |
| 204 | 202 | 209 | Min. | 510.00 | 0.00 | 2 | 0.00 | 6  | 0.00 | 6  | -916.50  | 26 | -1441.75 | 26 | -2.50   | 28 |
| 205 | 203 | 210 | Max  | 15.00  | 0.00 | 2 | 0.00 | 2  | 0.00 | 6  | 899.55   | 16 | 758.82   | 26 | 4.20    | 26 |
| 205 | 203 | 210 | Max  | 30.03  |      |   |      |    |      |    |          |    | 760.93   | 26 |         |    |
| 205 | 203 | 210 | Max  | 510.00 | 0.00 | 2 | 0.00 | 2  | 0.00 | 2  | -28.58   | 16 | 757.72   | 16 | 4.20    | 26 |
| 205 | 203 | 210 | Min. | 15.00  | 0.00 | 2 | 0.00 | 6  | 0.00 | 2  | 28.19    | 26 | -1397.92 | 16 | -4.08   | 16 |
| 205 | 203 | 210 | Min. | 317.60 |      |   |      |    |      |    |          |    | 282.65   | 20 |         |    |
| 205 | 203 | 210 | Min. | 510.00 | 0.00 | 2 | 0.00 | 6  | 0.00 | 6  | -899.94  | 26 | -1398.77 | 26 | -4.08   | 16 |
| 206 | 204 | 211 | Max  | 15.00  | 0.00 | 2 | 0.00 | 18 | 0.00 | 22 | 851.51   | 16 | 646.37   | 28 | 2.68    | 28 |
| 206 | 204 | 211 | Max  | 55.92  |      |   |      |    |      |    |          |    | 662.07   | 28 |         |    |
| 206 | 204 | 211 | Max  | 510.00 | 0.00 | 2 | 0.00 | 18 | 0.00 | 18 | -76.62   | 16 | 646.26   | 16 | 2.68    | 28 |
| 206 | 204 | 211 | Min. | 15.00  | 0.00 | 2 | 0.00 | 6  | 0.00 | 2  | 76.72    | 26 | -1271.60 | 14 | -2.65   | 14 |
| 206 | 204 | 211 | Min. | 324.36 |      |   |      |    |      |    |          |    | 297.60   | 20 |         |    |
| 206 | 204 | 211 | Min. | 510.00 | 0.00 | 2 | 0.00 | 6  | 0.00 | 6  | -851.40  | 26 | -1270.98 | 26 | -2.65   | 14 |
| 207 | 205 | 212 | Max  | 15.00  | 0.00 | 2 | 0.00 | 2  | 0.00 | 6  | 836.81   | 30 | 611.00   | 12 | 3.35    | 28 |
| 207 | 205 | 212 | Max  | 63.74  |      |   |      |    |      |    |          |    | 633.27   | 12 |         |    |
| 207 | 205 | 212 | Max  | 510.00 | 0.00 | 2 | 0.00 | 2  | 0.00 | 2  | -91.32   | 30 | 610.78   | 30 | 3.35    | 28 |
| 207 | 205 | 212 | Min. | 15.00  | 0.00 | 2 | 0.00 | 6  | 0.00 | 2  | 91.39    | 12 | -1234.30 | 30 | -3.36   | 14 |
| 207 | 205 | 212 | Min. | 307.89 |      |   |      |    |      |    |          |    | 281.97   | 8  |         |    |
| 207 | 205 | 212 | Min. | 510.00 | 0.00 | 2 | 0.00 | 6  | 0.00 | 6  | -836.74  | 12 | -1233.75 | 12 | -3.36   | 14 |
| 208 | 206 | 213 | Max  | 15.00  | 0.00 | 2 | 0.00 | 2  | 0.00 | 6  | 799.88   | 30 | 518.35   | 12 | 0.63    | 10 |
| 208 | 206 | 213 | Max  | 83.41  |      |   |      |    |      |    |          |    | 562.22   | 12 |         |    |
| 208 | 206 | 213 | Max  | 510.00 | 0.00 | 2 | 0.00 | 2  | 0.00 | 2  | -128.24  | 30 | 517.88   | 30 | 0.63    | 10 |
| 208 | 206 | 213 | Min. | 15.00  | 0.00 | 2 | 0.00 | 6  | 0.00 | 2  | 128.26   | 12 | -1144.44 | 30 | -0.59   | 32 |
| 208 | 206 | 213 | Min. | 290.17 |      |   |      |    |      |    |          |    | 268.38   | 8  |         |    |
| 208 | 206 | 213 | Min. | 510.00 | 0.00 | 2 | 0.00 | 6  | 0.00 | 6  | -799.86  | 12 | -1143.86 | 12 | -0.59   | 32 |
| 209 | 214 | 207 | Max  | 15.00  | 0.00 | 2 | 0.00 | 2  | 0.00 | 2  | 1898.80  | 12 | 2533.15  | 30 | 29.88   | 28 |

## Relazione di calcolo

|     |     |     |      |        |      |   |      |    |      |    |          |    |          |    |         |    |  |  |
|-----|-----|-----|------|--------|------|---|------|----|------|----|----------|----|----------|----|---------|----|--|--|
| 209 | 214 | 207 | Max  | 508.35 |      |   |      |    |      |    |          |    |          |    | 1653.99 | 28 |  |  |
| 209 | 214 | 207 | Max  | 510.00 | 0.00 | 2 | 0.00 | 2  | 0.00 | 2  | 351.92   | 12 | 2538.79  | 12 | 29.88   | 28 |  |  |
| 209 | 214 | 207 | Min. | 15.00  | 0.00 | 2 | 0.00 | 2  | 0.00 | 2  | -351.43  | 30 | -3031.73 | 12 | -30.60  | 14 |  |  |
| 209 | 214 | 207 | Min. | 231.06 |      |   |      |    |      |    |          |    |          |    | 719.79  | 8  |  |  |
| 209 | 214 | 207 | Min. | 510.00 | 0.00 | 2 | 0.00 | 2  | 0.00 | 2  | -1898.30 | 30 | -3034.93 | 30 | -30.60  | 14 |  |  |
| 210 | 216 | 217 | Max  | 0.00   | 0.00 | 2 | 0.00 | 22 | 0.00 | 4  | 0.00     | 26 | 0.00     | 30 | 0.00    | 2  |  |  |
| 210 | 216 | 217 | Max  | 50.00  | 0.00 | 2 | 0.00 | 22 | 0.00 | 22 | -46.88   | 2  | -11.72   | 2  | 0.00    | 2  |  |  |
| 210 | 216 | 217 | Min. | 0.00   | 0.00 | 2 | 0.00 | 4  | 0.00 | 22 | 0.00     | 14 | 0.00     | 10 | 0.00    | 2  |  |  |
| 210 | 216 | 217 | Min. | 50.00  | 0.00 | 2 | 0.00 | 4  | 0.00 | 4  | -46.88   | 2  | -11.72   | 2  | 0.00    | 2  |  |  |
| 210 | 217 | 218 | Max  | 0.00   | 0.00 | 2 | 0.00 | 2  | 0.00 | 2  | 301.22   | 30 | -24.70   | 12 | 3.03    | 28 |  |  |
| 210 | 217 | 218 | Max  | 203.82 |      |   |      |    |      |    |          |    |          |    | 169.74  | 10 |  |  |
| 210 | 217 | 218 | Max  | 525.00 | 0.00 | 2 | 0.00 | 2  | 0.00 | 2  | -190.97  | 30 | -25.12   | 30 | 3.03    | 28 |  |  |
| 210 | 217 | 218 | Min. | 0.00   | 0.00 | 2 | 0.00 | 2  | 0.00 | 6  | 190.91   | 12 | -314.54  | 30 | -3.09   | 14 |  |  |
| 210 | 217 | 218 | Min. | 267.02 |      |   |      |    |      |    |          |    |          |    | 153.15  | 8  |  |  |
| 210 | 217 | 218 | Min. | 525.00 | 0.00 | 2 | 0.00 | 2  | 0.00 | 6  | -301.27  | 12 | -314.39  | 12 | -3.09   | 14 |  |  |
| 210 | 218 | 220 | Max  | 0.00   | 0.00 | 2 | 0.00 | 24 | 0.00 | 18 | 46.88    | 2  | -11.72   | 2  | 0.00    | 2  |  |  |
| 210 | 218 | 220 | Max  | 40.00  |      |   |      |    |      |    |          |    |          |    | -0.47   | 2  |  |  |
| 210 | 218 | 220 | Max  | 50.00  | 0.00 | 2 | 0.00 | 24 | 0.00 | 22 | 0.00     | 6  | 0.00     | 24 | 0.00    | 2  |  |  |
| 210 | 218 | 220 | Min. | 0.00   | 0.00 | 2 | 0.00 | 2  | 0.00 | 8  | 46.88    | 2  | -11.72   | 2  | 0.00    | 2  |  |  |
| 210 | 218 | 220 | Min. | 40.00  |      |   |      |    |      |    |          |    |          |    | -0.47   | 2  |  |  |
| 210 | 218 | 220 | Min. | 50.00  | 0.00 | 2 | 0.00 | 2  | 0.00 | 4  | 0.00     | 18 | 0.00     | 2  | 0.00    | 2  |  |  |

Tipo di combinazione di carico: SLU

| Asta | N1   | N2   |      | X<br><cm> | N<br><daN> | CC | Ty<br><daN> | CC | Mz<br><daNm> | CC | Tz<br><daN> | CC | My<br><daNm> | CC | Mx<br><daNm> | CC |
|------|------|------|------|-----------|------------|----|-------------|----|--------------|----|-------------|----|--------------|----|--------------|----|
| 0    | -264 | -298 | Max  | 0.00      | 129.01     | 33 | 20.32       | 33 | -9.15        | 33 | 82.39       | 33 | -8.33        | 33 | 17.95        | 33 |
| 0    | -264 | -298 | Max  | 28.17     |            |    |             |    | -3.42        | 33 |             |    | 3.27         | 33 |              |    |
| 0    | -264 | -298 | Max  | 65.00     | 129.01     | 33 | 20.32       | 33 | 4.06         | 33 | -107.74     | 33 | -16.57       | 33 | 17.95        | 33 |
| 0    | -264 | -298 | Min. | 0.00      | 129.01     | 33 | 20.32       | 33 | -9.15        | 33 | 82.39       | 33 | -8.33        | 33 | 17.95        | 33 |
| 0    | -264 | -298 | Min. | 28.17     |            |    |             |    | -3.42        | 33 |             |    | 3.27         | 33 |              |    |
| 0    | -264 | -298 | Min. | 65.00     | 129.01     | 33 | 20.32       | 33 | 4.06         | 33 | -107.74     | 33 | -16.57       | 33 | 17.95        | 33 |
| 0    | -322 | -353 | Max  | 0.00      | -281.45    | 33 | -18.16      | 33 | 2.92         | 33 | 232.29      | 33 | -6.50        | 33 | -12.09       | 33 |
| 0    | -322 | -353 | Max  | 60.50     | -281.45    | 33 | -18.16      | 33 | -8.06        | 33 | 55.33       | 33 | 80.50        | 33 | -12.09       | 33 |
| 0    | -322 | -353 | Min. | 0.00      | -281.45    | 33 | -18.16      | 33 | 2.92         | 33 | 232.29      | 33 | -6.50        | 33 | -12.09       | 33 |
| 0    | -322 | -353 | Min. | 60.50     | -281.45    | 33 | -18.16      | 33 | -8.06        | 33 | 55.33       | 33 | 80.50        | 33 | -12.09       | 33 |
| 1    | 1    | 201  | Max  | 0.00      | -9108.88   | 33 | 228.26      | 33 | -235.41      | 33 | -1241.16    | 33 | 1079.85      | 33 | 0.05         | 33 |
| 1    | 1    | 201  | Max  | 330.00    | -7500.13   | 33 | 228.26      | 33 | 517.85       | 33 | -1241.16    | 33 | -3015.99     | 33 | 0.05         | 33 |
| 1    | 1    | 201  | Min. | 0.00      | -9108.88   | 33 | 228.26      | 33 | -235.41      | 33 | -1241.16    | 33 | 1079.85      | 33 | 0.05         | 33 |
| 1    | 1    | 201  | Min. | 330.00    | -7500.13   | 33 | 228.26      | 33 | 517.85       | 33 | -1241.16    | 33 | -3015.99     | 33 | 0.05         | 33 |
| 2    | 2    | 202  | Max  | 0.00      | -18282.50  | 33 | 229.54      | 33 | -319.82      | 33 | -111.96     | 33 | 118.75       | 33 | 0.92         | 33 |
| 2    | 2    | 202  | Max  | 330.00    | -17317.20  | 33 | 229.54      | 33 | 437.67       | 33 | -111.96     | 33 | -250.72      | 33 | 0.92         | 33 |
| 2    | 2    | 202  | Min. | 0.00      | -18282.50  | 33 | 229.54      | 33 | -319.82      | 33 | -111.96     | 33 | 118.75       | 33 | 0.92         | 33 |
| 2    | 2    | 202  | Min. | 330.00    | -17317.20  | 33 | 229.54      | 33 | 437.67       | 33 | -111.96     | 33 | -250.72      | 33 | 0.92         | 33 |
| 3    | 3    | 203  | Max  | 0.00      | -19368.30  | 33 | 246.29      | 33 | -350.76      | 33 | 39.72       | 33 | -55.35       | 33 | -0.33        | 33 |
| 3    | 3    | 203  | Max  | 330.00    | -18403.10  | 33 | 246.29      | 33 | 461.99       | 33 | 39.72       | 33 | 75.74        | 33 | -0.33        | 33 |
| 3    | 3    | 203  | Min. | 0.00      | -19368.30  | 33 | 246.29      | 33 | -350.76      | 33 | 39.72       | 33 | -55.35       | 33 | -0.33        | 33 |
| 3    | 3    | 203  | Min. | 330.00    | -18403.10  | 33 | 246.29      | 33 | 461.99       | 33 | 39.72       | 33 | 75.74        | 33 | -0.33        | 33 |
| 4    | 4    | 204  | Max  | 0.00      | -19051.90  | 33 | 191.78      | 33 | -196.37      | 33 | 11.55       | 33 | -20.91       | 33 | 0.02         | 33 |
| 4    | 4    | 204  | Max  | 330.00    | -18086.70  | 33 | 191.78      | 33 | 436.51       | 33 | 11.55       | 33 | 17.21        | 33 | 0.02         | 33 |
| 4    | 4    | 204  | Min. | 0.00      | -19051.90  | 33 | 191.78      | 33 | -196.37      | 33 | 11.55       | 33 | -20.91       | 33 | 0.02         | 33 |
| 4    | 4    | 204  | Min. | 330.00    | -18086.70  | 33 | 191.78      | 33 | 436.51       | 33 | 11.55       | 33 | 17.21        | 33 | 0.02         | 33 |
| 5    | 5    | 205  | Max  | 0.00      | -19378.70  | 33 | 195.09      | 33 | -199.77      | 33 | -15.96      | 33 | 11.21        | 33 | 0.02         | 33 |
| 5    | 5    | 205  | Max  | 330.00    | -18413.40  | 33 | 195.09      | 33 | 444.04       | 33 | -15.96      | 33 | -41.48       | 33 | 0.02         | 33 |
| 5    | 5    | 205  | Min. | 0.00      | -19378.70  | 33 | 195.09      | 33 | -199.77      | 33 | -15.96      | 33 | 11.21        | 33 | 0.02         | 33 |
| 5    | 5    | 205  | Min. | 330.00    | -18413.40  | 33 | 195.09      | 33 | 444.04       | 33 | -15.96      | 33 | -41.48       | 33 | 0.02         | 33 |
| 6    | 6    | 206  | Max  | 0.00      | -18186.90  | 33 | 190.62      | 33 | -195.02      | 33 | 149.78      | 33 | -178.43      | 33 | 0.02         | 33 |
| 6    | 6    | 206  | Max  | 330.00    | -17221.60  | 33 | 190.62      | 33 | 434.03       | 33 | 149.78      | 33 | 315.83       | 33 | 0.02         | 33 |
| 6    | 6    | 206  | Min. | 0.00      | -18186.90  | 33 | 190.62      | 33 | -195.02      | 33 | 149.78      | 33 | -178.43      | 33 | 0.02         | 33 |
| 6    | 6    | 206  | Min. | 330.00    | -17221.60  | 33 | 190.62      | 33 | 434.03       | 33 | 149.78      | 33 | 315.83       | 33 | 0.02         | 33 |
| 7    | 7    | 207  | Max  | 0.00      | -10894.80  | 33 | 277.79      | 33 | -284.12      | 33 | 1168.92     | 33 | -1039.05     | 33 | 0.05         | 33 |
| 7    | 7    | 207  | Max  | 330.00    | -9286.08   | 33 | 277.79      | 33 | 632.60       | 33 | 1168.92     | 33 | 2818.40      | 33 | 0.05         | 33 |
| 7    | 7    | 207  | Min. | 0.00      | -10894.80  | 33 | 277.79      | 33 | -284.12      | 33 | 1168.92     | 33 | -1039.05     | 33 | 0.05         | 33 |
| 7    | 7    | 207  | Min. | 330.00    | -9286.08   | 33 | 277.79      | 33 | 632.60       | 33 | 1168.92     | 33 | 2818.40      | 33 | 0.05         | 33 |
| 8    | 8    | 208  | Max  | 0.00      | -9104.83   | 33 | -227.71     | 33 | 233.23       | 33 | -1226.43    | 33 | 1041.66      | 33 | 0.05         | 33 |
| 8    | 8    | 208  | Max  | 330.00    | -7496.09   | 33 | -227.71     | 33 | -518.21      | 33 | -1226.43    | 33 | -3005.55     | 33 | 0.05         | 33 |
| 8    | 8    | 208  | Min. | 0.00      | -9104.83   | 33 | -227.71     | 33 | 233.23       | 33 | -1226.43    | 33 | 1041.66      | 33 | 0.05         | 33 |
| 8    | 8    | 208  | Min. | 330.00    | -7496.09   | 33 | -227.71     | 33 | -518.21      | 33 | -1226.43    | 33 | -3005.55     | 33 | 0.05         | 33 |
| 9    | 9    | 209  | Max  | 0.00      | -18288.30  | 33 | -230.19     | 33 | 320.71       | 33 | -112.58     | 33 | 120.85       | 33 | -0.81        | 33 |
| 9    | 9    | 209  | Max  | 330.00    | -17323.00  | 33 | -230.19     | 33 | -438.93      | 33 | -112.58     | 33 | -250.65      | 33 | -0.81        | 33 |
| 9    | 9    | 209  | Min. | 0.00      | -18288.30  | 33 | -230.19     | 33 | 320.71       | 33 | -112.58     | 33 | 120.85       | 33 | -0.81        | 33 |
| 9    | 9    | 209  | Min. | 330.00    | -17323.00  | 33 | -230.19     | 33 | -438.93      | 33 | -112.58     | 33 | -250.65      | 33 | -0.81        | 33 |
| 10   | 10   | 210  | Max  | 0.00      | -19368.60  | 33 | -247.59     | 33 | 353.43       | 33 | 39.05       | 33 | -54.65       | 33 | 0.39         | 33 |
| 10   | 10   | 210  | Max  | 330.00    | -18403.40  | 33 | -247.59     | 33 | -463.63      | 33 | 39.05       | 33 | 74.22        | 33 | 0.39         | 33 |
| 10   | 10   | 210  | Min. | 0.00      | -19368.60  | 33 | -247.59     | 33 | 353.43       | 33 | 39.05       | 33 | -54.65       | 33 | 0.39         | 33 |
| 10   | 10   | 210  | Min. | 330.00    | -18403.40  | 33 | -247.59     | 33 | -463.63      | 33 | 39.05       | 33 | 74.22        | 33 | 0.39         | 33 |
| 11   | 11   | 211  | Max  | 0.00      | -19050.70  | 33 | -190.84     | 33 | 193.66       | 33 | 11.18       | 33 | -20.48       | 33 | 0.02         | 33 |
| 11   | 11   | 211  | Max  | 330.00    | -18085.40  | 33 | -190.84     | 33 | -436.11      | 33 | 11.18       | 33 | 16.40        | 33 | 0.02         | 33 |
| 11   | 11   | 211  | Min. | 0.00      | -19050.70  | 33 | -190.84     | 33 | 193.66       | 33 | 11.18       | 33 | -20.48       | 33 | 0.02         | 33 |

# Relazione di calcolo

|     |     |     |      |        |           |    |         |    |         |    |          |    |          |    |         |    |
|-----|-----|-----|------|--------|-----------|----|---------|----|---------|----|----------|----|----------|----|---------|----|
| 11  | 11  | 211 | Min. | 330.00 | -18085.40 | 33 | -190.84 | 33 | -436.11 | 33 | 11.18    | 33 | 16.40    | 33 | 0.02    | 33 |
| 12  | 12  | 212 | Max  | 0.00   | -19378.90 | 33 | -194.49 | 33 | 197.82  | 33 | -15.82   | 33 | 10.89    | 33 | 0.02    | 33 |
| 12  | 12  | 212 | Max  | 330.00 | -18413.60 | 33 | -194.49 | 33 | -443.99 | 33 | -15.82   | 33 | -41.31   | 33 | 0.02    | 33 |
| 12  | 12  | 212 | Min. | 0.00   | -19378.90 | 33 | -194.49 | 33 | 197.82  | 33 | -15.82   | 33 | 10.89    | 33 | 0.02    | 33 |
| 12  | 12  | 212 | Min. | 330.00 | -18413.60 | 33 | -194.49 | 33 | -443.99 | 33 | -15.82   | 33 | -41.31   | 33 | 0.02    | 33 |
| 13  | 13  | 213 | Max  | 0.00   | -18189.50 | 33 | -190.25 | 33 | 193.52  | 33 | 148.69   | 33 | -176.22  | 33 | 0.02    | 33 |
| 13  | 13  | 213 | Max  | 330.00 | -17224.30 | 33 | -190.25 | 33 | -434.29 | 33 | 148.69   | 33 | 314.44   | 33 | 0.02    | 33 |
| 13  | 13  | 213 | Min. | 0.00   | -18189.50 | 33 | -190.25 | 33 | 193.52  | 33 | 148.69   | 33 | -176.22  | 33 | 0.02    | 33 |
| 13  | 13  | 213 | Min. | 330.00 | -17224.30 | 33 | -190.25 | 33 | -434.29 | 33 | 148.69   | 33 | 314.44   | 33 | 0.02    | 33 |
| 14  | 14  | 214 | Max  | 0.00   | -10893.20 | 33 | -278.32 | 33 | 283.54  | 33 | 1155.02  | 33 | -1000.49 | 33 | 0.05    | 33 |
| 14  | 14  | 214 | Max  | 330.00 | -9284.46  | 33 | -278.32 | 33 | -634.90 | 33 | 1155.02  | 33 | 2811.08  | 33 | 0.05    | 33 |
| 14  | 14  | 214 | Min. | 0.00   | -10893.20 | 33 | -278.32 | 33 | 283.54  | 33 | 1155.02  | 33 | -1000.49 | 33 | 0.05    | 33 |
| 14  | 14  | 214 | Min. | 330.00 | -9284.46  | 33 | -278.32 | 33 | -634.90 | 33 | 1155.02  | 33 | 2811.08  | 33 | 0.05    | 33 |
| 201 | 202 | 201 | Max  | 15.00  | 0.00      | 33 | 0.00    | 33 | 0.00    | 33 | 7567.07  | 33 | -6188.42 | 33 | -21.11  | 33 |
| 201 | 202 | 201 | Max  | 253.22 |           |    |         |    |         |    |          |    | 2824.54  | 33 |         |    |
| 201 | 202 | 201 | Max  | 400.00 | 0.00      | 33 | 0.00    | 33 | 0.00    | 33 | -4662.70 | 33 | -597.52  | 33 | -21.11  | 33 |
| 201 | 202 | 201 | Min. | 15.00  | 0.00      | 33 | 0.00    | 33 | 0.00    | 33 | 7567.07  | 33 | -6188.42 | 33 | -21.11  | 33 |
| 201 | 202 | 201 | Min. | 253.22 |           |    |         |    |         |    |          |    | 2824.54  | 33 |         |    |
| 201 | 202 | 201 | Min. | 400.00 | 0.00      | 33 | 0.00    | 33 | 0.00    | 33 | -4662.70 | 33 | -597.52  | 33 | -21.11  | 33 |
| 201 | 203 | 202 | Max  | 15.00  | 0.00      | 33 | 0.00    | 33 | 0.00    | 33 | 8433.60  | 33 | -7297.23 | 33 | -3.69   | 33 |
| 201 | 203 | 202 | Max  | 280.49 |           |    |         |    |         |    |          |    | 3898.14  | 33 |         |    |
| 201 | 203 | 202 | Max  | 535.00 | 0.00      | 33 | 0.00    | 33 | 0.00    | 33 | -8084.53 | 33 | -6389.67 | 33 | -3.69   | 33 |
| 201 | 203 | 202 | Min. | 15.00  | 0.00      | 33 | 0.00    | 33 | 0.00    | 33 | 8433.60  | 33 | -7297.23 | 33 | -3.69   | 33 |
| 201 | 203 | 202 | Min. | 280.49 |           |    |         |    |         |    |          |    | 3898.14  | 33 |         |    |
| 201 | 203 | 202 | Min. | 535.00 | 0.00      | 33 | 0.00    | 33 | 0.00    | 33 | -8084.53 | 33 | -6389.67 | 33 | -3.69   | 33 |
| 201 | 204 | 203 | Max  | 15.00  | 0.00      | 33 | 0.00    | 33 | 0.00    | 33 | 8214.27  | 33 | -6998.00 | 33 | -17.20  | 33 |
| 201 | 204 | 203 | Max  | 273.59 |           |    |         |    |         |    |          |    | 3622.65  | 33 |         |    |
| 201 | 204 | 203 | Max  | 535.00 | 0.00      | 33 | 0.00    | 33 | 0.00    | 33 | -8303.86 | 33 | -7230.92 | 33 | -17.20  | 33 |
| 201 | 204 | 203 | Min. | 15.00  | 0.00      | 33 | 0.00    | 33 | 0.00    | 33 | 8214.27  | 33 | -6998.00 | 33 | -17.20  | 33 |
| 201 | 204 | 203 | Min. | 273.59 |           |    |         |    |         |    |          |    | 3622.65  | 33 |         |    |
| 201 | 204 | 203 | Min. | 535.00 | 0.00      | 33 | 0.00    | 33 | 0.00    | 33 | -8303.86 | 33 | -7230.92 | 33 | -17.20  | 33 |
| 201 | 205 | 204 | Max  | 15.00  | 0.00      | 33 | 0.00    | 33 | 0.00    | 33 | 8311.77  | 33 | -7253.11 | 33 | -2.23   | 33 |
| 201 | 205 | 204 | Max  | 276.66 |           |    |         |    |         |    |          |    | 3621.15  | 33 |         |    |
| 201 | 205 | 204 | Max  | 535.00 | 0.00      | 33 | 0.00    | 33 | 0.00    | 33 | -8206.35 | 33 | -6979.03 | 33 | -2.23   | 33 |
| 201 | 205 | 204 | Min. | 15.00  | 0.00      | 33 | 0.00    | 33 | 0.00    | 33 | 8311.77  | 33 | -7253.11 | 33 | -2.23   | 33 |
| 201 | 205 | 204 | Min. | 276.66 |           |    |         |    |         |    |          |    | 3621.15  | 33 |         |    |
| 201 | 205 | 204 | Min. | 535.00 | 0.00      | 33 | 0.00    | 33 | 0.00    | 33 | -8206.35 | 33 | -6979.03 | 33 | -2.23   | 33 |
| 201 | 206 | 205 | Max  | 15.00  | 0.00      | 33 | 0.00    | 33 | 0.00    | 33 | 8082.45  | 33 | -6361.58 | 33 | 2.80    | 33 |
| 201 | 206 | 205 | Max  | 269.44 |           |    |         |    |         |    |          |    | 3920.91  | 33 |         |    |
| 201 | 206 | 205 | Max  | 535.00 | 0.00      | 33 | 0.00    | 33 | 0.00    | 33 | -8435.68 | 33 | -7279.99 | 33 | 2.80    | 33 |
| 201 | 206 | 205 | Min. | 15.00  | 0.00      | 33 | 0.00    | 33 | 0.00    | 33 | 8082.45  | 33 | -6361.58 | 33 | 2.80    | 33 |
| 201 | 206 | 205 | Min. | 269.44 |           |    |         |    |         |    |          |    | 3920.91  | 33 |         |    |
| 201 | 206 | 205 | Min. | 535.00 | 0.00      | 33 | 0.00    | 33 | 0.00    | 33 | -8435.68 | 33 | -7279.99 | 33 | 2.80    | 33 |
| 201 | 207 | 206 | Max  | 50.00  | 0.00      | 33 | 0.00    | 33 | 0.00    | 33 | 4756.53  | 33 | -870.02  | 33 | 20.80   | 33 |
| 201 | 207 | 206 | Max  | 199.74 |           |    |         |    |         |    |          |    | 2691.15  | 33 |         |    |
| 201 | 207 | 206 | Max  | 435.00 | 0.00      | 33 | 0.00    | 33 | 0.00    | 33 | -7473.24 | 33 | -6099.69 | 33 | 20.80   | 33 |
| 201 | 207 | 206 | Min. | 50.00  | 0.00      | 33 | 0.00    | 33 | 0.00    | 33 | 4756.53  | 33 | -870.02  | 33 | 20.80   | 33 |
| 201 | 207 | 206 | Min. | 199.74 |           |    |         |    |         |    |          |    | 2691.15  | 33 |         |    |
| 201 | 207 | 206 | Min. | 435.00 | 0.00      | 33 | 0.00    | 33 | 0.00    | 33 | -7473.24 | 33 | -6099.69 | 33 | 20.80   | 33 |
| 201 | 217 | 207 | Max  | 0.00   | 0.00      | 33 | 0.00    | 33 | 0.00    | 33 | -380.81  | 33 | 0.05     | 33 | -205.15 | 33 |
| 201 | 217 | 207 | Max  | 50.17  | 0.00      | 33 | 0.00    | 33 | 0.00    | 33 | -1753.34 | 33 | -535.27  | 33 | -205.15 | 33 |
| 201 | 217 | 207 | Min. | 0.00   | 0.00      | 33 | 0.00    | 33 | 0.00    | 33 | -380.81  | 33 | 0.05     | 33 | -205.15 | 33 |
| 201 | 217 | 207 | Min. | 50.17  | 0.00      | 33 | 0.00    | 33 | 0.00    | 33 | -1753.34 | 33 | -535.27  | 33 | -205.15 | 33 |
| 202 | 208 | 209 | Max  | 50.00  | 0.00      | 33 | 0.00    | 33 | 0.00    | 33 | 4658.52  | 33 | -586.17  | 33 | 20.99   | 33 |
| 202 | 208 | 209 | Max  | 196.65 |           |    |         |    |         |    |          |    | 2829.76  | 33 |         |    |
| 202 | 208 | 209 | Max  | 435.00 | 0.00      | 33 | 0.00    | 33 | 0.00    | 33 | -7571.25 | 33 | -6193.17 | 33 | 20.99   | 33 |
| 202 | 208 | 209 | Min. | 50.00  | 0.00      | 33 | 0.00    | 33 | 0.00    | 33 | 4658.52  | 33 | -586.17  | 33 | 20.99   | 33 |
| 202 | 208 | 209 | Min. | 196.65 |           |    |         |    |         |    |          |    | 2829.76  | 33 |         |    |
| 202 | 208 | 209 | Min. | 435.00 | 0.00      | 33 | 0.00    | 33 | 0.00    | 33 | -7571.25 | 33 | -6193.17 | 33 | 20.99   | 33 |
| 202 | 209 | 210 | Max  | 15.00  | 0.00      | 33 | 0.00    | 33 | 0.00    | 33 | 8085.56  | 33 | -6394.68 | 33 | 3.42    | 33 |
| 202 | 209 | 210 | Max  | 269.54 |           |    |         |    |         |    |          |    | 3895.75  | 33 |         |    |
| 202 | 209 | 210 | Max  | 535.00 | 0.00      | 33 | 0.00    | 33 | 0.00    | 33 | -8432.57 | 33 | -7296.88 | 33 | 3.42    | 33 |
| 202 | 209 | 210 | Min. | 15.00  | 0.00      | 33 | 0.00    | 33 | 0.00    | 33 | 8085.56  | 33 | -6394.68 | 33 | 3.42    | 33 |
| 202 | 209 | 210 | Min. | 269.54 |           |    |         |    |         |    |          |    | 3895.75  | 33 |         |    |
| 202 | 209 | 210 | Min. | 535.00 | 0.00      | 33 | 0.00    | 33 | 0.00    | 33 | -8432.57 | 33 | -7296.88 | 33 | 3.42    | 33 |
| 202 | 210 | 211 | Max  | 15.00  | 0.00      | 33 | 0.00    | 33 | 0.00    | 33 | 8304.57  | 33 | -7232.18 | 33 | 17.28   | 33 |
| 202 | 210 | 211 | Max  | 276.43 |           |    |         |    |         |    |          |    | 3623.24  | 33 |         |    |
| 202 | 210 | 211 | Max  | 535.00 | 0.00      | 33 | 0.00    | 33 | 0.00    | 33 | -8213.56 | 33 | -6995.57 | 33 | 17.28   | 33 |
| 202 | 210 | 211 | Min. | 15.00  | 0.00      | 33 | 0.00    | 33 | 0.00    | 33 | 8304.57  | 33 | -7232.18 | 33 | 17.28   | 33 |
| 202 | 210 | 211 | Min. | 276.43 |           |    |         |    |         |    |          |    | 3623.24  | 33 |         |    |
| 202 | 210 | 211 | Min. | 535.00 | 0.00      | 33 | 0.00    | 33 | 0.00    | 33 | -8213.56 | 33 | -6995.57 | 33 | 17.28   | 33 |
| 202 | 211 | 212 | Max  | 15.00  | 0.00      | 33 | 0.00    | 33 | 0.00    | 33 | 8206.01  | 33 | -6977.56 | 33 | 2.13    | 33 |
| 202 | 211 | 212 | Max  | 273.33 |           |    |         |    |         |    |          |    | 3621.74  | 33 |         |    |
| 202 | 211 | 212 | Max  | 535.00 | 0.00      | 33 | 0.00    | 33 | 0.00    | 33 | -8312.11 | 33 | -7253.40 | 33 | 2.13    | 33 |
| 202 | 211 | 212 | Min. | 15.00  | 0.00      | 33 | 0.00    | 33 | 0.00    | 33 | 8206.01  | 33 | -6977.56 | 33 | 2.13    | 33 |
| 202 | 211 | 212 | Min. | 273.33 |           |    |         |    |         |    |          |    | 3621.74  | 33 |         |    |
| 202 | 211 | 212 | Min. | 535.00 | 0.00      | 33 | 0.00    | 33 | 0.00    | 33 | -8312.11 | 33 | -7253.40 | 33 | 2.13    | 33 |
| 202 | 212 | 213 | Max  | 15.00  | 0.00      | 33 | 0.00    | 33 | 0.00    | 33 | 8435.61  | 33 | -7280.15 | 33 | -2.87   | 33 |
| 202 | 212 | 213 | Max  | 280.56 |           |    |         |    |         |    |          |    | 3920.55  | 33 |         |    |

# Relazione di calcolo

|     |     |     |      |        |      |    |      |    |      |    |          |    |          |    |        |    |
|-----|-----|-----|------|--------|------|----|------|----|------|----|----------|----|----------|----|--------|----|
| 202 | 212 | 213 | Max  | 535.00 | 0.00 | 33 | 0.00 | 33 | 0.00 | 33 | -8082.52 | 33 | -6362.13 | 33 | -2.87  | 33 |
| 202 | 212 | 213 | Min. | 15.00  | 0.00 | 33 | 0.00 | 33 | 0.00 | 33 | 8435.61  | 33 | -7280.15 | 33 | -2.87  | 33 |
| 202 | 212 | 213 | Min. | 280.56 |      |    |      |    |      |    |          |    | 3920.55  | 33 |        |    |
| 202 | 212 | 213 | Min. | 535.00 | 0.00 | 33 | 0.00 | 33 | 0.00 | 33 | -8082.52 | 33 | -6362.13 | 33 | -2.87  | 33 |
| 202 | 213 | 214 | Max  | 15.00  | 0.00 | 33 | 0.00 | 33 | 0.00 | 33 | 7475.84  | 33 | -6101.54 | 33 | -20.63 | 33 |
| 202 | 213 | 214 | Max  | 250.34 |      |    |      |    |      |    |          |    | 2695.41  | 33 |        |    |
| 202 | 213 | 214 | Max  | 400.00 | 0.00 | 33 | 0.00 | 33 | 0.00 | 33 | -4753.93 | 33 | -861.87  | 33 | -20.63 | 33 |
| 202 | 213 | 214 | Min. | 15.00  | 0.00 | 33 | 0.00 | 33 | 0.00 | 33 | 7475.84  | 33 | -6101.54 | 33 | -20.63 | 33 |
| 202 | 213 | 214 | Min. | 250.34 |      |    |      |    |      |    |          |    | 2695.41  | 33 |        |    |
| 202 | 213 | 214 | Min. | 400.00 | 0.00 | 33 | 0.00 | 33 | 0.00 | 33 | -4753.93 | 33 | -861.87  | 33 | -20.63 | 33 |
| 202 | 218 | 214 | Max  | 0.00   | 0.00 | 33 | 0.00 | 33 | 0.00 | 33 | -380.90  | 33 | -0.05    | 33 | 205.38 | 33 |
| 202 | 218 | 214 | Max  | 50.17  | 0.00 | 33 | 0.00 | 33 | 0.00 | 33 | -1753.43 | 33 | -535.41  | 33 | 205.38 | 33 |
| 202 | 218 | 214 | Min. | 0.00   | 0.00 | 33 | 0.00 | 33 | 0.00 | 33 | -380.90  | 33 | -0.05    | 33 | 205.38 | 33 |
| 202 | 218 | 214 | Min. | 50.17  | 0.00 | 33 | 0.00 | 33 | 0.00 | 33 | -1753.43 | 33 | -535.41  | 33 | 205.38 | 33 |
| 203 | 215 | 201 | Max  | 0.00   | 0.00 | 33 | 0.00 | 33 | 0.00 | 33 | 0.00     | 33 | 0.00     | 33 | 0.00   | 33 |
| 203 | 215 | 201 | Max  | 35.00  | 0.00 | 33 | 0.00 | 33 | 0.00 | 33 | -42.66   | 33 | -7.46    | 33 | 0.00   | 33 |
| 203 | 215 | 201 | Min. | 0.00   | 0.00 | 33 | 0.00 | 33 | 0.00 | 33 | 0.00     | 33 | 0.00     | 33 | 0.00   | 33 |
| 203 | 215 | 201 | Min. | 35.00  | 0.00 | 33 | 0.00 | 33 | 0.00 | 33 | -42.66   | 33 | -7.46    | 33 | 0.00   | 33 |
| 203 | 201 | 208 | Max  | 15.00  | 0.00 | 33 | 0.00 | 33 | 0.00 | 33 | 1005.40  | 33 | -413.65  | 33 | 0.34   | 33 |
| 203 | 201 | 208 | Max  | 262.48 |      |    |      |    |      |    |          |    | 830.45   | 33 |        |    |
| 203 | 201 | 208 | Max  | 510.00 | 0.00 | 33 | 0.00 | 33 | 0.00 | 33 | -1005.53 | 33 | -413.98  | 33 | 0.34   | 33 |
| 203 | 201 | 208 | Min. | 15.00  | 0.00 | 33 | 0.00 | 33 | 0.00 | 33 | 1005.40  | 33 | -413.65  | 33 | 0.34   | 33 |
| 203 | 201 | 208 | Min. | 262.48 |      |    |      |    |      |    |          |    | 830.45   | 33 |        |    |
| 203 | 201 | 208 | Min. | 510.00 | 0.00 | 33 | 0.00 | 33 | 0.00 | 33 | -1005.53 | 33 | -413.98  | 33 | 0.34   | 33 |
| 203 | 208 | 219 | Max  | 15.00  | 0.00 | 33 | 0.00 | 33 | 0.00 | 33 | 42.66    | 33 | -7.46    | 33 | 0.00   | 33 |
| 203 | 208 | 219 | Max  | 43.00  |      |    |      |    |      |    |          |    | -0.30    | 33 |        |    |
| 203 | 208 | 219 | Max  | 50.00  | 0.00 | 33 | 0.00 | 33 | 0.00 | 33 | 0.00     | 33 | 0.00     | 33 | 0.00   | 33 |
| 203 | 208 | 219 | Min. | 15.00  | 0.00 | 33 | 0.00 | 33 | 0.00 | 33 | 42.66    | 33 | -7.46    | 33 | 0.00   | 33 |
| 203 | 208 | 219 | Min. | 43.00  |      |    |      |    |      |    |          |    | -0.30    | 33 |        |    |
| 203 | 208 | 219 | Min. | 50.00  | 0.00 | 33 | 0.00 | 33 | 0.00 | 33 | 0.00     | 33 | 0.00     | 33 | 0.00   | 33 |
| 204 | 202 | 209 | Max  | 15.00  | 0.00 | 33 | 0.00 | 33 | 0.00 | 33 | 602.98   | 33 | -419.29  | 33 | -0.14  | 33 |
| 204 | 202 | 209 | Max  | 262.38 |      |    |      |    |      |    |          |    | 326.53   | 33 |        |    |
| 204 | 202 | 209 | Max  | 510.00 | 0.00 | 33 | 0.00 | 33 | 0.00 | 33 | -603.58  | 33 | -420.76  | 33 | -0.14  | 33 |
| 204 | 202 | 209 | Min. | 15.00  | 0.00 | 33 | 0.00 | 33 | 0.00 | 33 | 602.98   | 33 | -419.29  | 33 | -0.14  | 33 |
| 204 | 202 | 209 | Min. | 262.38 |      |    |      |    |      |    |          |    | 326.53   | 33 |        |    |
| 204 | 202 | 209 | Min. | 510.00 | 0.00 | 33 | 0.00 | 33 | 0.00 | 33 | -603.58  | 33 | -420.76  | 33 | -0.14  | 33 |
| 205 | 203 | 210 | Max  | 15.00  | 0.00 | 33 | 0.00 | 33 | 0.00 | 33 | 602.98   | 33 | -416.87  | 33 | 0.11   | 33 |
| 205 | 203 | 210 | Max  | 262.38 |      |    |      |    |      |    |          |    | 328.94   | 33 |        |    |
| 205 | 203 | 210 | Max  | 510.00 | 0.00 | 33 | 0.00 | 33 | 0.00 | 33 | -603.59  | 33 | -418.38  | 33 | 0.11   | 33 |
| 205 | 203 | 210 | Min. | 15.00  | 0.00 | 33 | 0.00 | 33 | 0.00 | 33 | 602.98   | 33 | -416.87  | 33 | 0.11   | 33 |
| 205 | 203 | 210 | Min. | 262.38 |      |    |      |    |      |    |          |    | 328.94   | 33 |        |    |
| 205 | 203 | 210 | Min. | 510.00 | 0.00 | 33 | 0.00 | 33 | 0.00 | 33 | -603.59  | 33 | -418.38  | 33 | 0.11   | 33 |
| 206 | 204 | 211 | Max  | 15.00  | 0.00 | 33 | 0.00 | 33 | 0.00 | 33 | 603.37   | 33 | -406.18  | 33 | 0.05   | 33 |
| 206 | 204 | 211 | Max  | 262.54 |      |    |      |    |      |    |          |    | 340.60   | 33 |        |    |
| 206 | 204 | 211 | Max  | 510.00 | 0.00 | 33 | 0.00 | 33 | 0.00 | 33 | -603.20  | 33 | -405.75  | 33 | 0.05   | 33 |
| 206 | 204 | 211 | Min. | 15.00  | 0.00 | 33 | 0.00 | 33 | 0.00 | 33 | 603.37   | 33 | -406.18  | 33 | 0.05   | 33 |
| 206 | 204 | 211 | Min. | 262.54 |      |    |      |    |      |    |          |    | 340.60   | 33 |        |    |
| 206 | 204 | 211 | Min. | 510.00 | 0.00 | 33 | 0.00 | 33 | 0.00 | 33 | -603.20  | 33 | -405.75  | 33 | 0.05   | 33 |
| 207 | 205 | 212 | Max  | 15.00  | 0.00 | 33 | 0.00 | 33 | 0.00 | 33 | 603.33   | 33 | -404.60  | 33 | -0.02  | 33 |
| 207 | 205 | 212 | Max  | 262.52 |      |    |      |    |      |    |          |    | 342.07   | 33 |        |    |
| 207 | 205 | 212 | Max  | 510.00 | 0.00 | 33 | 0.00 | 33 | 0.00 | 33 | -603.24  | 33 | -404.38  | 33 | -0.02  | 33 |
| 207 | 205 | 212 | Min. | 15.00  | 0.00 | 33 | 0.00 | 33 | 0.00 | 33 | 603.33   | 33 | -404.60  | 33 | -0.02  | 33 |
| 207 | 205 | 212 | Min. | 262.52 |      |    |      |    |      |    |          |    | 342.07   | 33 |        |    |
| 207 | 205 | 212 | Min. | 510.00 | 0.00 | 33 | 0.00 | 33 | 0.00 | 33 | -603.24  | 33 | -404.38  | 33 | -0.02  | 33 |
| 208 | 206 | 213 | Max  | 15.00  | 0.00 | 33 | 0.00 | 33 | 0.00 | 33 | 603.29   | 33 | -406.45  | 33 | 0.02   | 33 |
| 208 | 206 | 213 | Max  | 262.51 |      |    |      |    |      |    |          |    | 340.15   | 33 |        |    |
| 208 | 206 | 213 | Max  | 510.00 | 0.00 | 33 | 0.00 | 33 | 0.00 | 33 | -603.27  | 33 | -406.38  | 33 | 0.02   | 33 |
| 208 | 206 | 213 | Min. | 15.00  | 0.00 | 33 | 0.00 | 33 | 0.00 | 33 | 603.29   | 33 | -406.45  | 33 | 0.02   | 33 |
| 208 | 206 | 213 | Min. | 262.51 |      |    |      |    |      |    |          |    | 340.15   | 33 |        |    |
| 208 | 206 | 213 | Min. | 510.00 | 0.00 | 33 | 0.00 | 33 | 0.00 | 33 | -603.27  | 33 | -406.38  | 33 | 0.02   | 33 |
| 209 | 214 | 207 | Max  | 15.00  | 0.00 | 33 | 0.00 | 33 | 0.00 | 33 | 1005.92  | 33 | -323.01  | 33 | -0.58  | 33 |
| 209 | 214 | 207 | Max  | 262.61 |      |    |      |    |      |    |          |    | 922.37   | 33 |        |    |
| 209 | 214 | 207 | Max  | 510.00 | 0.00 | 33 | 0.00 | 33 | 0.00 | 33 | -1005.02 | 33 | -320.78  | 33 | -0.58  | 33 |
| 209 | 214 | 207 | Min. | 15.00  | 0.00 | 33 | 0.00 | 33 | 0.00 | 33 | 1005.92  | 33 | -323.01  | 33 | -0.58  | 33 |
| 209 | 214 | 207 | Min. | 262.61 |      |    |      |    |      |    |          |    | 922.37   | 33 |        |    |
| 209 | 214 | 207 | Min. | 510.00 | 0.00 | 33 | 0.00 | 33 | 0.00 | 33 | -1005.02 | 33 | -320.78  | 33 | -0.58  | 33 |
| 210 | 216 | 217 | Max  | 0.00   | 0.00 | 33 | 0.00 | 33 | 0.00 | 33 | 0.00     | 33 | 0.00     | 33 | 0.00   | 33 |
| 210 | 216 | 217 | Max  | 50.00  | 0.00 | 33 | 0.00 | 33 | 0.00 | 33 | -60.94   | 33 | -15.23   | 33 | 0.00   | 33 |
| 210 | 216 | 217 | Min. | 0.00   | 0.00 | 33 | 0.00 | 33 | 0.00 | 33 | 0.00     | 33 | 0.00     | 33 | 0.00   | 33 |
| 210 | 216 | 217 | Min. | 50.00  | 0.00 | 33 | 0.00 | 33 | 0.00 | 33 | -60.94   | 33 | -15.23   | 33 | 0.00   | 33 |
| 210 | 217 | 218 | Max  | 0.00   | 0.00 | 33 | 0.00 | 33 | 0.00 | 33 | 319.88   | 33 | -220.38  | 33 | -0.05  | 33 |
| 210 | 217 | 218 | Max  | 262.46 |      |    |      |    |      |    |          |    | 199.40   | 33 |        |    |
| 210 | 217 | 218 | Max  | 525.00 | 0.00 | 33 | 0.00 | 33 | 0.00 | 33 | -319.97  | 33 | -220.62  | 33 | -0.05  | 33 |
| 210 | 217 | 218 | Min. | 0.00   | 0.00 | 33 | 0.00 | 33 | 0.00 | 33 | 319.88   | 33 | -220.38  | 33 | -0.05  | 33 |
| 210 | 217 | 218 | Min. | 262.46 |      |    |      |    |      |    |          |    | 199.40   | 33 |        |    |
| 210 | 217 | 218 | Min. | 525.00 | 0.00 | 33 | 0.00 | 33 | 0.00 | 33 | -319.97  | 33 | -220.62  | 33 | -0.05  | 33 |
| 210 | 218 | 220 | Max  | 0.00   | 0.00 | 33 | 0.00 | 33 | 0.00 | 33 | 60.94    | 33 | -15.23   | 33 | 0.00   | 33 |
| 210 | 218 | 220 | Max  | 40.00  |      |    |      |    |      |    |          |    | -0.61    | 33 |        |    |
| 210 | 218 | 220 | Max  | 50.00  | 0.00 | 33 | 0.00 | 33 | 0.00 | 33 | 0.00     | 33 | 0.00     | 33 | 0.00   | 33 |

# Relazione di calcolo

|     |     |     |      |       |      |    |      |    |      |    |       |    |        |    |      |    |
|-----|-----|-----|------|-------|------|----|------|----|------|----|-------|----|--------|----|------|----|
| 210 | 218 | 220 | Min. | 0.00  | 0.00 | 33 | 0.00 | 33 | 0.00 | 33 | 60.94 | 33 | -15.23 | 33 | 0.00 | 33 |
| 210 | 218 | 220 | Min. | 40.00 |      |    |      |    |      |    |       |    | -0.61  | 33 |      |    |
| 210 | 218 | 220 | Min. | 50.00 | 0.00 | 33 | 0.00 | 33 | 0.00 | 33 | 0.00  | 33 | 0.00   | 33 | 0.00 | 33 |

Tipo di combinazione di carico: SLE R

| Asta | N1   | N2   |      | X<br><cm> | N<br><daN> | CC | Ty<br><daN> | CC | Mz<br><daNm> | CC | Tz<br><daN> | CC | My<br><daNm> | CC | Mx<br><daNm> | CC |
|------|------|------|------|-----------|------------|----|-------------|----|--------------|----|-------------|----|--------------|----|--------------|----|
| 0    | -264 | -298 | Max  | 0.00      | 89.68      | 34 | 15.23       | 34 | -6.83        | 34 | 63.94       | 34 | -6.13        | 34 | 13.01        | 34 |
| 0    | -264 | -298 | Max  | 28.42     |            |    |             |    | -2.50        | 34 |             |    | 2.95         | 34 |              |    |
| 0    | -264 | -298 | Max  | 65.00     | 89.68      | 34 | 15.23       | 34 | 3.07         | 34 | -82.31      | 34 | -12.10       | 34 | 13.01        | 34 |
| 0    | -264 | -298 | Min. | 0.00      | 89.68      | 34 | 15.23       | 34 | -6.83        | 34 | 63.94       | 34 | -6.13        | 34 | 13.01        | 34 |
| 0    | -264 | -298 | Min. | 28.42     |            |    |             |    | -2.50        | 34 |             |    | 2.95         | 34 |              |    |
| 0    | -264 | -298 | Min. | 65.00     | 89.68      | 34 | 15.23       | 34 | 3.07         | 34 | -82.31      | 34 | -12.10       | 34 | 13.01        | 34 |
| 0    | -322 | -353 | Max  | 0.00      | -201.36    | 34 | -13.06      | 34 | 2.00         | 34 | 170.54      | 34 | -4.65        | 34 | -8.82        | 34 |
| 0    | -322 | -353 | Max  | 60.50     | -201.36    | 34 | -13.06      | 34 | -5.91        | 34 | 34.42       | 34 | 57.34        | 34 | -8.82        | 34 |
| 0    | -322 | -353 | Min. | 0.00      | -201.36    | 34 | -13.06      | 34 | 2.00         | 34 | 170.54      | 34 | -4.65        | 34 | -8.82        | 34 |
| 0    | -322 | -353 | Min. | 60.50     | -201.36    | 34 | -13.06      | 34 | -5.91        | 34 | 34.42       | 34 | 57.34        | 34 | -8.82        | 34 |
| 1    | 1    | 201  | Max  | 0.00      | -6729.90   | 34 | 175.73      | 34 | -181.18      | 34 | -898.04     | 34 | 778.52       | 34 | 0.04         | 34 |
| 1    | 1    | 201  | Max  | 330.00    | -5492.40   | 34 | 175.73      | 34 | 398.73       | 34 | -898.04     | 34 | -2185.00     | 34 | 0.04         | 34 |
| 1    | 1    | 201  | Min. | 0.00      | -6729.90   | 34 | 175.73      | 34 | -181.18      | 34 | -898.04     | 34 | 778.52       | 34 | 0.04         | 34 |
| 1    | 1    | 201  | Min. | 330.00    | -5492.40   | 34 | 175.73      | 34 | 398.73       | 34 | -898.04     | 34 | -2185.00     | 34 | 0.04         | 34 |
| 2    | 2    | 202  | Max  | 0.00      | -13330.40  | 34 | 175.00      | 34 | -241.38      | 34 | -80.79      | 34 | 85.48        | 34 | 0.67         | 34 |
| 2    | 2    | 202  | Max  | 330.00    | -12587.90  | 34 | 175.00      | 34 | 336.11       | 34 | -80.79      | 34 | -181.14      | 34 | 0.67         | 34 |
| 2    | 2    | 202  | Min. | 0.00      | -13330.40  | 34 | 175.00      | 34 | -241.38      | 34 | -80.79      | 34 | 85.48        | 34 | 0.67         | 34 |
| 2    | 2    | 202  | Min. | 330.00    | -12587.90  | 34 | 175.00      | 34 | 336.11       | 34 | -80.79      | 34 | -181.14      | 34 | 0.67         | 34 |
| 3    | 3    | 203  | Max  | 0.00      | -14116.80  | 34 | 187.47      | 34 | -264.08      | 34 | 28.97       | 34 | -40.43       | 34 | -0.24        | 34 |
| 3    | 3    | 203  | Max  | 330.00    | -13374.30  | 34 | 187.47      | 34 | 354.56       | 34 | 28.97       | 34 | 55.18        | 34 | -0.24        | 34 |
| 3    | 3    | 203  | Min. | 0.00      | -14116.80  | 34 | 187.47      | 34 | -264.08      | 34 | 28.97       | 34 | -40.43       | 34 | -0.24        | 34 |
| 3    | 3    | 203  | Min. | 330.00    | -13374.30  | 34 | 187.47      | 34 | 354.56       | 34 | 28.97       | 34 | 55.18        | 34 | -0.24        | 34 |
| 4    | 4    | 204  | Max  | 0.00      | -13887.50  | 34 | 148.25      | 34 | -152.90      | 34 | 8.56        | 34 | -15.47       | 34 | 0.01         | 34 |
| 4    | 4    | 204  | Max  | 330.00    | -13145.00  | 34 | 148.25      | 34 | 336.33       | 34 | 8.56        | 34 | 12.77        | 34 | 0.01         | 34 |
| 4    | 4    | 204  | Min. | 0.00      | -13887.50  | 34 | 148.25      | 34 | -152.90      | 34 | 8.56        | 34 | -15.47       | 34 | 0.01         | 34 |
| 4    | 4    | 204  | Min. | 330.00    | -13145.00  | 34 | 148.25      | 34 | 336.33       | 34 | 8.56        | 34 | 12.77        | 34 | 0.01         | 34 |
| 5    | 5    | 205  | Max  | 0.00      | -14124.50  | 34 | 150.62      | 34 | -155.34      | 34 | -11.39      | 34 | 7.80         | 34 | 0.01         | 34 |
| 5    | 5    | 205  | Max  | 330.00    | -13382.00  | 34 | 150.62      | 34 | 341.71       | 34 | -11.39      | 34 | -29.79       | 34 | 0.01         | 34 |
| 5    | 5    | 205  | Min. | 0.00      | -14124.50  | 34 | 150.62      | 34 | -155.34      | 34 | -11.39      | 34 | 7.80         | 34 | 0.01         | 34 |
| 5    | 5    | 205  | Min. | 330.00    | -13382.00  | 34 | 150.62      | 34 | 341.71       | 34 | -11.39      | 34 | -29.79       | 34 | 0.01         | 34 |
| 6    | 6    | 206  | Max  | 0.00      | -13259.60  | 34 | 147.20      | 34 | -151.67      | 34 | 108.83      | 34 | -129.75      | 34 | 0.01         | 34 |
| 6    | 6    | 206  | Max  | 330.00    | -12517.10  | 34 | 147.20      | 34 | 334.08       | 34 | 108.83      | 34 | 229.40       | 34 | 0.01         | 34 |
| 6    | 6    | 206  | Min. | 0.00      | -13259.60  | 34 | 147.20      | 34 | -151.67      | 34 | 108.83      | 34 | -129.75      | 34 | 0.01         | 34 |
| 6    | 6    | 206  | Min. | 330.00    | -12517.10  | 34 | 147.20      | 34 | 334.08       | 34 | 108.83      | 34 | 229.40       | 34 | 0.01         | 34 |
| 7    | 7    | 207  | Max  | 0.00      | -8040.71   | 34 | 213.73      | 34 | -218.72      | 34 | 844.54      | 34 | -748.54      | 34 | 0.04         | 34 |
| 7    | 7    | 207  | Max  | 330.00    | -6803.21   | 34 | 213.73      | 34 | 486.60       | 34 | 844.54      | 34 | 2038.46      | 34 | 0.04         | 34 |
| 7    | 7    | 207  | Min. | 0.00      | -8040.71   | 34 | 213.73      | 34 | -218.72      | 34 | 844.54      | 34 | -748.54      | 34 | 0.04         | 34 |
| 7    | 7    | 207  | Min. | 330.00    | -6803.21   | 34 | 213.73      | 34 | 486.60       | 34 | 844.54      | 34 | 2038.46      | 34 | 0.04         | 34 |
| 8    | 8    | 208  | Max  | 0.00      | -6726.96   | 34 | -175.25     | 34 | 179.42       | 34 | -887.37     | 34 | 750.82       | 34 | 0.04         | 34 |
| 8    | 8    | 208  | Max  | 330.00    | -5489.46   | 34 | -175.25     | 34 | -398.91      | 34 | -887.37     | 34 | -2177.49     | 34 | 0.04         | 34 |
| 8    | 8    | 208  | Min. | 0.00      | -6726.96   | 34 | -175.25     | 34 | 179.42       | 34 | -887.37     | 34 | 750.82       | 34 | 0.04         | 34 |
| 8    | 8    | 208  | Min. | 330.00    | -5489.46   | 34 | -175.25     | 34 | -398.91      | 34 | -887.37     | 34 | -2177.49     | 34 | 0.04         | 34 |
| 9    | 9    | 209  | Max  | 0.00      | -13334.60  | 34 | -175.50     | 34 | 242.13       | 34 | -81.27      | 34 | 87.07        | 34 | -0.59        | 34 |
| 9    | 9    | 209  | Max  | 330.00    | -12592.10  | 34 | -175.50     | 34 | -337.03      | 34 | -81.27      | 34 | -181.14      | 34 | -0.59        | 34 |
| 9    | 9    | 209  | Min. | 0.00      | -13334.60  | 34 | -175.50     | 34 | 242.13       | 34 | -81.27      | 34 | 87.07        | 34 | -0.59        | 34 |
| 9    | 9    | 209  | Min. | 330.00    | -12592.10  | 34 | -175.50     | 34 | -337.03      | 34 | -81.27      | 34 | -181.14      | 34 | -0.59        | 34 |
| 10   | 10   | 210  | Max  | 0.00      | -14117.00  | 34 | -188.47     | 34 | 266.20       | 34 | 28.50       | 34 | -39.94       | 34 | 0.29         | 34 |
| 10   | 10   | 210  | Max  | 330.00    | -13374.50  | 34 | -188.47     | 34 | -355.77      | 34 | 28.50       | 34 | 54.11        | 34 | 0.29         | 34 |
| 10   | 10   | 210  | Min. | 0.00      | -14117.00  | 34 | -188.47     | 34 | 266.20       | 34 | 28.50       | 34 | -39.94       | 34 | 0.29         | 34 |
| 10   | 10   | 210  | Min. | 330.00    | -13374.50  | 34 | -188.47     | 34 | -355.77      | 34 | 28.50       | 34 | 54.11        | 34 | 0.29         | 34 |
| 11   | 11   | 211  | Max  | 0.00      | -13886.70  | 34 | -147.59     | 34 | 150.98       | 34 | 8.29        | 34 | -15.15       | 34 | 0.01         | 34 |
| 11   | 11   | 211  | Max  | 330.00    | -13144.20  | 34 | -147.59     | 34 | -336.05      | 34 | 8.29        | 34 | 12.20        | 34 | 0.01         | 34 |
| 11   | 11   | 211  | Min. | 0.00      | -13886.70  | 34 | -147.59     | 34 | 150.98       | 34 | 8.29        | 34 | -15.15       | 34 | 0.01         | 34 |
| 11   | 11   | 211  | Min. | 330.00    | -13144.20  | 34 | -147.59     | 34 | -336.05      | 34 | 8.29        | 34 | 12.20        | 34 | 0.01         | 34 |
| 12   | 12   | 212  | Max  | 0.00      | -14124.60  | 34 | -150.20     | 34 | 153.97       | 34 | -11.29      | 34 | 7.58         | 34 | 0.01         | 34 |
| 12   | 12   | 212  | Max  | 330.00    | -13382.10  | 34 | -150.20     | 34 | -341.70      | 34 | -11.29      | 34 | -29.67       | 34 | 0.01         | 34 |
| 12   | 12   | 212  | Min. | 0.00      | -14124.60  | 34 | -150.20     | 34 | 153.97       | 34 | -11.29      | 34 | 7.58         | 34 | 0.01         | 34 |
| 12   | 12   | 212  | Min. | 330.00    | -13382.10  | 34 | -150.20     | 34 | -341.70      | 34 | -11.29      | 34 | -29.67       | 34 | 0.01         | 34 |
| 13   | 13   | 213  | Max  | 0.00      | -13261.60  | 34 | -146.95     | 34 | 150.63       | 34 | 108.03      | 34 | -128.13      | 34 | 0.01         | 34 |
| 13   | 13   | 213  | Max  | 330.00    | -12519.10  | 34 | -146.95     | 34 | -334.29      | 34 | 108.03      | 34 | 228.37       | 34 | 0.01         | 34 |
| 13   | 13   | 213  | Min. | 0.00      | -13261.60  | 34 | -146.95     | 34 | 150.63       | 34 | 108.03      | 34 | -128.13      | 34 | 0.01         | 34 |
| 13   | 13   | 213  | Min. | 330.00    | -12519.10  | 34 | -146.95     | 34 | -334.29      | 34 | 108.03      | 34 | 228.37       | 34 | 0.01         | 34 |
| 14   | 14   | 214  | Max  | 0.00      | -8039.47   | 34 | -214.04     | 34 | 218.13       | 34 | 834.42      | 34 | -720.53      | 34 | 0.04         | 34 |
| 14   | 14   | 214  | Max  | 330.00    | -6801.97   | 34 | -214.04     | 34 | -488.21      | 34 | 834.42      | 34 | 2033.07      | 34 | 0.04         | 34 |
| 14   | 14   | 214  | Min. | 0.00      | -8039.47   | 34 | -214.04     | 34 | 218.13       | 34 | 834.42      | 34 | -720.53      | 34 | 0.04         | 34 |
| 14   | 14   | 214  | Min. | 330.00    | -6801.97   | 34 | -214.04     | 34 | -488.21      | 34 | 834.42      | 34 | 2033.07      | 34 | 0.04         | 34 |
| 201  | 202  | 201  | Max  | 15.00     | 0.00       | 34 | 0.00        | 34 | 0.00         | 34 | 5487.10     | 34 | -4487.69     | 34 | -16.93       | 34 |
| 201  | 202  | 201  | Max  | 253.25    |            |    |             |    |              |    |             |    | 2048.70      | 34 |              |    |
| 201  | 202  | 201  | Max  | 400.00    | 0.00       | 34 | 0.00        | 34 | 0.00         | 34 | -3379.93    | 34 | -431.40      | 34 | -16.93       | 34 |
| 201  | 202  | 201  | Min. | 15.00     | 0.00       | 34 | 0.00        | 34 | 0.00         | 34 | 5487.10     | 34 | -4487.69     | 34 | -16.93       | 34 |
| 201  | 202  | 201  | Min. | 253.25    |            |    |             |    |              |    |             |    | 2048.70      | 34 |              |    |

# Relazione di calcolo

|     |     |     |      |        |      |    |      |    |      |    |          |    |          |    |         |    |
|-----|-----|-----|------|--------|------|----|------|----|------|----|----------|----|----------|----|---------|----|
| 201 | 202 | 201 | Min. | 400.00 | 0.00 | 34 | 0.00 | 34 | 0.00 | 34 | -3379.93 | 34 | -431.40  | 34 | -16.93  | 34 |
| 201 | 203 | 202 | Max  | 15.00  | 0.00 | 34 | 0.00 | 34 | 0.00 | 34 | 6114.65  | 34 | -5290.91 | 34 | -2.93   | 34 |
| 201 | 203 | 202 | Max  | 280.49 |      |    |      |    |      |    |          |    | 2826.10  | 34 |         |    |
| 201 | 203 | 202 | Max  | 535.00 | 0.00 | 34 | 0.00 | 34 | 0.00 | 34 | -5861.60 | 34 | -4632.97 | 34 | -2.93   | 34 |
| 201 | 203 | 202 | Min. | 15.00  | 0.00 | 34 | 0.00 | 34 | 0.00 | 34 | 6114.65  | 34 | -5290.91 | 34 | -2.93   | 34 |
| 201 | 203 | 202 | Min. | 280.49 |      |    |      |    |      |    |          |    | 2826.10  | 34 |         |    |
| 201 | 203 | 202 | Min. | 535.00 | 0.00 | 34 | 0.00 | 34 | 0.00 | 34 | -5861.60 | 34 | -4632.97 | 34 | -2.93   | 34 |
| 201 | 204 | 203 | Max  | 15.00  | 0.00 | 34 | 0.00 | 34 | 0.00 | 34 | 5955.71  | 34 | -5073.95 | 34 | -12.43  | 34 |
| 201 | 204 | 203 | Max  | 273.59 |      |    |      |    |      |    |          |    | 2626.56  | 34 |         |    |
| 201 | 204 | 203 | Max  | 535.00 | 0.00 | 34 | 0.00 | 34 | 0.00 | 34 | -6020.54 | 34 | -5242.52 | 34 | -12.43  | 34 |
| 201 | 204 | 203 | Min. | 15.00  | 0.00 | 34 | 0.00 | 34 | 0.00 | 34 | 5955.71  | 34 | -5073.95 | 34 | -12.43  | 34 |
| 201 | 204 | 203 | Min. | 273.59 |      |    |      |    |      |    |          |    | 2626.56  | 34 |         |    |
| 201 | 204 | 203 | Min. | 535.00 | 0.00 | 34 | 0.00 | 34 | 0.00 | 34 | -6020.54 | 34 | -5242.52 | 34 | -12.43  | 34 |
| 201 | 205 | 204 | Max  | 15.00  | 0.00 | 34 | 0.00 | 34 | 0.00 | 34 | 6026.41  | 34 | -5258.97 | 34 | -1.60   | 34 |
| 201 | 205 | 204 | Max  | 276.66 |      |    |      |    |      |    |          |    | 2625.45  | 34 |         |    |
| 201 | 205 | 204 | Max  | 535.00 | 0.00 | 34 | 0.00 | 34 | 0.00 | 34 | -5949.84 | 34 | -5059.87 | 34 | -1.60   | 34 |
| 201 | 205 | 204 | Min. | 15.00  | 0.00 | 34 | 0.00 | 34 | 0.00 | 34 | 6026.41  | 34 | -5258.97 | 34 | -1.60   | 34 |
| 201 | 205 | 204 | Min. | 276.66 |      |    |      |    |      |    |          |    | 2625.45  | 34 |         |    |
| 201 | 205 | 204 | Min. | 535.00 | 0.00 | 34 | 0.00 | 34 | 0.00 | 34 | -5949.84 | 34 | -5059.87 | 34 | -1.60   | 34 |
| 201 | 206 | 205 | Max  | 15.00  | 0.00 | 34 | 0.00 | 34 | 0.00 | 34 | 5860.09  | 34 | -4612.33 | 34 | 2.13    | 34 |
| 201 | 206 | 205 | Max  | 269.44 |      |    |      |    |      |    |          |    | 2842.88  | 34 |         |    |
| 201 | 206 | 205 | Max  | 535.00 | 0.00 | 34 | 0.00 | 34 | 0.00 | 34 | -6116.17 | 34 | -5278.15 | 34 | 2.13    | 34 |
| 201 | 206 | 205 | Min. | 15.00  | 0.00 | 34 | 0.00 | 34 | 0.00 | 34 | 5860.09  | 34 | -4612.33 | 34 | 2.13    | 34 |
| 201 | 206 | 205 | Min. | 269.44 |      |    |      |    |      |    |          |    | 2842.88  | 34 |         |    |
| 201 | 206 | 205 | Min. | 535.00 | 0.00 | 34 | 0.00 | 34 | 0.00 | 34 | -6116.17 | 34 | -5278.15 | 34 | 2.13    | 34 |
| 201 | 207 | 206 | Max  | 50.00  | 0.00 | 34 | 0.00 | 34 | 0.00 | 34 | 3449.40  | 34 | -633.24  | 34 | 15.75   | 34 |
| 201 | 207 | 206 | Max  | 199.77 |      |    |      |    |      |    |          |    | 1949.85  | 34 |         |    |
| 201 | 207 | 206 | Max  | 435.00 | 0.00 | 34 | 0.00 | 34 | 0.00 | 34 | -5417.64 | 34 | -4422.10 | 34 | 15.75   | 34 |
| 201 | 207 | 206 | Min. | 50.00  | 0.00 | 34 | 0.00 | 34 | 0.00 | 34 | 3449.40  | 34 | -633.24  | 34 | 15.75   | 34 |
| 201 | 207 | 206 | Min. | 199.77 |      |    |      |    |      |    |          |    | 1949.85  | 34 |         |    |
| 201 | 207 | 206 | Min. | 435.00 | 0.00 | 34 | 0.00 | 34 | 0.00 | 34 | -5417.64 | 34 | -4422.10 | 34 | 15.75   | 34 |
| 201 | 217 | 207 | Max  | 0.00   | 0.00 | 34 | 0.00 | 34 | 0.00 | 34 | -292.94  | 34 | 0.04     | 34 | -157.82 | 34 |
| 201 | 217 | 207 | Max  | 50.17  | 0.00 | 34 | 0.00 | 34 | 0.00 | 34 | -1288.43 | 34 | -396.62  | 34 | -157.82 | 34 |
| 201 | 217 | 207 | Min. | 0.00   | 0.00 | 34 | 0.00 | 34 | 0.00 | 34 | -292.94  | 34 | 0.04     | 34 | -157.82 | 34 |
| 201 | 217 | 207 | Min. | 50.17  | 0.00 | 34 | 0.00 | 34 | 0.00 | 34 | -1288.43 | 34 | -396.62  | 34 | -157.82 | 34 |
| 202 | 208 | 209 | Max  | 50.00  | 0.00 | 34 | 0.00 | 34 | 0.00 | 34 | 3376.92  | 34 | -423.23  | 34 | 16.81   | 34 |
| 202 | 208 | 209 | Max  | 196.62 |      |    |      |    |      |    |          |    | 2052.46  | 34 |         |    |
| 202 | 208 | 209 | Max  | 435.00 | 0.00 | 34 | 0.00 | 34 | 0.00 | 34 | -5490.11 | 34 | -4491.10 | 34 | 16.81   | 34 |
| 202 | 208 | 209 | Min. | 50.00  | 0.00 | 34 | 0.00 | 34 | 0.00 | 34 | 3376.92  | 34 | -423.23  | 34 | 16.81   | 34 |
| 202 | 208 | 209 | Min. | 196.62 |      |    |      |    |      |    |          |    | 2052.46  | 34 |         |    |
| 202 | 208 | 209 | Min. | 435.00 | 0.00 | 34 | 0.00 | 34 | 0.00 | 34 | -5490.11 | 34 | -4491.10 | 34 | 16.81   | 34 |
| 202 | 209 | 210 | Max  | 15.00  | 0.00 | 34 | 0.00 | 34 | 0.00 | 34 | 5862.37  | 34 | -4636.62 | 34 | 2.72    | 34 |
| 202 | 209 | 210 | Max  | 269.54 |      |    |      |    |      |    |          |    | 2824.41  | 34 |         |    |
| 202 | 209 | 210 | Max  | 535.00 | 0.00 | 34 | 0.00 | 34 | 0.00 | 34 | -6113.89 | 34 | -5290.56 | 34 | 2.72    | 34 |
| 202 | 209 | 210 | Min. | 15.00  | 0.00 | 34 | 0.00 | 34 | 0.00 | 34 | 5862.37  | 34 | -4636.62 | 34 | 2.72    | 34 |
| 202 | 209 | 210 | Min. | 269.54 |      |    |      |    |      |    |          |    | 2824.41  | 34 |         |    |
| 202 | 209 | 210 | Min. | 535.00 | 0.00 | 34 | 0.00 | 34 | 0.00 | 34 | -6113.89 | 34 | -5290.56 | 34 | 2.72    | 34 |
| 202 | 210 | 211 | Max  | 15.00  | 0.00 | 34 | 0.00 | 34 | 0.00 | 34 | 6021.02  | 34 | -5243.32 | 34 | 12.51   | 34 |
| 202 | 210 | 211 | Max  | 276.43 |      |    |      |    |      |    |          |    | 2626.99  | 34 |         |    |
| 202 | 210 | 211 | Max  | 535.00 | 0.00 | 34 | 0.00 | 34 | 0.00 | 34 | -5955.24 | 34 | -5072.30 | 34 | 12.51   | 34 |
| 202 | 210 | 211 | Min. | 15.00  | 0.00 | 34 | 0.00 | 34 | 0.00 | 34 | 6021.02  | 34 | -5243.32 | 34 | 12.51   | 34 |
| 202 | 210 | 211 | Min. | 276.43 |      |    |      |    |      |    |          |    | 2626.99  | 34 |         |    |
| 202 | 210 | 211 | Min. | 535.00 | 0.00 | 34 | 0.00 | 34 | 0.00 | 34 | -5955.24 | 34 | -5072.30 | 34 | 12.51   | 34 |
| 202 | 211 | 212 | Max  | 15.00  | 0.00 | 34 | 0.00 | 34 | 0.00 | 34 | 5949.62  | 34 | -5058.90 | 34 | 1.52    | 34 |
| 202 | 211 | 212 | Max  | 273.33 |      |    |      |    |      |    |          |    | 2625.86  | 34 |         |    |
| 202 | 211 | 212 | Max  | 535.00 | 0.00 | 34 | 0.00 | 34 | 0.00 | 34 | -6026.63 | 34 | -5259.14 | 34 | 1.52    | 34 |
| 202 | 211 | 212 | Min. | 15.00  | 0.00 | 34 | 0.00 | 34 | 0.00 | 34 | 5949.62  | 34 | -5058.90 | 34 | 1.52    | 34 |
| 202 | 211 | 212 | Min. | 273.33 |      |    |      |    |      |    |          |    | 2625.86  | 34 |         |    |
| 202 | 211 | 212 | Min. | 535.00 | 0.00 | 34 | 0.00 | 34 | 0.00 | 34 | -6026.63 | 34 | -5259.14 | 34 | 1.52    | 34 |
| 202 | 212 | 213 | Max  | 15.00  | 0.00 | 34 | 0.00 | 34 | 0.00 | 34 | 6116.10  | 34 | -5278.22 | 34 | -2.18   | 34 |
| 202 | 212 | 213 | Max  | 280.56 |      |    |      |    |      |    |          |    | 2842.62  | 34 |         |    |
| 202 | 212 | 213 | Max  | 535.00 | 0.00 | 34 | 0.00 | 34 | 0.00 | 34 | -5860.16 | 34 | -4612.78 | 34 | -2.18   | 34 |
| 202 | 212 | 213 | Min. | 15.00  | 0.00 | 34 | 0.00 | 34 | 0.00 | 34 | 6116.10  | 34 | -5278.22 | 34 | -2.18   | 34 |
| 202 | 212 | 213 | Min. | 280.56 |      |    |      |    |      |    |          |    | 2842.62  | 34 |         |    |
| 202 | 212 | 213 | Min. | 535.00 | 0.00 | 34 | 0.00 | 34 | 0.00 | 34 | -5860.16 | 34 | -4612.78 | 34 | -2.18   | 34 |
| 202 | 213 | 214 | Max  | 15.00  | 0.00 | 34 | 0.00 | 34 | 0.00 | 34 | 5419.56  | 34 | -4423.52 | 34 | -15.63  | 34 |
| 202 | 213 | 214 | Max  | 250.31 |      |    |      |    |      |    |          |    | 1952.96  | 34 |         |    |
| 202 | 213 | 214 | Max  | 400.00 | 0.00 | 34 | 0.00 | 34 | 0.00 | 34 | -3447.48 | 34 | -627.25  | 34 | -15.63  | 34 |
| 202 | 213 | 214 | Min. | 15.00  | 0.00 | 34 | 0.00 | 34 | 0.00 | 34 | 5419.56  | 34 | -4423.52 | 34 | -15.63  | 34 |
| 202 | 213 | 214 | Min. | 250.31 |      |    |      |    |      |    |          |    | 1952.96  | 34 |         |    |
| 202 | 213 | 214 | Min. | 400.00 | 0.00 | 34 | 0.00 | 34 | 0.00 | 34 | -3447.48 | 34 | -627.25  | 34 | -15.63  | 34 |
| 202 | 218 | 214 | Max  | 0.00   | 0.00 | 34 | 0.00 | 34 | 0.00 | 34 | -293.00  | 34 | -0.04    | 34 | 157.99  | 34 |
| 202 | 218 | 214 | Max  | 50.17  | 0.00 | 34 | 0.00 | 34 | 0.00 | 34 | -1288.50 | 34 | -396.73  | 34 | 157.99  | 34 |
| 202 | 218 | 214 | Min. | 0.00   | 0.00 | 34 | 0.00 | 34 | 0.00 | 34 | -293.00  | 34 | -0.04    | 34 | 157.99  | 34 |
| 202 | 218 | 214 | Min. | 50.17  | 0.00 | 34 | 0.00 | 34 | 0.00 | 34 | -1288.50 | 34 | -396.73  | 34 | 157.99  | 34 |
| 203 | 215 | 201 | Max  | 0.00   | 0.00 | 34 | 0.00 | 34 | 0.00 | 34 | 0.00     | 34 | 0.00     | 34 | 0.00    | 34 |
| 203 | 215 | 201 | Max  | 35.00  | 0.00 | 34 | 0.00 | 34 | 0.00 | 34 | -32.81   | 34 | -5.74    | 34 | 0.00    | 34 |
| 203 | 215 | 201 | Min. | 0.00   | 0.00 | 34 | 0.00 | 34 | 0.00 | 34 | 0.00     | 34 | 0.00     | 34 | 0.00    | 34 |
| 203 | 215 | 201 | Min. | 35.00  | 0.00 | 34 | 0.00 | 34 | 0.00 | 34 | -32.81   | 34 | -5.74    | 34 | 0.00    | 34 |

# Relazione di calcolo

|     |     |     |      |        |      |    |      |    |      |    |         |    |         |    |       |    |
|-----|-----|-----|------|--------|------|----|------|----|------|----|---------|----|---------|----|-------|----|
| 203 | 201 | 208 | Max  | 15.00  | 0.00 | 34 | 0.00 | 34 | 0.00 | 34 | 773.40  | 34 | -317.93 | 34 | 0.25  | 34 |
| 203 | 201 | 208 | Max  | 262.49 |      |    |      |    |      |    |         |    | 639.12  | 34 |       |    |
| 203 | 201 | 208 | Max  | 510.00 | 0.00 | 34 | 0.00 | 34 | 0.00 | 34 | -773.47 | 34 | -318.09 | 34 | 0.25  | 34 |
| 203 | 201 | 208 | Min. | 15.00  | 0.00 | 34 | 0.00 | 34 | 0.00 | 34 | 773.40  | 34 | -317.93 | 34 | 0.25  | 34 |
| 203 | 201 | 208 | Min. | 262.49 |      |    |      |    |      |    |         |    | 639.12  | 34 |       |    |
| 203 | 201 | 208 | Min. | 510.00 | 0.00 | 34 | 0.00 | 34 | 0.00 | 34 | -773.47 | 34 | -318.09 | 34 | 0.25  | 34 |
| 203 | 208 | 219 | Max  | 15.00  | 0.00 | 34 | 0.00 | 34 | 0.00 | 34 | 32.81   | 34 | -5.74   | 34 | 0.00  | 34 |
| 203 | 208 | 219 | Max  | 43.00  |      |    |      |    |      |    |         |    | -0.23   | 34 |       |    |
| 203 | 208 | 219 | Max  | 50.00  | 0.00 | 34 | 0.00 | 34 | 0.00 | 34 | 0.00    | 34 | 0.00    | 34 | 0.00  | 34 |
| 203 | 208 | 219 | Min. | 15.00  | 0.00 | 34 | 0.00 | 34 | 0.00 | 34 | 32.81   | 34 | -5.74   | 34 | 0.00  | 34 |
| 203 | 208 | 219 | Min. | 43.00  |      |    |      |    |      |    |         |    | -0.23   | 34 |       |    |
| 203 | 208 | 219 | Min. | 50.00  | 0.00 | 34 | 0.00 | 34 | 0.00 | 34 | 0.00    | 34 | 0.00    | 34 | 0.00  | 34 |
| 204 | 202 | 209 | Max  | 15.00  | 0.00 | 34 | 0.00 | 34 | 0.00 | 34 | 463.85  | 34 | -322.17 | 34 | -0.10 | 34 |
| 204 | 202 | 209 | Max  | 262.38 |      |    |      |    |      |    |         |    | 251.57  | 34 |       |    |
| 204 | 202 | 209 | Max  | 510.00 | 0.00 | 34 | 0.00 | 34 | 0.00 | 34 | -464.28 | 34 | -323.24 | 34 | -0.10 | 34 |
| 204 | 202 | 209 | Min. | 15.00  | 0.00 | 34 | 0.00 | 34 | 0.00 | 34 | 463.85  | 34 | -322.17 | 34 | -0.10 | 34 |
| 204 | 202 | 209 | Min. | 262.38 |      |    |      |    |      |    |         |    | 251.57  | 34 |       |    |
| 204 | 202 | 209 | Min. | 510.00 | 0.00 | 34 | 0.00 | 34 | 0.00 | 34 | -464.28 | 34 | -323.24 | 34 | -0.10 | 34 |
| 205 | 203 | 210 | Max  | 15.00  | 0.00 | 34 | 0.00 | 34 | 0.00 | 34 | 463.84  | 34 | -320.24 | 34 | 0.08  | 34 |
| 205 | 203 | 210 | Max  | 262.38 |      |    |      |    |      |    |         |    | 253.48  | 34 |       |    |
| 205 | 203 | 210 | Max  | 510.00 | 0.00 | 34 | 0.00 | 34 | 0.00 | 34 | -464.29 | 34 | -321.35 | 34 | 0.08  | 34 |
| 205 | 203 | 210 | Min. | 15.00  | 0.00 | 34 | 0.00 | 34 | 0.00 | 34 | 463.84  | 34 | -320.24 | 34 | 0.08  | 34 |
| 205 | 203 | 210 | Min. | 262.38 |      |    |      |    |      |    |         |    | 253.48  | 34 |       |    |
| 205 | 203 | 210 | Min. | 510.00 | 0.00 | 34 | 0.00 | 34 | 0.00 | 34 | -464.29 | 34 | -321.35 | 34 | 0.08  | 34 |
| 206 | 204 | 211 | Max  | 15.00  | 0.00 | 34 | 0.00 | 34 | 0.00 | 34 | 464.12  | 34 | -312.50 | 34 | 0.03  | 34 |
| 206 | 204 | 211 | Max  | 262.53 |      |    |      |    |      |    |         |    | 261.91  | 34 |       |    |
| 206 | 204 | 211 | Max  | 510.00 | 0.00 | 34 | 0.00 | 34 | 0.00 | 34 | -464.01 | 34 | -312.23 | 34 | 0.03  | 34 |
| 206 | 204 | 211 | Min. | 15.00  | 0.00 | 34 | 0.00 | 34 | 0.00 | 34 | 464.12  | 34 | -312.50 | 34 | 0.03  | 34 |
| 206 | 204 | 211 | Min. | 262.53 |      |    |      |    |      |    |         |    | 261.91  | 34 |       |    |
| 206 | 204 | 211 | Min. | 510.00 | 0.00 | 34 | 0.00 | 34 | 0.00 | 34 | -464.01 | 34 | -312.23 | 34 | 0.03  | 34 |
| 207 | 205 | 212 | Max  | 15.00  | 0.00 | 34 | 0.00 | 34 | 0.00 | 34 | 464.09  | 34 | -311.38 | 34 | -0.01 | 34 |
| 207 | 205 | 212 | Max  | 262.51 |      |    |      |    |      |    |         |    | 262.97  | 34 |       |    |
| 207 | 205 | 212 | Max  | 510.00 | 0.00 | 34 | 0.00 | 34 | 0.00 | 34 | -464.04 | 34 | -311.24 | 34 | -0.01 | 34 |
| 207 | 205 | 212 | Min. | 15.00  | 0.00 | 34 | 0.00 | 34 | 0.00 | 34 | 464.09  | 34 | -311.38 | 34 | -0.01 | 34 |
| 207 | 205 | 212 | Min. | 262.51 |      |    |      |    |      |    |         |    | 262.97  | 34 |       |    |
| 207 | 205 | 212 | Min. | 510.00 | 0.00 | 34 | 0.00 | 34 | 0.00 | 34 | -464.04 | 34 | -311.24 | 34 | -0.01 | 34 |
| 208 | 206 | 213 | Max  | 15.00  | 0.00 | 34 | 0.00 | 34 | 0.00 | 34 | 464.07  | 34 | -312.78 | 34 | 0.02  | 34 |
| 208 | 206 | 213 | Max  | 262.50 |      |    |      |    |      |    |         |    | 261.51  | 34 |       |    |
| 208 | 206 | 213 | Max  | 510.00 | 0.00 | 34 | 0.00 | 34 | 0.00 | 34 | -464.06 | 34 | -312.76 | 34 | 0.02  | 34 |
| 208 | 206 | 213 | Min. | 15.00  | 0.00 | 34 | 0.00 | 34 | 0.00 | 34 | 464.07  | 34 | -312.78 | 34 | 0.02  | 34 |
| 208 | 206 | 213 | Min. | 262.50 |      |    |      |    |      |    |         |    | 261.51  | 34 |       |    |
| 208 | 206 | 213 | Min. | 510.00 | 0.00 | 34 | 0.00 | 34 | 0.00 | 34 | -464.06 | 34 | -312.76 | 34 | 0.02  | 34 |
| 209 | 214 | 207 | Max  | 15.00  | 0.00 | 34 | 0.00 | 34 | 0.00 | 34 | 773.75  | 34 | -248.53 | 34 | -0.42 | 34 |
| 209 | 214 | 207 | Max  | 262.60 |      |    |      |    |      |    |         |    | 709.38  | 34 |       |    |
| 209 | 214 | 207 | Max  | 510.00 | 0.00 | 34 | 0.00 | 34 | 0.00 | 34 | -773.12 | 34 | -246.97 | 34 | -0.42 | 34 |
| 209 | 214 | 207 | Min. | 15.00  | 0.00 | 34 | 0.00 | 34 | 0.00 | 34 | 773.75  | 34 | -248.53 | 34 | -0.42 | 34 |
| 209 | 214 | 207 | Min. | 262.60 |      |    |      |    |      |    |         |    | 709.38  | 34 |       |    |
| 209 | 214 | 207 | Min. | 510.00 | 0.00 | 34 | 0.00 | 34 | 0.00 | 34 | -773.12 | 34 | -246.97 | 34 | -0.42 | 34 |
| 210 | 216 | 217 | Max  | 0.00   | 0.00 | 34 | 0.00 | 34 | 0.00 | 34 | 0.00    | 34 | 0.00    | 34 | 0.00  | 34 |
| 210 | 216 | 217 | Max  | 50.00  | 0.00 | 34 | 0.00 | 34 | 0.00 | 34 | -46.88  | 34 | -11.72  | 34 | 0.00  | 34 |
| 210 | 216 | 217 | Min. | 0.00   | 0.00 | 34 | 0.00 | 34 | 0.00 | 34 | 0.00    | 34 | 0.00    | 34 | 0.00  | 34 |
| 210 | 216 | 217 | Min. | 50.00  | 0.00 | 34 | 0.00 | 34 | 0.00 | 34 | -46.88  | 34 | -11.72  | 34 | 0.00  | 34 |
| 210 | 217 | 218 | Max  | 0.00   | 0.00 | 34 | 0.00 | 34 | 0.00 | 34 | 246.06  | 34 | -169.54 | 34 | -0.04 | 34 |
| 210 | 217 | 218 | Max  | 262.47 |      |    |      |    |      |    |         |    | 153.37  | 34 |       |    |
| 210 | 217 | 218 | Max  | 525.00 | 0.00 | 34 | 0.00 | 34 | 0.00 | 34 | -246.13 | 34 | -169.71 | 34 | -0.04 | 34 |
| 210 | 217 | 218 | Min. | 0.00   | 0.00 | 34 | 0.00 | 34 | 0.00 | 34 | 246.06  | 34 | -169.54 | 34 | -0.04 | 34 |
| 210 | 217 | 218 | Min. | 262.47 |      |    |      |    |      |    |         |    | 153.37  | 34 |       |    |
| 210 | 217 | 218 | Min. | 525.00 | 0.00 | 34 | 0.00 | 34 | 0.00 | 34 | -246.13 | 34 | -169.71 | 34 | -0.04 | 34 |
| 210 | 218 | 220 | Max  | 0.00   | 0.00 | 34 | 0.00 | 34 | 0.00 | 34 | 46.88   | 34 | -11.72  | 34 | 0.00  | 34 |
| 210 | 218 | 220 | Max  | 40.00  |      |    |      |    |      |    |         |    | -0.47   | 34 |       |    |
| 210 | 218 | 220 | Max  | 50.00  | 0.00 | 34 | 0.00 | 34 | 0.00 | 34 | 0.00    | 34 | 0.00    | 34 | 0.00  | 34 |
| 210 | 218 | 220 | Min. | 0.00   | 0.00 | 34 | 0.00 | 34 | 0.00 | 34 | 46.88   | 34 | -11.72  | 34 | 0.00  | 34 |
| 210 | 218 | 220 | Min. | 40.00  |      |    |      |    |      |    |         |    | -0.47   | 34 |       |    |
| 210 | 218 | 220 | Min. | 50.00  | 0.00 | 34 | 0.00 | 34 | 0.00 | 34 | 0.00    | 34 | 0.00    | 34 | 0.00  | 34 |

Tipo di combinazione di carico: SLE F

| Asta | N1   | N2   |      | X<br><cm> | N<br><daN> | CC | Ty<br><daN> | CC | Mz<br><daNm> | CC | Tz<br><daN> | CC | My<br><daNm> | CC | Mx<br><daNm> | CC |
|------|------|------|------|-----------|------------|----|-------------|----|--------------|----|-------------|----|--------------|----|--------------|----|
| 0    | -264 | -298 | Max  | 0.00      | 88.12      | 35 | 16.72       | 35 | -7.41        | 35 | 62.18       | 35 | -5.05        | 35 | 11.96        | 35 |
| 0    | -264 | -298 | Max  | 27.64     |            |    |             |    | -2.79        | 35 |             |    | 3.54         | 35 |              |    |
| 0    | -264 | -298 | Max  | 65.00     | 88.12      | 35 | 16.72       | 35 | 3.46         | 35 | -84.07      | 35 | -12.17       | 35 | 11.96        | 35 |
| 0    | -264 | -298 | Min. | 0.00      | 88.12      | 35 | 16.72       | 35 | -7.41        | 35 | 62.18       | 35 | -5.05        | 35 | 11.96        | 35 |
| 0    | -264 | -298 | Min. | 27.64     |            |    |             |    | -2.79        | 35 |             |    | 3.54         | 35 |              |    |
| 0    | -264 | -298 | Min. | 65.00     | 88.12      | 35 | 16.72       | 35 | 3.46         | 35 | -84.07      | 35 | -12.17       | 35 | 11.96        | 35 |
| 0    | -322 | -353 | Max  | 0.00      | -193.00    | 35 | -10.98      | 35 | 1.29         | 35 | 163.59      | 35 | -4.74        | 35 | -7.90        | 35 |
| 0    | -322 | -353 | Max  | 60.50     | -193.00    | 35 | -10.98      | 35 | -5.36        | 35 | 27.47       | 35 | 53.05        | 35 | -7.90        | 35 |
| 0    | -322 | -353 | Min. | 0.00      | -193.00    | 35 | -10.98      | 35 | 1.29         | 35 | 163.59      | 35 | -4.74        | 35 | -7.90        | 35 |
| 0    | -322 | -353 | Min. | 60.50     | -193.00    | 35 | -10.98      | 35 | -5.36        | 35 | 27.47       | 35 | 53.05        | 35 | -7.90        | 35 |

# Relazione di calcolo

|     |     |     |      |        |           |    |         |    |         |    |          |    |          |    |        |    |
|-----|-----|-----|------|--------|-----------|----|---------|----|---------|----|----------|----|----------|----|--------|----|
| 1   | 1   | 201 | Max  | 0.00   | -6213.59  | 35 | 177.12  | 35 | -184.31 | 35 | -791.94  | 35 | 681.97   | 35 | 0.04   | 35 |
| 1   | 1   | 201 | Max  | 330.00 | -4976.09  | 35 | 177.12  | 35 | 400.19  | 35 | -791.94  | 35 | -1931.42 | 35 | 0.04   | 35 |
| 1   | 1   | 201 | Min. | 0.00   | -6213.59  | 35 | 177.12  | 35 | -184.31 | 35 | -791.94  | 35 | 681.97   | 35 | 0.04   | 35 |
| 1   | 1   | 201 | Min. | 330.00 | -4976.09  | 35 | 177.12  | 35 | 400.19  | 35 | -791.94  | 35 | -1931.42 | 35 | 0.04   | 35 |
| 2   | 2   | 202 | Max  | 0.00   | -11967.30 | 35 | 172.31  | 35 | -233.50 | 35 | -70.47   | 35 | 74.06    | 35 | 0.60   | 35 |
| 2   | 2   | 202 | Max  | 330.00 | -11224.80 | 35 | 172.31  | 35 | 335.14  | 35 | -70.47   | 35 | -158.49  | 35 | 0.60   | 35 |
| 2   | 2   | 202 | Min. | 0.00   | -11967.30 | 35 | 172.31  | 35 | -233.50 | 35 | -70.47   | 35 | 74.06    | 35 | 0.60   | 35 |
| 2   | 2   | 202 | Min. | 330.00 | -11224.80 | 35 | 172.31  | 35 | 335.14  | 35 | -70.47   | 35 | -158.49  | 35 | 0.60   | 35 |
| 3   | 3   | 203 | Max  | 0.00   | -12661.90 | 35 | 184.13  | 35 | -254.38 | 35 | 26.04    | 35 | -36.58   | 35 | -0.21  | 35 |
| 3   | 3   | 203 | Max  | 330.00 | -11919.40 | 35 | 184.13  | 35 | 353.24  | 35 | 26.04    | 35 | 49.35    | 35 | -0.21  | 35 |
| 3   | 3   | 203 | Min. | 0.00   | -12661.90 | 35 | 184.13  | 35 | -254.38 | 35 | 26.04    | 35 | -36.58   | 35 | -0.21  | 35 |
| 3   | 3   | 203 | Min. | 330.00 | -11919.40 | 35 | 184.13  | 35 | 353.24  | 35 | 26.04    | 35 | 49.35    | 35 | -0.21  | 35 |
| 4   | 4   | 204 | Max  | 0.00   | -12458.10 | 35 | 149.38  | 35 | -155.67 | 35 | 8.13     | 35 | -14.76   | 35 | 0.02   | 35 |
| 4   | 4   | 204 | Max  | 330.00 | -11715.60 | 35 | 149.38  | 35 | 337.27  | 35 | 8.13     | 35 | 12.08    | 35 | 0.02   | 35 |
| 4   | 4   | 204 | Min. | 0.00   | -12458.10 | 35 | 149.38  | 35 | -155.67 | 35 | 8.13     | 35 | -14.76   | 35 | 0.02   | 35 |
| 4   | 4   | 204 | Min. | 330.00 | -11715.60 | 35 | 149.38  | 35 | 337.27  | 35 | 8.13     | 35 | 12.08    | 35 | 0.02   | 35 |
| 5   | 5   | 205 | Max  | 0.00   | -12669.20 | 35 | 151.46  | 35 | -157.84 | 35 | -9.50    | 35 | 5.90     | 35 | 0.02   | 35 |
| 5   | 5   | 205 | Max  | 330.00 | -11926.70 | 35 | 151.46  | 35 | 341.98  | 35 | -9.50    | 35 | -25.44   | 35 | 0.02   | 35 |
| 5   | 5   | 205 | Min. | 0.00   | -12669.20 | 35 | 151.46  | 35 | -157.84 | 35 | -9.50    | 35 | 5.90     | 35 | 0.02   | 35 |
| 5   | 5   | 205 | Min. | 330.00 | -11926.70 | 35 | 151.46  | 35 | 341.98  | 35 | -9.50    | 35 | -25.44   | 35 | 0.02   | 35 |
| 6   | 6   | 206 | Max  | 0.00   | -11899.50 | 35 | 147.99  | 35 | -154.05 | 35 | 97.20    | 35 | -116.18  | 35 | 0.02   | 35 |
| 6   | 6   | 206 | Max  | 330.00 | -11157.00 | 35 | 147.99  | 35 | 334.32  | 35 | 97.20    | 35 | 204.57   | 35 | 0.02   | 35 |
| 6   | 6   | 206 | Min. | 0.00   | -11899.50 | 35 | 147.99  | 35 | -154.05 | 35 | 97.20    | 35 | -116.18  | 35 | 0.02   | 35 |
| 6   | 6   | 206 | Min. | 330.00 | -11157.00 | 35 | 147.99  | 35 | 334.32  | 35 | 97.20    | 35 | 204.57   | 35 | 0.02   | 35 |
| 7   | 7   | 207 | Max  | 0.00   | -7442.90  | 35 | 214.81  | 35 | -221.67 | 35 | 741.46   | 35 | -653.85  | 35 | 0.04   | 35 |
| 7   | 7   | 207 | Max  | 330.00 | -6205.40  | 35 | 214.81  | 35 | 487.21  | 35 | 741.46   | 35 | 1792.97  | 35 | 0.04   | 35 |
| 7   | 7   | 207 | Min. | 0.00   | -7442.90  | 35 | 214.81  | 35 | -221.67 | 35 | 741.46   | 35 | -653.85  | 35 | 0.04   | 35 |
| 7   | 7   | 207 | Min. | 330.00 | -6205.40  | 35 | 214.81  | 35 | 487.21  | 35 | 741.46   | 35 | 1792.97  | 35 | 0.04   | 35 |
| 8   | 8   | 208 | Max  | 0.00   | -6211.06  | 35 | -176.24 | 35 | 181.87  | 35 | -782.85  | 35 | 657.93   | 35 | 0.04   | 35 |
| 8   | 8   | 208 | Max  | 330.00 | -4973.56  | 35 | -176.24 | 35 | -399.71 | 35 | -782.85  | 35 | -1925.46 | 35 | 0.04   | 35 |
| 8   | 8   | 208 | Min. | 0.00   | -6211.06  | 35 | -176.24 | 35 | 181.87  | 35 | -782.85  | 35 | 657.93   | 35 | 0.04   | 35 |
| 8   | 8   | 208 | Min. | 330.00 | -4973.56  | 35 | -176.24 | 35 | -399.71 | 35 | -782.85  | 35 | -1925.46 | 35 | 0.04   | 35 |
| 9   | 9   | 209 | Max  | 0.00   | -11970.80 | 35 | -173.00 | 35 | 235.02  | 35 | -71.20   | 35 | 75.99    | 35 | -0.54  | 35 |
| 9   | 9   | 209 | Max  | 330.00 | -11228.30 | 35 | -173.00 | 35 | -335.89 | 35 | -71.20   | 35 | -158.96  | 35 | -0.54  | 35 |
| 9   | 9   | 209 | Min. | 0.00   | -11970.80 | 35 | -173.00 | 35 | 235.02  | 35 | -71.20   | 35 | 75.99    | 35 | -0.54  | 35 |
| 9   | 9   | 209 | Min. | 330.00 | -11228.30 | 35 | -173.00 | 35 | -335.89 | 35 | -71.20   | 35 | -158.96  | 35 | -0.54  | 35 |
| 10  | 10  | 210 | Max  | 0.00   | -12661.70 | 35 | -185.61 | 35 | 258.05  | 35 | 25.71    | 35 | -36.27   | 35 | 0.26   | 35 |
| 10  | 10  | 210 | Max  | 330.00 | -11919.20 | 35 | -185.61 | 35 | -354.47 | 35 | 25.71    | 35 | 48.56    | 35 | 0.26   | 35 |
| 10  | 10  | 210 | Min. | 0.00   | -12661.70 | 35 | -185.61 | 35 | 258.05  | 35 | 25.71    | 35 | -36.27   | 35 | 0.26   | 35 |
| 10  | 10  | 210 | Min. | 330.00 | -11919.20 | 35 | -185.61 | 35 | -354.47 | 35 | 25.71    | 35 | 48.56    | 35 | 0.26   | 35 |
| 11  | 11  | 211 | Max  | 0.00   | -12457.80 | 35 | -148.66 | 35 | 153.72  | 35 | 7.92     | 35 | -14.43   | 35 | 0.02   | 35 |
| 11  | 11  | 211 | Max  | 330.00 | -11715.30 | 35 | -148.66 | 35 | -336.84 | 35 | 7.92     | 35 | 11.69    | 35 | 0.02   | 35 |
| 11  | 11  | 211 | Min. | 0.00   | -12457.80 | 35 | -148.66 | 35 | 153.72  | 35 | 7.92     | 35 | -14.43   | 35 | 0.02   | 35 |
| 11  | 11  | 211 | Min. | 330.00 | -11715.30 | 35 | -148.66 | 35 | -336.84 | 35 | 7.92     | 35 | 11.69    | 35 | 0.02   | 35 |
| 12  | 12  | 212 | Max  | 0.00   | -12669.10 | 35 | -151.01 | 35 | 156.44  | 35 | -9.46    | 35 | 5.77     | 35 | 0.02   | 35 |
| 12  | 12  | 212 | Max  | 330.00 | -11926.60 | 35 | -151.01 | 35 | -341.90 | 35 | -9.46    | 35 | -25.43   | 35 | 0.02   | 35 |
| 12  | 12  | 212 | Min. | 0.00   | -12669.10 | 35 | -151.01 | 35 | 156.44  | 35 | -9.46    | 35 | 5.77     | 35 | 0.02   | 35 |
| 12  | 12  | 212 | Min. | 330.00 | -11926.60 | 35 | -151.01 | 35 | -341.90 | 35 | -9.46    | 35 | -25.43   | 35 | 0.02   | 35 |
| 13  | 13  | 213 | Max  | 0.00   | -11901.40 | 35 | -147.72 | 35 | 153.00  | 35 | 96.46    | 35 | -114.69  | 35 | 0.02   | 35 |
| 13  | 13  | 213 | Max  | 330.00 | -11158.90 | 35 | -147.72 | 35 | -334.48 | 35 | 96.46    | 35 | 203.61   | 35 | 0.02   | 35 |
| 13  | 13  | 213 | Min. | 0.00   | -11901.40 | 35 | -147.72 | 35 | 153.00  | 35 | 96.46    | 35 | -114.69  | 35 | 0.02   | 35 |
| 13  | 13  | 213 | Min. | 330.00 | -11158.90 | 35 | -147.72 | 35 | -334.48 | 35 | 96.46    | 35 | 203.61   | 35 | 0.02   | 35 |
| 14  | 14  | 214 | Max  | 0.00   | -7441.69  | 35 | -214.96 | 35 | 220.82  | 35 | 732.49   | 35 | -629.12  | 35 | 0.04   | 35 |
| 14  | 14  | 214 | Max  | 330.00 | -6204.19  | 35 | -214.96 | 35 | -488.53 | 35 | 732.49   | 35 | 1788.10  | 35 | 0.04   | 35 |
| 14  | 14  | 214 | Min. | 0.00   | -7441.69  | 35 | -214.96 | 35 | 220.82  | 35 | 732.49   | 35 | -629.12  | 35 | 0.04   | 35 |
| 14  | 14  | 214 | Min. | 330.00 | -6204.19  | 35 | -214.96 | 35 | -488.53 | 35 | 732.49   | 35 | 1788.10  | 35 | 0.04   | 35 |
| 201 | 202 | 201 | Max  | 15.00  | 0.00      | 35 | 0.00    | 35 | 0.00    | 35 | 4867.09  | 35 | -3982.30 | 35 | -18.25 | 35 |
| 201 | 202 | 201 | Max  | 253.36 |           |    |         |    |         |    |          |    | 1818.39  | 35 |        |    |
| 201 | 202 | 201 | Max  | 400.00 | 0.00      | 35 | 0.00    | 35 | 0.00    | 35 | -2994.13 | 35 | -376.86  | 35 | -18.25 | 35 |
| 201 | 202 | 201 | Min. | 15.00  | 0.00      | 35 | 0.00    | 35 | 0.00    | 35 | 4867.09  | 35 | -3982.30 | 35 | -18.25 | 35 |
| 201 | 202 | 201 | Min. | 253.36 |           |    |         |    |         |    |          |    | 1818.39  | 35 |        |    |
| 201 | 202 | 201 | Min. | 400.00 | 0.00      | 35 | 0.00    | 35 | 0.00    | 35 | -2994.13 | 35 | -376.86  | 35 | -18.25 | 35 |
| 201 | 203 | 202 | Max  | 15.00  | 0.00      | 35 | 0.00    | 35 | 0.00    | 35 | 5420.88  | 35 | -4691.44 | 35 | -3.12  | 35 |
| 201 | 203 | 202 | Max  | 280.49 |           |    |         |    |         |    |          |    | 2504.38  | 35 |        |    |
| 201 | 203 | 202 | Max  | 535.00 | 0.00      | 35 | 0.00    | 35 | 0.00    | 35 | -5196.87 | 35 | -4109.02 | 35 | -3.12  | 35 |
| 201 | 203 | 202 | Min. | 15.00  | 0.00      | 35 | 0.00    | 35 | 0.00    | 35 | 5420.88  | 35 | -4691.44 | 35 | -3.12  | 35 |
| 201 | 203 | 202 | Min. | 280.49 |           |    |         |    |         |    |          |    | 2504.38  | 35 |        |    |
| 201 | 203 | 202 | Min. | 535.00 | 0.00      | 35 | 0.00    | 35 | 0.00    | 35 | -5196.87 | 35 | -4109.02 | 35 | -3.12  | 35 |
| 201 | 204 | 203 | Max  | 15.00  | 0.00      | 35 | 0.00    | 35 | 0.00    | 35 | 5280.01  | 35 | -4497.89 | 35 | -11.11 | 35 |
| 201 | 204 | 203 | Max  | 273.59 |           |    |         |    |         |    |          |    | 2328.80  | 35 |        |    |
| 201 | 204 | 203 | Max  | 535.00 | 0.00      | 35 | 0.00    | 35 | 0.00    | 35 | -5337.74 | 35 | -4647.99 | 35 | -11.11 | 35 |
| 201 | 204 | 203 | Min. | 15.00  | 0.00      | 35 | 0.00    | 35 | 0.00    | 35 | 5280.01  | 35 | -4497.89 | 35 | -11.11 | 35 |
| 201 | 204 | 203 | Min. | 273.59 |           |    |         |    |         |    |          |    | 2328.80  | 35 |        |    |
| 201 | 204 | 203 | Min. | 535.00 | 0.00      | 35 | 0.00    | 35 | 0.00    | 35 | -5337.74 | 35 | -4647.99 | 35 | -11.11 | 35 |
| 201 | 205 | 204 | Max  | 15.00  | 0.00      | 35 | 0.00    | 35 | 0.00    | 35 | 5343.25  | 35 | -4663.36 | 35 | -1.40  | 35 |
| 201 | 205 | 204 | Max  | 276.68 |           |    |         |    |         |    |          |    | 2327.85  | 35 |        |    |
| 201 | 205 | 204 | Max  | 535.00 | 0.00      | 35 | 0.00    | 35 | 0.00    | 35 | -5274.49 | 35 | -4484.58 | 35 | -1.40  | 35 |
| 201 | 205 | 204 | Min. | 15.00  | 0.00      | 35 | 0.00    | 35 | 0.00    | 35 | 5343.25  | 35 | -4663.36 | 35 | -1.40  | 35 |
| 201 | 205 | 204 | Min. | 276.68 |           |    |         |    |         |    |          |    | 2327.85  | 35 |        |    |

# Relazione di calcolo

|     |     |         |        |      |    |      |    |      |    |          |    |          |    |         |    |
|-----|-----|---------|--------|------|----|------|----|------|----|----------|----|----------|----|---------|----|
| 201 | 205 | 204Min. | 535.00 | 0.00 | 35 | 0.00 | 35 | 0.00 | 35 | -5274.49 | 35 | -4484.58 | 35 | -1.40   | 35 |
| 201 | 206 | 205Max  | 15.00  | 0.00 | 35 | 0.00 | 35 | 0.00 | 35 | 5195.34  | 35 | -4088.94 | 35 | 2.12    | 35 |
| 201 | 206 | 205Max  | 269.44 |      |    |      |    |      |    |          |    | 2520.57  | 35 |         |    |
| 201 | 206 | 205Max  | 535.00 | 0.00 | 35 | 0.00 | 35 | 0.00 | 35 | -5422.41 | 35 | -4679.30 | 35 | 2.12    | 35 |
| 201 | 206 | 205Min. | 15.00  | 0.00 | 35 | 0.00 | 35 | 0.00 | 35 | 5195.34  | 35 | -4088.94 | 35 | 2.12    | 35 |
| 201 | 206 | 205Min. | 269.44 |      |    |      |    |      |    |          |    | 2520.57  | 35 |         |    |
| 201 | 206 | 205Min. | 535.00 | 0.00 | 35 | 0.00 | 35 | 0.00 | 35 | -5422.41 | 35 | -4679.30 | 35 | 2.12    | 35 |
| 201 | 207 | 206Max  | 50.00  | 0.00 | 35 | 0.00 | 35 | 0.00 | 35 | 3060.53  | 35 | -569.47  | 35 | 15.55   | 35 |
| 201 | 207 | 206Max  | 199.89 |      |    |      |    |      |    |          |    | 1724.23  | 35 |         |    |
| 201 | 207 | 206Max  | 435.00 | 0.00 | 35 | 0.00 | 35 | 0.00 | 35 | -4800.69 | 35 | -3919.26 | 35 | 15.55   | 35 |
| 201 | 207 | 206Min. | 50.00  | 0.00 | 35 | 0.00 | 35 | 0.00 | 35 | 3060.53  | 35 | -569.47  | 35 | 15.55   | 35 |
| 201 | 207 | 206Min. | 199.89 |      |    |      |    |      |    |          |    | 1724.23  | 35 |         |    |
| 201 | 207 | 206Min. | 435.00 | 0.00 | 35 | 0.00 | 35 | 0.00 | 35 | -4800.69 | 35 | -3919.26 | 35 | 15.55   | 35 |
| 201 | 217 | 207Max  | 0.00   | 0.00 | 35 | 0.00 | 35 | 0.00 | 35 | -292.94  | 35 | 0.03     | 35 | -157.89 | 35 |
| 201 | 217 | 207Max  | 50.17  | 0.00 | 35 | 0.00 | 35 | 0.00 | 35 | -1210.05 | 35 | -376.97  | 35 | -157.89 | 35 |
| 201 | 217 | 207Min. | 0.00   | 0.00 | 35 | 0.00 | 35 | 0.00 | 35 | -292.94  | 35 | 0.03     | 35 | -157.89 | 35 |
| 201 | 217 | 207Min. | 50.17  | 0.00 | 35 | 0.00 | 35 | 0.00 | 35 | -1210.05 | 35 | -376.97  | 35 | -157.89 | 35 |
| 202 | 208 | 209Max  | 50.00  | 0.00 | 35 | 0.00 | 35 | 0.00 | 35 | 2991.77  | 35 | -370.29  | 35 | 17.98   | 35 |
| 202 | 208 | 209Max  | 196.52 |      |    |      |    |      |    |          |    | 1821.48  | 35 |         |    |
| 202 | 208 | 209Max  | 435.00 | 0.00 | 35 | 0.00 | 35 | 0.00 | 35 | -4869.45 | 35 | -3984.84 | 35 | 17.98   | 35 |
| 202 | 208 | 209Min. | 50.00  | 0.00 | 35 | 0.00 | 35 | 0.00 | 35 | 2991.77  | 35 | -370.29  | 35 | 17.98   | 35 |
| 202 | 208 | 209Min. | 196.52 |      |    |      |    |      |    |          |    | 1821.48  | 35 |         |    |
| 202 | 208 | 209Min. | 435.00 | 0.00 | 35 | 0.00 | 35 | 0.00 | 35 | -4869.45 | 35 | -3984.84 | 35 | 17.98   | 35 |
| 202 | 209 | 210Max  | 15.00  | 0.00 | 35 | 0.00 | 35 | 0.00 | 35 | 5197.67  | 35 | -4112.29 | 35 | 2.84    | 35 |
| 202 | 209 | 210Max  | 269.55 |      |    |      |    |      |    |          |    | 2503.14  | 35 |         |    |
| 202 | 209 | 210Max  | 535.00 | 0.00 | 35 | 0.00 | 35 | 0.00 | 35 | -5420.08 | 35 | -4690.56 | 35 | 2.84    | 35 |
| 202 | 209 | 210Min. | 15.00  | 0.00 | 35 | 0.00 | 35 | 0.00 | 35 | 5197.67  | 35 | -4112.29 | 35 | 2.84    | 35 |
| 202 | 209 | 210Min. | 269.55 |      |    |      |    |      |    |          |    | 2503.14  | 35 |         |    |
| 202 | 209 | 210Min. | 535.00 | 0.00 | 35 | 0.00 | 35 | 0.00 | 35 | -5420.08 | 35 | -4690.56 | 35 | 2.84    | 35 |
| 202 | 210 | 211Max  | 15.00  | 0.00 | 35 | 0.00 | 35 | 0.00 | 35 | 5337.89  | 35 | -4647.95 | 35 | 11.39   | 35 |
| 202 | 210 | 211Max  | 276.42 |      |    |      |    |      |    |          |    | 2329.22  | 35 |         |    |
| 202 | 210 | 211Max  | 535.00 | 0.00 | 35 | 0.00 | 35 | 0.00 | 35 | -5279.87 | 35 | -4497.11 | 35 | 11.39   | 35 |
| 202 | 210 | 211Min. | 15.00  | 0.00 | 35 | 0.00 | 35 | 0.00 | 35 | 5337.89  | 35 | -4647.95 | 35 | 11.39   | 35 |
| 202 | 210 | 211Min. | 276.42 |      |    |      |    |      |    |          |    | 2329.22  | 35 |         |    |
| 202 | 210 | 211Min. | 535.00 | 0.00 | 35 | 0.00 | 35 | 0.00 | 35 | -5279.87 | 35 | -4497.11 | 35 | 11.39   | 35 |
| 202 | 211 | 212Max  | 15.00  | 0.00 | 35 | 0.00 | 35 | 0.00 | 35 | 5274.44  | 35 | -4484.27 | 35 | 1.35    | 35 |
| 202 | 211 | 212Max  | 273.31 |      |    |      |    |      |    |          |    | 2328.04  | 35 |         |    |
| 202 | 211 | 212Max  | 535.00 | 0.00 | 35 | 0.00 | 35 | 0.00 | 35 | -5343.31 | 35 | -4663.31 | 35 | 1.35    | 35 |
| 202 | 211 | 212Min. | 15.00  | 0.00 | 35 | 0.00 | 35 | 0.00 | 35 | 5274.44  | 35 | -4484.27 | 35 | 1.35    | 35 |
| 202 | 211 | 212Min. | 273.31 |      |    |      |    |      |    |          |    | 2328.04  | 35 |         |    |
| 202 | 211 | 212Min. | 535.00 | 0.00 | 35 | 0.00 | 35 | 0.00 | 35 | -5343.31 | 35 | -4663.31 | 35 | 1.35    | 35 |
| 202 | 212 | 213Max  | 15.00  | 0.00 | 35 | 0.00 | 35 | 0.00 | 35 | 5422.31  | 35 | -4679.27 | 35 | -2.18   | 35 |
| 202 | 212 | 213Max  | 280.56 |      |    |      |    |      |    |          |    | 2520.36  | 35 |         |    |
| 202 | 212 | 213Max  | 535.00 | 0.00 | 35 | 0.00 | 35 | 0.00 | 35 | -5195.44 | 35 | -4089.39 | 35 | -2.18   | 35 |
| 202 | 212 | 213Min. | 15.00  | 0.00 | 35 | 0.00 | 35 | 0.00 | 35 | 5422.31  | 35 | -4679.27 | 35 | -2.18   | 35 |
| 202 | 212 | 213Min. | 280.56 |      |    |      |    |      |    |          |    | 2520.36  | 35 |         |    |
| 202 | 212 | 213Min. | 535.00 | 0.00 | 35 | 0.00 | 35 | 0.00 | 35 | -5195.44 | 35 | -4089.39 | 35 | -2.18   | 35 |
| 202 | 213 | 214Max  | 15.00  | 0.00 | 35 | 0.00 | 35 | 0.00 | 35 | 4802.44  | 35 | -3920.63 | 35 | -15.45  | 35 |
| 202 | 213 | 214Max  | 250.20 |      |    |      |    |      |    |          |    | 1726.99  | 35 |         |    |
| 202 | 213 | 214Max  | 400.00 | 0.00 | 35 | 0.00 | 35 | 0.00 | 35 | -3058.78 | 35 | -564.08  | 35 | -15.45  | 35 |
| 202 | 213 | 214Min. | 15.00  | 0.00 | 35 | 0.00 | 35 | 0.00 | 35 | 4802.44  | 35 | -3920.63 | 35 | -15.45  | 35 |
| 202 | 213 | 214Min. | 250.20 |      |    |      |    |      |    |          |    | 1726.99  | 35 |         |    |
| 202 | 213 | 214Min. | 400.00 | 0.00 | 35 | 0.00 | 35 | 0.00 | 35 | -3058.78 | 35 | -564.08  | 35 | -15.45  | 35 |
| 202 | 218 | 214Max  | 0.00   | 0.00 | 35 | 0.00 | 35 | 0.00 | 35 | -293.00  | 35 | -0.03    | 35 | 158.03  | 35 |
| 202 | 218 | 214Max  | 50.17  | 0.00 | 35 | 0.00 | 35 | 0.00 | 35 | -1210.11 | 35 | -377.06  | 35 | 158.03  | 35 |
| 202 | 218 | 214Min. | 0.00   | 0.00 | 35 | 0.00 | 35 | 0.00 | 35 | -293.00  | 35 | -0.03    | 35 | 158.03  | 35 |
| 202 | 218 | 214Min. | 50.17  | 0.00 | 35 | 0.00 | 35 | 0.00 | 35 | -1210.11 | 35 | -377.06  | 35 | 158.03  | 35 |
| 203 | 215 | 201Max  | 0.00   | 0.00 | 35 | 0.00 | 35 | 0.00 | 35 | 0.00     | 35 | 0.00     | 35 | 0.00    | 35 |
| 203 | 215 | 201Max  | 35.00  | 0.00 | 35 | 0.00 | 35 | 0.00 | 35 | -32.81   | 35 | -5.74    | 35 | 0.00    | 35 |
| 203 | 215 | 201Min. | 0.00   | 0.00 | 35 | 0.00 | 35 | 0.00 | 35 | 0.00     | 35 | 0.00     | 35 | 0.00    | 35 |
| 203 | 215 | 201Min. | 35.00  | 0.00 | 35 | 0.00 | 35 | 0.00 | 35 | -32.81   | 35 | -5.74    | 35 | 0.00    | 35 |
| 203 | 201 | 208Max  | 15.00  | 0.00 | 35 | 0.00 | 35 | 0.00 | 35 | 773.52   | 35 | -318.39  | 35 | 0.24    | 35 |
| 203 | 201 | 208Max  | 262.53 |      |    |      |    |      |    |          |    | 638.94   | 35 |         |    |
| 203 | 201 | 208Max  | 510.00 | 0.00 | 35 | 0.00 | 35 | 0.00 | 35 | -773.36  | 35 | -317.99  | 35 | 0.24    | 35 |
| 203 | 201 | 208Min. | 15.00  | 0.00 | 35 | 0.00 | 35 | 0.00 | 35 | 773.52   | 35 | -318.39  | 35 | 0.24    | 35 |
| 203 | 201 | 208Min. | 262.53 |      |    |      |    |      |    |          |    | 638.94   | 35 |         |    |
| 203 | 201 | 208Min. | 510.00 | 0.00 | 35 | 0.00 | 35 | 0.00 | 35 | -773.36  | 35 | -317.99  | 35 | 0.24    | 35 |
| 203 | 208 | 219Max  | 15.00  | 0.00 | 35 | 0.00 | 35 | 0.00 | 35 | 32.81    | 35 | -5.74    | 35 | 0.00    | 35 |
| 203 | 208 | 219Max  | 43.00  |      |    |      |    |      |    |          |    | -0.23    | 35 |         |    |
| 203 | 208 | 219Max  | 50.00  | 0.00 | 35 | 0.00 | 35 | 0.00 | 35 | 0.00     | 35 | 0.00     | 35 | 0.00    | 35 |
| 203 | 208 | 219Min. | 15.00  | 0.00 | 35 | 0.00 | 35 | 0.00 | 35 | 32.81    | 35 | -5.74    | 35 | 0.00    | 35 |
| 203 | 208 | 219Min. | 43.00  |      |    |      |    |      |    |          |    | -0.23    | 35 |         |    |
| 203 | 208 | 219Min. | 50.00  | 0.00 | 35 | 0.00 | 35 | 0.00 | 35 | 0.00     | 35 | 0.00     | 35 | 0.00    | 35 |
| 204 | 202 | 209Max  | 15.00  | 0.00 | 35 | 0.00 | 35 | 0.00 | 35 | 463.88   | 35 | -321.66  | 35 | -0.07   | 35 |
| 204 | 202 | 209Max  | 262.40 |      |    |      |    |      |    |          |    | 252.18   | 35 |         |    |
| 204 | 202 | 209Max  | 510.00 | 0.00 | 35 | 0.00 | 35 | 0.00 | 35 | -464.24  | 35 | -322.54  | 35 | -0.07   | 35 |
| 204 | 202 | 209Min. | 15.00  | 0.00 | 35 | 0.00 | 35 | 0.00 | 35 | 463.88   | 35 | -321.66  | 35 | -0.07   | 35 |
| 204 | 202 | 209Min. | 262.40 |      |    |      |    |      |    |          |    | 252.18   | 35 |         |    |
| 204 | 202 | 209Min. | 510.00 | 0.00 | 35 | 0.00 | 35 | 0.00 | 35 | -464.24  | 35 | -322.54  | 35 | -0.07   | 35 |

## Relazione di calcolo

|     |     |     |      |        |      |    |      |    |      |    |         |    |         |    |       |    |
|-----|-----|-----|------|--------|------|----|------|----|------|----|---------|----|---------|----|-------|----|
| 205 | 203 | 210 | Max  | 15.00  | 0.00 | 35 | 0.00 | 35 | 0.00 | 35 | 463.87  | 35 | -319.59 | 35 | 0.06  | 35 |
| 205 | 203 | 210 | Max  | 262.39 |      |    |      |    |      |    |         |    | 254.19  | 35 |       |    |
| 205 | 203 | 210 | Max  | 510.00 | 0.00 | 35 | 0.00 | 35 | 0.00 | 35 | -464.26 | 35 | -320.57 | 35 | 0.06  | 35 |
| 205 | 203 | 210 | Min. | 15.00  | 0.00 | 35 | 0.00 | 35 | 0.00 | 35 | 463.87  | 35 | -319.59 | 35 | 0.06  | 35 |
| 205 | 203 | 210 | Min. | 262.39 |      |    |      |    |      |    |         |    | 254.19  | 35 |       |    |
| 205 | 203 | 210 | Min. | 510.00 | 0.00 | 35 | 0.00 | 35 | 0.00 | 35 | -464.26 | 35 | -320.57 | 35 | 0.06  | 35 |
| 206 | 204 | 211 | Max  | 15.00  | 0.00 | 35 | 0.00 | 35 | 0.00 | 35 | 464.12  | 35 | -312.60 | 35 | 0.01  | 35 |
| 206 | 204 | 211 | Max  | 262.53 |      |    |      |    |      |    |         |    | 261.81  | 35 |       |    |
| 206 | 204 | 211 | Max  | 510.00 | 0.00 | 35 | 0.00 | 35 | 0.00 | 35 | -464.01 | 35 | -312.34 | 35 | 0.01  | 35 |
| 206 | 204 | 211 | Min. | 15.00  | 0.00 | 35 | 0.00 | 35 | 0.00 | 35 | 464.12  | 35 | -312.60 | 35 | 0.01  | 35 |
| 206 | 204 | 211 | Min. | 262.53 |      |    |      |    |      |    |         |    | 261.81  | 35 |       |    |
| 206 | 204 | 211 | Min. | 510.00 | 0.00 | 35 | 0.00 | 35 | 0.00 | 35 | -464.01 | 35 | -312.34 | 35 | 0.01  | 35 |
| 207 | 205 | 212 | Max  | 15.00  | 0.00 | 35 | 0.00 | 35 | 0.00 | 35 | 464.10  | 35 | -311.63 | 35 | -0.01 | 35 |
| 207 | 205 | 212 | Max  | 262.52 |      |    |      |    |      |    |         |    | 262.73  | 35 |       |    |
| 207 | 205 | 212 | Max  | 510.00 | 0.00 | 35 | 0.00 | 35 | 0.00 | 35 | -464.03 | 35 | -311.46 | 35 | -0.01 | 35 |
| 207 | 205 | 212 | Min. | 15.00  | 0.00 | 35 | 0.00 | 35 | 0.00 | 35 | 464.10  | 35 | -311.63 | 35 | -0.01 | 35 |
| 207 | 205 | 212 | Min. | 262.52 |      |    |      |    |      |    |         |    | 262.73  | 35 |       |    |
| 207 | 205 | 212 | Min. | 510.00 | 0.00 | 35 | 0.00 | 35 | 0.00 | 35 | -464.03 | 35 | -311.46 | 35 | -0.01 | 35 |
| 208 | 206 | 213 | Max  | 15.00  | 0.00 | 35 | 0.00 | 35 | 0.00 | 35 | 464.07  | 35 | -313.02 | 35 | 0.02  | 35 |
| 208 | 206 | 213 | Max  | 262.51 |      |    |      |    |      |    |         |    | 261.28  | 35 |       |    |
| 208 | 206 | 213 | Max  | 510.00 | 0.00 | 35 | 0.00 | 35 | 0.00 | 35 | -464.05 | 35 | -312.97 | 35 | 0.02  | 35 |
| 208 | 206 | 213 | Min. | 15.00  | 0.00 | 35 | 0.00 | 35 | 0.00 | 35 | 464.07  | 35 | -313.02 | 35 | 0.02  | 35 |
| 208 | 206 | 213 | Min. | 262.51 |      |    |      |    |      |    |         |    | 261.28  | 35 |       |    |
| 208 | 206 | 213 | Min. | 510.00 | 0.00 | 35 | 0.00 | 35 | 0.00 | 35 | -464.05 | 35 | -312.97 | 35 | 0.02  | 35 |
| 209 | 214 | 207 | Max  | 15.00  | 0.00 | 35 | 0.00 | 35 | 0.00 | 35 | 773.69  | 35 | -249.22 | 35 | -0.37 | 35 |
| 209 | 214 | 207 | Max  | 262.58 |      |    |      |    |      |    |         |    | 708.53  | 35 |       |    |
| 209 | 214 | 207 | Max  | 510.00 | 0.00 | 35 | 0.00 | 35 | 0.00 | 35 | -773.19 | 35 | -247.99 | 35 | -0.37 | 35 |
| 209 | 214 | 207 | Min. | 15.00  | 0.00 | 35 | 0.00 | 35 | 0.00 | 35 | 773.69  | 35 | -249.22 | 35 | -0.37 | 35 |
| 209 | 214 | 207 | Min. | 262.58 |      |    |      |    |      |    |         |    | 708.53  | 35 |       |    |
| 209 | 214 | 207 | Min. | 510.00 | 0.00 | 35 | 0.00 | 35 | 0.00 | 35 | -773.19 | 35 | -247.99 | 35 | -0.37 | 35 |
| 210 | 216 | 217 | Max  | 0.00   | 0.00 | 35 | 0.00 | 35 | 0.00 | 35 | 0.00    | 35 | 0.00    | 35 | 0.00  | 35 |
| 210 | 216 | 217 | Max  | 50.00  | 0.00 | 35 | 0.00 | 35 | 0.00 | 35 | -46.88  | 35 | -11.72  | 35 | 0.00  | 35 |
| 210 | 216 | 217 | Min. | 0.00   | 0.00 | 35 | 0.00 | 35 | 0.00 | 35 | 0.00    | 35 | 0.00    | 35 | 0.00  | 35 |
| 210 | 216 | 217 | Min. | 50.00  | 0.00 | 35 | 0.00 | 35 | 0.00 | 35 | -46.88  | 35 | -11.72  | 35 | 0.00  | 35 |
| 210 | 217 | 218 | Max  | 0.00   | 0.00 | 35 | 0.00 | 35 | 0.00 | 35 | 246.07  | 35 | -169.61 | 35 | -0.03 | 35 |
| 210 | 217 | 218 | Max  | 262.47 |      |    |      |    |      |    |         |    | 153.32  | 35 |       |    |
| 210 | 217 | 218 | Max  | 525.00 | 0.00 | 35 | 0.00 | 35 | 0.00 | 35 | -246.12 | 35 | -169.75 | 35 | -0.03 | 35 |
| 210 | 217 | 218 | Min. | 0.00   | 0.00 | 35 | 0.00 | 35 | 0.00 | 35 | 246.07  | 35 | -169.61 | 35 | -0.03 | 35 |
| 210 | 217 | 218 | Min. | 262.47 |      |    |      |    |      |    |         |    | 153.32  | 35 |       |    |
| 210 | 217 | 218 | Min. | 525.00 | 0.00 | 35 | 0.00 | 35 | 0.00 | 35 | -246.12 | 35 | -169.75 | 35 | -0.03 | 35 |
| 210 | 218 | 220 | Max  | 0.00   | 0.00 | 35 | 0.00 | 35 | 0.00 | 35 | 46.88   | 35 | -11.72  | 35 | 0.00  | 35 |
| 210 | 218 | 220 | Max  | 40.00  |      |    |      |    |      |    |         |    | -0.47   | 35 |       |    |
| 210 | 218 | 220 | Max  | 50.00  | 0.00 | 35 | 0.00 | 35 | 0.00 | 35 | 0.00    | 35 | 0.00    | 35 | 0.00  | 35 |
| 210 | 218 | 220 | Min. | 0.00   | 0.00 | 35 | 0.00 | 35 | 0.00 | 35 | 46.88   | 35 | -11.72  | 35 | 0.00  | 35 |
| 210 | 218 | 220 | Min. | 40.00  |      |    |      |    |      |    |         |    | -0.47   | 35 |       |    |
| 210 | 218 | 220 | Min. | 50.00  | 0.00 | 35 | 0.00 | 35 | 0.00 | 35 | 0.00    | 35 | 0.00    | 35 | 0.00  | 35 |

Tipo di combinazione di carico: SLE Q

| Asta | N1   | N2   |      | X<br><cm> | N<br><daN> | CC | Ty<br><daN> | CC | Mz<br><daNm> | CC | Tz<br><daN> | CC | My<br><daNm> | CC | Mx<br><daNm> | CC |
|------|------|------|------|-----------|------------|----|-------------|----|--------------|----|-------------|----|--------------|----|--------------|----|
| 0    | -264 | -298 | Max  | 0.00      | 87.69      | 36 | 16.70       | 36 | -7.39        | 36 | 62.38       | 36 | -5.11        | 36 | 11.86        | 36 |
| 0    | -264 | -298 | Max  | 27.72     |            |    |             |    | -2.76        | 36 |             |    | 3.53         | 36 |              |    |
| 0    | -264 | -298 | Max  | 65.00     | 87.69      | 36 | 16.70       | 36 | 3.46         | 36 | -83.87      | 36 | -12.10       | 36 | 11.86        | 36 |
| 0    | -264 | -298 | Min. | 0.00      | 87.69      | 36 | 16.70       | 36 | -7.39        | 36 | 62.38       | 36 | -5.11        | 36 | 11.86        | 36 |
| 0    | -264 | -298 | Min. | 27.72     |            |    |             |    | -2.76        | 36 |             |    | 3.53         | 36 |              |    |
| 0    | -264 | -298 | Min. | 65.00     | 87.69      | 36 | 16.70       | 36 | 3.46         | 36 | -83.87      | 36 | -12.10       | 36 | 11.86        | 36 |
| 0    | -322 | -353 | Max  | 0.00      | -192.03    | 36 | -10.80      | 36 | 1.24         | 36 | 163.36      | 36 | -4.77        | 36 | -7.76        | 36 |
| 0    | -322 | -353 | Max  | 60.50     | -192.03    | 36 | -10.80      | 36 | -5.30        | 36 | 27.24       | 36 | 52.89        | 36 | -7.76        | 36 |
| 0    | -322 | -353 | Min. | 0.00      | -192.03    | 36 | -10.80      | 36 | 1.24         | 36 | 163.36      | 36 | -4.77        | 36 | -7.76        | 36 |
| 0    | -322 | -353 | Min. | 60.50     | -192.03    | 36 | -10.80      | 36 | -5.30        | 36 | 27.24       | 36 | 52.89        | 36 | -7.76        | 36 |
| 1    | 1    | 201  | Max  | 0.00      | -6161.73   | 36 | 177.22      | 36 | -184.56      | 36 | -781.22     | 36 | 672.03       | 36 | 0.04         | 36 |
| 1    | 1    | 201  | Max  | 330.00    | -4924.23   | 36 | 177.22      | 36 | 400.27       | 36 | -781.22     | 36 | -1905.99     | 36 | 0.04         | 36 |
| 1    | 1    | 201  | Min. | 0.00      | -6161.73   | 36 | 177.22      | 36 | -184.56      | 36 | -781.22     | 36 | 672.03       | 36 | 0.04         | 36 |
| 1    | 1    | 201  | Min. | 330.00    | -4924.23   | 36 | 177.22      | 36 | 400.27       | 36 | -781.22     | 36 | -1905.99     | 36 | 0.04         | 36 |
| 2    | 2    | 202  | Max  | 0.00      | -11830.30  | 36 | 172.15      | 36 | -233.02      | 36 | -69.42      | 36 | 72.88        | 36 | 0.60         | 36 |
| 2    | 2    | 202  | Max  | 330.00    | -11087.80  | 36 | 172.15      | 36 | 335.07       | 36 | -69.42      | 36 | -156.21      | 36 | 0.60         | 36 |
| 2    | 2    | 202  | Min. | 0.00      | -11830.30  | 36 | 172.15      | 36 | -233.02      | 36 | -69.42      | 36 | 72.88        | 36 | 0.60         | 36 |
| 2    | 2    | 202  | Min. | 330.00    | -11087.80  | 36 | 172.15      | 36 | 335.07       | 36 | -69.42      | 36 | -156.21      | 36 | 0.60         | 36 |
| 3    | 3    | 203  | Max  | 0.00      | -12515.60  | 36 | 183.94      | 36 | -253.85      | 36 | 25.84       | 36 | -36.35       | 36 | -0.21        | 36 |
| 3    | 3    | 203  | Max  | 330.00    | -11773.10  | 36 | 183.94      | 36 | 353.16       | 36 | 25.84       | 36 | 48.94        | 36 | -0.21        | 36 |
| 3    | 3    | 203  | Min. | 0.00      | -12515.60  | 36 | 183.94      | 36 | -253.85      | 36 | 25.84       | 36 | -36.35       | 36 | -0.21        | 36 |
| 3    | 3    | 203  | Min. | 330.00    | -11773.10  | 36 | 183.94      | 36 | 353.16       | 36 | 25.84       | 36 | 48.94        | 36 | -0.21        | 36 |
| 4    | 4    | 204  | Max  | 0.00      | -12314.60  | 36 | 149.47      | 36 | -155.92      | 36 | 8.16        | 36 | -14.78       | 36 | 0.02         | 36 |
| 4    | 4    | 204  | Max  | 330.00    | -11572.10  | 36 | 149.47      | 36 | 337.33       | 36 | 8.16        | 36 | 12.15        | 36 | 0.02         | 36 |
| 4    | 4    | 204  | Min. | 0.00      | -12314.60  | 36 | 149.47      | 36 | -155.92      | 36 | 8.16        | 36 | -14.78       | 36 | 0.02         | 36 |
| 4    | 4    | 204  | Min. | 330.00    | -11572.10  | 36 | 149.47      | 36 | 337.33       | 36 | 8.16        | 36 | 12.15        | 36 | 0.02         | 36 |
| 5    | 5    | 205  | Max  | 0.00      | -12522.90  | 36 | 151.53      | 36 | -158.07      | 36 | -9.26       | 36 | 5.62         | 36 | 0.02         | 36 |
| 5    | 5    | 205  | Max  | 330.00    | -11780.40  | 36 | 151.53      | 36 | 341.99       | 36 | -9.26       | 36 | -24.94       | 36 | 0.02         | 36 |

# Relazione di calcolo

|     |     |         |        |           |    |         |    |         |    |          |    |          |    |         |    |
|-----|-----|---------|--------|-----------|----|---------|----|---------|----|----------|----|----------|----|---------|----|
| 5   | 5   | 205Min. | 0.00   | -12522.90 | 36 | 151.53  | 36 | -158.07 | 36 | -9.26    | 36 | 5.62     | 36 | 0.02    | 36 |
| 5   | 5   | 205Min. | 330.00 | -11780.40 | 36 | 151.53  | 36 | 341.99  | 36 | -9.26    | 36 | -24.94   | 36 | 0.02    | 36 |
| 6   | 6   | 206Max  | 0.00   | -11762.60 | 36 | 148.07  | 36 | -154.28 | 36 | 96.11    | 36 | -114.95  | 36 | 0.02    | 36 |
| 6   | 6   | 206Max  | 330.00 | -11020.10 | 36 | 148.07  | 36 | 334.34  | 36 | 96.11    | 36 | 202.23   | 36 | 0.02    | 36 |
| 6   | 6   | 206Min. | 0.00   | -11762.60 | 36 | 148.07  | 36 | -154.28 | 36 | 96.11    | 36 | -114.95  | 36 | 0.02    | 36 |
| 6   | 6   | 206Min. | 330.00 | -11020.10 | 36 | 148.07  | 36 | 334.34  | 36 | 96.11    | 36 | 202.23   | 36 | 0.02    | 36 |
| 7   | 7   | 207Max  | 0.00   | -7390.96  | 36 | 214.91  | 36 | -221.93 | 36 | 730.70   | 36 | -643.97  | 36 | 0.04    | 36 |
| 7   | 7   | 207Max  | 330.00 | -6153.46  | 36 | 214.91  | 36 | 487.26  | 36 | 730.70   | 36 | 1767.35  | 36 | 0.04    | 36 |
| 7   | 7   | 207Min. | 0.00   | -7390.96  | 36 | 214.91  | 36 | -221.93 | 36 | 730.70   | 36 | -643.97  | 36 | 0.04    | 36 |
| 7   | 7   | 207Min. | 330.00 | -6153.46  | 36 | 214.91  | 36 | 487.26  | 36 | 730.70   | 36 | 1767.35  | 36 | 0.04    | 36 |
| 8   | 8   | 208Max  | 0.00   | -6159.24  | 36 | -176.35 | 36 | 182.16  | 36 | -772.25  | 36 | 648.32   | 36 | 0.04    | 36 |
| 8   | 8   | 208Max  | 330.00 | -4921.74  | 36 | -176.35 | 36 | -399.81 | 36 | -772.25  | 36 | -1900.11 | 36 | 0.04    | 36 |
| 8   | 8   | 208Min. | 0.00   | -6159.24  | 36 | -176.35 | 36 | 182.16  | 36 | -772.25  | 36 | 648.32   | 36 | 0.04    | 36 |
| 8   | 8   | 208Min. | 330.00 | -4921.74  | 36 | -176.35 | 36 | -399.81 | 36 | -772.25  | 36 | -1900.11 | 36 | 0.04    | 36 |
| 9   | 9   | 209Max  | 0.00   | -11833.80 | 36 | -172.83 | 36 | 234.52  | 36 | -70.14   | 36 | 74.79    | 36 | -0.54   | 36 |
| 9   | 9   | 209Max  | 330.00 | -11091.30 | 36 | -172.83 | 36 | -335.81 | 36 | -70.14   | 36 | -156.68  | 36 | -0.54   | 36 |
| 9   | 9   | 209Min. | 0.00   | -11833.80 | 36 | -172.83 | 36 | 234.52  | 36 | -70.14   | 36 | 74.79    | 36 | -0.54   | 36 |
| 9   | 9   | 209Min. | 330.00 | -11091.30 | 36 | -172.83 | 36 | -335.81 | 36 | -70.14   | 36 | -156.68  | 36 | -0.54   | 36 |
| 10  | 10  | 210Max  | 0.00   | -12515.40 | 36 | -185.41 | 36 | 257.46  | 36 | 25.51    | 36 | -36.04   | 36 | 0.26    | 36 |
| 10  | 10  | 210Max  | 330.00 | -11772.90 | 36 | -185.41 | 36 | -354.38 | 36 | 25.51    | 36 | 48.15    | 36 | 0.26    | 36 |
| 10  | 10  | 210Min. | 0.00   | -12515.40 | 36 | -185.41 | 36 | 257.46  | 36 | 25.51    | 36 | -36.04   | 36 | 0.26    | 36 |
| 10  | 10  | 210Min. | 330.00 | -11772.90 | 36 | -185.41 | 36 | -354.38 | 36 | 25.51    | 36 | 48.15    | 36 | 0.26    | 36 |
| 11  | 11  | 211Max  | 0.00   | -12314.30 | 36 | -148.76 | 36 | 154.00  | 36 | 7.95     | 36 | -14.46   | 36 | 0.02    | 36 |
| 11  | 11  | 211Max  | 330.00 | -11571.80 | 36 | -148.76 | 36 | -336.91 | 36 | 7.95     | 36 | 11.76    | 36 | 0.02    | 36 |
| 11  | 11  | 211Min. | 0.00   | -12314.30 | 36 | -148.76 | 36 | 154.00  | 36 | 7.95     | 36 | -14.46   | 36 | 0.02    | 36 |
| 11  | 11  | 211Min. | 330.00 | -11571.80 | 36 | -148.76 | 36 | -336.91 | 36 | 7.95     | 36 | 11.76    | 36 | 0.02    | 36 |
| 12  | 12  | 212Max  | 0.00   | -12522.80 | 36 | -151.10 | 36 | 156.70  | 36 | -9.22    | 36 | 5.50     | 36 | 0.02    | 36 |
| 12  | 12  | 212Max  | 330.00 | -11780.30 | 36 | -151.10 | 36 | -341.92 | 36 | -9.22    | 36 | -24.93   | 36 | 0.02    | 36 |
| 12  | 12  | 212Min. | 0.00   | -12522.80 | 36 | -151.10 | 36 | 156.70  | 36 | -9.22    | 36 | 5.50     | 36 | 0.02    | 36 |
| 12  | 12  | 212Min. | 330.00 | -11780.30 | 36 | -151.10 | 36 | -341.92 | 36 | -9.22    | 36 | -24.93   | 36 | 0.02    | 36 |
| 13  | 13  | 213Max  | 0.00   | -11764.40 | 36 | -147.80 | 36 | 153.25  | 36 | 95.38    | 36 | -113.47  | 36 | 0.02    | 36 |
| 13  | 13  | 213Max  | 330.00 | -11021.90 | 36 | -147.80 | 36 | -334.50 | 36 | 95.38    | 36 | 201.27   | 36 | 0.02    | 36 |
| 13  | 13  | 213Min. | 0.00   | -11764.40 | 36 | -147.80 | 36 | 153.25  | 36 | 95.38    | 36 | -113.47  | 36 | 0.02    | 36 |
| 13  | 13  | 213Min. | 330.00 | -11021.90 | 36 | -147.80 | 36 | -334.50 | 36 | 95.38    | 36 | 201.27   | 36 | 0.02    | 36 |
| 14  | 14  | 214Max  | 0.00   | -7389.76  | 36 | -215.04 | 36 | 221.07  | 36 | 721.86   | 36 | -619.59  | 36 | 0.04    | 36 |
| 14  | 14  | 214Max  | 330.00 | -6152.26  | 36 | -215.04 | 36 | -488.56 | 36 | 721.86   | 36 | 1762.54  | 36 | 0.04    | 36 |
| 14  | 14  | 214Min. | 0.00   | -7389.76  | 36 | -215.04 | 36 | 221.07  | 36 | 721.86   | 36 | -619.59  | 36 | 0.04    | 36 |
| 14  | 14  | 214Min. | 330.00 | -6152.26  | 36 | -215.04 | 36 | -488.56 | 36 | 721.86   | 36 | 1762.54  | 36 | 0.04    | 36 |
| 201 | 202 | 201Max  | 15.00  | 0.00      | 36 | 0.00    | 36 | 0.00    | 36 | 4804.75  | 36 | -3931.41 | 36 | -18.34  | 36 |
| 201 | 202 | 201Max  | 253.38 |           |    |         |    |         |    |          |    | 1795.27  | 36 |         |    |
| 201 | 202 | 201Max  | 400.00 | 0.00      | 36 | 0.00    | 36 | 0.00    | 36 | -2955.40 | 36 | -371.41  | 36 | -18.34  | 36 |
| 201 | 202 | 201Min. | 15.00  | 0.00      | 36 | 0.00    | 36 | 0.00    | 36 | 4804.75  | 36 | -3931.41 | 36 | -18.34  | 36 |
| 201 | 202 | 201Min. | 253.38 |           |    |         |    |         |    |          |    | 1795.27  | 36 |         |    |
| 201 | 202 | 201Min. | 400.00 | 0.00      | 36 | 0.00    | 36 | 0.00    | 36 | -2955.40 | 36 | -371.41  | 36 | -18.34  | 36 |
| 201 | 203 | 202Max  | 15.00  | 0.00      | 36 | 0.00    | 36 | 0.00    | 36 | 5351.18  | 36 | -4631.13 | 36 | -3.12   | 36 |
| 201 | 203 | 202Max  | 280.49 |           |    |         |    |         |    |          |    | 2472.16  | 36 |         |    |
| 201 | 203 | 202Max  | 535.00 | 0.00      | 36 | 0.00    | 36 | 0.00    | 36 | -5130.07 | 36 | -4056.26 | 36 | -3.12   | 36 |
| 201 | 203 | 202Min. | 15.00  | 0.00      | 36 | 0.00    | 36 | 0.00    | 36 | 5351.18  | 36 | -4631.13 | 36 | -3.12   | 36 |
| 201 | 203 | 202Min. | 280.49 |           |    |         |    |         |    |          |    | 2472.16  | 36 |         |    |
| 201 | 203 | 202Min. | 535.00 | 0.00      | 36 | 0.00    | 36 | 0.00    | 36 | -5130.07 | 36 | -4056.26 | 36 | -3.12   | 36 |
| 201 | 204 | 203Max  | 15.00  | 0.00      | 36 | 0.00    | 36 | 0.00    | 36 | 5212.22  | 36 | -4440.28 | 36 | -11.03  | 36 |
| 201 | 204 | 203Max  | 273.59 |           |    |         |    |         |    |          |    | 2298.88  | 36 |         |    |
| 201 | 204 | 203Max  | 535.00 | 0.00      | 36 | 0.00    | 36 | 0.00    | 36 | -5269.03 | 36 | -4587.99 | 36 | -11.03  | 36 |
| 201 | 204 | 203Min. | 15.00  | 0.00      | 36 | 0.00    | 36 | 0.00    | 36 | 5212.22  | 36 | -4440.28 | 36 | -11.03  | 36 |
| 201 | 204 | 203Min. | 273.59 |           |    |         |    |         |    |          |    | 2298.88  | 36 |         |    |
| 201 | 204 | 203Min. | 535.00 | 0.00      | 36 | 0.00    | 36 | 0.00    | 36 | -5269.03 | 36 | -4587.99 | 36 | -11.03  | 36 |
| 201 | 205 | 204Max  | 15.00  | 0.00      | 36 | 0.00    | 36 | 0.00    | 36 | 5274.59  | 36 | -4603.52 | 36 | -1.38   | 36 |
| 201 | 205 | 204Max  | 276.69 |           |    |         |    |         |    |          |    | 2297.89  | 36 |         |    |
| 201 | 205 | 204Max  | 535.00 | 0.00      | 36 | 0.00    | 36 | 0.00    | 36 | -5206.66 | 36 | -4426.90 | 36 | -1.38   | 36 |
| 201 | 205 | 204Min. | 15.00  | 0.00      | 36 | 0.00    | 36 | 0.00    | 36 | 5274.59  | 36 | -4603.52 | 36 | -1.38   | 36 |
| 201 | 205 | 204Min. | 276.69 |           |    |         |    |         |    |          |    | 2297.89  | 36 |         |    |
| 201 | 205 | 204Min. | 535.00 | 0.00      | 36 | 0.00    | 36 | 0.00    | 36 | -5206.66 | 36 | -4426.90 | 36 | -1.38   | 36 |
| 201 | 206 | 205Max  | 15.00  | 0.00      | 36 | 0.00    | 36 | 0.00    | 36 | 5128.56  | 36 | -4036.31 | 36 | 2.12    | 36 |
| 201 | 206 | 205Max  | 269.44 |           |    |         |    |         |    |          |    | 2488.24  | 36 |         |    |
| 201 | 206 | 205Max  | 535.00 | 0.00      | 36 | 0.00    | 36 | 0.00    | 36 | -5352.69 | 36 | -4619.06 | 36 | 2.12    | 36 |
| 201 | 206 | 205Min. | 15.00  | 0.00      | 36 | 0.00    | 36 | 0.00    | 36 | 5128.56  | 36 | -4036.31 | 36 | 2.12    | 36 |
| 201 | 206 | 205Min. | 269.44 |           |    |         |    |         |    |          |    | 2488.24  | 36 |         |    |
| 201 | 206 | 205Min. | 535.00 | 0.00      | 36 | 0.00    | 36 | 0.00    | 36 | -5352.69 | 36 | -4619.06 | 36 | 2.12    | 36 |
| 201 | 207 | 206Max  | 50.00  | 0.00      | 36 | 0.00    | 36 | 0.00    | 36 | 3021.71  | 36 | -563.86  | 36 | 15.53   | 36 |
| 201 | 207 | 206Max  | 199.91 |           |    |         |    |         |    |          |    | 1701.14  | 36 |         |    |
| 201 | 207 | 206Max  | 435.00 | 0.00      | 36 | 0.00    | 36 | 0.00    | 36 | -4738.45 | 36 | -3868.57 | 36 | 15.53   | 36 |
| 201 | 207 | 206Min. | 50.00  | 0.00      | 36 | 0.00    | 36 | 0.00    | 36 | 3021.71  | 36 | -563.86  | 36 | 15.53   | 36 |
| 201 | 207 | 206Min. | 199.91 |           |    |         |    |         |    |          |    | 1701.14  | 36 |         |    |
| 201 | 207 | 206Min. | 435.00 | 0.00      | 36 | 0.00    | 36 | 0.00    | 36 | -4738.45 | 36 | -3868.57 | 36 | 15.53   | 36 |
| 201 | 217 | 207Max  | 0.00   | 0.00      | 36 | 0.00    | 36 | 0.00    | 36 | -292.94  | 36 | 0.03     | 36 | -157.90 | 36 |
| 201 | 217 | 207Max  | 50.17  | 0.00      | 36 | 0.00    | 36 | 0.00    | 36 | -1210.05 | 36 | -376.97  | 36 | -157.90 | 36 |
| 201 | 217 | 207Min. | 0.00   | 0.00      | 36 | 0.00    | 36 | 0.00    | 36 | -292.94  | 36 | 0.03     | 36 | -157.90 | 36 |
| 201 | 217 | 207Min. | 50.17  | 0.00      | 36 | 0.00    | 36 | 0.00    | 36 | -1210.05 | 36 | -376.97  | 36 | -157.90 | 36 |
| 202 | 208 | 209Max  | 50.00  | 0.00      | 36 | 0.00    | 36 | 0.00    | 36 | 2953.07  | 36 | -364.93  | 36 | 18.07   | 36 |

# Relazione di calcolo

|     |     |     |      |        |      |    |      |    |      |    |          |    |          |    |
|-----|-----|-----|------|--------|------|----|------|----|------|----|----------|----|----------|----|
| 202 | 208 | 209 | Max  | 196.51 |      |    |      |    |      |    | 1798.32  | 36 |          |    |
| 202 | 208 | 209 | Max  | 435.00 | 0.00 | 36 | 0.00 | 36 | 0.00 | 36 | -4807.09 | 36 | -3933.93 | 36 |
| 202 | 208 | 209 | Min. | 50.00  | 0.00 | 36 | 0.00 | 36 | 0.00 | 36 | 2953.07  | 36 | -364.93  | 36 |
| 202 | 208 | 209 | Min. | 196.51 |      |    |      |    |      |    | 1798.32  | 36 |          |    |
| 202 | 208 | 209 | Min. | 435.00 | 0.00 | 36 | 0.00 | 36 | 0.00 | 36 | -4807.09 | 36 | -3933.93 | 36 |
| 202 | 209 | 210 | Max  | 15.00  | 0.00 | 36 | 0.00 | 36 | 0.00 | 36 | 5130.87  | 36 | -4059.50 | 36 |
| 202 | 209 | 210 | Max  | 269.56 |      |    |      |    |      |    | 2470.93  | 36 |          |    |
| 202 | 209 | 210 | Max  | 535.00 | 0.00 | 36 | 0.00 | 36 | 0.00 | 36 | -5350.39 | 36 | -4630.25 | 36 |
| 202 | 209 | 210 | Min. | 15.00  | 0.00 | 36 | 0.00 | 36 | 0.00 | 36 | 5130.87  | 36 | -4059.50 | 36 |
| 202 | 209 | 210 | Min. | 269.56 |      |    |      |    |      |    | 2470.93  | 36 |          |    |
| 202 | 209 | 210 | Min. | 535.00 | 0.00 | 36 | 0.00 | 36 | 0.00 | 36 | -5350.39 | 36 | -4630.25 | 36 |
| 202 | 210 | 211 | Max  | 15.00  | 0.00 | 36 | 0.00 | 36 | 0.00 | 36 | 5269.17  | 36 | -4587.94 | 36 |
| 202 | 210 | 211 | Max  | 276.42 |      |    |      |    |      |    | 2299.29  | 36 |          |    |
| 202 | 210 | 211 | Max  | 535.00 | 0.00 | 36 | 0.00 | 36 | 0.00 | 36 | -5212.08 | 36 | -4439.51 | 36 |
| 202 | 210 | 211 | Min. | 15.00  | 0.00 | 36 | 0.00 | 36 | 0.00 | 36 | 5269.17  | 36 | -4587.94 | 36 |
| 202 | 210 | 211 | Min. | 276.42 |      |    |      |    |      |    | 2299.29  | 36 |          |    |
| 202 | 210 | 211 | Min. | 535.00 | 0.00 | 36 | 0.00 | 36 | 0.00 | 36 | -5212.08 | 36 | -4439.51 | 36 |
| 202 | 211 | 212 | Max  | 15.00  | 0.00 | 36 | 0.00 | 36 | 0.00 | 36 | 5206.61  | 36 | -4426.59 | 36 |
| 202 | 211 | 212 | Max  | 273.31 |      |    |      |    |      |    | 2298.06  | 36 |          |    |
| 202 | 211 | 212 | Max  | 535.00 | 0.00 | 36 | 0.00 | 36 | 0.00 | 36 | -5274.64 | 36 | -4603.48 | 36 |
| 202 | 211 | 212 | Min. | 15.00  | 0.00 | 36 | 0.00 | 36 | 0.00 | 36 | 5206.61  | 36 | -4426.59 | 36 |
| 202 | 211 | 212 | Min. | 273.31 |      |    |      |    |      |    | 2298.06  | 36 |          |    |
| 202 | 211 | 212 | Min. | 535.00 | 0.00 | 36 | 0.00 | 36 | 0.00 | 36 | -5274.64 | 36 | -4603.48 | 36 |
| 202 | 212 | 213 | Max  | 15.00  | 0.00 | 36 | 0.00 | 36 | 0.00 | 36 | 5352.60  | 36 | -4619.02 | 36 |
| 202 | 212 | 213 | Max  | 280.56 |      |    |      |    |      |    | 2488.04  | 36 |          |    |
| 202 | 212 | 213 | Max  | 535.00 | 0.00 | 36 | 0.00 | 36 | 0.00 | 36 | -5128.65 | 36 | -4036.75 | 36 |
| 202 | 212 | 213 | Min. | 15.00  | 0.00 | 36 | 0.00 | 36 | 0.00 | 36 | 5352.60  | 36 | -4619.02 | 36 |
| 202 | 212 | 213 | Min. | 280.56 |      |    |      |    |      |    | 2488.04  | 36 |          |    |
| 202 | 212 | 213 | Min. | 535.00 | 0.00 | 36 | 0.00 | 36 | 0.00 | 36 | -5128.65 | 36 | -4036.75 | 36 |
| 202 | 213 | 214 | Max  | 15.00  | 0.00 | 36 | 0.00 | 36 | 0.00 | 36 | 4740.18  | 36 | -3869.92 | 36 |
| 202 | 213 | 214 | Max  | 250.17 |      |    |      |    |      |    | 1703.86  | 36 |          |    |
| 202 | 213 | 214 | Max  | 400.00 | 0.00 | 36 | 0.00 | 36 | 0.00 | 36 | -3019.98 | 36 | -558.54  | 36 |
| 202 | 213 | 214 | Min. | 15.00  | 0.00 | 36 | 0.00 | 36 | 0.00 | 36 | 4740.18  | 36 | -3869.92 | 36 |
| 202 | 213 | 214 | Min. | 250.17 |      |    |      |    |      |    | 1703.86  | 36 |          |    |
| 202 | 213 | 214 | Min. | 400.00 | 0.00 | 36 | 0.00 | 36 | 0.00 | 36 | -3019.98 | 36 | -558.54  | 36 |
| 202 | 218 | 214 | Max  | 0.00   | 0.00 | 36 | 0.00 | 36 | 0.00 | 36 | -293.00  | 36 | -0.03    | 36 |
| 202 | 218 | 214 | Max  | 50.17  | 0.00 | 36 | 0.00 | 36 | 0.00 | 36 | -1210.10 | 36 | -377.06  | 36 |
| 202 | 218 | 214 | Min. | 0.00   | 0.00 | 36 | 0.00 | 36 | 0.00 | 36 | -293.00  | 36 | -0.03    | 36 |
| 202 | 218 | 214 | Min. | 50.17  | 0.00 | 36 | 0.00 | 36 | 0.00 | 36 | -1210.10 | 36 | -377.06  | 36 |
| 203 | 215 | 201 | Max  | 0.00   | 0.00 | 36 | 0.00 | 36 | 0.00 | 36 | 0.00     | 36 | 0.00     | 36 |
| 203 | 215 | 201 | Max  | 35.00  | 0.00 | 36 | 0.00 | 36 | 0.00 | 36 | -32.81   | 36 | -5.74    | 36 |
| 203 | 215 | 201 | Min. | 0.00   | 0.00 | 36 | 0.00 | 36 | 0.00 | 36 | 0.00     | 36 | 0.00     | 36 |
| 203 | 215 | 201 | Min. | 35.00  | 0.00 | 36 | 0.00 | 36 | 0.00 | 36 | -32.81   | 36 | -5.74    | 36 |
| 203 | 201 | 208 | Max  | 15.00  | 0.00 | 36 | 0.00 | 36 | 0.00 | 36 | 773.52   | 36 | -318.42  | 36 |
| 203 | 201 | 208 | Max  | 262.52 |      |    |      |    |      |    | 638.90   | 36 |          |    |
| 203 | 201 | 208 | Max  | 510.00 | 0.00 | 36 | 0.00 | 36 | 0.00 | 36 | -773.36  | 36 | -318.03  | 36 |
| 203 | 201 | 208 | Min. | 15.00  | 0.00 | 36 | 0.00 | 36 | 0.00 | 36 | 773.52   | 36 | -318.42  | 36 |
| 203 | 201 | 208 | Min. | 262.52 |      |    |      |    |      |    | 638.90   | 36 |          |    |
| 203 | 201 | 208 | Min. | 510.00 | 0.00 | 36 | 0.00 | 36 | 0.00 | 36 | -773.36  | 36 | -318.03  | 36 |
| 203 | 208 | 219 | Max  | 15.00  | 0.00 | 36 | 0.00 | 36 | 0.00 | 36 | 32.81    | 36 | -5.74    | 36 |
| 203 | 208 | 219 | Max  | 43.00  |      |    |      |    |      |    | -0.23    | 36 |          |    |
| 203 | 208 | 219 | Max  | 50.00  | 0.00 | 36 | 0.00 | 36 | 0.00 | 36 | 0.00     | 36 | 0.00     | 36 |
| 203 | 208 | 219 | Min. | 15.00  | 0.00 | 36 | 0.00 | 36 | 0.00 | 36 | 32.81    | 36 | -5.74    | 36 |
| 203 | 208 | 219 | Min. | 43.00  |      |    |      |    |      |    | -0.23    | 36 |          |    |
| 203 | 208 | 219 | Min. | 50.00  | 0.00 | 36 | 0.00 | 36 | 0.00 | 36 | 0.00     | 36 | 0.00     | 36 |
| 204 | 202 | 209 | Max  | 15.00  | 0.00 | 36 | 0.00 | 36 | 0.00 | 36 | 463.89   | 36 | -321.62  | 36 |
| 204 | 202 | 209 | Max  | 262.41 |      |    |      |    |      |    | 252.22   | 36 |          |    |
| 204 | 202 | 209 | Max  | 510.00 | 0.00 | 36 | 0.00 | 36 | 0.00 | 36 | -464.24  | 36 | -322.49  | 36 |
| 204 | 202 | 209 | Min. | 15.00  | 0.00 | 36 | 0.00 | 36 | 0.00 | 36 | 463.89   | 36 | -321.62  | 36 |
| 204 | 202 | 209 | Min. | 262.41 |      |    |      |    |      |    | 252.22   | 36 |          |    |
| 204 | 202 | 209 | Min. | 510.00 | 0.00 | 36 | 0.00 | 36 | 0.00 | 36 | -464.24  | 36 | -322.49  | 36 |
| 205 | 203 | 210 | Max  | 15.00  | 0.00 | 36 | 0.00 | 36 | 0.00 | 36 | 463.87   | 36 | -319.55  | 36 |
| 205 | 203 | 210 | Max  | 262.40 |      |    |      |    |      |    | 254.24   | 36 |          |    |
| 205 | 203 | 210 | Max  | 510.00 | 0.00 | 36 | 0.00 | 36 | 0.00 | 36 | -464.26  | 36 | -320.52  | 36 |
| 205 | 203 | 210 | Min. | 15.00  | 0.00 | 36 | 0.00 | 36 | 0.00 | 36 | 463.87   | 36 | -319.55  | 36 |
| 205 | 203 | 210 | Min. | 262.40 |      |    |      |    |      |    | 254.24   | 36 |          |    |
| 205 | 203 | 210 | Min. | 510.00 | 0.00 | 36 | 0.00 | 36 | 0.00 | 36 | -464.26  | 36 | -320.52  | 36 |
| 206 | 204 | 211 | Max  | 15.00  | 0.00 | 36 | 0.00 | 36 | 0.00 | 36 | 464.11   | 36 | -312.62  | 36 |
| 206 | 204 | 211 | Max  | 262.53 |      |    |      |    |      |    | 261.79   | 36 |          |    |
| 206 | 204 | 211 | Max  | 510.00 | 0.00 | 36 | 0.00 | 36 | 0.00 | 36 | -464.01  | 36 | -312.36  | 36 |
| 206 | 204 | 211 | Min. | 15.00  | 0.00 | 36 | 0.00 | 36 | 0.00 | 36 | 464.11   | 36 | -312.62  | 36 |
| 206 | 204 | 211 | Min. | 262.53 |      |    |      |    |      |    | 261.79   | 36 |          |    |
| 206 | 204 | 211 | Min. | 510.00 | 0.00 | 36 | 0.00 | 36 | 0.00 | 36 | -464.01  | 36 | -312.36  | 36 |
| 207 | 205 | 212 | Max  | 15.00  | 0.00 | 36 | 0.00 | 36 | 0.00 | 36 | 464.10   | 36 | -311.65  | 36 |
| 207 | 205 | 212 | Max  | 262.52 |      |    |      |    |      |    | 262.71   | 36 |          |    |
| 207 | 205 | 212 | Max  | 510.00 | 0.00 | 36 | 0.00 | 36 | 0.00 | 36 | -464.03  | 36 | -311.49  | 36 |
| 207 | 205 | 212 | Min. | 15.00  | 0.00 | 36 | 0.00 | 36 | 0.00 | 36 | 464.10   | 36 | -311.65  | 36 |
| 207 | 205 | 212 | Min. | 262.52 |      |    |      |    |      |    | 262.71   | 36 |          |    |
| 207 | 205 | 212 | Min. | 510.00 | 0.00 | 36 | 0.00 | 36 | 0.00 | 36 | -464.03  | 36 | -311.49  | 36 |

## Relazione di calcolo

|     |     |     |      |        |      |    |      |    |      |    |         |    |         |    |       |    |
|-----|-----|-----|------|--------|------|----|------|----|------|----|---------|----|---------|----|-------|----|
| 208 | 206 | 213 | Max  | 15.00  | 0.00 | 36 | 0.00 | 36 | 0.00 | 36 | 464.07  | 36 | -313.04 | 36 | 0.02  | 36 |
| 208 | 206 | 213 | Max  | 262.50 |      |    |      |    |      |    |         |    | 261.26  | 36 |       |    |
| 208 | 206 | 213 | Max  | 510.00 | 0.00 | 36 | 0.00 | 36 | 0.00 | 36 | -464.05 | 36 | -312.99 | 36 | 0.02  | 36 |
| 208 | 206 | 213 | Min. | 15.00  | 0.00 | 36 | 0.00 | 36 | 0.00 | 36 | 464.07  | 36 | -313.04 | 36 | 0.02  | 36 |
| 208 | 206 | 213 | Min. | 262.50 |      |    |      |    |      |    |         |    | 261.26  | 36 |       |    |
| 208 | 206 | 213 | Min. | 510.00 | 0.00 | 36 | 0.00 | 36 | 0.00 | 36 | -464.05 | 36 | -312.99 | 36 | 0.02  | 36 |
| 209 | 214 | 207 | Max  | 15.00  | 0.00 | 36 | 0.00 | 36 | 0.00 | 36 | 773.68  | 36 | -249.29 | 36 | -0.36 | 36 |
| 209 | 214 | 207 | Max  | 262.58 |      |    |      |    |      |    |         |    | 708.45  | 36 |       |    |
| 209 | 214 | 207 | Max  | 510.00 | 0.00 | 36 | 0.00 | 36 | 0.00 | 36 | -773.19 | 36 | -248.07 | 36 | -0.36 | 36 |
| 209 | 214 | 207 | Min. | 15.00  | 0.00 | 36 | 0.00 | 36 | 0.00 | 36 | 773.68  | 36 | -249.29 | 36 | -0.36 | 36 |
| 209 | 214 | 207 | Min. | 262.58 |      |    |      |    |      |    |         |    | 708.45  | 36 |       |    |
| 209 | 214 | 207 | Min. | 510.00 | 0.00 | 36 | 0.00 | 36 | 0.00 | 36 | -773.19 | 36 | -248.07 | 36 | -0.36 | 36 |
| 210 | 216 | 217 | Max  | 0.00   | 0.00 | 36 | 0.00 | 36 | 0.00 | 36 | 0.00    | 36 | 0.00    | 36 | 0.00  | 36 |
| 210 | 216 | 217 | Max  | 50.00  | 0.00 | 36 | 0.00 | 36 | 0.00 | 36 | -46.88  | 36 | -11.72  | 36 | 0.00  | 36 |
| 210 | 216 | 217 | Min. | 0.00   | 0.00 | 36 | 0.00 | 36 | 0.00 | 36 | 0.00    | 36 | 0.00    | 36 | 0.00  | 36 |
| 210 | 216 | 217 | Min. | 50.00  | 0.00 | 36 | 0.00 | 36 | 0.00 | 36 | -46.88  | 36 | -11.72  | 36 | 0.00  | 36 |
| 210 | 217 | 218 | Max  | 0.00   | 0.00 | 36 | 0.00 | 36 | 0.00 | 36 | 246.07  | 36 | -169.62 | 36 | -0.03 | 36 |
| 210 | 217 | 218 | Max  | 262.47 |      |    |      |    |      |    |         |    | 153.31  | 36 |       |    |
| 210 | 217 | 218 | Max  | 525.00 | 0.00 | 36 | 0.00 | 36 | 0.00 | 36 | -246.12 | 36 | -169.75 | 36 | -0.03 | 36 |
| 210 | 217 | 218 | Min. | 0.00   | 0.00 | 36 | 0.00 | 36 | 0.00 | 36 | 246.07  | 36 | -169.62 | 36 | -0.03 | 36 |
| 210 | 217 | 218 | Min. | 262.47 |      |    |      |    |      |    |         |    | 153.31  | 36 |       |    |
| 210 | 217 | 218 | Min. | 525.00 | 0.00 | 36 | 0.00 | 36 | 0.00 | 36 | -246.12 | 36 | -169.75 | 36 | -0.03 | 36 |
| 210 | 218 | 220 | Max  | 0.00   | 0.00 | 36 | 0.00 | 36 | 0.00 | 36 | 46.88   | 36 | -11.72  | 36 | 0.00  | 36 |
| 210 | 218 | 220 | Max  | 40.00  |      |    |      |    |      |    |         |    | -0.47   | 36 |       |    |
| 210 | 218 | 220 | Max  | 50.00  | 0.00 | 36 | 0.00 | 36 | 0.00 | 36 | 0.00    | 36 | 0.00    | 36 | 0.00  | 36 |
| 210 | 218 | 220 | Min. | 0.00   | 0.00 | 36 | 0.00 | 36 | 0.00 | 36 | 46.88   | 36 | -11.72  | 36 | 0.00  | 36 |
| 210 | 218 | 220 | Min. | 40.00  |      |    |      |    |      |    |         |    | -0.47   | 36 |       |    |
| 210 | 218 | 220 | Min. | 50.00  | 0.00 | 36 | 0.00 | 36 | 0.00 | 36 | 0.00    | 36 | 0.00    | 36 | 0.00  | 36 |

## Sollecitazioni elementi bidimensionali

### Simbologia

Bid. = Numero del muro/elemento bidimensionale

Nodo = Numero del nodo

$\sigma_{xx}$  = Tensione normale sulle facce perp. all'asse X

CC = Numero della combinazione delle condizioni di carico elementari

TCC = Tipo di combinazione di carico

SLU = Stato limite ultimo

SLU S = Stato limite ultimo (azione sismica)

SLE R = Stato limite d'esercizio, combinazione rara

SLE F = Stato limite d'esercizio, combinazione frequente

SLE Q = Stato limite d'esercizio, combinazione quasi permanente

SLD = Stato limite di danno

SLV = Stato limite di salvaguardia della vita

SLC = Stato limite di prevenzione del collasso

SLO = Stato limite di operatività

SLU I = Stato limite di resistenza al fuoco

SND = Stato limite di salvaguardia della vita (non dissipativo)

$\sigma_{zz}$  = Tensione normale sulle facce perp. all'asse Z

$\tau_{xz}$  = Tensione in dir. Z sulle facce perp. all'asse X

Mxx = Momento che provoca variazione di tensione sulle facce perp. all'asse X

Mzz = Momento che provoca variazione di tensione sulle facce perp. all'asse Z

Mxz = Momento che provoca variazione di tensione tangenziale sulle facce perp. all'asse X

$\tau_{zy}$  = Tensione in dir. Y sulle facce perp. all'asse Z

$\tau_{xy}$  = Tensione in dir. Y sulle facce perp. all'asse X

### Bid. 209

|                        | CC | TCC | Nodo | Min.   | CC | TCC | Nodo | Max   |                        | CC | TCC | Nodo | Min.   | CC | TCC | Nodo | Max  |
|------------------------|----|-----|------|--------|----|-----|------|-------|------------------------|----|-----|------|--------|----|-----|------|------|
| $\sigma_{xx}$ <daN/mq> | 33 | SLU | -93  | -7437  | 21 | SND | -2   | 8800  | $\sigma_{zz}$ <daN/mq> | 33 | SLU | -86  | -55849 | 1  | SND | -85  | 6059 |
| $\tau_{xz}$ <daN/mq>   | 33 | SLU | -92  | -20251 | 33 | SLU | -85  | 16512 | Mxx <daNm/m>           | 13 | SND | -87  | -203   | 27 | SND | -87  | 326  |
| Mzz <daNm/m>           | 15 | SND | -87  | -999   | 25 | SND | -87  | 1510  | Mxz <daNm/m>           | 25 | SND | -177 | -202   | 25 | SND | -86  | 189  |
| $\tau_{zy}$ <daN/mq>   | 15 | SND | -86  | -6241  | 25 | SND | -86  | 7820  | $\tau_{xy}$ <daN/mq>   | 25 | SND | -87  | -4843  | 15 | SND | -87  | 4591 |

### Bid. 210

|                        | CC | TCC | Nodo | Min.   | CC | TCC | Nodo | Max   |                        | CC | TCC | Nodo | Min.   | CC | TCC | Nodo | Max  |
|------------------------|----|-----|------|--------|----|-----|------|-------|------------------------|----|-----|------|--------|----|-----|------|------|
| $\sigma_{xx}$ <daN/mq> | 33 | SLU | -134 | -7359  | 7  | SND | -129 | 8519  | $\sigma_{zz}$ <daN/mq> | 33 | SLU | -345 | -53208 | 19 | SND | -127 | 7921 |
| $\tau_{xz}$ <daN/mq>   | 33 | SLU | 10   | -20488 | 33 | SLU | -127 | 18008 | Mxx <daNm/m>           | 15 | SND | -345 | -321   | 25 | SND | -345 | 209  |
| Mzz <daNm/m>           | 13 | SND | -345 | -1519  | 27 | SND | -345 | 994   | Mxz <daNm/m>           | 13 | SND | -128 | -182   | 13 | SND | -344 | 200  |
| $\tau_{zy}$ <daN/mq>   | 13 | SND | -128 | -7715  | 27 | SND | -128 | 5995  | $\tau_{xy}$ <daN/mq>   | 27 | SND | -128 | -4522  | 13 | SND | -128 | 4762 |

### Bid. 211

|                        | CC | TCC | Nodo | Min.  | CC | TCC | Nodo | Max  |                        | CC | TCC | Nodo | Min.  | CC | TCC | Nodo | Max  |
|------------------------|----|-----|------|-------|----|-----|------|------|------------------------|----|-----|------|-------|----|-----|------|------|
| $\sigma_{xx}$ <daN/mq> | 7  | SND | -110 | -66   | 33 | SLU | -12  | 2283 | $\sigma_{zz}$ <daN/mq> | 33 | SLU | -110 | -3459 | 33 | SLU | -126 | 4423 |
| $\tau_{xz}$ <daN/mq>   | 33 | SLU | -138 | -7522 | 33 | SLU | -98  | 6363 | Mxx <daNm/m>           | 33 | SLU | -124 | -34   | 33 | SLU | -126 | 28   |
| Mzz <daNm/m>           | 33 | SLU | -112 | -92   | 7  | SND | -298 | 30   | Mxz <daNm/m>           | 33 | SLU | -72  | -14   | 5  | SND | -298 | 16   |

## Relazione di calcolo

|                      |    |     |      |       |   |     |      |     |                      |    |     |     |      |    |     |      |     |
|----------------------|----|-----|------|-------|---|-----|------|-----|----------------------|----|-----|-----|------|----|-----|------|-----|
| $\tau_{zy}$ <daN/mq> | 19 | SND | -353 | -1564 | 7 | SND | -124 | 763 | $\tau_{xy}$ <daN/mq> | 33 | SLU | -96 | -811 | 33 | SLU | -126 | 719 |
|----------------------|----|-----|------|-------|---|-----|------|-----|----------------------|----|-----|-----|------|----|-----|------|-----|

### Bid. 212

|                        | CC | TCC | Nodo | Min.   | CC | TCC | Nodo | Max   |                        | CC | TCC | Nodo | Min.  | CC | TCC | Nodo | Max  |
|------------------------|----|-----|------|--------|----|-----|------|-------|------------------------|----|-----|------|-------|----|-----|------|------|
| $\sigma_{xx}$ <daN/mq> | 27 | SND | -125 | -552   | 13 | SND | -127 | 5155  | $\sigma_{zz}$ <daN/mq> | 33 | SLU | -97  | -5680 | 33 | SLU | -344 | 7060 |
| $\tau_{xz}$ <daN/mq>   | 33 | SLU | -125 | -15982 | 33 | SLU | -205 | 13251 | $M_{xx}$ <daNm/m>      | 13 | SND | -125 | -59   | 33 | SLU | -321 | 59   |
| $M_{zz}$ <daNm/m>      | 17 | SND | -61  | -12    | 33 | SLU | -321 | 138   | $M_{xz}$ <daNm/m>      | 13 | SND | -97  | -12   | 25 | SND | -125 | 18   |
| $\tau_{zy}$ <daN/mq>   | 13 | SND | -125 | -1346  | 33 | SLU | -125 | 2953  | $\tau_{xy}$ <daN/mq>   | 13 | SND | -344 | -1469 | 25 | SND | -177 | 1392 |

### Bid. 213

|                        | CC | TCC | Nodo | Min.  | CC | TCC | Nodo | Max  |                        | CC | TCC | Nodo | Min.   | CC | TCC | Nodo | Max   |
|------------------------|----|-----|------|-------|----|-----|------|------|------------------------|----|-----|------|--------|----|-----|------|-------|
| $\sigma_{xx}$ <daN/mq> | 33 | SLU | -113 | -6902 | 33 | SLU | -49  | 3682 | $\sigma_{zz}$ <daN/mq> | 33 | SLU | -51  | -16449 | 25 | SND | -123 | -2696 |
| $\tau_{xz}$ <daN/mq>   | 33 | SLU | -288 | -7485 | 13 | SND | -123 | 2753 | $M_{xx}$ <daNm/m>      | 33 | SLU | -114 | -13    | 33 | SLU | -123 | 33    |
| $M_{zz}$ <daNm/m>      | 33 | SLU | -114 | -37   | 33 | SLU | -113 | 22   | $M_{xz}$ <daNm/m>      | 33 | SLU | -114 | -19    | 33 | SLU | -123 | 16    |
| $\tau_{zy}$ <daN/mq>   | 15 | SND | -114 | -384  | 33 | SLU | -50  | 1415 | $\tau_{xy}$ <daN/mq>   | 33 | SLU | -60  | -339   | 33 | SLU | -288 | 398   |

### Bid. 214

|                        | CC | TCC | Nodo | Min.  | CC | TCC | Nodo | Max  |                        | CC | TCC | Nodo | Min.   | CC | TCC | Nodo | Max   |
|------------------------|----|-----|------|-------|----|-----|------|------|------------------------|----|-----|------|--------|----|-----|------|-------|
| $\sigma_{xx}$ <daN/mq> | 33 | SLU | -99  | -6556 | 33 | SLU | -100 | 4405 | $\sigma_{zz}$ <daN/mq> | 33 | SLU | -100 | -19196 | 31 | SND | -109 | -2727 |
| $\tau_{xz}$ <daN/mq>   | 33 | SLU | -230 | -6869 | 17 | SND | -109 | 2939 | $M_{xx}$ <daNm/m>      | 33 | SLU | -100 | -12    | 33 | SLU | -99  | 46    |
| $M_{zz}$ <daNm/m>      | 33 | SLU | -27  | -42   | 25 | SND | -100 | 22   | $M_{xz}$ <daNm/m>      | 33 | SLU | -27  | -21    | 33 | SLU | -34  | 16    |
| $\tau_{zy}$ <daN/mq>   | 33 | SLU | -100 | -282  | 33 | SLU | -100 | 721  | $\tau_{xy}$ <daN/mq>   | 33 | SLU | -240 | -340   | 33 | SLU | -100 | 483   |

### Bid. 503

|                        | CC | TCC | Nodo | Min.   | CC | TCC | Nodo | Max   |                        | CC | TCC | Nodo | Min.   | CC | TCC | Nodo | Max   |
|------------------------|----|-----|------|--------|----|-----|------|-------|------------------------|----|-----|------|--------|----|-----|------|-------|
| $\sigma_{xx}$ <daN/mq> | 15 | SND | -145 | -12126 | 25 | SND | 2    | 10042 | $\sigma_{zz}$ <daN/mq> | 5  | SND | -374 | -10803 | 33 | SLU | -186 | 3542  |
| $\tau_{xz}$ <daN/mq>   | 33 | SLU | -351 | -7788  | 33 | SLU | -153 | 7432  | $M_{xx}$ <daNm/m>      | 25 | SND | 8    | -2674  | 15 | SND | -316 | 3395  |
| $M_{zz}$ <daNm/m>      | 7  | SND | 8    | -2392  | 5  | SND | -365 | 2397  | $M_{xz}$ <daNm/m>      | 7  | SND | -317 | -1231  | 1  | SND | -337 | 1220  |
| $\tau_{zy}$ <daN/mq>   | 7  | SND | 8    | -16669 | 25 | SND | -368 | 17331 | $\tau_{xy}$ <daN/mq>   | 25 | SND | -341 | -18564 | 19 | SND | -338 | 23215 |

### Bid. 504

|                        | CC | TCC | Nodo | Min.  | CC | TCC | Nodo | Max  |                        | CC | TCC | Nodo | Min.  | CC | TCC | Nodo | Max  |
|------------------------|----|-----|------|-------|----|-----|------|------|------------------------|----|-----|------|-------|----|-----|------|------|
| $\sigma_{xx}$ <daN/mq> | 1  | SND | -52  | 0     | 1  | SND | -57  | 0    | $\sigma_{zz}$ <daN/mq> | 1  | SND | -52  | 0     | 1  | SND | -57  | 0    |
| $\tau_{xz}$ <daN/mq>   | 1  | SND | -52  | 0     | 1  | SND | -57  | 0    | $M_{xx}$ <daNm/m>      | 33 | SLU | -55  | -483  | 33 | SLU | -32  | 174  |
| $M_{zz}$ <daNm/m>      | 33 | SLU | -14  | -221  | 17 | SND | -81  | 136  | $M_{xz}$ <daNm/m>      | 33 | SLU | -13  | -139  | 13 | SND | -74  | 132  |
| $\tau_{zy}$ <daN/mq>   | 33 | SLU | -74  | -1873 | 33 | SLU | -14  | 2576 | $\tau_{xy}$ <daN/mq>   | 33 | SLU | -62  | -5101 | 33 | SLU | -26  | 5232 |

## Sollecitazioni nuclei

### Simbologia

Nucleo = Numero del nucleo  
 Liv. = Numero del livello  
 Xg = Coord. baricentrica X  
 Yg = Coord. baricentrica Y  
 CC = Numero della combinazione delle condizioni di carico elementari  
 TCC = Tipo di combinazione di carico  
   SLU = Stato limite ultimo  
   SLU S = Stato limite ultimo (azione sismica)  
   SLE R = Stato limite d'esercizio, combinazione rara  
   SLE F = Stato limite d'esercizio, combinazione frequente  
   SLE Q = Stato limite d'esercizio, combinazione quasi permanente  
   SLD = Stato limite di danno  
   SLV = Stato limite di salvaguardia della vita  
   SLC = Stato limite di prevenzione del collasso  
   SLO = Stato limite di operatività  
   SLU I = Stato limite di resistenza al fuoco  
   SND = Stato limite di salvaguardia della vita (non dissipativo)  
 Z = Coordinata Z  
 N = Sforzo normale  
 Tx = Taglio in dir. X  
 Ty = Taglio in dir. Y  
 Mx = Momento flettente intorno all'asse X  
 My = Momento flettente intorno all'asse Y  
 Mz = Momento flettente intorno all'asse Z

| Nucleo | Liv. | Xg<br><cm> | Yg<br><cm> | CC | TCC | Z<br><cm> | N<br><daN> | Tx<br><daN> | Ty<br><daN> | Mx<br><daNm> | My<br><daNm> | Mz<br><daNm> |
|--------|------|------------|------------|----|-----|-----------|------------|-------------|-------------|--------------|--------------|--------------|
| 209    | 1    | 12.84      | -0.00      | 1  | SND | -1.50     | -29129.00  | 4257.00     | -278.72     | -2513.64     | -10918.70    | -1.54        |
| 209    | 1    | 12.84      | -0.00      | 2  | SLD | -1.50     | -28521.30  | 3852.94     | 171.16      | -2467.09     | -10398.50    | -418.32      |
| 209    | 1    | 12.84      | -0.00      | 3  | SND | -1.50     | -28392.20  | 4050.41     | 2175.98     | -2443.94     | -11287.20    | -2213.66     |

# Relazione di calcolo

|     |   |       |       |    |       |       |           |         |          |          |           |          |
|-----|---|-------|-------|----|-------|-------|-----------|---------|----------|----------|-----------|----------|
| 209 | 1 | 12.84 | -0.00 | 4  | SLD   | -1.50 | -28168.80 | 3754.12 | 1345.41  | -2433.74 | -10574.80 | -1476.53 |
| 209 | 1 | 12.84 | -0.00 | 5  | SND   | -1.50 | -27450.70 | 2872.69 | -425.45  | -2396.56 | -8648.38  | -349.45  |
| 209 | 1 | 12.84 | -0.00 | 6  | SLD   | -1.50 | -27718.50 | 3190.73 | 100.97   | -2411.07 | -9312.49  | -584.75  |
| 209 | 1 | 12.84 | -0.00 | 7  | SND   | -1.50 | -26713.90 | 2666.10 | 2029.25  | -2326.86 | -9016.91  | -2561.57 |
| 209 | 1 | 12.84 | -0.00 | 8  | SLD   | -1.50 | -27366.00 | 3091.91 | 1275.22  | -2377.73 | -9488.79  | -1642.96 |
| 209 | 1 | 12.84 | -0.00 | 9  | SND   | -1.50 | -29401.20 | 4013.52 | -3193.89 | -2553.98 | -9694.13  | 2457.50  |
| 209 | 1 | 12.84 | -0.00 | 10 | SLD   | -1.50 | -28651.50 | 3736.47 | -1223.36 | -2486.38 | -9812.75  | 758.00   |
| 209 | 1 | 12.84 | -0.00 | 11 | SND   | -1.50 | -28897.70 | 3598.23 | -3237.91 | -2518.85 | -9013.04  | 2353.13  |
| 209 | 1 | 12.84 | -0.00 | 12 | SLD   | -1.50 | -28410.70 | 3537.80 | -1244.41 | -2469.58 | -9486.93  | 708.07   |
| 209 | 1 | 12.84 | -0.00 | 13 | SND   | -1.50 | -26945.20 | 3324.88 | 4988.44  | -2321.65 | -10922.60 | -4916.24 |
| 209 | 1 | 12.84 | -0.00 | 14 | SLD   | -1.50 | -27476.70 | 3407.05 | 2690.80  | -2375.24 | -10400.40 | -2769.35 |
| 209 | 1 | 12.84 | -0.00 | 15 | SND   | -1.50 | -26441.70 | 2909.59 | 4944.42  | -2286.52 | -10241.50 | -5020.61 |
| 209 | 1 | 12.84 | -0.00 | 16 | SLD   | -1.50 | -27235.80 | 3208.38 | 2669.74  | -2358.44 | -10074.60 | -2819.28 |
| 209 | 1 | 12.84 | -0.00 | 17 | SND   | -1.50 | -29214.20 | 4298.69 | -861.79  | -2521.93 | -10826.10 | 960.51   |
| 209 | 1 | 12.84 | -0.00 | 18 | SLD   | -1.50 | -28562.10 | 3872.88 | -107.76  | -2471.05 | -10354.30 | 41.89    |
| 209 | 1 | 12.84 | -0.00 | 19 | SND   | -1.50 | -28477.40 | 4092.10 | 1592.91  | -2452.23 | -11194.70 | -1251.62 |
| 209 | 1 | 12.84 | -0.00 | 20 | SLD   | -1.50 | -28209.60 | 3774.06 | 1066.49  | -2437.71 | -10530.50 | -1016.32 |
| 209 | 1 | 12.84 | -0.00 | 21 | SND   | -1.50 | -27535.90 | 2914.38 | -1008.52 | -2404.84 | -8555.82  | 612.60   |
| 209 | 1 | 12.84 | -0.00 | 22 | SLD   | -1.50 | -27759.20 | 3210.68 | -177.95  | -2415.04 | -9268.21  | -124.54  |
| 209 | 1 | 12.84 | -0.00 | 23 | SND   | -1.50 | -26799.10 | 2707.79 | 1446.18  | -2335.14 | -8924.35  | -1599.52 |
| 209 | 1 | 12.84 | -0.00 | 24 | SLD   | -1.50 | -27406.80 | 3111.85 | 996.30   | -2381.69 | -9444.51  | -1182.74 |
| 209 | 1 | 12.84 | -0.00 | 25 | SND   | -1.50 | -29486.40 | 4055.20 | -3776.96 | -2562.26 | -9601.57  | 3419.55  |
| 209 | 1 | 12.84 | -0.00 | 26 | SLD   | -1.50 | -28692.30 | 3756.41 | -1502.28 | -2490.34 | -9768.46  | 1218.21  |
| 209 | 1 | 12.84 | -0.00 | 27 | SND   | -1.50 | -28982.90 | 3639.91 | -3820.98 | -2527.13 | -8920.47  | 3315.18  |
| 209 | 1 | 12.84 | -0.00 | 28 | SLD   | -1.50 | -28451.40 | 3557.75 | -1523.33 | -2473.54 | -9442.65  | 1168.29  |
| 209 | 1 | 12.84 | -0.00 | 29 | SND   | -1.50 | -27030.40 | 3366.57 | 4405.37  | -2329.93 | -10830.00 | -3954.14 |
| 209 | 1 | 12.84 | -0.00 | 30 | SLD   | -1.50 | -27517.40 | 3426.99 | 2411.88  | -2379.20 | -10356.10 | -2309.19 |
| 209 | 1 | 12.84 | -0.00 | 31 | SND   | -1.50 | -26526.90 | 2951.27 | 4361.35  | -2294.80 | -10148.90 | -4058.57 |
| 209 | 1 | 12.84 | -0.00 | 32 | SLD   | -1.50 | -27276.60 | 3228.32 | 2390.82  | -2362.40 | -10030.30 | -2359.07 |
| 209 | 1 | 12.84 | -0.00 | 33 | SLU   | -1.50 | -44348.90 | 5405.19 | 804.18   | -3791.43 | -15312.10 | -1205.58 |
| 209 | 1 | 12.84 | -0.00 | 34 | SLE R | -1.50 | -31933.10 | 3936.74 | 616.94   | -2745.41 | -11172.10 | -885.48  |
| 209 | 1 | 12.84 | -0.00 | 35 | SLE F | -1.50 | -28122.30 | 3522.81 | 583.73   | -2436.43 | -10039.20 | -808.62  |
| 209 | 1 | 12.84 | -0.00 | 36 | SLE Q | -1.50 | -27964.00 | 3482.40 | 583.73   | -2424.39 | -9921.52  | -800.53  |
| 209 | 1 | 12.84 | -0.00 | 1  | SND   | -0.72 | -29541.10 | 3201.09 | -283.26  | -2515.51 | -11812.70 | -15.91   |
| 209 | 1 | 12.84 | -0.00 | 2  | SLD   | -0.72 | -28978.70 | 3012.87 | 190.32   | -2467.56 | -11568.80 | -495.56  |
| 209 | 1 | 12.84 | -0.00 | 3  | SND   | -0.72 | -28819.80 | 3033.79 | 2295.08  | -2440.48 | -12211.80 | -2531.74 |
| 209 | 1 | 12.84 | -0.00 | 4  | SLD   | -0.72 | -28633.60 | 2932.83 | 1423.72  | -2431.67 | -11759.70 | -1699.05 |
| 209 | 1 | 12.84 | -0.00 | 5  | SND   | -0.72 | -28017.10 | 2589.50 | -425.83  | -2396.72 | -10535.20 | -389.90  |
| 209 | 1 | 12.84 | -0.00 | 6  | SLD   | -0.72 | -28249.70 | 2720.30 | 122.12   | -2410.74 | -10957.70 | -674.47  |
| 209 | 1 | 12.84 | -0.00 | 7  | SND   | -0.72 | -27295.80 | 2422.20 | 2152.50  | -2321.68 | -10934.30 | -2905.72 |
| 209 | 1 | 12.84 | -0.00 | 8  | SLD   | -0.72 | -27904.60 | 2640.27 | 1355.51  | -2374.84 | -11148.60 | -1877.96 |
| 209 | 1 | 12.84 | -0.00 | 9  | SND   | -0.72 | -29849.30 | 3182.22 | -3341.22 | -2561.47 | -10900.00 | 2788.33  |
| 209 | 1 | 12.84 | -0.00 | 10 | SLD   | -0.72 | -29126.10 | 3003.84 | -1272.50 | -2489.55 | -11132.20 | 845.89   |
| 209 | 1 | 12.84 | -0.00 | 11 | SND   | -0.72 | -29392.10 | 2998.74 | -3383.99 | -2525.83 | -10516.70 | 2676.13  |
| 209 | 1 | 12.84 | -0.00 | 12 | SLD   | -0.72 | -28907.40 | 2916.07 | -1292.96 | -2472.50 | -10948.80 | 792.22   |
| 209 | 1 | 12.84 | -0.00 | 13 | SND   | -0.72 | -27444.80 | 2624.55 | 5253.24  | -2311.36 | -12230.20 | -5597.77 |
| 209 | 1 | 12.84 | -0.00 | 14 | SLD   | -0.72 | -27975.90 | 2737.07 | 2838.80  | -2369.91 | -11768.50 | -3165.74 |
| 209 | 1 | 12.84 | -0.00 | 15 | SND   | -0.72 | -26987.60 | 2441.07 | 5210.47  | -2275.72 | -11847.00 | -5709.96 |
| 209 | 1 | 12.84 | -0.00 | 16 | SLD   | -0.72 | -27757.20 | 2649.30 | 2818.34  | -2352.86 | -11585.20 | -3219.41 |
| 209 | 1 | 12.84 | -0.00 | 17 | SND   | -0.72 | -29630.00 | 3258.31 | -903.24  | -2525.51 | -11755.90 | 1034.85  |
| 209 | 1 | 12.84 | -0.00 | 18 | SLD   | -0.72 | -29021.20 | 3040.24 | -106.25  | -2472.35 | -11541.60 | 7.08     |
| 209 | 1 | 12.84 | -0.00 | 19 | SND   | -0.72 | -28908.70 | 3091.01 | 1675.09  | -2450.47 | -12155.00 | -1480.98 |
| 209 | 1 | 12.84 | -0.00 | 20 | SLD   | -0.72 | -28676.20 | 2960.21 | 1127.14  | -2436.45 | -11732.50 | -1196.40 |
| 209 | 1 | 12.84 | -0.00 | 21 | SND   | -0.72 | -28106.00 | 2646.73 | -1045.82 | -2406.71 | -10478.50 | 660.86   |
| 209 | 1 | 12.84 | -0.00 | 22 | SLD   | -0.72 | -28292.20 | 2747.68 | -174.46  | -2415.52 | -10930.50 | -171.82  |
| 209 | 1 | 12.84 | -0.00 | 23 | SND   | -0.72 | -27384.70 | 2479.43 | 1532.52  | -2331.68 | -10877.50 | -1854.96 |
| 209 | 1 | 12.84 | -0.00 | 24 | SLD   | -0.72 | -27947.10 | 2667.65 | 1058.94  | -2379.62 | -11121.40 | -1375.31 |
| 209 | 1 | 12.84 | -0.00 | 25 | SND   | -0.72 | -29938.20 | 3239.44 | -3961.21 | -2571.47 | -10843.20 | 3839.09  |
| 209 | 1 | 12.84 | -0.00 | 26 | SLD   | -0.72 | -29168.60 | 3031.21 | -1569.08 | -2494.33 | -11105.00 | 1348.54  |
| 209 | 1 | 12.84 | -0.00 | 27 | SND   | -0.72 | -29481.00 | 3055.97 | -4003.98 | -2535.83 | -10460.00 | 3726.89  |
| 209 | 1 | 12.84 | -0.00 | 28 | SLD   | -0.72 | -28949.90 | 2943.45 | -1589.54 | -2477.28 | -10921.70 | 1294.87  |
| 209 | 1 | 12.84 | -0.00 | 29 | SND   | -0.72 | -27533.70 | 2681.77 | 4633.26  | -2321.36 | -12173.50 | -4547.01 |
| 209 | 1 | 12.84 | -0.00 | 30 | SLD   | -0.72 | -28018.40 | 2764.44 | 2542.22  | -2374.69 | -11741.40 | -2663.09 |
| 209 | 1 | 12.84 | -0.00 | 31 | SND   | -0.72 | -27076.50 | 2498.30 | 4590.48  | -2285.72 | -11790.20 | -4659.20 |
| 209 | 1 | 12.84 | -0.00 | 32 | SLD   | -0.72 | -27799.70 | 2676.67 | 2521.76  | -2357.64 | -11558.00 | -2716.76 |
| 209 | 1 | 12.84 | -0.00 | 33 | SLU   | -0.72 | -45102.90 | 4388.96 | 865.95   | -3789.17 | -17456.10 | -1412.04 |
| 209 | 1 | 12.84 | -0.00 | 34 | SLE R | -0.72 | -32487.10 | 3202.40 | 662.21   | -2743.98 | -12749.20 | -1036.44 |
| 209 | 1 | 12.84 | -0.00 | 35 | SLE F | -0.72 | -28627.60 | 2874.84 | 624.72   | -2435.72 | -11481.50 | -943.89  |
| 209 | 1 | 12.84 | -0.00 | 36 | SLE Q | -0.72 | -28462.90 | 2840.26 | 624.63   | -2423.59 | -11345.10 | -935.44  |
| 209 | 2 | 12.84 | -0.00 | 1  | SND   | -0.72 | -29140.30 | 4023.52 | -1655.02 | -3359.58 | -23873.30 | 1387.11  |
| 209 | 2 | 12.84 | -0.00 | 2  | SLD   | -0.72 | -28338.40 | 3936.38 | -1038.67 | -2900.45 | -24199.10 | 809.10   |
| 209 | 2 | 12.84 | -0.00 | 3  | SND   | -0.72 | -27902.10 | 3828.23 | 1246.22  | -1199.16 | -22896.70 | -1969.31 |
| 209 | 2 | 12.84 | -0.00 | 4  | SLD   | -0.72 | -27746.10 | 3842.96 | 349.18   | -1866.98 | -23732.00 | -796.49  |
| 209 | 2 | 12.84 | -0.00 | 5  | SND   | -0.72 | -27097.10 | 3796.68 | -1499.69 | -3245.90 | -25497.60 | 1200.94  |
| 209 | 2 | 12.84 | -0.00 | 6  | SLD   | -0.72 | -27361.00 | 3827.86 | -964.37  | -2846.07 | -24976.10 | 720.05   |
| 209 | 2 | 12.84 | -0.00 | 7  | SND   | -0.72 | -25859.00 | 3601.39 | 1401.55  | -1085.48 | -24521.00 | -2155.48 |
| 209 | 2 | 12.84 | -0.00 | 8  | SLD   | -0.72 | -26768.70 | 3734.44 | 423.48   | -1812.60 | -24509.00 | -885.55  |
| 209 | 2 | 12.84 | -0.00 | 9  | SND   | -0.72 | -29869.70 | 4171.97 | -4985.43 | -5840.28 | -25581.20 | 5237.76  |
| 209 | 2 | 12.84 | -0.00 | 10 | SLD   | -0.72 | -28687.30 | 4007.39 | -2631.84 | -4087.14 | -25016.10 | 2651.13  |

## Relazione di calcolo

|     |   |       |       |    |       |       |           |         |          |          |           |          |
|-----|---|-------|-------|----|-------|-------|-----------|---------|----------|----------|-----------|----------|
| 209 | 2 | 12.84 | -0.00 | 11 | SND   | -0.72 | -29256.70 | 4103.91 | -4938.84 | -5806.18 | -26068.50 | 5181.91  |
| 209 | 2 | 12.84 | -0.00 | 12 | SLD   | -0.72 | -28394.10 | 3974.83 | -2609.54 | -4070.82 | -25249.20 | 2624.41  |
| 209 | 2 | 12.84 | -0.00 | 13 | SND   | -0.72 | -25742.50 | 3521.00 | 4685.36  | 1361.12  | -22325.90 | -5950.28 |
| 209 | 2 | 12.84 | -0.00 | 14 | SLD   | -0.72 | -26713.00 | 3695.99 | 1994.35  | -642.23  | -23458.90 | -2700.86 |
| 209 | 2 | 12.84 | -0.00 | 15 | SND   | -0.72 | -25129.60 | 3452.94 | 4731.96  | 1395.22  | -22813.20 | -6006.13 |
| 209 | 2 | 12.84 | -0.00 | 16 | SLD   | -0.72 | -26419.80 | 3663.43 | 2016.65  | -625.91  | -23692.00 | -2727.57 |
| 209 | 2 | 12.84 | -0.00 | 17 | SND   | -0.72 | -29346.90 | 4111.54 | -2348.45 | -3873.34 | -24474.80 | 2713.56  |
| 209 | 2 | 12.84 | -0.00 | 18 | SLD   | -0.72 | -28437.20 | 3978.48 | -1370.39 | -3146.22 | -24486.90 | 1443.64  |
| 209 | 2 | 12.84 | -0.00 | 19 | SND   | -0.72 | -28108.80 | 3916.25 | 552.79   | -1712.92 | -23498.20 | -642.85  |
| 209 | 2 | 12.84 | -0.00 | 20 | SLD   | -0.72 | -27844.90 | 3885.06 | 17.47    | -2112.74 | -24019.70 | -161.96  |
| 209 | 2 | 12.84 | -0.00 | 21 | SND   | -0.72 | -27303.80 | 3884.69 | -2193.13 | -3759.65 | -26099.10 | 2527.39  |
| 209 | 2 | 12.84 | -0.00 | 22 | SLD   | -0.72 | -27459.80 | 3869.97 | -1296.09 | -3091.83 | -25263.90 | 1354.58  |
| 209 | 2 | 12.84 | -0.00 | 23 | SND   | -0.72 | -26065.60 | 3689.40 | 708.11   | -1599.23 | -25122.50 | -829.02  |
| 209 | 2 | 12.84 | -0.00 | 24 | SLD   | -0.72 | -26867.50 | 3776.55 | 91.77    | -2058.36 | -24796.70 | -251.02  |
| 209 | 2 | 12.84 | -0.00 | 25 | SND   | -0.72 | -30076.30 | 4259.98 | -5678.87 | -6354.04 | -26182.70 | 6564.21  |
| 209 | 2 | 12.84 | -0.00 | 26 | SLD   | -0.72 | -28786.10 | 4049.49 | -2963.55 | -4332.90 | -25303.80 | 3285.66  |
| 209 | 2 | 12.84 | -0.00 | 27 | SND   | -0.72 | -29463.40 | 4191.93 | -5632.27 | -6319.93 | -26670.00 | 6508.36  |
| 209 | 2 | 12.84 | -0.00 | 28 | SLD   | -0.72 | -28492.90 | 4016.94 | -2941.26 | -4316.59 | -25537.00 | 3258.94  |
| 209 | 2 | 12.84 | -0.00 | 29 | SND   | -0.72 | -25949.10 | 3609.01 | 3991.93  | 847.36   | -22927.40 | -4623.82 |
| 209 | 2 | 12.84 | -0.00 | 30 | SLD   | -0.72 | -26811.80 | 3738.09 | 1662.64  | -887.99  | -23746.60 | -2066.32 |
| 209 | 2 | 12.84 | -0.00 | 31 | SND   | -0.72 | -25336.20 | 3540.96 | 4038.53  | 881.47   | -23414.70 | -4679.67 |
| 209 | 2 | 12.84 | -0.00 | 32 | SLD   | -0.72 | -26518.60 | 3705.54 | 1684.93  | -871.68  | -23979.70 | -2093.04 |
| 209 | 2 | 12.84 | -0.00 | 33 | SLU   | -0.72 | -45327.70 | 5977.77 | -860.32  | -3956.86 | -37878.50 | 480.05   |
| 209 | 2 | 12.84 | -0.00 | 34 | SLE R | -0.72 | -32287.70 | 4355.79 | -586.29  | -2836.24 | -27608.90 | 338.89   |
| 209 | 2 | 12.84 | -0.00 | 35 | SLE F | -0.72 | -27810.80 | 3900.67 | -478.17  | -2494.20 | -24781.10 | 284.31   |
| 209 | 2 | 12.84 | -0.00 | 36 | SLE Q | -0.72 | -27602.90 | 3856.46 | -473.45  | -2479.41 | -24497.90 | 279.04   |
| 209 | 2 | 12.84 | -0.00 | 1  | SND   | 0.00  | -27028.20 | 5049.70 | -1515.83 | -3309.18 | -17580.30 | 866.12   |
| 209 | 2 | 12.84 | -0.00 | 2  | SLD   | 0.00  | -26139.00 | 4752.11 | -944.88  | -2879.05 | -17313.20 | 443.12   |
| 209 | 2 | 12.84 | -0.00 | 3  | SND   | 0.00  | -25982.30 | 4755.95 | 1162.17  | -1290.85 | -17343.20 | -1750.20 |
| 209 | 2 | 12.84 | -0.00 | 4  | SLD   | 0.00  | -25638.60 | 4611.59 | 336.18   | -1913.55 | -17199.80 | -808.43  |
| 209 | 2 | 12.84 | -0.00 | 5  | SND   | 0.00  | -24537.70 | 4110.59 | -1380.15 | -3208.03 | -16533.30 | 759.26   |
| 209 | 2 | 12.84 | -0.00 | 6  | SLD   | 0.00  | -24947.60 | 4302.87 | -879.98  | -2830.67 | -16812.40 | 392.01   |
| 209 | 2 | 12.84 | -0.00 | 7  | SND   | 0.00  | -23491.80 | 3816.84 | 1297.86  | -1189.70 | -16296.20 | -1857.06 |
| 209 | 2 | 12.84 | -0.00 | 8  | SLD   | 0.00  | -24447.30 | 4162.36 | 401.09   | -1865.16 | -16699.00 | -859.55  |
| 209 | 2 | 12.84 | -0.00 | 9  | SND   | 0.00  | -27376.80 | 5063.71 | -4592.68 | -5628.50 | -17490.50 | 3881.09  |
| 209 | 2 | 12.84 | -0.00 | 10 | SLD   | 0.00  | -26305.70 | 4758.82 | -2416.75 | -3988.54 | -17270.30 | 1885.39  |
| 209 | 2 | 12.84 | -0.00 | 11 | SND   | 0.00  | -26629.70 | 4781.98 | -4551.97 | -5598.15 | -17176.40 | 3849.03  |
| 209 | 2 | 12.84 | -0.00 | 12 | SLD   | 0.00  | -25948.30 | 4624.05 | -2397.27 | -3974.02 | -17120.00 | 1870.05  |
| 209 | 2 | 12.84 | -0.00 | 13 | SND   | 0.00  | -23890.30 | 4084.56 | 4334.00  | 1099.27  | -16700.10 | -4839.97 |
| 209 | 2 | 12.84 | -0.00 | 14 | SLD   | 0.00  | -24637.90 | 4290.42 | 1853.48  | -770.19  | -16892.20 | -2286.48 |
| 209 | 2 | 12.84 | -0.00 | 15 | SND   | 0.00  | -23143.20 | 3802.83 | 4374.70  | 1129.62  | -16386.00 | -4872.03 |
| 209 | 2 | 12.84 | -0.00 | 16 | SLD   | 0.00  | -24280.50 | 4155.65 | 1872.95  | -755.68  | -16741.90 | -2301.81 |
| 209 | 2 | 12.84 | -0.00 | 17 | SND   | 0.00  | -27155.20 | 5141.58 | -2140.44 | -3779.50 | -17840.40 | 1967.49  |
| 209 | 2 | 12.84 | -0.00 | 18 | SLD   | 0.00  | -26199.70 | 4796.06 | -1243.67 | -3104.04 | -17437.70 | 969.98   |
| 209 | 2 | 12.84 | -0.00 | 19 | SND   | 0.00  | -26109.30 | 4847.83 | 537.57   | -1761.17 | -17603.30 | -648.83  |
| 209 | 2 | 12.84 | -0.00 | 20 | SLD   | 0.00  | -25699.40 | 4655.55 | 37.39    | -2138.53 | -17324.30 | -281.58  |
| 209 | 2 | 12.84 | -0.00 | 21 | SND   | 0.00  | -24664.70 | 4202.47 | -2004.75 | -3678.35 | -16793.50 | 1860.63  |
| 209 | 2 | 12.84 | -0.00 | 22 | SLD   | 0.00  | -25008.40 | 4346.83 | -1178.76 | -3055.65 | -16936.80 | 918.87   |
| 209 | 2 | 12.84 | -0.00 | 23 | SND   | 0.00  | -23618.80 | 3908.73 | 673.25   | -1660.02 | -16556.40 | -755.69  |
| 209 | 2 | 12.84 | -0.00 | 24 | SLD   | 0.00  | -24508.00 | 4206.31 | 102.30   | -2090.15 | -16823.40 | -332.69  |
| 209 | 2 | 12.84 | -0.00 | 25 | SND   | 0.00  | -27503.80 | 5155.59 | -5217.28 | -6098.82 | -17750.60 | 4982.46  |
| 209 | 2 | 12.84 | -0.00 | 26 | SLD   | 0.00  | -26366.50 | 4802.77 | -2715.53 | -4213.52 | -17394.70 | 2412.24  |
| 209 | 2 | 12.84 | -0.00 | 27 | SND   | 0.00  | -26756.70 | 4873.86 | -5176.58 | -6068.47 | -17436.50 | 4950.40  |
| 209 | 2 | 12.84 | -0.00 | 28 | SLD   | 0.00  | -26009.10 | 4668.00 | -2696.06 | -4199.00 | -17244.50 | 2396.91  |
| 209 | 2 | 12.84 | -0.00 | 29 | SND   | 0.00  | -24017.30 | 4176.44 | 3709.39  | 628.96   | -16960.30 | -3738.60 |
| 209 | 2 | 12.84 | -0.00 | 30 | SLD   | 0.00  | -24698.70 | 4334.38 | 1554.69  | -995.18  | -17016.60 | -1759.62 |
| 209 | 2 | 12.84 | -0.00 | 31 | SND   | 0.00  | -23270.20 | 3894.71 | 3750.10  | 659.30   | -16646.20 | -3770.66 |
| 209 | 2 | 12.84 | -0.00 | 32 | SLD   | 0.00  | -24341.30 | 4199.60 | 1574.16  | -980.66  | -16866.40 | -1774.96 |
| 209 | 2 | 12.84 | -0.00 | 33 | SLU   | 0.00  | -41794.10 | 6946.17 | -775.40  | -3963.44 | -26357.70 | 119.77   |
| 209 | 2 | 12.84 | -0.00 | 34 | SLE R | 0.00  | -29712.90 | 5058.51 | -525.50  | -2841.13 | -19214.20 | 80.05    |
| 209 | 2 | 12.84 | -0.00 | 35 | SLE F | 0.00  | -25505.20 | 4531.09 | -425.49  | -2499.22 | -17266.00 | 58.44    |
| 209 | 2 | 12.84 | -0.00 | 36 | SLE Q | 0.00  | -25323.50 | 4479.21 | -421.29  | -2484.60 | -17068.30 | 55.22    |

## Criteri di progetto utilizzati

### Pilastri in c.a.

| Generali                                                         |    |
|------------------------------------------------------------------|----|
| <b>Parametri di progetto</b>                                     |    |
| Pilastro prefabbricato                                           | No |
| Progettazione dell'armatura con sollecitazioni più gravose       | Si |
| Disaccoppia sovraresistenza                                      | No |
| Limita fattore di sovraresistenza al massimo valore di struttura | No |
| Tipo verifica di stabilità                                       |    |
| -Per $N^*\Omega$ -M e per $N$ -c*M (standard)                    | Si |
| -Per $N^*\Omega$ -c*M (doppia)                                   | No |
| -Per $N^*\Omega$ (sforzo normale e momento nullo)                | No |
| -Per c*M (momento e sforzo normale nullo)                        | No |

## Relazione di calcolo

|                                                                                        |                                          |
|----------------------------------------------------------------------------------------|------------------------------------------|
| Max angolo di piegatura ferri <grad>                                                   | 20.00                                    |
| Progettazione armatura di ripresa                                                      | Si                                       |
| Minimizzazione armatura di ripresa                                                     | No                                       |
| Minimizzazione area di ferro totale nella sezione                                      | No                                       |
| Non progettare riprese ma estendi solo i ferri                                         | Si                                       |
| Verifiche in relazione                                                                 | Minimizzate                              |
| <b>Ancoraggi</b>                                                                       |                                          |
| Lunghezza ancoraggi                                                                    |                                          |
| -Lunghezza imposta come multiplo del diametro                                          | 40.00                                    |
| Ancoraggi tutti uguali                                                                 | Si                                       |
| Piegatura ancoraggi per discontinuità                                                  | Si                                       |
| Piegatura ancoraggi ferri di ripresa                                                   | Si                                       |
| <b>Armatura a taglio</b>                                                               |                                          |
| Staffatura a spirale pilastri circolari                                                | Si                                       |
| Cambiare le staffe nei nodi appartenenti all'impalcato 0 se sul nodo incidono elementi | Si                                       |
| Considera solo la zona critica alla base della pilastrata (strutture pendolari)        | No                                       |
| Progetta a taglio con traliccio ad inclinazione variabile                              | Si                                       |
| -Classe A                                                                              |                                          |
| -In zona critica limita ctg $\theta$ a                                                 | 1.00                                     |
| -In zona non critica limita ctg $\theta$ a                                             | 2.50                                     |
| -Classe B                                                                              |                                          |
| -In zona critica limita ctg $\theta$ a                                                 | 2.50                                     |
| -In zona non critica limita ctg $\theta$ a                                             | 2.50                                     |
| Verifiche a taglio per elementi esistenti come per elementi nuovi                      | Si                                       |
| Estendi nel nodo staffe sottostanti anche se non richiesto dalla normativa             | No                                       |
| <b>Parametri di disegno</b>                                                            |                                          |
| Scala disegno sezioni pilastri                                                         | 25.00                                    |
| Scala disegno viste pilastri                                                           | 50.00                                    |
| Creazione tabelle pilastri                                                             | Si                                       |
| -Tipo di tabella                                                                       | Armature disposte dal basso verso l'alto |
| -Max lunghezza tavole <cm>                                                             | 70.00                                    |
| -Max altezza tavole <cm>                                                               | 50.00                                    |
| Creazione viste pilastri                                                               |                                          |
| -Disegno ferri dentro pilastro in vista                                                | Si                                       |
| -Disegno staffe dentro pilastro in vista                                               | Si                                       |
| -Modalità di individuazione ferri                                                      |                                          |
| -Modalità di indicazione ferri                                                         | Mediante una tabella                     |
| -Minimizzazione riferimenti                                                            | Si                                       |
| -Modalità di individuazione ferri                                                      | Per posizione                            |
| -Modalità di indicazione ferri                                                         | Mediante una tabella                     |
| -Minimizzazione riferimenti                                                            | Si                                       |

|                                                                      |           |
|----------------------------------------------------------------------|-----------|
| <b>Specifici</b>                                                     | <b>1</b>  |
| <b>Materiali</b>                                                     |           |
| -Considera come elemento esistente                                   | No        |
| -Calcestruzzo                                                        |           |
| -Livello di conoscenza                                               | LC2       |
| -Fattore di confidenza                                               | 1.20      |
| -Tipo di calcestruzzo                                                | C28/35    |
| -Rck calcestruzzo                                                    | 350.00    |
| -Modulo elastico <daN/cm <sup>2</sup> >                              | 325881.00 |
| -Resistenza caratteristica cilindrica (Fck)                          | 290.50    |
| -Resistenza caratteristica a trazione (Fctk)                         | 19.84     |
| -Resistenza media (Fcm) <daN/cm <sup>2</sup> >                       | 370.50    |
| -Resistenza media a trazione (Fctm) <daN/cm <sup>2</sup> >           | 28.35     |
| - $\sigma$ amm. calcestruzzo <daN/cm <sup>2</sup> >                  | 110.00    |
| - $\tau_{c0}$ <daN/cm <sup>2</sup> >                                 | 6.70      |
| - $\tau_{c1}$ <daN/cm <sup>2</sup> >                                 | 19.70     |
| -Riduci Fcd per tutte le verifiche secondo il D.M. 18                | Si        |
| - $\gamma_c$ per stati limite ultimi                                 |           |
| -Automatico                                                          | x         |
| -Pari a                                                              |           |
| -Acciaio                                                             |           |
| -Livello di conoscenza                                               | LC2       |
| -Fattore di confidenza                                               | 1.20      |
| -Tipo di acciaio                                                     | B450C     |
| -Modulo elastico <daN/cm <sup>2</sup> >                              | 206000.00 |
| -Tensione caratteristica di snervamento (Fyk) <daN/cm <sup>2</sup> > | 4500.00   |
| -Tensione media di snervamento (Fym) <daN/cm <sup>2</sup> >          | 4500.00   |
| -Sigma amm. acciaio <daN/cm <sup>2</sup> >                           | 2600.00   |
| -Sigma amm. reti e tralicci <daN/cm <sup>2</sup> >                   | 2600.00   |

## Relazione di calcolo

|                                                                       |         |
|-----------------------------------------------------------------------|---------|
| -Allungamento per verifiche di duttilità (Agt) <%>                    | 4.00    |
| - $\gamma_s$ per stati limite ultimi                                  |         |
| -Automatico                                                           | x       |
| -Pari a                                                               |         |
| -Coeff. di omogeneizzazione                                           | 15.00   |
| <b>Parametri per analisi pushover</b>                                 |         |
| Numero fibre                                                          | 200.00  |
| Fattore di confinamento nucleo interno                                | 1.00    |
| Fattore di incrudimento acciaio <%>                                   | 0.10    |
| <b>Parametri per verifiche di duttilità</b>                           |         |
| Considera formulazione per pareti                                     | No      |
| Considera rotazione massima di esercizio per determinare SLO e SLD    | No      |
| Modalità di calcolo luce di taglio $L_v$                              |         |
| - $L_v=L/2$                                                           | x       |
| - $L_v=M/V$                                                           |         |
| - $L_v$ =Punto di nullo del momento flettente                         |         |
| Capacità di rotazione alla corda al collasso                          |         |
| -Formula C8.7.2.1 con fattore di riduzione pari a                     |         |
| -Formula C8.7.2.5                                                     | x       |
| Sforzo normale di verifica per analisi pushover                       |         |
| -Gravitazionale                                                       |         |
| -Dal calcolo                                                          | x       |
| <b>Parametri di calcolo</b>                                           |         |
| Strategia di progetto                                                 | RETTANG |
| Copriferro reale al bordo staffa <cm>                                 | 3.50    |
| Diametro staffa teorica <mm>                                          | 9.00    |
| Continuità dei ferri nei nodi appartenenti all'impalcato 0            | Si      |
| Coeff. $\beta$ in direzione Z locale                                  | 1.00    |
| Coeff. $\beta$ in direzione Y locale                                  | 1.00    |
| Armatura secondo Circ. 65 del 10/04/97                                | No      |
| -Raffittimento staffe in testa e al piede del pilastro                | No      |
| -Passo <cm>                                                           |         |
| Parametri di progetto secondo il D.M. 18                              |         |
| Elemento dissipativo                                                  | No      |
| Trascura gerarchia                                                    | No      |
| Limita verifica a pressoflessione ad elemento non dissipativo         | Si      |
| Limita verifica a taglio ad elemento non dissipativo                  | Si      |
| Elemento secondario                                                   | No      |
| Incremento percentuale per piano debole                               | No      |
| Non progettare e verificare i nodi fra trave e pilastro               | Si      |
| -Progetta e verifica secondo Circolare n.7 del 21/01/2019             | No      |
| Verifiche a pressoflessione deviata                                   | Si      |
| Per calcoli secondo il D.M. 18 usa espressione 4.1.19                 | No      |
| <b>Verifiche a taglio</b>                                             |         |
| Verifiche a taglio per sezioni circolari                              |         |
| -Usa formulazione sezioni generiche                                   |         |
| -Considera rettangolo inscritto con B/H pari a                        | 1.00    |
| Verifiche a taglio per sezioni generiche                              |         |
| -Considera $V_{rdu}$ minimo                                           |         |
| -Considera $V_{rdu}$ calcolato in corrispondenza di $b_w$ minimo      |         |
| -Considera $V_{rdu}$ in corrispondenza di $b_w$ medio                 | x       |
| -Considera $V_{rdu}$ in corrispondenza di $b_w$ massimo               |         |
| -Considera sempre $A_f$ Staffe non proiettata in direzione del taglio | Si      |
| <b>Armatura a pressoflessione</b>                                     |         |
| Elenco diametri ferri longitudinali 1 <mm>                            | 16      |
| Elenco diametri ferri longitudinali 2 <mm>                            | 20      |
| Elenco diametri ferri longitudinali 3 <mm>                            | 22      |
| Elenco diametri ferri longitudinali 4 <mm>                            |         |
| Elenco diametri ferri longitudinali 5 <mm>                            |         |
| Elenco diametri ferri longitudinali 6 <mm>                            |         |
| Elenco diametri ferri longitudinali 7 <mm>                            |         |
| Max distanza fra i ferri su un lato <cm>                              | 25.00   |
| Min. interferro ammissibile <cm>                                      | 7.00    |
| Distanza fra i ferri di spigolo <cm>                                  | 3.00    |
| Min. numero ferri per pilastri circolari                              | 8.00    |
| Reggistaffe aggiuntivi sezioni non rettangolari                       | Si      |
| Fattore di riduzione $\tau_{c0}$ per ancoraggio ferri                 | 1.00    |
| <b>Armatura a taglio</b>                                              |         |
| Elenco diametri staffe 1 <mm>                                         | 8       |
| Elenco diametri staffe 2 <mm>                                         | 10      |
| Elenco diametri staffe 3 <mm>                                         |         |
| Elenco diametri staffe 4 <mm>                                         |         |
| Elenco diametri staffe 5 <mm>                                         |         |

## Relazione di calcolo

|                                                                                               |            |
|-----------------------------------------------------------------------------------------------|------------|
| Elenco diametri staffe 6 <mm>                                                                 |            |
| Elenco diametri staffe 7 <mm>                                                                 |            |
| Mantieni diametro costante nell'interpiano                                                    | Si         |
| Passi staffe                                                                                  | 4.00       |
| -Minimo <cm>                                                                                  | Si         |
| -Massimo <cm>                                                                                 | 30.00      |
| -Incremento <cm>                                                                              | 2.00       |
| Tipo di minimizzazione staffatura                                                             |            |
| -Minimizza il numero delle staffe                                                             |            |
| -Minimizza il peso delle staffe                                                               | x          |
| Max distanza fra ferri non collegati <cm>                                                     | 20.00      |
| Max numero ferri non collegati                                                                | 1.00       |
| Max distanza fra ferri nei nodi non collegati <cm>                                            | 7.00       |
| Max numero ferri nei nodi non collegati                                                       | 1.00       |
| Collegamenti ferri                                                                            |            |
| Con spilli                                                                                    |            |
| Con staffe rettangolari                                                                       |            |
| Con staffe poligonali                                                                         | x          |
| Ferri orizzontali pareti realizzati con staffe                                                | No         |
| <b>Quote di alleggerimento armature pilastri prefabbricati</b>                                |            |
| Quota di alleggerimento n. 1 <m>                                                              | 0.00       |
| Quota di alleggerimento n. 2 <m>                                                              | 0.00       |
| Quota di alleggerimento n. 3 <m>                                                              | 0.00       |
| Quota di alleggerimento n. 4 <m>                                                              | 0.00       |
| Quota di alleggerimento n. 5 <m>                                                              | 0.00       |
| Quota di alleggerimento n. 6 <m>                                                              | 0.00       |
| Quota di alleggerimento n. 7 <m>                                                              | 0.00       |
| <b>Dati per progettazione interattiva sezioni</b>                                             |            |
| Distanza fra ferri su più strati <cm>                                                         | 1.00       |
| Integrare lo scorrimento lungo il tratto                                                      | Si         |
| -Lunghezza del tratto <m>                                                                     | 1.00       |
| <b>Dati per progettazione agli stati limite</b>                                               |            |
| Gruppo di esigenza                                                                            |            |
| -Ambiente poco aggressivo                                                                     | x          |
| -Ambiente moderatamente aggressivo                                                            |            |
| -Ambiente molto aggressivo                                                                    |            |
| Usa dominio N-M per flessioni rette                                                           | No         |
| -Ricerca della sicurezza con sforzo normale costante                                          |            |
| -Ricerca della sicurezza con eccentricità costante                                            |            |
| Controllo rapporto X/D                                                                        | No         |
| Barre da considerare tese per verifiche a taglio                                              |            |
| -Solo le barre con deformazione percentuale rispetto alla barra più tesa non inferiore al <%> | 30.00      |
| -Tutte le barre in trazione                                                                   |            |
| <b>Dati per verifiche di resistenza al fuoco</b>                                              |            |
| -Tempo di verifica (REI) <minuti>                                                             | 120.00     |
| Dimensione MESH <cm>                                                                          | 2.00       |
| -Passo di calcolo <secondi>                                                                   | 10.00      |
| -Temperatura ambiente <C°>                                                                    | 20.00      |
| -Coeff. di convezione a temperatura ambiente <W/mq K>                                         | 9.00       |
| Calcestruzzo                                                                                  |            |
| -Tipo di aggregati                                                                            | SILICEI    |
| -Massa volumica a secco <kg/mc>                                                               | 2300.00    |
| -Umidità iniziale <%>                                                                         | 3.00       |
| -Fattore di interpolazione conducibilità                                                      | 0.50       |
| <b>Dati per verifiche FRP</b>                                                                 |            |
| Rinforzo longitudinale                                                                        |            |
| Tipo di fibra/resina                                                                          |            |
| -Vetro/Epossidica                                                                             |            |
| -Arammidica/Epossidica                                                                        |            |
| -Carbonio/Epossidica                                                                          | x          |
| Resistenza caratteristica( $f_{rk}$ ) <daN/cm <sup>2</sup> >                                  | 49000.00   |
| Modulo elastico( $E_c$ ) <daN/cm <sup>2</sup> >                                               | 2500000.00 |
| Deformazione caratteristica a rottura per trazione( $\epsilon_{fk}$ ) <%>                     | 2.00       |
| Spessore equivalente( $t_f$ ) <mm>                                                            | 0.17       |
| Sistemi di rinforzo                                                                           |            |
| -Preformati                                                                                   |            |
| -Impregnati in situ                                                                           | x          |
| Rinforzo trasversale                                                                          |            |
| Tipo di fibra/resina                                                                          |            |
| -Vetro/Epossidica                                                                             |            |
| -Arammidica/Epossidica                                                                        |            |
| -Carbonio/Epossidica                                                                          | x          |
| Resistenza caratteristica( $f_{rk}$ ) <daN/cm <sup>2</sup> >                                  | 49000.00   |

## Relazione di calcolo

|                                                                                    |            |
|------------------------------------------------------------------------------------|------------|
| Modulo elastico( $E_c$ ) <daN/cm <sup>2</sup> >                                    | 2500000.00 |
| Deformazione caratteristica a rottura per trazione( $\epsilon_{fk}$ ) <%>          | 2.00       |
| Spessore equivalente( $t_r$ ) <mm>                                                 | 0.17       |
| Sistemi di rinforzo                                                                |            |
| -Preformati                                                                        |            |
| -Impregnati in situ                                                                | x          |
| Trascura resistenza a taglio dei rinforzi                                          | No         |
| Modalità di carico                                                                 |            |
| -Lungo termine                                                                     | x          |
| -Ciclico                                                                           |            |
| Coeff. parziale di sicurezza per SLU di distacco( $\gamma_{fd}$ )                  | 1.50       |
| Fattore di conversione ambientale( $\eta_a$ )                                      | 0.95       |
| Raggio di arrotondamento spigoli( $r_c$ ) <cm>                                     | 2.00       |
| Coeff. condizione di carico( $K_q$ )                                               | 1.25       |
| <b>Dati per verifiche incamiciature in acciaio non CAM</b>                         |            |
| Resistenza di progetto strisce di collegamento ( $F_{yd}$ ) <daN/cm <sup>2</sup> > | 2350.00    |

### Travi in c.a.

|                                                                                                |                                                                                    |
|------------------------------------------------------------------------------------------------|------------------------------------------------------------------------------------|
| <b>Generali</b>                                                                                |                                                                                    |
| <b>Parametri di progetto</b>                                                                   |                                                                                    |
| Passo di progettazione <m>                                                                     | 0.30                                                                               |
| Tipo di sollecitazioni zone rigide                                                             | Costanti                                                                           |
| Min. angolo per spinte a vuoto <grad>                                                          | 10.00                                                                              |
| Invertire i ferri anche in presenza di pilastro sottostante                                    | Si                                                                                 |
| Max differenza larghezza travi continue <cm>                                                   | 5.00                                                                               |
| Progetta a taglio con traliccio ad inclinazione variabile                                      | Si                                                                                 |
| -Classe A                                                                                      |                                                                                    |
| -In zona critica limita ctg $\theta$ a                                                         | 1.00                                                                               |
| -In zona non critica limita ctg $\theta$ a                                                     | 2.50                                                                               |
| -Classe B                                                                                      |                                                                                    |
| -In zona critica limita ctg $\theta$ a                                                         | 2.50                                                                               |
| -In zona non critica limita ctg $\theta$ a                                                     | 2.50                                                                               |
| Verifiche a taglio per elementi esistenti come per elementi nuovi                              | Si                                                                                 |
| <b>Lunghezze e arrotondamenti</b>                                                              |                                                                                    |
| Max lunghezza barre <m>                                                                        | 12.00                                                                              |
| Arrotondamento lunghezza ferri <cm>                                                            | 50.00                                                                              |
| Lunghezza ferri nei muri d'estremità <m>                                                       | 1.20                                                                               |
| Min. interferro ammissibile <cm>                                                               | 2.00                                                                               |
| Elenco diametri minimizzazione interferri <mm>                                                 | 16 18 20 22                                                                        |
| Riduzione ancoraggi                                                                            |                                                                                    |
| -Nella zona compressa per flessione                                                            | No                                                                                 |
| -Nei punti inferiori della travata                                                             | Si                                                                                 |
| Considerare nel calcolo degli ancoraggi i risvolti specificati nei criteri generali di disegno | No                                                                                 |
| Risvoltare i ferri per garantire l'ancoraggio agli estremi della trave                         | No                                                                                 |
| <b>Reggistaffe</b>                                                                             |                                                                                    |
| Interruzione reggistaffe in campata                                                            | No                                                                                 |
| Modalità di sovrapposizione reggistaffe                                                        | Per garantire la copertura del momento negativo                                    |
| Modalità di unificazione reggistaffe                                                           | Solo se la geometria della travata e la lunghezza totale delle barre lo consentono |
| <b>Minimi di regolamento</b>                                                                   |                                                                                    |
| Min. percentuale di regolamento                                                                |                                                                                    |
| -Per le travi di fondazione                                                                    | No                                                                                 |
| -Per le travi di elevazione                                                                    | Si                                                                                 |
| Min. di armatura a taglio (T.A. o S.L. D.M.96)                                                 |                                                                                    |
| -Per le travi di fondazione                                                                    | No                                                                                 |
| -Per le travi di elevazione                                                                    | No                                                                                 |
| Tipo di armatura per taglio (T.A.)                                                             | Mista                                                                              |
| Controllo passo e 12Fi                                                                         | Si                                                                                 |
| Min. di regolamento a torsione nell'ala                                                        | No                                                                                 |
| Min. di regolamento nell'ala                                                                   | No                                                                                 |
| <b>Stampe</b>                                                                                  |                                                                                    |
| Verifiche a flessione in relazione                                                             | Minimizzate                                                                        |
| Verifiche a taglio in relazione                                                                | Max scorrimento per taglio e torsione                                              |
| <b>Parametri di disegno</b>                                                                    |                                                                                    |
| Scala disegno travi                                                                            | 50.00                                                                              |
| Scala disegno sezioni                                                                          | 25.00                                                                              |
| Campitura sezioni                                                                              | Fitta                                                                              |

## Relazione di calcolo

|                                                  |                                       |
|--------------------------------------------------|---------------------------------------|
| Disegno sezione travi in falso                   | Si                                    |
| Disegna sezioni                                  | Si                                    |
| -Disegno ferri nelle sezioni                     | No                                    |
| Campitura travi in falso                         | Fitta                                 |
| Campitura muri                                   | Rada                                  |
| Tipo di quotatura luci nette trave               | Con riferimento ai pilastri superiori |
| Lunghezza monconi di pilastro                    | Minimizzata                           |
| Linee di riferimento quote                       | Si                                    |
| Quotatura zone di staffatura                     | No                                    |
| Quotatura zone di staffatura                     | No                                    |
| Indicazione numero bracci staffe                 | Solo se il numero è maggiore di due   |
| <b>Disegno ferri longitudinali</b>               |                                       |
| Disegno ferri dentro la trave                    | Si                                    |
| Disegno esploso ferri di parete                  | No                                    |
| Distanza fra ferri esplosi <cm>                  | 0.10                                  |
| Disegno reggistaffe aggiuntivi per travi a T e L | Reggistaffe aggiuntivi tipo 3         |
| <b>Disegno staffe</b>                            |                                       |
| Posizione staffe esterne                         | In automatico                         |
| Disegno staffe dentro la sezione                 | Si                                    |

|                                                                      |            |
|----------------------------------------------------------------------|------------|
| <b>Specifici</b>                                                     | <b>1</b>   |
| <b>Materiali</b>                                                     |            |
| -Considera come elemento esistente                                   | No         |
| -Calcestruzzo                                                        |            |
| -Livello di conoscenza                                               | LC2        |
| -Fattore di confidenza                                               | 1.20       |
| -Tipo di calcestruzzo                                                | C28/35     |
| -Rck calcestruzzo                                                    | 350.00     |
| -Modulo elastico <daN/cm <sup>2</sup> >                              | 325881.00  |
| -Resistenza caratteristica cilindrica (Fck)                          | 290.50     |
| -Resistenza caratteristica a trazione (Fctk)                         | 19.84      |
| -Resistenza media (Fcm) <daN/cm <sup>2</sup> >                       | 370.50     |
| -Resistenza media a trazione (Fctm) <daN/cm <sup>2</sup> >           | 28.35      |
| -σ amm. calcestruzzo <daN/cm <sup>2</sup> >                          | 110.00     |
| -τc0 <daN/cm <sup>2</sup> >                                          | 6.70       |
| -τc1 <daN/cm <sup>2</sup> >                                          | 19.70      |
| -Riduci Fcd per tutte le verifiche secondo il D.M. 18                | Si         |
| -γc per stati limite ultimi                                          |            |
| -Automatico                                                          | x          |
| -Pari a                                                              |            |
| -Acciaio                                                             |            |
| -Livello di conoscenza                                               | LC2        |
| -Fattore di confidenza                                               | 1.20       |
| -Tipo di acciaio                                                     | B450C      |
| -Modulo elastico <daN/cm <sup>2</sup> >                              | 2060000.00 |
| -Tensione caratteristica di snervamento (Fyk) <daN/cm <sup>2</sup> > | 4500.00    |
| -Tensione media di snervamento (Fym) <daN/cm <sup>2</sup> >          | 4500.00    |
| -Sigma amm. acciaio <daN/cm <sup>2</sup> >                           | 2600.00    |
| -Sigma amm. reti e tralicci <daN/cm <sup>2</sup> >                   | 2600.00    |
| -Allungamento per verifiche di duttilità (Agt) <%>                   | 4.00       |
| -γs per stati limite ultimi                                          |            |
| -Automatico                                                          | x          |
| -Pari a                                                              |            |
| -Coeff. di omogeneizzazione                                          | 15.00      |
| <b>Parametri per analisi pushover</b>                                |            |
| Numero fibre                                                         | 200.00     |
| Fattore di confinamento nucleo interno                               | 1.00       |
| Fattore di incrudimento acciaio <%>                                  | 0.10       |
| <b>Parametri per verifiche di duttilità</b>                          |            |
| Considera rotazione massima di esercizio per determinare SLO e SLD   | No         |
| Modalità di calcolo luce di taglio Lv                                |            |
| -Lv=L/2                                                              | x          |
| -Lv=M/V                                                              |            |
| -Lv=Punto di nullo del momento flettente                             |            |
| Capacità di rotazione alla corda al collasso                         |            |
| -Formula C8.7.2.1 con fattore di riduzione pari a                    |            |
| -Formula C8.7.2.5                                                    | x          |
| Sforzo normale di verifica per analisi pushover                      |            |
| -Gravitazionale                                                      |            |
| -Dal calcolo                                                         | x          |
| <b>Parametri di calcolo</b>                                          |            |
| Progetto a pressoflessione                                           | Si         |

## Relazione di calcolo

|                                                                                 |        |
|---------------------------------------------------------------------------------|--------|
| -Per tutte le travi                                                             |        |
| -Solo per travi inclinate                                                       | x      |
| -Min. angolo per pressoflessione <grad>                                         | 10.00  |
| -Compressione massima senza progetto a pressoflessione <%>                      | 10.00  |
| Progetto a torsione                                                             | No     |
| -Trazione senza progetto a torsione<%>                                          |        |
| Armatura secondo Circ. 65 del 10/04/97                                          | No     |
| Parametri di progetto secondo il D.M. 18                                        |        |
| Elemento dissipativo                                                            | Si     |
| Trascura gerarchia                                                              | No     |
| Limita verifica a taglio ad elemento non dissipativo                            | Si     |
| Elemento secondario                                                             | No     |
| Sollecitazioni dissipative amplificate per elementi di fondazione               | Si     |
| Escludi dal calcolo sovrarresistenza per pilastri incidenti                     | No     |
| Sollecitazioni complanari ad eventuali elementi bidimensionali                  | No     |
| Copriferro teorico superiore <cm>                                               | 3.50   |
| Copriferro teorico inferiore <cm>                                               | 3.50   |
| Min. momento fittizio agli appoggi                                              | No     |
| -Denominatore                                                                   |        |
| Min. momento fittizio in campata                                                | No     |
| -Denominatore                                                                   |        |
| Incremento percentuale momento in campata <%>                                   | 10.00  |
| Usa taglio max per traslazione momento (S.L.)                                   | Si     |
| Limitare momento traslato al valore max di appoggio (S.L.)                      | No     |
| Limitare momento traslato al valore max di campata (S.L.)                       | No     |
| Taglio da momento resistente in fondazione (S.L.)                               | No     |
| Tipo di progetto in doppia armatura (T.A.)                                      |        |
| -Tensioni pari ai valori amm.                                                   |        |
| -Tensioni pari ai valori amm. con AfComp/AfTesa minore o pari a                 | 1.00   |
| -Con AfComp/AfTesa pari a                                                       |        |
| <b>Parametri di progettazione armatura</b>                                      |        |
| Max differenza fra diametri per unificazioni                                    | 2.00   |
| Max distanza fra barre per unificazioni <m>                                     | 1.00   |
| Denominatore per individuazione zona di campata                                 | 32.00  |
| Fattore di copertura appoggi (0÷1)                                              | 0.00   |
| Fattore di riduzione per ancoraggio ferri                                       | 1.00   |
| Minimizzazione momenti resistenti di appoggio (stati limite D.M. 18)            | Si     |
| -Tolleranza di copertura da sovrapposizione <%>                                 | 10.00  |
| Tipo di distribuzione armatura eccedente in fase di verifica                    |        |
| -Ripartita proporzionalmente per flessione, torsione e taglio                   | x      |
| -Tutta agente per flessione                                                     |        |
| -Tutta agente per taglio                                                        |        |
| <b>Armatura a flessione</b>                                                     |        |
| Elenco diametri ferri longitudinali 1 <mm>                                      | 12     |
| Elenco diametri ferri longitudinali 2 <mm>                                      | 16     |
| Elenco diametri ferri longitudinali 3 <mm>                                      | 20     |
| Elenco diametri ferri longitudinali 4 <mm>                                      | 24     |
| Elenco diametri ferri longitudinali 5 <mm>                                      |        |
| Elenco diametri ferri longitudinali 6 <mm>                                      |        |
| Elenco diametri ferri longitudinali 7 <mm>                                      |        |
| Max differenza fra diametri nella trave                                         | 8.00   |
| Max differenza fra diametri ferri accoppiati                                    | 4.00   |
| Reggistaffe superiori                                                           |        |
| -Numero                                                                         |        |
| -Automatico                                                                     |        |
| -Pari a                                                                         | 2.00   |
| -Max mutua distanza <cm>                                                        |        |
| -Diametro                                                                       |        |
| -Automatico                                                                     | x      |
| -Pari a <mm>                                                                    |        |
| -Minimo <mm>                                                                    |        |
| Reggistaffe inferiori                                                           |        |
| -Numero                                                                         |        |
| -Automatico                                                                     |        |
| -Pari a                                                                         | 2.00   |
| -Max mutua distanza <cm>                                                        |        |
| -Diametro                                                                       |        |
| -Automatico                                                                     | x      |
| -Pari a <mm>                                                                    |        |
| -Minimo <mm>                                                                    |        |
| <b>Armatura a taglio</b>                                                        |        |
| Scorrimento (T.A.)                                                              |        |
| -Percentuale assorbita dalle staffe <%>                                         | 100.00 |
| -Percentuale assorbita dai ferri piegati <%>                                    | 0.00   |
| -Percentuale assorbita dai ferri di parete <%>                                  | 0      |
| -Considerare il valore relativo alle staffe come minimo percentuale da adottare | No     |

## Relazione di calcolo

|                                                                                         |       |
|-----------------------------------------------------------------------------------------|-------|
| <b>Variabilità staffe</b>                                                               |       |
| -Staffe uguali a passo costante                                                         |       |
| -Staffe diverse in tre parti della trave in funzione delle zone critiche                | x     |
| -Staffe diverse in tre parti della trave in funzione di un multiplo dell'altezza pari a |       |
| <b>Variabilità staffe ala</b>                                                           |       |
| -Passi uguali a passi anima                                                             | x     |
| -Passi multipli di passi anima                                                          |       |
| -Passi indipendenti da passi anima                                                      |       |
| Min. lunghezza tratto centrale come multiplo dell'altezza della trave                   | 1.10  |
| Elenco diametri staffe 1 <mm>                                                           | 6     |
| Elenco diametri staffe 2 <mm>                                                           | 8     |
| Elenco diametri staffe 3 <mm>                                                           |       |
| Elenco diametri staffe 4 <mm>                                                           |       |
| Elenco diametri staffe 5 <mm>                                                           |       |
| Elenco diametri staffe 6 <mm>                                                           |       |
| Elenco diametri staffe 7 <mm>                                                           |       |
| Elenco numero bracci staffe 1                                                           | 2     |
| Elenco numero bracci staffe 2                                                           | 4     |
| Elenco numero bracci staffe 3                                                           |       |
| Elenco numero bracci staffe 4                                                           |       |
| Elenco numero bracci staffe 5                                                           |       |
| <b>Passi staffe</b>                                                                     |       |
| -Minimo <cm>                                                                            | 4.00  |
| -Massimo <cm>                                                                           | 32.00 |
| -Incremento <cm>                                                                        | 4.00  |
| <b>Elementi costanti</b>                                                                |       |
| -Diametro                                                                               | Si    |
| -Passo                                                                                  | No    |
| -Bracci                                                                                 | Si    |
| <b>Tipo di minimizzazione staffatura</b>                                                |       |
| -Minimizza il numero delle staffe                                                       | x     |
| -Minimizza il peso delle staffe                                                         |       |
| Raffittimento staffe all'estremità della trave                                          | No    |
| -Passo non superiore a                                                                  |       |
| Lunghezza max del tratto di calcolo scorrimento                                         |       |
| -Pari al tratto in cui $\tau > \tau_{c0}$                                               | x     |
| -Pari a <cm>                                                                            |       |
| -Come multiplo dell'altezza pari a                                                      |       |
| <b>Armatura a taglio e torsione</b>                                                     |       |
| Elenco diametri ferri piegati 1 <mm>                                                    | 12    |
| Elenco diametri ferri piegati 2 <mm>                                                    | 16    |
| Elenco diametri ferri piegati 3 <mm>                                                    | 20    |
| Elenco diametri ferri piegati 4 <mm>                                                    |       |
| Elenco diametri ferri piegati 5 <mm>                                                    |       |
| Elenco diametri ferri piegati 6 <mm>                                                    |       |
| Elenco diametri ferri piegati 7 <mm>                                                    |       |
| Angolo di piegatura <grad>                                                              | 45.00 |
| Posizione primo punto di piegatura                                                      |       |
| -Pari al multiplo dell'altezza                                                          |       |
| -Distanza <cm>                                                                          | 5.00  |
| Interasse punti di piegatura                                                            |       |
| -Pari al multiplo dell'altezza                                                          |       |
| -Distanza <cm>                                                                          | 25.00 |
| <b>Tipo di ferri piegati</b>                                                            |       |
| -Solo sagomati                                                                          |       |
| -Solo cavallotti                                                                        |       |
| -Sia sagomati che cavallotti                                                            | x     |
| <b>Ferri di parete</b>                                                                  | Si    |
| -Max distanza fra le barre <cm>                                                         | 30.00 |
| Elenco diametri ferri di parete 1 <mm>                                                  | 12    |
| Elenco diametri ferri di parete 2 <mm>                                                  | 14    |
| Elenco diametri ferri di parete 3 <mm>                                                  | 16    |
| Elenco diametri ferri di parete 4 <mm>                                                  | 18    |
| Elenco diametri ferri di parete 5 <mm>                                                  | 20    |
| Elenco diametri ferri di parete 6 <mm>                                                  |       |
| Elenco diametri ferri di parete 7 <mm>                                                  |       |
| Elenco diametri staffe orizzontali 1 <mm>                                               | 6     |
| Elenco diametri staffe orizzontali 2 <mm>                                               | 8     |
| Elenco diametri staffe orizzontali 3 <mm>                                               |       |
| Elenco diametri staffe orizzontali 4 <mm>                                               |       |
| Elenco diametri staffe orizzontali 5 <mm>                                               |       |
| Elenco diametri staffe orizzontali 6 <mm>                                               |       |
| Elenco diametri staffe orizzontali 7 <mm>                                               |       |
| <b>Parametri di disegno</b>                                                             |       |
| Copriferro per calcolo lunghezza ferri <cm>                                             | 4.90  |
| Risvolto ferri superiori                                                                | Si    |

## Relazione di calcolo

|                                                                                               |            |
|-----------------------------------------------------------------------------------------------|------------|
| -Pari a <cm>                                                                                  | 25.00      |
| -Pari all'altezza della trave                                                                 |            |
| -Pari alla minima altezza delle travi incidenti                                               |            |
| Risvolto ferri inferiori                                                                      | Si         |
| -Pari a <cm>                                                                                  | 25.00      |
| -Pari all'altezza della trave                                                                 |            |
| -Pari alla minima altezza delle travi incidenti                                               |            |
| Risvolto ferri laterali                                                                       | Si         |
| -Pari a <cm>                                                                                  | 25.00      |
| -Pari alla larghezza della trave                                                              |            |
| Magrone                                                                                       | Si         |
| -Allargamento laterale <cm>                                                                   | 0.00       |
| -Altezza <cm>                                                                                 | 20.00      |
| <b>Dati per progettazione interattiva sezioni</b>                                             |            |
| Copriferro reale al bordo staffa <cm>                                                         | 3.50       |
| Diametro staffa teorica <mm>                                                                  | 8.00       |
| Distanza fra ferri su più strati <cm>                                                         | 1.00       |
| Integrare lo scorrimento lungo il tratto                                                      | Si         |
| -Lunghezza del tratto <m>                                                                     | 1.00       |
| <b>Dati per progettazione agli stati limite</b>                                               |            |
| Gruppo di esigenza                                                                            |            |
| -Ambiente poco aggressivo                                                                     | x          |
| -Ambiente moderatamente aggressivo                                                            |            |
| -Ambiente molto aggressivo                                                                    |            |
| Usa dominio N-M per flessioni rette                                                           | Si         |
| -Ricerca della sicurezza con sforzo normale costante                                          |            |
| -Ricerca della sicurezza con eccentricità costante                                            | x          |
| Controllo rapporto X/D                                                                        | Si         |
| Barre da considerare tese per verifiche a taglio                                              |            |
| -Solo le barre con deformazione percentuale rispetto alla barra più tesa non inferiore al <%> | 30.00      |
| -Tutte le barre in trazione                                                                   |            |
| <b>Dati per verifiche di resistenza al fuoco</b>                                              |            |
| -Tempo di verifica (REI) <minuti>                                                             | 120.00     |
| Dimensione MESH <cm>                                                                          | 2.00       |
| -Passo di calcolo <secondi>                                                                   | 10.00      |
| -Temperatura ambiente <C°>                                                                    | 20.00      |
| -Coeff. di convezione a temperatura ambiente <W/mq K>                                         | 9.00       |
| Calcestruzzo                                                                                  |            |
| -Tipo di aggregati                                                                            | SILICEI    |
| -Massa volumica a secco <kg/mc>                                                               | 2300.00    |
| -Umidità iniziale <%>                                                                         | 3.00       |
| -Fattore di interpolazione conducibilità                                                      | 0.50       |
| <b>Dati per verifiche FRP</b>                                                                 |            |
| Rinforzo longitudinale                                                                        |            |
| Tipo di fibra/resina                                                                          |            |
| -Vetro/Epossidica                                                                             |            |
| -Arammidica/Epossidica                                                                        |            |
| -Carbonio/Epossidica                                                                          | x          |
| Resistenza caratteristica( $f_{fk}$ ) <daN/cm <sup>2</sup> >                                  | 49000.00   |
| Modulo elastico( $E_c$ ) <daN/cm <sup>2</sup> >                                               | 2500000.00 |
| Deformazione caratteristica a rottura per trazione( $\epsilon_{fk}$ ) <%>                     | 2.00       |
| Spessore equivalente( $t_f$ ) <mm>                                                            | 0.17       |
| Sistemi di rinforzo                                                                           |            |
| -Preformati                                                                                   |            |
| -Impregnati in situ                                                                           | x          |
| Rinforzo trasversale                                                                          |            |
| Tipo di fibra/resina                                                                          |            |
| -Vetro/Epossidica                                                                             |            |
| -Arammidica/Epossidica                                                                        |            |
| -Carbonio/Epossidica                                                                          | x          |
| Resistenza caratteristica( $f_{fk}$ ) <daN/cm <sup>2</sup> >                                  | 49000.00   |
| Modulo elastico( $E_c$ ) <daN/cm <sup>2</sup> >                                               | 2500000.00 |
| Deformazione caratteristica a rottura per trazione( $\epsilon_{fk}$ ) <%>                     | 2.00       |
| Spessore equivalente( $t_f$ ) <mm>                                                            | 0.17       |
| Sistemi di rinforzo                                                                           |            |
| -Preformati                                                                                   |            |
| -Impregnati in situ                                                                           | x          |
| Modalità di carico                                                                            |            |
| -Lungo termine                                                                                | x          |
| -Ciclico                                                                                      |            |
| Coeff. parziale SLU di distacco( $\gamma_{fd}$ )                                              | 1.50       |
| Fattore di conversione ambientale( $\eta_a$ )                                                 | 0.95       |
| Raggio di arrotondamento spigoli( $r_c$ ) <cm>                                                | 2.00       |
| Coeff. condizione di carico( $K_q$ )                                                          | 1.25       |

## Solette/Platee

| Generali                                                          |                                               |
|-------------------------------------------------------------------|-----------------------------------------------|
| <b>Parametri di progetto</b>                                      |                                               |
| Controllo resistenza a taglio allo S.L.U. DM 96                   | No                                            |
| Progetto e verifica con metodo d'integrazione                     | No                                            |
| -Massima dimensione della linea d'integrazione                    | 1.00                                          |
| Verifica con taglio totale                                        | No                                            |
| Calcolo armature con metodo di Wood                               | No                                            |
| Accoppia pilastri per calcolo punzonamento                        | Si                                            |
| -Massima distanza come un moltiplicatore dello spessore           | 1.50                                          |
| Verifiche a taglio per elementi esistenti come per elementi nuovi | Si                                            |
| <b>Parametri di disegno</b>                                       |                                               |
| Disposizione disegno                                              | 2A                                            |
| Particolari nel disegno principale                                |                                               |
| -Eliminare le quotature                                           | No                                            |
| -Eliminare le campiture                                           | No                                            |
| -Eliminare la numerazione dei pilastri                            | No                                            |
| -Eliminare la numerazione delle travi e dei muri                  | No                                            |
| Particolari nei disegni secondari                                 |                                               |
| -Eliminare le quotature                                           | Si                                            |
| -Eliminare le campiture                                           | Si                                            |
| -Eliminare la numerazione dei pilastri                            | Si                                            |
| -Eliminare la numerazione delle travi e dei muri                  | Si                                            |
| Disegno armatura diffusa                                          | No                                            |
| Posizione particolari punzonamento                                | In automatico                                 |
| Copriferro per calcolo lunghezza ferri <cm>                       | 3.50                                          |
| Risvoltare al bordo i ferri                                       |                                               |
| -Inferiori                                                        | Si                                            |
| -Superiori                                                        | Si                                            |
| Lunghezza risvolti ferri al bordo                                 | Pari all'altezza meno due volte il copriferro |
| Disegno particolare ferri al bordo                                | Si                                            |
| Scala disegno particolare ferri al bordo                          | 20.00                                         |
| Calcolo lunghezza ferri semplificato                              | No                                            |
| <b>Stampe</b>                                                     |                                               |
| Tipo di relazione                                                 | Sintetica                                     |

| Specifici                                               | 1          |
|---------------------------------------------------------|------------|
| <b>Materiali</b>                                        |            |
| -Considera come elemento esistente                      | No         |
| -Calcestruzzo                                           |            |
| -Livello di conoscenza                                  | LC2        |
| -Fattore di confidenza                                  | 1.20       |
| -Tipo di calcestruzzo                                   | C28/35     |
| -Rck calcestruzzo                                       | 350.00     |
| -Modulo elastico <daN/cm²>                              | 325881.00  |
| -Resistenza caratteristica cilindrica (Fck)             | 290.50     |
| -Resistenza caratteristica a trazione (Fctk)            | 19.84      |
| -Resistenza media (Fcm) <daN/cm²>                       | 370.50     |
| -Resistenza media a trazione (Fctm) <daN/cm²>           | 28.35      |
| -σ amm. calcestruzzo <daN/cm²>                          | 110.00     |
| -τc0 <daN/cm²>                                          | 6.70       |
| -τc1 <daN/cm²>                                          | 19.70      |
| -Riduci Fcd per tutte le verifiche secondo il D.M. 18   | Si         |
| -γc per stati limite ultimi                             |            |
| -Automatico                                             | x          |
| -Pari a                                                 |            |
| -Acciaio                                                |            |
| -Livello di conoscenza                                  | LC2        |
| -Fattore di confidenza                                  | 1.20       |
| -Tipo di acciaio                                        | B450C      |
| -Modulo elastico <daN/cm²>                              | 2060000.00 |
| -Tensione caratteristica di snervamento (Fyk) <daN/cm²> | 4500.00    |
| -Tensione media di snervamento (Fym) <daN/cm²>          | 4500.00    |
| -Sigma amm. acciaio <daN/cm²>                           | 2600.00    |
| -Sigma amm. reti e tralicci <daN/cm²>                   | 2600.00    |
| -Allungamento per verifiche di duttilità (Agt) <%>      | 4.00       |
| -γs per stati limite ultimi                             |            |
| -Automatico                                             | x          |
| -Pari a                                                 |            |
| -Coeff. di omogeneizzazione                             | 15.00      |

## Relazione di calcolo

|                                                                        |       |
|------------------------------------------------------------------------|-------|
| <b>Parametri di calcolo</b>                                            |       |
| Parametri di progetto secondo il D.M. 18                               |       |
| -Elemento dissipativo                                                  | No    |
| -Sollecitazioni dissipative amplificate per elementi di fondazione     | Si    |
| Angolo d'armatura <grad>                                               | 0.00  |
| Copriferro teorico superiore <cm>                                      | 3.00  |
| Copriferro teorico inferiore <cm>                                      | 3.00  |
| Tipo di progetto in doppia armatura                                    |       |
| -Tensione pari ai valori amm.                                          |       |
| -Tensione pari ai valori amm. con AfComp/AfTesa minore o pari a        | 1.00  |
| -Tensione pari ai valori amm. con AfComp/AfTesa pari a                 |       |
| Min. percentuale di regolamento                                        |       |
| -Platee di fondazione su suolo elastico                                | No    |
| -Solette di elevazione                                                 | Si    |
| Controlla min. armatura di ripartizione                                | No    |
| <b>Armatura a flessione</b>                                            |       |
| Elenco diametri utilizzabili 1 <mm>                                    | 10    |
| Elenco diametri utilizzabili 2 <mm>                                    | 12    |
| Elenco diametri utilizzabili 3 <mm>                                    | 14    |
| Elenco diametri utilizzabili 4 <mm>                                    | 16    |
| Elenco diametri utilizzabili 5 <mm>                                    |       |
| Elenco diametri utilizzabili 6 <mm>                                    |       |
| Elenco diametri utilizzabili 7 <mm>                                    |       |
| Passi utilizzabili                                                     |       |
| -Minimo <cm>                                                           | 15.00 |
| -Massimo <cm>                                                          | 30.00 |
| -Incremento <cm>                                                       | 5.00  |
| Uniformizzazione interassi armatura                                    | No    |
| -Sempre                                                                |       |
| -Nella stessa direzione                                                |       |
| -Nella stessa posizione                                                |       |
| Uniformizzazione diametri armatura                                     | No    |
| -Sempre                                                                |       |
| -Nella stessa direzione                                                |       |
| -Nella stessa posizione                                                |       |
| Tipo di ottimizzazione armatura a flessione                            |       |
| -Minimizza il numero dei ferri                                         |       |
| -Minimizza il peso complessivo dei ferri                               | x     |
| <b>Verifiche a taglio</b>                                              |       |
| -Escludi punti di verifica sotto piramidi di punzonamento              | No    |
| -Escludi punti di verifica sotto muri/bidimensionali                   | No    |
| <b>Ancoraggi</b>                                                       |       |
| Fattore di riduzione per ancoraggio ferri                              | 1.00  |
| Lunghezza ancoraggi armature                                           |       |
| -Calcolata in funzione della Sigmaf                                    | x     |
| -Imposta come multiplo del diametro                                    |       |
| Lunghezza ancoraggi ferri punzonamento                                 |       |
| -Calcolata in funzione della Sigmaf                                    | x     |
| -Imposta come multiplo del diametro                                    |       |
| <b>Armatura a punzonamento</b>                                         |       |
| Fattore di riduzione altezza soletta/platea                            | 0.90  |
| Modifica altezza soletta/platea                                        | Si    |
| Allargamento piastra pilastri in acciaio <cm>                          | 5.00  |
| Distanza dal bordo libero                                              |       |
| -Distanza come un moltiplicatore dello spessore                        | 1.00  |
| -Distanza imposta a <cm>                                               |       |
| Moltiplicatore altezza utile per valutare perimetro efficace (D.M. 18) | 2.00  |
| Tolleranza di posizionamento barre                                     |       |
| -Distanza come un moltiplicatore dello spessore                        | 0.10  |
| -Distanza imposta a <cm>                                               |       |
| Elenco diametri utilizzabili 1 <mm>                                    | 12    |
| Elenco diametri utilizzabili 2 <mm>                                    | 14    |
| Elenco diametri utilizzabili 3 <mm>                                    | 16    |
| Elenco diametri utilizzabili 4 <mm>                                    | 18    |
| Elenco diametri utilizzabili 5 <mm>                                    | 20    |
| Elenco diametri utilizzabili 6 <mm>                                    |       |
| Elenco diametri utilizzabili 7 <mm>                                    |       |
| Passi utilizzabili                                                     |       |
| -Minimo <cm>                                                           | 10.00 |
| -Massimo <cm>                                                          | 20.00 |
| -Incremento <cm>                                                       | 2.00  |
| Tipo di ottimizzazione armatura a punzonamento                         |       |
| -Minimizza il numero dei ferri                                         | x     |
| -Minimizza il peso complessivo dei ferri                               |       |
| <b>Dati per progettazione agli stati limite</b>                        |       |

## Relazione di calcolo

|                                                      |       |
|------------------------------------------------------|-------|
| Gruppo di esigenza                                   |       |
| -Ambiente poco aggressivo                            | x     |
| -Ambiente moderatamente aggressivo                   |       |
| -Ambiente molto aggressivo                           |       |
| Controllo rapporto X/D                               | No    |
| Barre da considerare tese per verifiche a taglio     |       |
| -Solo le barre con deformazione percentuale rispetto |       |
| Incremento < % >                                     | 30.00 |
| -Tutte le barre in trazione                          |       |

### Nuclei

|                                                                   |           |
|-------------------------------------------------------------------|-----------|
| <b>Generali</b>                                                   |           |
| <b>Parametri di disegno</b>                                       |           |
| Scala disegno nuclei                                              | 25.00     |
| Campitura disegno nucleo                                          | Rada      |
| Quotatura                                                         | Si        |
| <b>Armatura a taglio</b>                                          |           |
| Progetta a taglio con traliccio ad inclinazione variabile         | Si        |
| -Classe A                                                         |           |
| -In zona critica limita ctg $\theta$ a                            | 1.00      |
| -In zona non critica limita ctg $\theta$ a                        | 2.50      |
| -Classe B                                                         |           |
| -In zona critica limita ctg $\theta$ a                            | 2.50      |
| -In zona non critica limita ctg $\theta$ a                        | 2.50      |
| Verifiche a taglio per elementi esistenti come per elementi nuovi | Si        |
| <b>Stampe</b>                                                     |           |
| Tipo di relazione                                                 | Sintetica |

|                                                                      |           |
|----------------------------------------------------------------------|-----------|
| <b>Specifici</b>                                                     | <b>1</b>  |
| <b>Materiali</b>                                                     |           |
| -Considera come elemento esistente                                   | No        |
| -Calcestruzzo                                                        |           |
| -Livello di conoscenza                                               | LC2       |
| -Fattore di confidenza                                               | 1.20      |
| -Tipo di calcestruzzo                                                | C28/35    |
| -Rck calcestruzzo                                                    | 350.00    |
| -Modulo elastico <daN/cm <sup>2</sup> >                              | 325881.00 |
| -Resistenza caratteristica cilindrica (Fck)                          | 290.50    |
| -Resistenza caratteristica a trazione (Fctk)                         | 19.84     |
| -Resistenza media (Fcm) <daN/cm <sup>2</sup> >                       | 370.50    |
| -Resistenza media a trazione (Fctm) <daN/cm <sup>2</sup> >           | 28.35     |
| - $\sigma$ amm. calcestruzzo <daN/cm <sup>2</sup> >                  | 110.00    |
| - $\tau_{c0}$ <daN/cm <sup>2</sup> >                                 | 6.70      |
| - $\tau_{c1}$ <daN/cm <sup>2</sup> >                                 | 19.70     |
| -Riduci Fcd per tutte le verifiche secondo il D.M. 18                | Si        |
| - $\gamma_c$ per stati limite ultimi                                 |           |
| -Automatico                                                          | x         |
| -Pari a                                                              |           |
| -Acciaio                                                             |           |
| -Livello di conoscenza                                               | LC2       |
| -Fattore di confidenza                                               | 1.20      |
| -Tipo di acciaio                                                     | B450C     |
| -Modulo elastico <daN/cm <sup>2</sup> >                              | 206000.00 |
| -Tensione caratteristica di snervamento (Fyk) <daN/cm <sup>2</sup> > | 4500.00   |
| -Tensione media di snervamento (Fym) <daN/cm <sup>2</sup> >          | 4500.00   |
| -Sigma amm. acciaio <daN/cm <sup>2</sup> >                           | 2600.00   |
| -Sigma amm. reti e tralicci <daN/cm <sup>2</sup> >                   | 2600.00   |
| -Allungamento per verifiche di duttilità (Agt) < % >                 | 4.00      |
| - $\gamma_s$ per stati limite ultimi                                 |           |
| -Automatico                                                          | x         |
| -Pari a                                                              |           |
| -Coeff. di omogeneizzazione                                          | 15.00     |
| <b>Parametri di calcolo</b>                                          |           |
| Copriferro <cm>                                                      | 2.50      |
| Fattore moltiplicativo per calcolo $\tau_l$                          | 1.00      |
| Fattore moltiplicativo per calcolo $\tau_t$                          | 1.00      |
| Fattore di riduzione per ancoraggio ferri                            | 0.70      |
| Lunghezza ancoraggi armature                                         |           |
| -Calcolata in funzione della $\sigma_f$                              |           |
| -Imposta come multiplo del diametro                                  | 20.00     |

## Relazione di calcolo

|                                                                                    |       |
|------------------------------------------------------------------------------------|-------|
| Lunghezza minima pari a <m>                                                        | 0.50  |
| Rispetta prescrizioni relative alle pareti anche nei nuclei                        | Si    |
| Considera pressoflessione retta per pareti isolate                                 | Si    |
| Armatura secondo Circ. 65 del 10/04/97                                             | No    |
| Conteggiare le riprese in elevazione                                               | Si    |
| Conteggiare le riprese in fondazione                                               | Si    |
| <b>Parametri di calcolo per il D.M. 18</b>                                         |       |
| Elemento dissipativo                                                               | No    |
| Inviluppo e traslazione dei momenti flettenti                                      |       |
| Sempre                                                                             | x     |
| Solo per analisi sismiche statiche                                                 |       |
| Mai                                                                                |       |
| Usa diagramma linearizzato                                                         | No    |
| Incremento del 50% delle forze assiali                                             |       |
| Sempre                                                                             |       |
| Solo per analisi sismiche statiche                                                 | x     |
| Mai                                                                                |       |
| Incremento dello sforzo di taglio                                                  |       |
| Nessun incremento                                                                  |       |
| Incremento secondo espressioni 7.4.14 o 7.4.15                                     | x     |
| Modalità di calcolo espressione                                                    |       |
| -Considera valore imposto pari a                                                   |       |
| -Calcola considerando MRd/MEd pari a                                               | 1.20  |
| Inviluppo e traslazione sforzi di taglio                                           |       |
| Sempre                                                                             |       |
| Solo per analisi sismiche statiche                                                 | x     |
| Mai                                                                                |       |
| Modalità di ripartizione taglio di calcolo per pareti con fori                     |       |
| In funzione delle sollecitazioni agenti nelle zone resistenti (con segno)          |       |
| In funzione delle sollecitazioni agenti nelle zone resistenti (in valore assoluto) |       |
| In funzione delle aree delle zone resistenti                                       | x     |
| Modalità di valutazione parametri nel caso di sisma diverso per X e Y              |       |
| Usa valore massimo                                                                 |       |
| Componi in direzione parete                                                        | x     |
| <b>Armatura a flessione e a taglio</b>                                             |       |
| Armatura verticale                                                                 |       |
| Incremento 1 <mm>                                                                  | 12    |
| Incremento 2 <mm>                                                                  | 16    |
| Incremento 3 <mm>                                                                  | 20    |
| Incremento 4 <mm>                                                                  |       |
| Incremento 5 <mm>                                                                  |       |
| Incremento 6 <mm>                                                                  |       |
| Incremento 7 <mm>                                                                  |       |
| Passi utilizzabili                                                                 |       |
| -Minimo <cm>                                                                       | 10.00 |
| -Massimo <cm>                                                                      | 30.00 |
| -Incremento <cm>                                                                   | 5.00  |
| Armatura orizzontale                                                               |       |
| Elenco diametri utilizzabili 1 <mm>                                                | 8     |
| Elenco diametri utilizzabili 2 <mm>                                                | 10    |
| Elenco diametri utilizzabili 3 <mm>                                                |       |
| Elenco diametri utilizzabili 4 <mm>                                                |       |
| Elenco diametri utilizzabili 5 <mm>                                                |       |
| Elenco diametri utilizzabili 6 <mm>                                                |       |
| Elenco diametri utilizzabili 7 <mm>                                                |       |
| Passi utilizzabili                                                                 |       |
| -Minimo <cm>                                                                       | 15.00 |
| -Massimo <cm>                                                                      | 30.00 |
| -Incremento <cm>                                                                   | 5.00  |
| Modalità di completamento armatura verticale                                       |       |
| -Adattata                                                                          | x     |
| -Terminata                                                                         |       |
| -Nessuna                                                                           |       |
| Tipo di armatura orizzontale                                                       |       |
| -Dritta                                                                            |       |
| -Con risvolti di estremità                                                         | x     |
| -A staffa chiusa                                                                   |       |
| Armare le pareti corte con staffe                                                  | No    |
| -Se più corte di un multiplo dello spessore pari a                                 |       |
| -Se più corte di <cm>                                                              |       |
| <b>Armatura secondaria</b>                                                         |       |
| Diametro ferri di collegamento <mm>                                                | 6.00  |
| Numero ferri di collegamento (a mq)                                                | 6.00  |
| Lunghezza ancoraggio ferri di collegamento <cm>                                    | 8.00  |
| <b>Armatura di estremità</b>                                                       |       |

## Relazione di calcolo

|                                                                                               |       |
|-----------------------------------------------------------------------------------------------|-------|
| Modalità di chiusura estremi liberi delle pareti                                              |       |
| -Nessuna chiusura                                                                             | X     |
| -Chiusura con ferri ad U                                                                      |       |
| -Chiusura con staffe                                                                          |       |
| Lunghezza armatura di chiusura                                                                |       |
| -Multiplo dello spessore pari a                                                               | 1.50  |
| -Lunghezza fissa pari a <cm>                                                                  |       |
| Modalità di chiusura estremi interni delle pareti                                             |       |
| -Nessuna chiusura                                                                             | X     |
| -Chiusura con ferri ad U                                                                      |       |
| -Chiusura con staffe                                                                          |       |
| Lunghezza armatura di chiusura                                                                |       |
| -Multiplo dello spessore pari a                                                               | 1.00  |
| -Lunghezza fissa pari a <cm>                                                                  |       |
| <b>Dati per progettazione agli stati limite</b>                                               |       |
| Gruppo di esigenza                                                                            |       |
| -Ambiente poco aggressivo                                                                     | X     |
| -Ambiente moderatamente aggressivo                                                            |       |
| -Ambiente molto aggressivo                                                                    |       |
| Controllo rapporto X/D                                                                        | No    |
| Barre da considerare tese per verifiche a taglio                                              |       |
| -Solo le barre con deformazione percentuale rispetto alla barra più tesa non inferiore al <%> | 30.00 |
| -Tutte le barre in trazione                                                                   |       |

## Verifiche e armature travi

### Simbologia

|                    |                                                                                                             |
|--------------------|-------------------------------------------------------------------------------------------------------------|
| Caso               | = Caso di verifica                                                                                          |
| Xg                 | = Coordinata progressiva (dal primo nodo) in cui viene effettuato il progetto/verifica                      |
| CC                 | = Combinazione delle condizioni di carico elementari                                                        |
|                    | c = momento fittizio in campata                                                                             |
|                    | a = momento fittizio agli appoggi                                                                           |
|                    | T = momento traslato per taglio                                                                             |
|                    | e = eccentricità aggiuntiva in caso di compressione o pressoflessione                                       |
|                    | TG = taglio da gerarchia delle resistenze                                                                   |
|                    | TGND = taglio non dissipativo limitante la gerarchia                                                        |
|                    | TG (Li) = taglio da gerarchia delle resistenze, limite inferiore                                            |
|                    | TG (Ls) = taglio da gerarchia delle resistenze, limite superiore                                            |
| TCC                | = Tipo di combinazione di carico                                                                            |
|                    | SLU = Stato limite ultimo                                                                                   |
|                    | SLU S = Stato limite ultimo (azione sismica)                                                                |
|                    | SLE R = Stato limite d'esercizio, combinazione rara                                                         |
|                    | SLE F = Stato limite d'esercizio, combinazione frequente                                                    |
|                    | SLE Q = Stato limite d'esercizio, combinazione quasi permanente                                             |
|                    | SLD = Stato limite di danno                                                                                 |
|                    | SLV = Stato limite di salvaguardia della vita                                                               |
|                    | SLC = Stato limite di prevenzione del collasso                                                              |
|                    | SLO = Stato limite di operatività                                                                           |
|                    | SLU I = Stato limite di resistenza al fuoco                                                                 |
|                    | SND = Stato limite di salvaguardia della vita (non dissipativo)                                             |
| In                 | = Codice identificativo della travata facente parte dell'involuppo                                          |
| El                 | = Elemento (asta) in cui viene effettuato il progetto/verifica (progressivo sul numero di aste)             |
| Sez.               | = Numero della sezione                                                                                      |
| X                  | = Coordinata progressiva rispetto al nodo iniziale                                                          |
| AfE S              | = Area di ferro effettiva totale presente nel punto di verifica, superiore                                  |
| AfE I              | = Area di ferro effettiva totale presente nel punto di verifica, inferiore                                  |
| AfEP S             | = Area di ferro effettiva parziale presente nella CC considerata, per la sollecitazione indicata, superiore |
| AfEP I             | = Area di ferro effettiva parziale presente nella CC considerata, per la sollecitazione indicata, inferiore |
| My                 | = Momento flettente intorno all'asse Y                                                                      |
| M'ydy              | = Momento resistente massimo in campo sostanzialmente elastico intorno all'asse Y                           |
| MRdy               | = Momento resistente allo stato limite ultimo intorno all'asse Y                                            |
| Sic.               | = Sicurezza a rottura                                                                                       |
| $\sigma_f$ sup     | = Tensione nel ferro - superiore                                                                            |
| $\sigma_f$ inf     | = Tensione nel ferro - inferiore                                                                            |
| $\sigma_c$         | = Tensione nel calcestruzzo                                                                                 |
| X0                 | = Coordinata progressiva (dal nodo iniziale) dell'inizio del tratto                                         |
| X1                 | = Coordinata progressiva (dal nodo iniziale) della fine del tratto                                          |
| Lung.              | = Lunghezza del tratto di progettazione                                                                     |
| Staff.             | = Staffatura adottata                                                                                       |
| AfE St.            | = Area di ferro effettiva della staffatura (d'anima per travi a T o L)                                      |
| bw                 | = Larghezza membratura resistente al taglio                                                                 |
| Vsdu               | = Taglio agente nella direzione del momento ultimo                                                          |
| ctg $\theta$       | = Cotangente dell'angolo di inclinazione dei puntoni di calcestruzzo                                        |
| VRsd               | = Taglio ultimo lato armatura                                                                               |
| VRcd               | = Taglio ultimo lato calcestruzzo                                                                           |
| Vrdu               | = Taglio ultimo assorbibile dal solo calcestruzzo                                                           |
| Sic.T              | = Sicurezza a rottura per taglio                                                                            |
| c                  | = Ricoprimento dell'armatura                                                                                |
| s                  | = Distanza massima tra le barre                                                                             |
| K <sub>2</sub>     | = Coefficiente per distribuzione deformazioni                                                               |
| $\Phi_{eq}$        | = Diametro equivalente delle barre                                                                          |
| $\Delta_{sm}$      | = Distanza media tra le fessure                                                                             |
| A <sub>s</sub>     | = Area complessiva dei ferri nell'area di calcestruzzo efficace                                             |
| A <sub>c eff</sub> | = Area di calcestruzzo efficace                                                                             |
| $\sigma_s$         | = Tensione nell'acciaio nella sezione fessurata                                                             |
| $\epsilon_{sm}$    | = Deformazione unitaria media dell'armatura (*1000)                                                         |
| wk                 | = Ampiezza caratteristica delle fessure                                                                     |
| Tipo               | = Tipologia                                                                                                 |
|                    | 2C = Doppia C lato labbri                                                                                   |
|                    | 2Cdx = Doppia C lato costola                                                                                |
|                    | 2I = Doppia I                                                                                               |
|                    | 2L = Doppia L lato labbri                                                                                   |

Relazione di calcolo

2Ldx = Doppia L lato costole  
C = Sezione a C  
Cdx = C destra  
Cir. = Circolare  
Cir.c = Circolare cava  
I = Sezione a I  
L = Sezione a L  
Ldx = L destra  
Om. = Omega  
Pg = Pi greco  
Pr = Poligono regolare  
Prc = Poligono regolare cavo  
Pc = Per coordinate  
Ia = Inerzie assegnate  
R = Rettangolare  
Rc = Rettangolare cava  
T = Sezione a T  
U = Sezione a U  
Ur = U rovescia  
V = Sezione a V  
Vr = V rovescia  
Z = Sezione a Z  
Zdx = Z destra  
Ts = T stondata  
Ls = L stondata  
Cs = C stondata  
Is = I stondata  
Dis. = Disegnata  
B = Base  
H = Altezza  
Cf sup = Copriferro superiore  
Cf inf = Copriferro inferiore  
Cls = Tipo di calcestruzzo  
Fck = Resistenza caratteristica cilindrica a compressione del calcestruzzo  
Fctk = Resistenza caratteristica a trazione del calcestruzzo  
Fcd = Resistenza di calcolo a compressione del calcestruzzo  
Fctd = Resistenza di calcolo a trazione del calcestruzzo  
Tp = Tipo di acciaio  
Fyk = Tensione caratteristica di snervamento dell'acciaio  
Fyd = Resistenza di calcolo dell'acciaio

Travate n. 201 202

201 (a) Nodi: 201 202 203 204 205 206 207 217  
202 (b) Nodi: 208 209 210 211 212 213 214 218

Caratteristiche delle sezioni e dei materiali utilizzati

| Sez. | Tipo | B<br><cm> | H<br><cm> | Cf sup<br><cm> | Cf inf<br><cm> | Cls    | Fck<br><daN/cm²> | Fctk<br><daN/cm²> | Fcd<br><daN/cm²> | Fctd<br><daN/cm²> | Tp    | Fyk<br><daN/cm²> | Fyd<br><daN/cm²> |
|------|------|-----------|-----------|----------------|----------------|--------|------------------|-------------------|------------------|-------------------|-------|------------------|------------------|
| 9R   |      | 30.00     | 50.00     | 3.50           | 3.50           | C28/35 | 290.50           | 19.84             | 164.62           | 13.23             | B450C | 4500.00          | 3913.04          |
| 5R   |      | 30.00     | 25.00     | 3.50           | 3.50           | C28/35 | 290.50           | 19.84             | 164.62           | 13.23             | B450C | 4500.00          | 3913.04          |

Stato limite ultimo - Verifiche a flessione/presoflessione

| Xg<br><m> | CCTCC | InEl | X<br><cm> | AfE S<br><cmq> | AfE I<br><cmq> | AfEP S<br><cmq> | AfEP I<br><cmq> | My<br><daNm> | MRdy<br><daNm> | Sic.     |           |       |
|-----------|-------|------|-----------|----------------|----------------|-----------------|-----------------|--------------|----------------|----------|-----------|-------|
| 0.50      | 33    | SLU  | b         | 1              | 50.00          | 4.02            | 4.02            | 4.02         | 1557.79        | 7054.89  | 4.529     |       |
| 4.35      | 33    | SLU  | b         | 1              | 435.00         | 4.02            | 8.04            | 4.02         | 8.04           | -6193.17 | -7053.62  | 1.139 |
| 4.65      | 33    | SLU  | b         | 2              | 15.00          | 4.02            | 8.04            | 4.02         | 8.04           | -6394.68 | -7053.62  | 1.103 |
| 6.79      | 33    | SLU  | a         | 2              | 320.88         | 4.02            | 4.02            | 4.02         | 4.02           | 4287.95  | 7054.89   | 1.645 |
| 9.85      | 33    | SLU  | a         | 2              | 15.00          | 6.03            | 8.04            | 6.03         | 8.04           | -7297.23 | -10442.30 | 1.431 |
| 10.15     | 33    | SLU  | b         | 3              | 15.00          | 6.03            | 8.04            | 6.03         | 8.04           | -7232.18 | -10442.30 | 1.444 |
| 12.29     | 33    | SLU  | b         | 3              | 229.12         | 4.02            | 4.02            | 4.02         | 4.02           | 3985.56  | 7054.89   | 1.770 |
| 15.35     | 33    | SLU  | a         | 3              | 15.00          | 6.03            | 8.04            | 6.03         | 8.04           | -6998.00 | -10442.30 | 1.492 |
| 15.65     | 33    | SLU  | a         | 4              | 535.00         | 6.03            | 8.04            | 6.03         | 8.04           | -6979.03 | -10442.30 | 1.496 |
| 17.79     | 33    | SLU  | b         | 4              | 229.12         | 4.02            | 4.02            | 4.02         | 4.02           | 3983.91  | 7054.89   | 1.771 |
| 20.85     | 33    | SLU  | b         | 4              | 535.00         | 6.03            | 8.04            | 6.03         | 8.04           | -7253.40 | -10442.30 | 1.440 |
| 21.15     | 33    | SLU  | b         | 5              | 15.00          | 6.03            | 8.04            | 6.03         | 8.04           | -7280.15 | -10442.30 | 1.434 |
| 23.29     | 33    | SLU  | a         | 5              | 320.88         | 4.02            | 4.02            | 4.02         | 4.02           | 4313.00  | 7054.89   | 1.636 |
| 26.35     | 33    | SLU  | b         | 5              | 535.00         | 4.02            | 8.04            | 4.02         | 8.04           | -6362.13 | -7053.62  | 1.109 |
| 26.65     | 33    | SLU  | b         | 6              | 15.00          | 4.02            | 8.04            | 4.02         | 8.04           | -6101.54 | -7053.62  | 1.156 |
| 29.86     | 33    | SLU  | b         | 6              | 335.83         | 4.02            | 4.02            | 4.02         | 4.02           | 2772.64  | 7054.89   | 2.544 |
| 30.50     | 33    | SLU  | a         | 6              | 50.00          | 4.02            | 10.30           | 4.02         | 10.30          | -870.02  | -7053.33  | 8.107 |
| 31.00     | 33    | SLU  | b         | 7              | 50.17          | 4.02            | 6.28            | 4.02         | 6.28           | -535.41  | -3120.22  | 5.828 |

Stato limite elastico - Verifiche a flessione/presoflessione

| Xg<br><m> | CC | TCC | InEl | X<br><cm> | AfE S<br><cmq> | AfE I<br><cmq> | AfEP S<br><cmq> | AfEP I<br><cmq> | My<br><daNm> | M'ydy<br><daNm> | Sic.      |       |
|-----------|----|-----|------|-----------|----------------|----------------|-----------------|-----------------|--------------|-----------------|-----------|-------|
| 0.50      | 21 | SND | a    | 1         | 400.00         | 4.02           | 4.02            | 4.02            | 4.02         | -5955.80        | -6759.31  | 1.135 |
| 4.35      | 3  | SND | a    | 1         | 15.00          | 4.02           | 8.04            | 4.02            | 8.04         | -6688.10        | -6792.14  | 1.016 |
| 4.65      | 5  | SND | b    | 2         | 15.00          | 4.02           | 8.04            | 4.02            | 8.04         | -4463.94        | -6792.14  | 1.522 |
| 6.79      | 21 | SND | a    | 2         | 320.88         | 4.02           | 4.02            | 4.02            | 4.02         | 3142.40         | 6759.31   | 2.151 |
| 9.85      | 17 | SND | b    | 2         | 535.00         | 6.03           | 8.04            | 6.03            | 8.04         | -5779.33        | -10069.00 | 1.742 |
| 10.15     | 7  | SND | b    | 3         | 15.00          | 6.03           | 8.04            | 6.03            | 8.04         | -6234.65        | -10069.00 | 1.615 |
| 12.29     | 17 | SND | b    | 3         | 229.12         | 4.02           | 4.02            | 4.02            | 4.02         | 2721.78         | 6759.31   | 2.483 |
| 15.35     | 17 | SND | b    | 3         | 535.00         | 6.03           | 8.04            | 6.03            | 8.04         | -5895.86        | -10069.00 | 1.708 |
| 15.65     | 21 | SND | a    | 4         | 535.00         | 6.03           | 8.04            | 6.03            | 8.04         | -5884.87        | -10069.00 | 1.711 |
| 17.79     | 21 | SND | a    | 4         | 320.88         | 4.02           | 4.02            | 4.02            | 4.02         | 2665.44         | 6759.31   | 2.536 |
| 20.85     | 3  | SND | a    | 4         | 15.00          | 6.03           | 8.04            | 6.03            | 8.04         | -6248.51        | -10069.00 | 1.611 |
| 21.15     | 7  | SND | b    | 5         | 15.00          | 6.03           | 8.04            | 6.03            | 8.04         | -5789.78        | -10069.00 | 1.739 |
| 23.29     | 3  | SND | a    | 5         | 320.88         | 4.02           | 4.02            | 4.02            | 4.02         | 3149.17         | 6759.31   | 2.146 |
| 26.35     | 17 | SND | b    | 5         | 535.00         | 4.02           | 8.04            | 4.02            | 8.04         | -4477.21        | -6792.14  | 1.517 |

# Relazione di calcolo

|       |    |     |   |   |        |      |       |      |       |          |          |       |
|-------|----|-----|---|---|--------|------|-------|------|-------|----------|----------|-------|
| 26.65 | 21 | SND | a | 6 | 435.00 | 4.02 | 8.04  | 4.02 | 8.04  | -6596.22 | -6792.14 | 1.030 |
| 29.86 | 21 | SND | a | 6 | 114.17 | 4.02 | 4.02  | 4.02 | 4.02  | 5674.16  | 6759.31  | 1.191 |
| 30.50 | 3  | SND | a | 6 | 50.00  | 4.02 | 10.30 | 4.02 | 10.30 | -6095.49 | -6803.75 | 1.116 |
| 31.00 | 11 | SND | b | 7 | 50.17  | 4.02 | 6.28  | 4.02 | 6.28  | -432.30  | -2973.14 | 6.878 |

## Stato limite d'esercizio - Verifiche tensionali

| Xg<br><m> | CC | TCC | In | El | X<br><cm> | AFe    | SAFe | I<br><cmq> | My<br><daNm> | $\sigma_f$ sup<br><daN/cmq> | $\sigma_f$ inf<br><daN/cmq> | $\sigma_c$<br><daN/cmq> |
|-----------|----|-----|----|----|-----------|--------|------|------------|--------------|-----------------------------|-----------------------------|-------------------------|
| 0.50      | 34 | SLE | R  | b  | 1         | 50.00  | 4.02 | 4.02       | 1131.01      | -132.11                     | 654.97                      | 13.08                   |
| 0.50      | 36 | SLE | Q  | b  | 1         | 50.00  | 4.02 | 4.02       | 994.51       | -116.17                     | 575.92                      | 11.50                   |
| 4.35      | 34 | SLE | R  | b  | 1         | 435.00 | 4.02 | 8.04       | -4491.10     | 2588.48                     | -446.62                     | 46.24                   |
| 4.35      | 36 | SLE | Q  | b  | 1         | 435.00 | 4.02 | 8.04       | -3933.93     | 2267.35                     | -391.21                     | 40.51                   |
| 4.65      | 34 | SLE | R  | b  | 2         | 15.00  | 4.02 | 8.04       | -4636.62     | 2672.35                     | -461.09                     | 47.74                   |
| 4.65      | 36 | SLE | Q  | b  | 2         | 15.00  | 4.02 | 8.04       | -4059.50     | 2339.72                     | -403.70                     | 41.80                   |
| 6.79      | 34 | SLE | R  | a  | 2         | 320.88 | 4.02 | 4.02       | 3108.71      | -363.13                     | 1800.27                     | 35.95                   |
| 6.79      | 36 | SLE | Q  | a  | 2         | 320.88 | 4.02 | 4.02       | 2719.38      | -317.65                     | 1574.80                     | 31.45                   |
| 9.85      | 34 | SLE | R  | a  | 2         | 15.00  | 6.03 | 8.04       | -5290.91     | 2054.87                     | -497.97                     | 47.05                   |
| 9.85      | 36 | SLE | Q  | a  | 2         | 15.00  | 6.03 | 8.04       | -4631.13     | 1798.63                     | -435.87                     | 41.18                   |
| 10.15     | 34 | SLE | R  | b  | 3         | 15.00  | 6.03 | 8.04       | -5243.32     | 2036.39                     | -493.49                     | 46.63                   |
| 10.15     | 36 | SLE | Q  | a  | 3         | 535.00 | 6.03 | 8.04       | -4587.99     | 1781.87                     | -431.81                     | 40.80                   |
| 12.29     | 34 | SLE | R  | b  | 3         | 229.12 | 4.02 | 4.02       | 2889.69      | -337.54                     | 1673.43                     | 33.42                   |
| 12.29     | 36 | SLE | Q  | b  | 3         | 229.12 | 4.02 | 4.02       | 2529.22      | -295.44                     | 1464.68                     | 29.25                   |
| 15.35     | 34 | SLE | R  | a  | 3         | 15.00  | 6.03 | 8.04       | -5073.95     | 1970.61                     | -477.55                     | 45.12                   |
| 15.35     | 36 | SLE | Q  | a  | 3         | 15.00  | 6.03 | 8.04       | -4440.28     | 1724.51                     | -417.91                     | 39.49                   |
| 15.65     | 34 | SLE | R  | a  | 4         | 535.00 | 6.03 | 8.04       | -5059.87     | 1965.14                     | -476.22                     | 45.00                   |
| 15.65     | 36 | SLE | Q  | a  | 4         | 535.00 | 6.03 | 8.04       | -4426.90     | 1719.31                     | -416.65                     | 39.37                   |
| 17.79     | 34 | SLE | R  | b  | 4         | 229.12 | 4.02 | 4.02       | 2888.45      | -337.40                     | 1672.71                     | 33.40                   |
| 17.79     | 36 | SLE | Q  | b  | 4         | 229.12 | 4.02 | 4.02       | 2527.87      | -295.28                     | 1463.90                     | 29.23                   |
| 20.85     | 34 | SLE | R  | b  | 4         | 535.00 | 6.03 | 8.04       | -5259.14     | 2042.53                     | -494.98                     | 46.77                   |
| 20.85     | 36 | SLE | Q  | a  | 4         | 15.00  | 6.03 | 8.04       | -4603.52     | 1787.91                     | -433.27                     | 40.94                   |
| 21.15     | 34 | SLE | R  | b  | 5         | 15.00  | 6.03 | 8.04       | -5278.22     | 2049.95                     | -496.77                     | 46.94                   |
| 21.15     | 36 | SLE | Q  | a  | 5         | 535.00 | 6.03 | 8.04       | -4619.06     | 1793.94                     | -434.73                     | 41.08                   |
| 23.29     | 34 | SLE | R  | a  | 5         | 320.88 | 4.02 | 4.02       | 3127.17      | -365.28                     | 1810.96                     | 36.16                   |
| 23.29     | 36 | SLE | Q  | a  | 5         | 320.88 | 4.02 | 4.02       | 2737.07      | -319.71                     | 1585.05                     | 31.65                   |
| 26.35     | 34 | SLE | R  | b  | 5         | 535.00 | 4.02 | 8.04       | -4612.78     | 2658.61                     | -458.72                     | 47.50                   |
| 26.35     | 36 | SLE | Q  | b  | 5         | 535.00 | 4.02 | 8.04       | -4036.75     | 2326.61                     | -401.44                     | 41.57                   |
| 26.65     | 34 | SLE | R  | b  | 6         | 15.00  | 4.02 | 8.04       | -4423.52     | 2549.52                     | -439.90                     | 45.55                   |
| 26.65     | 36 | SLE | Q  | b  | 6         | 15.00  | 4.02 | 8.04       | -3869.92     | 2230.45                     | -384.85                     | 39.85                   |
| 29.86     | 34 | SLE | R  | b  | 6         | 335.83 | 4.02 | 4.02       | 2008.57      | -234.62                     | 1163.17                     | 23.23                   |
| 29.86     | 36 | SLE | Q  | b  | 6         | 335.83 | 4.02 | 4.02       | 1750.95      | -204.53                     | 1013.98                     | 20.25                   |
| 30.50     | 34 | SLE | R  | b  | 6         | 400.00 | 4.02 | 10.30      | 947.18       | -92.74                      | 221.94                      | 7.89                    |
| 30.50     | 34 | SLE | R  | a  | 6         | 50.00  | 4.02 | 10.30      | -633.24      | 364.38                      | -57.96                      | 6.16                    |
| 30.50     | 36 | SLE | Q  | b  | 6         | 400.00 | 4.02 | 10.30      | 820.04       | -80.29                      | 192.15                      | 6.83                    |
| 31.00     | 34 | SLE | R  | b  | 7         | 50.17  | 4.02 | 6.28       | -396.73      | 521.18                      | -102.84                     | 14.95                   |
| 31.00     | 36 | SLE | Q  | b  | 7         | 50.17  | 4.02 | 6.28       | -377.06      | 495.34                      | -97.74                      | 14.20                   |

## Stato limite d'esercizio - Verifiche a fessurazione

| Caso | Xg<br><m> | CC | TCC   | In | El | Sez. | X<br><cm> | My<br><daNm> | c<br><mm> | s<br><mm> | K <sub>2</sub> | Φ <sub>eq</sub> | Δ <sub>sm</sub><br><mm> | A <sub>s</sub><br><cmq> | A <sub>c eff</sub><br><cmq> | σ <sub>s</sub><br><daN/cmq> | ε <sub>sm</sub> | Wk<br><mm> |
|------|-----------|----|-------|----|----|------|-----------|--------------|-----------|-----------|----------------|-----------------|-------------------------|-------------------------|-----------------------------|-----------------------------|-----------------|------------|
| 45   | 0.50      | 36 | SLE Q | b  | 1  | 9    | 50.00     | 994.51       | 43.00     | 230.00    | 0.50           | 16.00           | 238.19                  | 4.02                    | 382.50                      | 575.92                      | 0.17            | 0.07       |
| 49   | 0.50      | 35 | SLE F | b  | 1  | 9    | 50.00     | 1006.92      | 43.00     | 230.00    | 0.50           | 16.00           | 238.19                  | 4.02                    | 382.50                      | 583.11                      | 0.17            | 0.07       |
| 88   | 4.35      | 36 | SLE Q | b  | 1  | 9    | 435.00    | -3933.93     | 43.00     | 230.00    | 0.50           | 16.00           | 238.19                  | 4.02                    | 382.50                      | 2267.35                     | 0.66            | 0.27       |
| 90   | 4.35      | 35 | SLE F | b  | 1  | 9    | 435.00    | -3984.84     | 43.00     | 230.00    | 0.50           | 16.00           | 238.19                  | 4.02                    | 382.50                      | 2296.69                     | 0.67            | 0.27       |
| 128  | 4.65      | 36 | SLE Q | b  | 2  | 9    | 15.00     | -4059.50     | 43.00     | 230.00    | 0.50           | 16.00           | 238.19                  | 4.02                    | 382.50                      | 2339.72                     | 0.68            | 0.28       |
| 130  | 4.65      | 35 | SLE F | b  | 2  | 9    | 15.00     | -4112.29     | 43.00     | 230.00    | 0.50           | 16.00           | 238.19                  | 4.02                    | 382.50                      | 2370.15                     | 0.69            | 0.28       |
| 167  | 6.79      | 36 | SLE Q | a  | 2  | 9    | 320.88    | 2719.38      | 43.00     | 230.00    | 0.50           | 16.00           | 238.19                  | 4.02                    | 382.50                      | 1574.80                     | 0.46            | 0.19       |
| 169  | 6.79      | 35 | SLE F | a  | 2  | 9    | 320.88    | 2754.82      | 43.00     | 230.00    | 0.50           | 16.00           | 238.19                  | 4.02                    | 382.50                      | 1595.33                     | 0.46            | 0.19       |
| 207  | 9.85      | 36 | SLE Q | a  | 2  | 9    | 15.00     | -4631.13     | 43.00     | 115.00    | 0.50           | 16.00           | 187.10                  | 6.03                    | 381.12                      | 1798.63                     | 0.52            | 0.17       |
| 209  | 9.85      | 35 | SLE F | a  | 2  | 9    | 15.00     | -4691.44     | 43.00     | 115.00    | 0.50           | 16.00           | 187.10                  | 6.03                    | 381.12                      | 1822.05                     | 0.53            | 0.17       |
| 247  | 10.15     | 36 | SLE Q | a  | 3  | 9    | 535.00    | -4587.99     | 43.00     | 115.00    | 0.50           | 16.00           | 187.10                  | 6.03                    | 381.12                      | 1781.87                     | 0.52            | 0.17       |
| 249  | 10.15     | 35 | SLE F | a  | 3  | 9    | 535.00    | -4647.99     | 43.00     | 115.00    | 0.50           | 16.00           | 187.10                  | 6.03                    | 381.12                      | 1805.18                     | 0.53            | 0.17       |
| 288  | 12.29     | 36 | SLE Q | b  | 3  | 9    | 229.12    | 2529.22      | 43.00     | 230.00    | 0.50           | 16.00           | 238.19                  | 4.02                    | 382.50                      | 1464.68                     | 0.43            | 0.17       |
| 290  | 12.29     | 35 | SLE F | b  | 3  | 9    | 229.12    | 2562.14      | 43.00     | 230.00    | 0.50           | 16.00           | 238.19                  | 4.02                    | 382.50                      | 1483.75                     | 0.43            | 0.17       |
| 327  | 15.35     | 36 | SLE Q | a  | 3  | 9    | 15.00     | -4440.28     | 43.00     | 115.00    | 0.50           | 16.00           | 187.10                  | 6.03                    | 381.12                      | 1724.51                     | 0.50            | 0.16       |
| 329  | 15.35     | 35 | SLE F | a  | 3  | 9    | 15.00     | -4497.89     | 43.00     | 115.00    | 0.50           | 16.00           | 187.10                  | 6.03                    | 381.12                      | 1746.88                     | 0.51            | 0.16       |
| 367  | 15.65     | 36 | SLE Q | a  | 4  | 9    | 535.00    | -4426.90     | 43.00     | 115.00    | 0.50           | 16.00           | 187.10                  | 6.03                    | 381.12                      | 1719.31                     | 0.50            | 0.16       |
| 369  | 15.65     | 35 | SLE F | a  | 4  | 9    | 535.00    | -4484.58     | 43.00     | 115.00    | 0.50           | 16.00           | 187.10                  | 6.03                    | 381.12                      | 1741.71                     | 0.51            | 0.16       |
| 408  | 17.79     | 36 | SLE Q | b  | 4  | 9    | 229.12    | 2527.87      | 43.00     | 230.00    | 0.50           | 16.00           | 238.19                  | 4.02                    | 382.50                      | 1463.90                     | 0.43            | 0.17       |
| 410  | 17.79     | 35 | SLE F | b  | 4  | 9    | 229.12    | 2560.84      | 43.00     | 230.00    | 0.50           | 16.00           | 238.19                  | 4.02                    | 382.50                      | 1482.99                     | 0.43            | 0.17       |
| 447  | 20.85     | 36 | SLE Q | a  | 4  | 9    | 15.00     | -4603.52     | 43.00     | 115.00    | 0.50           | 16.00           | 187.10                  | 6.03                    | 381.12                      | 1787.91                     | 0.52            | 0.17       |
| 449  | 20.85     | 35 | SLE F | a  | 4  | 9    | 15.00     | -4663.36     | 43.00     | 115.00    | 0.50           | 16.00           | 187.10                  | 6.03                    | 381.12                      | 1811.14                     | 0.53            | 0.17       |
| 487  | 21.15     | 36 | SLE Q | a  | 5  | 9    | 535.00    | -4619.06     | 43.00     | 115.00    | 0.50           | 16.00           | 187.10                  | 6.03                    | 381.12                      | 1793.94                     | 0.52            | 0.17       |
| 489  | 21.15     | 35 | SLE F | a  | 5  | 9    | 535.00    | -4679.30     | 43.00     | 115.00    | 0.50           | 16.00           | 187.10                  | 6.03                    | 381.12                      | 1817.34                     | 0.53            | 0.17       |
| 527  | 23.29     | 36 | SLE Q | a  | 5  | 9    | 320.88    | 2737.07      | 43.00     | 230.00    | 0.50           | 16.00           | 238.19                  | 4.02                    | 382.50                      | 1585.05                     | 0.46            | 0.19       |
| 529  | 23.29     | 35 | SLE F | a  | 5  | 9    | 320.88    | 2772.63      | 43.00     | 230.00    | 0.50           | 16.00           | 238.19                  | 4.02                    | 382.50                      | 1605.64                     | 0.47            | 0.19       |
| 568  | 26.35     | 36 | SLE Q | b  | 5  | 9    | 535.00    | -4036.75     | 43.00     | 230.00    | 0.50           | 16.00           | 238.19                  | 4.02                    | 382.50                      | 2326.61                     | 0.68            | 0.27       |
| 570  | 26.35     | 35 | SLE F | b  | 5  | 9    | 535.00    | -4089.39     | 43.00     | 230.00    | 0.50           | 16.00           | 238.19                  | 4.02                    | 382.50                      | 2356.95                     | 0.69            | 0.28       |
| 608  | 26.65     | 36 | SLE Q | b  | 6  | 9    | 15.00     | -3869.92     | 43.00     | 230.00    | 0.50           | 16.00           | 238.19                  | 4.02                    | 382.50                      | 2230.45                     | 0.65            | 0.26       |

## Relazione di calcolo

|     |       |    |       |   |   |   |        |          |       |        |      |       |        |      |        |         |      |      |
|-----|-------|----|-------|---|---|---|--------|----------|-------|--------|------|-------|--------|------|--------|---------|------|------|
| 610 | 26.65 | 35 | SLE F | b | 6 | 9 | 15.00  | -3920.63 | 43.00 | 230.00 | 0.50 | 16.00 | 238.19 | 4.02 | 382.50 | 2259.68 | 0.66 | 0.27 |
| 662 | 29.86 | 36 | SLE Q | b | 6 | 9 | 335.83 | 1750.95  | 43.00 | 230.00 | 0.50 | 16.00 | 238.19 | 4.02 | 382.50 | 1013.98 | 0.30 | 0.12 |
| 666 | 29.86 | 35 | SLE F | b | 6 | 9 | 335.83 | 1774.98  | 43.00 | 230.00 | 0.50 | 16.00 | 238.19 | 4.02 | 382.50 | 1027.90 | 0.30 | 0.12 |
| 708 | 30.50 | 36 | SLE Q | a | 6 | 9 | 50.00  | -563.86  | 43.00 | 230.00 | 0.50 | 16.00 | 238.19 | 4.02 | 382.50 | 324.45  | 0.09 | 0.04 |
| 712 | 30.50 | 35 | SLE F | a | 6 | 9 | 50.00  | -569.47  | 43.00 | 230.00 | 0.50 | 16.00 | 238.19 | 4.02 | 382.50 | 327.68  | 0.10 | 0.04 |
| 752 | 31.00 | 36 | SLE Q | b | 7 | 5 | 50.17  | -377.06  | 41.00 | 230.00 | 0.50 | 16.00 | 155.74 | 4.02 | 185.34 | 495.34  | 0.14 | 0.04 |
| 754 | 31.00 | 35 | SLE F | b | 7 | 5 | 50.17  | -377.06  | 41.00 | 230.00 | 0.50 | 16.00 | 155.74 | 4.02 | 185.34 | 495.34  | 0.14 | 0.04 |

### Staffe - Verifiche armatura

| CC     | X0<br><m> | X1<br><m> | Lung.<br><m> | In | Staff.      | AfE St.<br><cmq/m> | bw<br><m> | Vsdu<br><daN> | ctg0 | VRsd<br><daN> | VRcd<br><daN> | Vrdu<br><daN> | Sic.T |
|--------|-----------|-----------|--------------|----|-------------|--------------------|-----------|---------------|------|---------------|---------------|---------------|-------|
| 21 SND | 0.65      | 1.15      | 0.50         | a  | 08/ 8 2 br. | 12.57              | 0.30      | 4819.57       | 2.01 | 41268.50      | 41268.50      | 41268.50      | 8.56  |
| 3 SND  | 1.15      | 3.75      | 2.60         | a  | 08/20 2 br. | 5.03               | 0.30      | 5761.88       | 2.50 | 20578.80      | 35633.80      | 20578.80      | 3.57  |
| 33 SLU | 3.75      | 4.25      | 0.50         | b  | 08/ 8 2 br. | 12.57              | 0.30      | 7253.59       | 2.01 | 41268.50      | 41268.50      | 41268.50      | 5.69  |
| 33 SLU | 4.75      | 5.25      | 0.50         | b  | 08/ 8 2 br. | 12.57              | 0.30      | 7767.91       | 2.01 | 41268.50      | 41268.50      | 41268.50      | 5.31  |
| 33 SLU | 5.25      | 9.25      | 4.00         | a  | 08/20 2 br. | 5.03               | 0.30      | 6527.64       | 2.50 | 20578.80      | 35633.80      | 20578.80      | 3.15  |
| 33 SLU | 9.25      | 9.75      | 0.50         | a  | 08/ 8 2 br. | 12.57              | 0.30      | 8115.94       | 2.01 | 41268.50      | 41268.50      | 41268.50      | 5.08  |
| 33 SLU | 10.25     | 10.75     | 0.50         | b  | 08/ 8 2 br. | 12.57              | 0.30      | 7986.91       | 2.01 | 41268.50      | 41268.50      | 41268.50      | 5.17  |
| 33 SLU | 10.75     | 14.75     | 4.00         | b  | 08/20 2 br. | 5.03               | 0.30      | 6398.61       | 2.50 | 20578.80      | 35633.80      | 20578.80      | 3.22  |
| 33 SLU | 14.75     | 15.25     | 0.50         | a  | 08/ 8 2 br. | 12.57              | 0.30      | 7896.62       | 2.01 | 41268.50      | 41268.50      | 41268.50      | 5.23  |
| 33 SLU | 15.75     | 16.25     | 0.50         | a  | 08/ 8 2 br. | 12.57              | 0.30      | 7888.69       | 2.01 | 41268.50      | 41268.50      | 41268.50      | 5.23  |
| 33 SLU | 16.25     | 20.25     | 4.00         | b  | 08/20 2 br. | 5.03               | 0.30      | 6406.15       | 2.50 | 20578.80      | 35633.80      | 20578.80      | 3.21  |
| 33 SLU | 20.25     | 20.75     | 0.50         | b  | 08/ 8 2 br. | 12.57              | 0.30      | 7994.45       | 2.01 | 41268.50      | 41268.50      | 41268.50      | 5.16  |
| 33 SLU | 21.25     | 21.75     | 0.50         | a  | 08/ 8 2 br. | 12.57              | 0.30      | 8118.02       | 2.01 | 41268.50      | 41268.50      | 41268.50      | 5.08  |
| 33 SLU | 21.75     | 25.75     | 4.00         | a  | 08/20 2 br. | 5.03               | 0.30      | 6529.72       | 2.50 | 20578.80      | 35633.80      | 20578.80      | 3.15  |
| 33 SLU | 25.75     | 26.25     | 0.50         | b  | 08/ 8 2 br. | 12.57              | 0.30      | 7764.86       | 2.01 | 41268.50      | 41268.50      | 41268.50      | 5.31  |
| 33 SLU | 26.75     | 27.25     | 0.50         | b  | 08/ 8 2 br. | 12.57              | 0.30      | 7158.18       | 2.01 | 41268.50      | 41268.50      | 41268.50      | 5.77  |
| 21 SND | 27.25     | 29.85     | 2.60         | a  | 08/20 2 br. | 5.03               | 0.30      | 5674.33       | 2.50 | 20578.80      | 35633.80      | 20578.80      | 3.63  |
| 3 SND  | 29.85     | 30.35     | 0.50         | a  | 08/ 8 2 br. | 12.57              | 0.30      | 4864.63       | 2.01 | 41268.50      | 41268.50      | 41268.50      | 8.48  |
| 33 SLU | 31.00     | 31.45     | 0.45         | b  | 06/ 4 2 br. | 14.14              | 0.30      | 1753.43       | 1.86 | 19921.60      | 19921.60      | 19921.60      | 11.36 |

### Travata n. 203

Nodi: 215 201 208 219

#### Caratteristiche delle sezioni e dei materiali utilizzati

| Sez. | Tipo | B<br><cm> | H<br><cm> | Cf sup<br><cm> | Cf inf<br><cm> | Cls    | Fck<br><daN/cm²> | Fctk<br><daN/cm²> | Fcd<br><daN/cm²> | Fctd<br><daN/cm²> | Tp    | Fyk<br><daN/cm²> | Fyd<br><daN/cm²> |
|------|------|-----------|-----------|----------------|----------------|--------|------------------|-------------------|------------------|-------------------|-------|------------------|------------------|
| 3R   |      | 15.00     | 25.00     | 3.50           | 3.50           | C28/35 | 290.50           | 19.84             | 164.62           | 13.23             | B450C | 4500.00          | 3913.04          |
| 1R   |      | 25.00     | 50.00     | 3.50           | 3.50           | C28/35 | 290.50           | 19.84             | 164.62           | 13.23             | B450C | 4500.00          | 3913.04          |

#### Stato limite ultimo - Verifiche a flessione/presoflessione

| Xg<br><m> | CC | TCC | El | X<br><cm> | AfE S<br><cmq> | AfE I<br><cmq> | AfEP S<br><cmq> | AfEP I<br><cmq> | My<br><daNm> | MRdy<br><daNm> | Sic.   |
|-----------|----|-----|----|-----------|----------------|----------------|-----------------|-----------------|--------------|----------------|--------|
| 0.35      | 33 | SLU | 1  | 35.00     | 4.02           | 4.02           | 4.02            | 4.02            | -7.46        | -2978.19       | >100   |
| 0.65      | 33 | SLU | 2  | 15.00     | 6.28           | 10.30          | 6.28            | 10.30           | -413.65      | -10816.80      | 26.149 |
| 5.60      | 33 | SLU | 2  | 510.00    | 6.28           | 10.30          | 6.28            | 10.30           | -413.98      | -10816.80      | 26.129 |
| 5.90      | 33 | SLU | 3  | 15.00     | 4.02           | 4.02           | 4.02            | 4.02            | -7.46        | -2978.19       | >100   |

#### Stato limite elastico - Verifiche a flessione/presoflessione

| Xg<br><m> | CC | TCC | El | X<br><cm> | AfE S<br><cmq> | AfE I<br><cmq> | AfEP S<br><cmq> | AfEP I<br><cmq> | My<br><daNm> | M'ydy<br><daNm> | Sic.  |
|-----------|----|-----|----|-----------|----------------|----------------|-----------------|-----------------|--------------|-----------------|-------|
| 0.35      | 1  | SND | 1  | 35.00     | 4.02           | 4.02           | 4.02            | 4.02            | -5.74        | -2885.82        | >100  |
| 0.65      | 15 | SND | 2  | 15.00     | 6.28           | 10.30          | 6.28            | 10.30           | -9407.74     | -10478.70       | 1.114 |
| 5.60      | 25 | SND | 2  | 510.00    | 6.28           | 10.30          | 6.28            | 10.30           | -9393.05     | -10478.70       | 1.116 |
| 5.90      | 1  | SND | 3  | 15.00     | 4.02           | 4.02           | 4.02            | 4.02            | -5.74        | -2885.82        | >100  |

#### Stato limite d'esercizio - Verifiche tensionali

| Xg<br><m> | CC | TCC   | El | X<br><cm> | AfE S<br><cmq> | AfE I<br><cmq> | My<br><daNm> | σ <sub>f</sub> sup<br><daN/cm²> | σ <sub>f</sub> inf<br><daN/cm²> | σ <sub>c</sub><br><daN/cm²> |
|-----------|----|-------|----|-----------|----------------|----------------|--------------|---------------------------------|---------------------------------|-----------------------------|
| 0.35      | 34 | SLE R | 1  | 35.00     | 4.02           | 4.02           | -5.74        | 7.73                            | -2.78                           | 0.32                        |
| 0.35      | 36 | SLE Q | 1  | 35.00     | 4.02           | 4.02           | -5.74        | 7.73                            | -2.78                           | 0.32                        |
| 0.65      | 34 | SLE R | 2  | 15.00     | 6.28           | 10.30          | -317.93      | 118.61                          | -30.30                          | 2.83                        |
| 0.65      | 36 | SLE Q | 2  | 15.00     | 6.28           | 10.30          | -318.42      | 118.79                          | -30.35                          | 2.83                        |
| 5.60      | 34 | SLE R | 2  | 510.00    | 6.28           | 10.30          | -318.09      | 118.67                          | -30.32                          | 2.83                        |
| 5.60      | 36 | SLE Q | 2  | 510.00    | 6.28           | 10.30          | -318.03      | 118.65                          | -30.31                          | 2.83                        |
| 5.90      | 34 | SLE R | 3  | 15.00     | 4.02           | 4.02           | -5.74        | 7.73                            | -2.78                           | 0.32                        |
| 5.90      | 36 | SLE Q | 3  | 15.00     | 4.02           | 4.02           | -5.74        | 7.73                            | -2.78                           | 0.32                        |

#### Stato limite d'esercizio - Verifiche a fessurazione

| Caso | Xg<br><m> | CC | TCC   | El | Sez. | X<br><cm> | My<br><daNm> | C<br><mm> | S<br><mm> | K <sub>2</sub> | Φ <sub>eq</sub> | Δ <sub>sm</sub><br><mm> | A <sub>s</sub><br><cmq> | A <sub>c</sub> eff<br><cmq> | σ <sub>s</sub><br><daN/cm²> | ε <sub>sm</sub> | w <sub>k</sub><br><mm> |
|------|-----------|----|-------|----|------|-----------|--------------|-----------|-----------|----------------|-----------------|-------------------------|-------------------------|-----------------------------|-----------------------------|-----------------|------------------------|
| 19   | 0.35      | 36 | SLE Q | 1  | 3    | 35.00     | -5.74        | 41.00     | 80.00     | 0.50           | 16.00           | 115.31                  | 4.02                    | 83.70                       | 7.73                        | 0.00            | 0.00                   |
| 20   | 0.35      | 35 | SLE F | 1  | 3    | 35.00     | -5.74        | 41.00     | 80.00     | 0.50           | 16.00           | 115.31                  | 4.02                    | 83.70                       | 7.73                        | 0.00            | 0.00                   |
| 42   | 0.65      | 36 | SLE Q | 2  | 1    | 15.00     | -318.42      | 43.00     | 180.00    | 0.50           | 20.00           | 186.14                  | 6.28                    | 314.59                      | 118.79                      | 0.03            | 0.01                   |
| 44   | 0.65      | 35 | SLE F | 2  | 1    | 15.00     | -318.39      | 43.00     | 180.00    | 0.50           | 20.00           | 186.14                  | 6.28                    | 314.59                      | 118.78                      | 0.03            | 0.01                   |
| 65   | 5.60      | 36 | SLE Q | 2  | 1    | 510.00    | -318.03      | 43.00     | 180.00    | 0.50           | 20.00           | 186.14                  | 6.28                    | 314.59                      | 118.65                      | 0.03            | 0.01                   |
| 67   | 5.60      | 35 | SLE F | 2  | 1    | 510.00    | -317.99      | 43.00     | 180.00    | 0.50           | 20.00           | 186.14                  | 6.28                    | 314.59                      | 118.63                      | 0.03            | 0.01                   |

## Relazione di calcolo

|    |      |    |       |   |   |       |       |       |       |      |       |        |      |       |      |      |      |
|----|------|----|-------|---|---|-------|-------|-------|-------|------|-------|--------|------|-------|------|------|------|
| 87 | 5.90 | 36 | SLE Q | 3 | 3 | 15.00 | -5.74 | 41.00 | 80.00 | 0.50 | 16.00 | 115.31 | 4.02 | 83.70 | 7.73 | 0.00 | 0.00 |
| 88 | 5.90 | 35 | SLE F | 3 | 3 | 15.00 | -5.74 | 41.00 | 80.00 | 0.50 | 16.00 | 115.31 | 4.02 | 83.70 | 7.73 | 0.00 | 0.00 |

### Staffe - Verifiche armatura

| CC     | X0<br><m> | X1<br><m> | Lung.<br><m> | Staff.      | AfE St.<br><cmq/m> | bw<br><m> | Vsdu<br><daN> | ctgθ | VRsd<br><daN> | VRcd<br><daN> | Vrdu<br><daN> | Sic.T |
|--------|-----------|-----------|--------------|-------------|--------------------|-----------|---------------|------|---------------|---------------|---------------|-------|
| 33 SLU | 0.05      | 0.35      | 0.30         | 06/ 4 2 br. | 14.14              | 0.15      | 42.66         | 1.11 | 11880.40      | 11880.40      | 11880.40      | >100  |
| 15 SND | 0.65      | 1.15      | 0.50         | 08/ 8 2 br. | 12.57              | 0.25      | 4443.08       | 1.78 | 36724.10      | 36724.10      | 36724.10      | 8.27  |
| 15 SND | 1.15      | 5.10      | 3.95         | 08/24 2 br. | 4.19               | 0.25      | 4286.83       | 2.50 | 17149.00      | 29694.90      | 17149.00      | 4.00  |
| 25 SND | 5.10      | 5.60      | 0.50         | 08/ 8 2 br. | 12.57              | 0.25      | 4442.92       | 1.78 | 36724.10      | 36724.10      | 36724.10      | 8.27  |
| 33 SLU | 5.90      | 6.20      | 0.30         | 06/ 4 2 br. | 14.14              | 0.15      | 42.66         | 1.11 | 11880.40      | 11880.40      | 11880.40      | >100  |

### Travata n. 204

Nodi: 202 209

#### Caratteristiche delle sezioni e dei materiali utilizzati

| Sez. | Tipo | B<br><cm> | H<br><cm> | Cf sup<br><cm> | Cf inf<br><cm> | Cls    | Fck<br><daN/cmq> | Fctk<br><daN/cmq> | Fcd<br><daN/cmq> | Fctd<br><daN/cmq> | TP    | Fyk<br><daN/cmq> | Fyd<br><daN/cmq> |
|------|------|-----------|-----------|----------------|----------------|--------|------------------|-------------------|------------------|-------------------|-------|------------------|------------------|
| 5R   |      | 30.00     | 25.00     | 3.50           | 3.50           | C28/35 | 290.50           | 19.84             | 164.62           | 13.23             | B450C | 4500.00          | 3913.04          |

#### Stato limite ultimo - Verifiche a flessione/presoflessione

| Xg<br><m> | CC | TCC | El | X<br><cm> | AfE S<br><cmq> | AfE I<br><cmq> | AfEP S<br><cmq> | AfEP I<br><cmq> | My<br><daNm> | MRdy<br><daNm> | Sic.  |
|-----------|----|-----|----|-----------|----------------|----------------|-----------------|-----------------|--------------|----------------|-------|
| 0.15      | 33 | SLU | 1  | 15.00     | 4.02           | 4.02           | 4.02            | 4.02            | -419.29      | -3121.06       | 7.444 |
| 5.10      | 33 | SLU | 1  | 510.00    | 4.02           | 4.02           | 4.02            | 4.02            | -420.76      | -3121.06       | 7.418 |

#### Stato limite elastico - Verifiche a flessione/presoflessione

| Xg<br><m> | CC | TCC | El | X<br><cm> | AfE S<br><cmq> | AfE I<br><cmq> | AfEP S<br><cmq> | AfEP I<br><cmq> | My<br><daNm> | M'ydy<br><daNm> | Sic.  |
|-----------|----|-----|----|-----------|----------------|----------------|-----------------|-----------------|--------------|-----------------|-------|
| 0.15      | 15 | SND | 1  | 15.00     | 4.02           | 4.02           | 4.02            | 4.02            | -2661.72     | -2975.11        | 1.118 |
| 5.10      | 25 | SND | 1  | 510.00    | 4.02           | 4.02           | 4.02            | 4.02            | -2662.24     | -2975.11        | 1.118 |

#### Stato limite d'esercizio - Verifiche tensionali

| Xg<br><m> | CC | TCC   | El | X<br><cm> | AfE S<br><cmq> | AfE I<br><cmq> | My<br><daNm> | σ <sub>f</sub> sup<br><daN/cmq> | σ <sub>f</sub> inf<br><daN/cmq> | σ <sub>c</sub><br><daN/cmq> |
|-----------|----|-------|----|-----------|----------------|----------------|--------------|---------------------------------|---------------------------------|-----------------------------|
| 0.15      | 34 | SLE R | 1  | 15.00     | 4.02           | 4.02           | -322.17      | 422.49                          | -94.20                          | 12.98                       |
| 0.15      | 36 | SLE Q | 1  | 15.00     | 4.02           | 4.02           | -321.62      | 421.77                          | -94.04                          | 12.96                       |
| 5.10      | 34 | SLE R | 1  | 510.00    | 4.02           | 4.02           | -323.24      | 423.89                          | -94.51                          | 13.02                       |
| 5.10      | 36 | SLE Q | 1  | 510.00    | 4.02           | 4.02           | -322.49      | 422.91                          | -94.29                          | 12.99                       |

#### Stato limite d'esercizio - Verifiche a fessurazione

| Caso | Xg<br><m> | CC | TCC   | El | Sez. | X<br><cm> | My<br><daNm> | c<br><mm> | s<br><mm> | K <sub>2</sub> | Φ <sub>eq</sub> | Δ <sub>sm</sub><br><mm> | A <sub>s</sub><br><cmq> | A <sub>c</sub> eff<br><cmq> | σ <sub>s</sub><br><daN/cmq> | ε <sub>sm</sub> | wk<br><mm> |
|------|-----------|----|-------|----|------|-----------|--------------|-----------|-----------|----------------|-----------------|-------------------------|-------------------------|-----------------------------|-----------------------------|-----------------|------------|
| 19   | 0.15      | 36 | SLE Q | 1  | 5    | 15.00     | -321.62      | 43.00     | 230.00    | 0.50           | 16.00           | 158.49                  | 4.02                    | 182.18                      | 421.77                      | 0.12            | 0.03       |
| 20   | 0.15      | 35 | SLE F | 1  | 5    | 15.00     | -321.66      | 43.00     | 230.00    | 0.50           | 16.00           | 158.49                  | 4.02                    | 182.18                      | 421.82                      | 0.12            | 0.03       |
| 39   | 5.10      | 36 | SLE Q | 1  | 5    | 510.00    | -322.49      | 43.00     | 230.00    | 0.50           | 16.00           | 158.49                  | 4.02                    | 182.18                      | 422.91                      | 0.12            | 0.03       |
| 40   | 5.10      | 35 | SLE F | 1  | 5    | 510.00    | -322.54      | 43.00     | 230.00    | 0.50           | 16.00           | 158.49                  | 4.02                    | 182.18                      | 422.97                      | 0.12            | 0.03       |

### Staffe - Verifiche armatura

| CC     | X0<br><m> | X1<br><m> | Lung.<br><m> | Staff.      | AfE St.<br><cmq/m> | bw<br><m> | Vsdu<br><daN> | ctgθ | VRsd<br><daN> | VRcd<br><daN> | Vrdu<br><daN> | Sic.T |
|--------|-----------|-----------|--------------|-------------|--------------------|-----------|---------------|------|---------------|---------------|---------------|-------|
| 15 SND | 0.15      | 0.40      | 0.25         | 08/ 4 2 br. | 25.13              | 0.30      | 1409.31       | 1.23 | 23390.40      | 23390.40      | 23390.40      | 16.60 |
| 25 SND | 0.40      | 4.85      | 4.45         | 08/16 2 br. | 6.28               | 0.30      | 1362.79       | 2.50 | 11893.70      | 16475.90      | 11893.70      | 8.73  |
| 25 SND | 4.85      | 5.10      | 0.25         | 08/ 4 2 br. | 25.13              | 0.30      | 1409.66       | 1.23 | 23390.40      | 23390.40      | 23390.40      | 16.59 |

## Verifiche e armature pilastri

### Simbologia

Xg = Coordinata progressiva (dal primo nodo) in cui viene effettuato il progetto/verifica

CC = Combinazione delle condizioni di carico elementari  
e = eccentricità aggiuntiva in caso di compressione o pressoflessione  
α = amplificazione per gerarchia delle resistenze  
TG = taglio da gerarchia delle resistenze

TCC = Tipo di combinazione di carico  
SLU = Stato limite ultimo  
SLU S = Stato limite ultimo (azione sismica)  
SLE R = Stato limite d'esercizio, combinazione rara  
SLE F = Stato limite d'esercizio, combinazione frequente  
SLE Q = Stato limite d'esercizio, combinazione quasi permanente  
SLD = Stato limite di danno  
SLV = Stato limite di salvaguardia della vita  
SLC = Stato limite di prevenzione del collasso  
SLO = Stato limite di operatività  
SLU I = Stato limite di resistenza al fuoco  
SND = Stato limite di salvaguardia della vita (non dissipativo)

## Relazione di calcolo

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|                    |                                                                                                |
|--------------------|------------------------------------------------------------------------------------------------|
| In                 | =Identificativo della pilastrata facente parte dell'involuppo                                  |
| El                 | =Elemento (asta) in cui viene effettuato il progetto/verifica (progressivo sul numero di aste) |
| Sez.               | =Numero della sezione                                                                          |
| X                  | =Coordinata progressiva rispetto al nodo iniziale                                              |
| N                  | =Sforzo normale                                                                                |
| Mz                 | =Momento flettente intorno all'asse Z                                                          |
| My                 | =Momento flettente intorno all'asse Y                                                          |
| My ver.            | =Momento flettente di verifica intorno all'asse Y                                              |
| c                  | =Ricoprimento dell'armatura                                                                    |
| s                  | =Distanza massima tra le barre                                                                 |
| K <sub>z</sub>     | =Coefficiente per distribuzione deformazioni                                                   |
| Φ <sub>eq</sub>    | =Diametro equivalente delle barre                                                              |
| Δ <sub>sm</sub>    | =Distanza media tra le fessure                                                                 |
| A <sub>s</sub>     | =Area complessiva dei ferri nell'area di calcestruzzo efficace                                 |
| A <sub>c eff</sub> | =Area di calcestruzzo efficace                                                                 |
| σ <sub>s</sub>     | =Tensione nell'acciaio nella sezione fessurata                                                 |
| ε <sub>sm</sub>    | =Deformazione unitaria media dell'armatura (*1000)                                             |
| W <sub>k</sub>     | =Ampiezza caratteristica delle fessure                                                         |
| M                  | =Momento flettente                                                                             |
| MRd                | =Momento resistente allo stato limite ultimo                                                   |
| μΦ                 | =Valore di progetto della duttilità di curvatura                                               |
| Mz ver.            | =Momento flettente di verifica intorno all'asse Z                                              |
| Nu                 | =Sforzo normale ultimo                                                                         |
| M'ydy              | =Momento resistente massimo in campo sostanzialmente elastico intorno all'asse Y               |
| M'ydz              | =Momento resistente massimo in campo sostanzialmente elastico intorno all'asse Z               |
| MRdy               | =Momento resistente allo stato limite ultimo intorno all'asse Y                                |
| MRdz               | =Momento resistente allo stato limite ultimo intorno all'asse Z                                |
| α                  | =Angolo asse neutro a rottura                                                                  |
| ε <sub>y</sub>     | =Deformazione nell'acciaio (*1000)                                                             |
| Sic.               | =Sicurezza a rottura                                                                           |
| A <sub>fT</sub>    | =Area di ferro tesa                                                                            |
| A <sub>fC</sub>    | =Area di ferro compressa                                                                       |
| σ <sub>c</sub>     | =Tensione nel calcestruzzo                                                                     |
| σ <sub>f</sub>     | =Tensione nel ferro                                                                            |
| X0                 | =Coordinata progressiva (dal nodo iniziale) dell'inizio del tratto                             |
| X1                 | =Coordinata progressiva (dal nodo iniziale) della fine del tratto                              |
| Staff.             | =Staffatura adottata                                                                           |
| Br <sub>y</sub>    | =Numero bracci in dir. Y locale                                                                |
| Br <sub>z</sub>    | =Numero bracci in dir. Z locale                                                                |
| bw <sub>y</sub>    | =Larghezza membratura resistente al taglio in dir. Y                                           |
| Vsdu <sub>y</sub>  | =Taglio agente in dir. Y                                                                       |
| ctgθ <sub>y</sub>  | =Cotangente dell'angolo di inclinazione dei puntoni di calcestruzzo in dir. Y                  |
| VRsd <sub>y</sub>  | =Taglio ultimo lato armatura in dir. Y                                                         |
| VRcd <sub>y</sub>  | =Taglio ultimo lato calcestruzzo in dir. Y                                                     |
| bw <sub>z</sub>    | =Larghezza membratura resistente al taglio in dir. Z                                           |
| Vsdu <sub>z</sub>  | =Taglio agente in dir. Z                                                                       |
| ctgθ <sub>z</sub>  | =Cotangente dell'angolo di inclinazione dei puntoni di calcestruzzo in dir. Z                  |
| VRsd <sub>z</sub>  | =Taglio ultimo lato armatura in dir. Z                                                         |
| VRcd <sub>z</sub>  | =Taglio ultimo lato calcestruzzo in dir. Z                                                     |
| Sic.T              | =Sicurezza a rottura per taglio                                                                |
| Nodo               | =Numero del nodo                                                                               |
| Conf.              | =Nodo confinato                                                                                |
|                    | S = Sì                                                                                         |
|                    | N = No                                                                                         |
| F.                 | =Identificativo faccia del nodo                                                                |
|                    | Y+ = Faccia sul lato positivo Y locale pilastro                                                |
|                    | Z+ = Faccia sul lato positivo Z locale pilastro                                                |
|                    | Y- = Faccia sul lato negativo Y locale pilastro                                                |
|                    | Z- = Faccia sul lato negativo Z locale pilastro                                                |
| Mod.               | =Modalità di verifica faccia                                                                   |
|                    | I = Interna                                                                                    |
|                    | E = Esterna                                                                                    |
| Br.                | =Numero bracci                                                                                 |
| As1                | =Area di ferro superiore delle travi incidenti sulla faccia                                    |
| As2                | =Area di ferro inferiore delle travi incidenti sulla faccia                                    |
| Bj                 | =Larghezza effettiva utile del nodo                                                            |
| Hjc                | =Distanza tra armature pilastro                                                                |
| Hjw                | =Distanza tra armature trave                                                                   |
| Ash                | =Area totale della sezione della staffa                                                        |
| Tipo               | =Tipologia                                                                                     |
|                    | 2C = Doppia C lato labbri                                                                      |
|                    | 2Cdx = Doppia C lato costola                                                                   |
|                    | 2I = Doppia I                                                                                  |
|                    | 2L = Doppia L lato labbri                                                                      |
|                    | 2Ldx = Doppia L lato costole                                                                   |
|                    | C = Sezione a C                                                                                |
|                    | Cdx = C destra                                                                                 |
|                    | Cir. = Circolare                                                                               |
|                    | Cir.c = Circolare cava                                                                         |
|                    | I = Sezione a I                                                                                |

Relazione di calcolo

- L = Sezione a L  
Ldx = L destra  
Om. = Omega  
Pg = Pi greco  
Pr = Poligono regolare  
Prc = Poligono regolare cavo  
Pc = Per coordinate  
Ia = Inerzie assegnate  
R = Rettangolare  
Rc = Rettangolare cava  
T = Sezione a T  
U = Sezione a U  
Ur = U rovescia  
V = Sezione a V  
Vr = V rovescia  
Z = Sezione a Z  
Zdx = Z destra  
Ts = T stondata  
Ls = L stondata  
Cs = C stondata  
Is = I stondata  
Dis. = Disegnata
- B =Base  
H =Altezza  
Cf =Copriferro  
Cls =Tipo di calcestruzzo  
Fck =Resistenza caratteristica cilindrica a compressione del calcestruzzo  
Fctk =Resistenza caratteristica a trazione del calcestruzzo  
Fcd =Resistenza di calcolo a compressione del calcestruzzo  
Fctd =Resistenza di calcolo a trazione del calcestruzzo  
Tp =Tipo di acciaio  
Fyk =Tensione caratteristica di snervamento dell'acciaio  
Fyd =Resistenza di calcolo dell'acciaio

Pilastrate n. 1 7 8 14

- 1 (a) Nodi: 1 201  
7 (b) Nodi: 7 207  
8 (c) Nodi: 8 208  
14 (d) Nodi: 14 214

Caratteristiche delle sezioni e dei materiali utilizzati

| Sez. | Tipo | B<br><cm> | H<br><cm> | Cf<br><cm> | Cls    | Fck<br><daN/cmq> | Fctk<br><daN/cmq> | Fcd<br><daN/cmq> | Fctd<br><daN/cmq> | Tp    | Fyk<br><daN/cmq> | Fyd<br><daN/cmq> |
|------|------|-----------|-----------|------------|--------|------------------|-------------------|------------------|-------------------|-------|------------------|------------------|
| 8R   |      | 30.00     | 50.00     | 5.30       | C28/35 | 290.50           | 19.84             | 164.62           | 13.23             | B450C | 4500.00          | 3913.04          |

Stato limite ultimo - Verifiche a flessione/pressoflessione

| Xg<br><m> | CC | TCC | In | El | Sez. | X<br><cm> | N<br><daN> | My<br><daNm> | My ver.<br><daNm> | Mz<br><daNm> | Mz ver.<br><daNm> | Nu<br><daN> | MRdy<br><daNm> | MRdz<br><daNm> | α<br><grad> | εy   | Sic.   |
|-----------|----|-----|----|----|------|-----------|------------|--------------|-------------------|--------------|-------------------|-------------|----------------|----------------|-------------|------|--------|
| 0.00      | 33 | SLU | a  | 1  | 8    | 0.00      | -9108.88   | 1079.85      |                   | -235.41      |                   | -9108.88    | 18130.80       | -3861.11       | 331.88      | 5.79 | 16.773 |
| 0.00      | 33 | SLU | a  | 1  | 8    | 0.00      | -9108.88   | 1079.85      |                   | -235.41      |                   | -9108.88    | 18130.80       | -3861.11       | 331.88      | 5.79 | 16.773 |
| 3.05      | 33 | SLU | a  | 1  | 8    | 305.00    | -7622.01   | -2705.70     |                   | 460.78       |                   | -7622.01    | -18477.40      | 3073.69        | 157.50      | 6.31 | 6.825  |

Stato limite elastico - Verifiche a flessione/pressoflessione

| Xg<br><m> | CC | TCC | In | El | Sez. | X<br><cm> | N<br><daN> | My<br><daNm> | My ver.<br><daNm> | Mz<br><daNm> | Mz ver.<br><daNm> | Nu<br><daN> | M'ydy<br><daNm> | M'ydz<br><daNm> | α<br><grad> | εy   | Sic.  |
|-----------|----|-----|----|----|------|-----------|------------|--------------|-------------------|--------------|-------------------|-------------|-----------------|-----------------|-------------|------|-------|
| 0.00      | 27 | SND | a  | 1  | 8    | 0.00      | -3393.42   | 3957.80      |                   | 9240.57      |                   | -3393.42    | 4060.66         | 9227.56         | 82.97       | 7.35 | 1.003 |
| 0.00      | 27 | SND | a  | 1  | 8    | 0.00      | -3393.42   | 3957.80      |                   | 9240.57      |                   | -3393.42    | 4060.66         | 9227.56         | 82.97       | 7.35 | 1.003 |
| 3.05      | 15 | SND | a  | 1  | 8    | 305.00    | -9000.85   | -2355.18     |                   | 6808.75      |                   | -9000.85    | -3359.62        | 9867.38         | 95.63       | 7.33 | 1.447 |

Stato limite d'esercizio - Verifiche tensionali

| Xg<br><m> | CC | TCC   | In | El | Sez. | X<br><cm> | N<br><daN> | Mz<br><daNm> | My<br><daNm> | AfT<br><cmq> | AfC<br><cmq> | σ <sub>c</sub><br><daN/cmq> | σ <sub>f</sub><br><daN/cmq> |
|-----------|----|-------|----|----|------|-----------|------------|--------------|--------------|--------------|--------------|-----------------------------|-----------------------------|
| 0.00      | 34 | SLE R | b  | 1  | 8    | 0.00      | -8040.71   | -218.72      | -748.54      | 3.14         | 21.49        | 11.54                       | 144.23                      |
| 0.00      | 34 | SLE R | a  | 1  | 8    | 0.00      | -6729.90   | -181.18      | 778.52       | 5.15         | 19.48        | 10.95                       | 135.12                      |
| 0.00      | 36 | SLE Q | b  | 1  | 8    | 0.00      | -7390.96   | -221.93      | -643.97      | 3.14         | 21.49        | 10.52                       | 131.07                      |
| 0.00      | 34 | SLE R | b  | 1  | 8    | 0.00      | -8040.71   | -218.72      | -748.54      | 3.14         | 21.49        | 11.54                       | 144.23                      |
| 0.00      | 34 | SLE R | a  | 1  | 8    | 0.00      | -6729.90   | -181.18      | 778.52       | 5.15         | 19.48        | 10.95                       | 135.12                      |
| 0.00      | 36 | SLE Q | b  | 1  | 8    | 0.00      | -7390.96   | -221.93      | -643.97      | 3.14         | 21.49        | 10.52                       | 131.07                      |
| 3.05      | 34 | SLE R | a  | 1  | 8    | 305.00    | -5586.15   | 354.80       | -1960.49     | 12.31        | 12.31        | 26.64                       | 385.33                      |
| 3.05      | 36 | SLE Q | a  | 1  | 8    | 305.00    | -5017.98   | 355.97       | -1710.69     | 12.31        | 12.31        | 24.04                       | 340.27                      |

Stato limite d'esercizio - Verifiche a fessurazione

| Xg<br><m> | CC | TCC | In | El | Sez. | X<br><cm> | N<br><daN> | My<br><daNm> | Mz<br><daNm> | c<br><mm> | s<br><mm> | K2   | Φeq   | Δsm<br><mm> | As<br><cmq> | Ac eff<br><cmq> | σs<br><daN/cmq> | εsm  | Wk<br><mm> |
|-----------|----|-----|----|----|------|-----------|------------|--------------|--------------|-----------|-----------|------|-------|-------------|-------------|-----------------|-----------------|------|------------|
| 3.05      | 36 | SLE | Q  | a  | 1    | 8         | 305.00     | -1710.69     | 355.97       | 44.00     | 192.00    | 0.50 | 20.00 | 176.19      | 3.14        | 138.52          | 340.27          | 0.10 | 0.03       |
| 3.05      | 35 | SLE | F  | a  | 1    | 8         | 305.00     | -1733.43     | 355.91       | 44.00     | 192.00    | 0.50 | 20.00 | 176.94      | 3.14        | 139.71          | 344.37          | 0.10 | 0.03       |

Staffe - Verifiche armatura

| X0 | X1 | Staff. | Br <sub>y</sub> | Br <sub>z</sub> | CC | TCC | In | bw <sub>y</sub> | Vsdu <sub>y</sub> | ctgθ <sub>y</sub> | VRsd <sub>y</sub> | VRcd <sub>y</sub> | bw <sub>z</sub> | Vsdu <sub>z</sub> | ctgθ <sub>z</sub> | VRsd <sub>z</sub> | VRcd <sub>z</sub> | Sic.T |
|----|----|--------|-----------------|-----------------|----|-----|----|-----------------|-------------------|-------------------|-------------------|-------------------|-----------------|-------------------|-------------------|-------------------|-------------------|-------|
|----|----|--------|-----------------|-----------------|----|-----|----|-----------------|-------------------|-------------------|-------------------|-------------------|-----------------|-------------------|-------------------|-------------------|-------------------|-------|

## Relazione di calcolo

| <m>  | <m>  |       |   |     |     |   | <m>  | <daN>   |      | <daN>    | <daN>    | <m>  | <daN>   |      | <daN>    | <daN>    |       |
|------|------|-------|---|-----|-----|---|------|---------|------|----------|----------|------|---------|------|----------|----------|-------|
| 0.00 | 0.51 | 08/10 | 2 | 233 | SLU | a | 0.50 | 228.26  | 2.50 | 21773.70 | 32578.10 | 0.30 | 1241.16 | 2.35 | 37060.40 | 37060.40 | 29.86 |
| 0.00 | 0.51 | 08/10 | 2 | 233 | SLU | d | 0.50 | 278.32  | 2.50 | 21773.70 | 32805.10 | 0.30 | 1155.02 | 2.36 | 37212.60 | 37212.60 | 32.22 |
| 0.00 | 0.51 | 08/10 | 2 | 221 | SND | a | 0.50 | 1775.38 | 2.50 | 21773.70 | 32305.90 | 0.30 | 4891.21 | 2.34 | 36877.00 | 36877.00 | 7.54  |
| 0.00 | 0.51 | 08/10 | 2 | 213 | SND | a | 0.50 | 5378.92 | 2.50 | 21773.70 | 32555.30 | 0.30 | 930.16  | 2.35 | 37045.10 | 37045.10 | 4.05  |
| 0.00 | 0.51 | 08/10 | 2 | 215 | SND | a | 0.50 | 5384.00 | 2.50 | 21773.70 | 32709.90 | 0.30 | 1350.56 | 2.35 | 37148.80 | 37148.80 | 4.04  |
| 0.51 | 2.54 | 08/18 | 2 | 233 | SLU | a | 0.50 | 228.26  | 2.50 | 12096.50 | 32546.60 | 0.30 | 1241.16 | 2.50 | 21931.10 | 35404.30 | 17.67 |
| 0.51 | 2.54 | 08/18 | 2 | 233 | SLU | d | 0.50 | 278.32  | 2.50 | 12096.50 | 32773.60 | 0.30 | 1155.02 | 2.50 | 21931.10 | 35651.30 | 18.99 |
| 0.51 | 2.54 | 08/18 | 2 | 221 | SND | a | 0.50 | 1775.38 | 2.50 | 12096.50 | 32281.70 | 0.30 | 4891.21 | 2.50 | 21931.10 | 35116.20 | 4.48  |
| 0.51 | 2.54 | 08/18 | 2 | 213 | SND | a | 0.50 | 5378.92 | 2.50 | 12096.50 | 32531.10 | 0.30 | 930.16  | 2.50 | 21931.10 | 35387.50 | 2.25  |
| 0.51 | 2.54 | 08/18 | 2 | 215 | SND | a | 0.50 | 5384.00 | 2.50 | 12096.50 | 32685.60 | 0.30 | 1350.56 | 2.50 | 21931.10 | 35555.60 | 2.25  |
| 2.54 | 3.05 | 08/10 | 2 | 233 | SLU | a | 0.50 | 228.26  | 2.50 | 21773.70 | 32420.40 | 0.30 | 1241.16 | 2.34 | 36954.30 | 36954.30 | 29.77 |
| 2.54 | 3.05 | 08/10 | 2 | 233 | SLU | d | 0.50 | 278.32  | 2.50 | 21773.70 | 32647.50 | 0.30 | 1155.02 | 2.35 | 37107.00 | 37107.00 | 32.13 |
| 2.54 | 3.05 | 08/10 | 2 | 221 | SND | a | 0.50 | 1775.38 | 2.50 | 21773.70 | 32184.70 | 0.30 | 4891.21 | 2.33 | 36795.00 | 36795.00 | 7.52  |
| 2.54 | 3.05 | 08/10 | 2 | 213 | SND | a | 0.50 | 5378.92 | 2.50 | 21773.70 | 32434.10 | 0.30 | 930.16  | 2.34 | 36963.40 | 36963.40 | 4.05  |
| 2.54 | 3.05 | 08/10 | 2 | 215 | SND | a | 0.50 | 5384.00 | 2.50 | 21773.70 | 32588.60 | 0.30 | 1350.56 | 2.35 | 37067.40 | 37067.40 | 4.04  |

### Pilastrate n. 2 3 4 5 6 9 10 11 12 13

2 (a) Nodi: 2 202  
3 (b) Nodi: 3 203  
4 (c) Nodi: 4 204  
5 (d) Nodi: 5 205  
6 (e) Nodi: 6 206  
9 (f) Nodi: 9 209  
10 (g) Nodi: 10 210  
11 (h) Nodi: 11 211  
12 (i) Nodi: 12 212  
13 (j) Nodi: 13 213

#### Caratteristiche delle sezioni e dei materiali utilizzati

| Sez. | Tipo | B<br><cm> | H<br><cm> | Cf<br><cm> | Cl     | Fck<br><daN/cm²> | Fctk<br><daN/cm²> | Fcd<br><daN/cm²> | Fctd<br><daN/cm²> | TP    | Fyk<br><daN/cm²> | Fyd<br><daN/cm²> |
|------|------|-----------|-----------|------------|--------|------------------|-------------------|------------------|-------------------|-------|------------------|------------------|
| 4R   |      | 30.00     | 30.00     | 5.10       | C28/35 | 290.50           | 19.84             | 164.62           | 13.23             | B450C | 4500.00          | 3913.04          |

#### Stato limite ultimo - Verifiche a flessione/pressoflessione

| Xg<br><m> | CC    | TCC | In | El | Sez. | X<br><cm> | N<br><daN> | My<br><daNm> | My ver.<br><daNm> | Mz<br><daNm> | Mz ver.<br><daNm> | Nu<br><daN> | MRdy<br><daNm> | MRdz<br><daNm> | α<br><grad> | ε <sub>y</sub> | Sic.   |
|-----------|-------|-----|----|----|------|-----------|------------|--------------|-------------------|--------------|-------------------|-------------|----------------|----------------|-------------|----------------|--------|
| 0.00      | 33(e) | SLU | i  | 1  | 4    | 0.00      | -19378.90  | 10.89        | 387.58            | 197.82       | 387.58            | -195361.00  | 4625.02        | 4671.83        | 39.38       | 3.70           | 10.081 |
| 0.00      | 33(e) | SLU | i  | 1  | 4    | 0.00      | -19378.90  | 10.89        | 387.58            | 197.82       | 387.58            | -195361.00  | 4625.02        | 4671.83        | 39.38       | 3.70           | 10.081 |
| 3.05      | 33(e) | SLU | i  | 1  | 4    | 305.00    | -18486.70  | -37.36       | -369.74           | -395.37      | -395.37           | -195361.00  | -4481.01       | -4767.27       | 220.78      | 3.75           | 10.568 |

#### Stato limite elastico - Verifiche a flessione/pressoflessione

| Xg<br><m> | CC | TCC | In | El | Sez. | X<br><cm> | N<br><daN> | My<br><daNm> | My ver.<br><daNm> | Mz<br><daNm> | Mz ver.<br><daNm> | Nu<br><daN> | M'y <sub>dy</sub><br><daNm> | M'y <sub>dz</sub><br><daNm> | α<br><grad> | ε <sub>y</sub> | Sic.  |
|-----------|----|-----|----|----|------|-----------|------------|--------------|-------------------|--------------|-------------------|-------------|-----------------------------|-----------------------------|-------------|----------------|-------|
| 0.00      | 25 | SND | f  | 1  | 4    | 0.00      | -13563.40  | -1124.27     |                   | 4702.78      |                   | -13563.40   | -1316.42                    | 5560.01                     | 104.06      | 5.93           | 1.182 |
| 0.00      | 25 | SND | f  | 1  | 4    | 0.00      | -13563.40  | -1124.27     |                   | 4702.78      |                   | -13563.40   | -1316.42                    | 5560.01                     | 104.06      | 5.93           | 1.182 |
| 3.05      | 3  | SND | e  | 1  | 4    | 305.00    | -9351.89   | 2778.03      |                   | 517.10       |                   | -9351.89    | 4524.51                     | 767.61                      | 8.44        | 5.91           | 1.624 |

#### Stato limite d'esercizio - Verifiche tensionali

| Xg<br><m> | CC | TCC | In | El | Sez. | X<br><cm> | N<br><daN> | Mz<br><daNm> | My<br><daNm> | AfT<br><cmq> | AfC<br><cmq> | σ <sub>c</sub><br><daN/cm²> | σ <sub>f</sub><br><daN/cm²> |
|-----------|----|-----|----|----|------|-----------|------------|--------------|--------------|--------------|--------------|-----------------------------|-----------------------------|
| 0.00      | 34 | SLE | R  | g  | 1    | 4         | 0.00       | -14117.00    | 266.20       | -39.94       | 0.00         | 12.06                       | 249.42                      |
| 0.00      | 34 | SLE | R  | f  | 1    | 4         | 0.00       | -13334.60    | 242.13       | 87.07        | 0.00         | 12.06                       | 243.16                      |
| 0.00      | 36 | SLE | Q  | g  | 1    | 4         | 0.00       | -12515.40    | 257.46       | -36.04       | 0.00         | 12.06                       | 224.96                      |
| 0.00      | 34 | SLE | R  | g  | 1    | 4         | 0.00       | -14117.00    | 266.20       | -39.94       | 0.00         | 12.06                       | 249.42                      |
| 0.00      | 34 | SLE | R  | f  | 1    | 4         | 0.00       | -13334.60    | 242.13       | 87.07        | 0.00         | 12.06                       | 243.16                      |
| 0.00      | 36 | SLE | Q  | g  | 1    | 4         | 0.00       | -12515.40    | 257.46       | -36.04       | 0.00         | 12.06                       | 224.96                      |
| 3.05      | 34 | SLE | R  | e  | 1    | 4         | 305.00     | -12573.30    | 297.28       | 202.19       | 0.00         | 12.06                       | 263.54                      |
| 3.05      | 36 | SLE | Q  | e  | 1    | 4         | 305.00     | -11076.40    | 297.32       | 178.20       | 0.00         | 12.06                       | 238.32                      |

#### Staffe - Verifiche armatura

| X0<br><m> | X1<br><m> | Staff. | Br <sub>y</sub> | Br <sub>z</sub> | CC  | TCC | In   | bw <sub>y</sub><br><m> | Vsdu <sub>y</sub><br><daN> | ctgθ <sub>y</sub> | VRsd <sub>y</sub><br><daN> | VRcd <sub>y</sub><br><daN> | bw <sub>z</sub><br><m> | Vsdu <sub>z</sub><br><daN> | ctgθ <sub>z</sub> | VRsd <sub>z</sub><br><daN> | VRcd <sub>z</sub><br><daN> | Sic.  | T |
|-----------|-----------|--------|-----------------|-----------------|-----|-----|------|------------------------|----------------------------|-------------------|----------------------------|----------------------------|------------------------|----------------------------|-------------------|----------------------------|----------------------------|-------|---|
| 0.00      | 0.51      | 08/10  | 2               | 233             | SLU | e   | 0.30 | 190.62                 | 2.46                       | 21418.10          | 21418.10                   | 0.30                       | 149.78                 | 2.46                       | 21418.10          | 21418.10                   |                            | >100  |   |
| 0.00      | 0.51      | 08/10  | 2               | 233             | SLU | g   | 0.30 | 247.59                 | 2.47                       | 21506.60          | 21506.60                   | 0.30                       | 39.05                  | 2.47                       | 21506.60          | 21506.60                   |                            | 86.86 |   |
| 0.00      | 0.51      | 08/10  | 2               | 23              | SND | e   | 0.30 | 389.68                 | 2.39                       | 20797.70          | 20797.70                   | 0.30                       | 1945.63                | 2.39                       | 20797.70          | 20797.70                   |                            | 10.69 |   |
| 0.00      | 0.51      | 08/10  | 2               | 215             | SND | a   | 0.30 | 2305.52                | 2.41                       | 20988.80          | 20988.80                   | 0.30                       | 359.46                 | 2.41                       | 20988.80          | 20988.80                   |                            | 9.10  |   |
| 0.51      | 2.54      | 08/18  | 2               | 233             | SLU | e   | 0.30 | 190.62                 | 2.50                       | 12096.50          | 21146.70                   | 0.30                       | 149.78                 | 2.50                       | 12096.50          | 21146.70                   |                            | 63.46 |   |
| 0.51      | 2.54      | 08/18  | 2               | 233             | SLU | g   | 0.30 | 247.59                 | 2.50                       | 12096.50          | 21297.00                   | 0.30                       | 39.05                  | 2.50                       | 12096.50          | 21297.00                   |                            | 48.86 |   |
| 0.51      | 2.54      | 08/18  | 2               | 23              | SND | e   | 0.30 | 389.68                 | 2.50                       | 12096.50          | 20114.20                   | 0.30                       | 1945.63                | 2.50                       | 12096.50          | 20114.20                   |                            | 6.22  |   |
| 0.51      | 2.54      | 08/18  | 2               | 215             | SND | a   | 0.30 | 2305.52                | 2.50                       | 12096.50          | 20430.30                   | 0.30                       | 359.46                 | 2.50                       | 12096.50          | 20430.30                   |                            | 5.25  |   |
| 0.51      | 2.54      | 08/18  | 2               | 225             | SND | f   | 0.30 | 2307.80                | 2.50                       | 12096.50          | 20562.70                   | 0.30                       | 666.20                 | 2.50                       | 12096.50          | 20562.70                   |                            | 5.24  |   |
| 2.54      | 3.05      | 08/10  | 2               | 233             | SLU | e   | 0.30 | 190.62                 | 2.45                       | 21362.20          | 21362.20                   | 0.30                       | 149.78                 | 2.45                       | 21362.20          | 21362.20                   |                            | >100  |   |
| 2.54      | 3.05      | 08/10  | 2               | 233             | SLU | g   | 0.30 | 247.59                 | 2.46                       | 21450.90          | 21450.90                   | 0.30                       | 39.05                  | 2.46                       | 21450.90          | 21450.90                   |                            | 86.64 |   |
| 2.54      | 3.05      | 08/10  | 2               | 23              | SND | e   | 0.30 | 389.68                 | 2.38                       | 20753.50          | 20753.50                   | 0.30                       | 1945.63                | 2.38                       | 20753.50          | 20753.50                   |                            | 10.67 |   |
| 2.54      | 3.05      | 08/10  | 2               | 215             | SND | a   | 0.30 | 2305.52                | 2.40                       | 20945.00          | 20945.00                   | 0.30                       | 359.46                 | 2.40                       | 20945.00          | 20945.00                   |                            | 9.08  |   |

## Verifiche e armature solette/platee

## Simbologia

|                                        |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              |
|----------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Nodo                                   | = Numero del nodo                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            |
| X                                      | = Coordinata X del nodo                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      |
| Y                                      | = Coordinata Y del nodo                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      |
| DV                                     | = Direzione di verifica<br>XX = Verifica per momento Mxx<br>YY = Verifica per momento Myy                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    |
| CC                                     | = Numero della combinazione delle condizioni di carico elementari                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            |
| TCC                                    | = Tipo di combinazione di carico<br>SLU = Stato limite ultimo<br>SLU S = Stato limite ultimo (azione sismica)<br>SLE R = Stato limite d'esercizio, combinazione rara<br>SLE F = Stato limite d'esercizio, combinazione frequente<br>SLE Q = Stato limite d'esercizio, combinazione quasi permanente<br>SLD = Stato limite di danno<br>SLV = Stato limite di salvaguardia della vita<br>SLC = Stato limite di prevenzione del collasso<br>SLO = Stato limite di operatività<br>SLU I = Stato limite di resistenza al fuoco<br>SND = Stato limite di salvaguardia della vita (non dissipativo) |
| C                                      | = Ricoprimento dell'armatura                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 |
| S                                      | = Distanza massima tra le barre                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              |
| K <sub>2</sub>                         | = Coefficiente per distribuzione deformazioni                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                |
| Φ <sub>eq</sub>                        | = Diametro equivalente delle barre                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           |
| Δ <sub>sm</sub>                        | = Distanza media tra le fessure                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              |
| A <sub>s</sub>                         | = Area complessiva dei ferri nell'area di calcestruzzo efficace                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              |
| A <sub>c eff</sub>                     | = Area di calcestruzzo efficace                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              |
| σ <sub>s</sub>                         | = Tensione nell'acciaio nella sezione fessurata                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              |
| ε <sub>sm</sub>                        | = Deformazione unitaria media dell'armatura (*1000)                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          |
| w <sub>k</sub>                         | = Ampiezza caratteristica delle fessure                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      |
| A <sub>fE S</sub>                      | = Area di ferro effettiva totale presente nel punto di verifica, superiore                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   |
| A <sub>fE I</sub>                      | = Area di ferro effettiva totale presente nel punto di verifica, inferiore                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   |
| M <sub>y</sub>                         | = Momento flettente intorno all'asse Y                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       |
| M'y <sub>dy</sub>                      | = Momento resistente massimo in campo sostanzialmente elastico intorno all'asse Y                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            |
| M <sub>Rdy</sub>                       | = Momento resistente allo stato limite ultimo intorno all'asse Y                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             |
| Sic.                                   | = Sicurezza a rottura                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        |
| A <sub>fE St.</sub>                    | = Area di ferro effettiva della staffatura                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   |
| V <sub>sdu</sub>                       | = Taglio agente nella direzione del momento ultimo                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           |
| V <sub>Rcd</sub>                       | = Taglio ultimo lato calcestruzzo                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            |
| V <sub>Rsd</sub>                       | = Taglio ultimo lato armatura                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                |
| V <sub>rdu</sub>                       | = Taglio ultimo assorbibile dal solo calcestruzzo                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            |
| Sic.T                                  | = Sicurezza a rottura per taglio                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             |
| Mom                                    | = Momento flettente                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          |
| σ <sub>c</sub>                         | = Tensione nel calcestruzzo                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  |
| σ <sub>f</sub>                         | = Tensione nel ferro                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         |
| Pil                                    | = Numero del pilastro                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        |
| d                                      | = Media delle altezze utili nelle due direzioni ortogonali                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   |
| M <sub>Z</sub>                         | = Momento intorno all'asse Z                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 |
| u <sub>0</sub>                         | = Perimetro del pilastro                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     |
| V <sub>Ed, red</sub> (u <sub>0</sub> ) | = Valore di progetto del taglio agente ridotto sul perimetro u <sub>0</sub>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  |
| β (u <sub>0</sub> )                    | = Coeff. amplificativo dello sforzo di punzonamento sul perimetro u <sub>0</sub>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             |
| v                                      | = Coeff. di riduzione della resistenza per il calcestruzzo fessurato a taglio                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                |
| V <sub>Ed</sub> (u <sub>0</sub> )      | = Tensione max di taglio sul perimetro u <sub>0</sub>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        |
| V <sub>Rd, max</sub>                   | = Valore di progetto del max taglio punzonamento resistente lungo la sez. di verifica                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        |
| u <sub>1</sub>                         | = Perimetro di verifica di base                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              |
| V <sub>Ed, red</sub> (u <sub>1</sub> ) | = Valore di progetto del taglio agente ridotto sul perimetro u <sub>1</sub>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  |
| β (u <sub>1</sub> )                    | = Coeff. amplificativo dello sforzo di punzonamento sul perimetro u <sub>1</sub>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             |
| ρ <sub>l</sub>                         | = Rapporto d'armatura longitudinale (*1000)                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  |
| V <sub>Ed</sub> (u <sub>1</sub> )      | = Tensione max di taglio sul perimetro u <sub>1</sub>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        |
| V <sub>Rd, c</sub>                     | = Resistenza di progetto a punzonamento                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      |
| A <sub>sw</sub>                        | = Area di armatura a taglio a punzonamento                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   |
| V <sub>Rd, cs</sub>                    | = Resistenza a taglio punzonamento                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           |
| Spess.                                 | = Spessore                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   |
| Cf sup                                 | = Copriferro superiore                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       |
| Cf inf                                 | = Copriferro inferiore                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       |
| Cl <sub>s</sub>                        | = Tipo di calcestruzzo                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       |
| F <sub>ck</sub>                        | = Resistenza caratteristica cilindrica a compressione del calcestruzzo                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       |
| F <sub>ctk</sub>                       | = Resistenza caratteristica a trazione del calcestruzzo                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      |
| F <sub>cd</sub>                        | = Resistenza di calcolo a compressione del calcestruzzo                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      |
| F <sub>ctd</sub>                       | = Resistenza di calcolo a trazione del calcestruzzo                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          |
| Tp                                     | = Tipo di acciaio                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            |
| F <sub>yk</sub>                        | = Tensione caratteristica di snervamento dell'acciaio                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        |
| F <sub>yd</sub>                        | = Resistenza di calcolo dell'acciaio                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         |

## Armatura platea a quota 0.00

### Caratteristiche delle sezioni e dei materiali utilizzati

| Spess. | Cf sup | Cf inf | Cl <sub>s</sub> | F <sub>ck</sub> | F <sub>ctk</sub> | F <sub>cd</sub> | F <sub>ctd</sub> | Tp | F <sub>yk</sub> | F <sub>yd</sub> |
|--------|--------|--------|-----------------|-----------------|------------------|-----------------|------------------|----|-----------------|-----------------|
| <cm>   | <cm>   | <cm>   |                 | <daN/cm²>       | <daN/cm²>        | <daN/cm²>       | <daN/cm²>        |    | <daN/cm²>       | <daN/cm²>       |

Relazione di calcolo

|       |      |      |        |        |       |        |       |       |         |         |
|-------|------|------|--------|--------|-------|--------|-------|-------|---------|---------|
| 35.00 | 3.00 | 3.00 | C28/35 | 290.50 | 19.84 | 164.62 | 13.23 | B450C | 4500.00 | 3913.04 |
|-------|------|------|--------|--------|-------|--------|-------|-------|---------|---------|

Stato limite ultimo - Verifiche a flessione/presoflessione

| Nodo | X<br><m> | Y<br><m> | DV | CC | TCC | AfE S<br><cmq> | AfE I<br><cmq> | My<br><daNm> | MRdy<br><daNm> | Sic.   |
|------|----------|----------|----|----|-----|----------------|----------------|--------------|----------------|--------|
| -394 | 30.95    | 5.95     | XX | 33 | SLU | 4.52           | 4.52           | 697.27       | 5743.13        | 8.237  |
| -353 | 17.76    | 5.25     | XX | 33 | SLU | 4.52           | 4.52           | -512.63      | -5743.13       | 11.203 |
| -400 | 35.95    | 5.95     | YY | 33 | SLU | 4.52           | 4.52           | 997.91       | 5743.13        | 5.755  |
| -315 | 35.95    | 4.04     | YY | 33 | SLU | 4.52           | 4.52           | -438.33      | -5743.13       | 13.102 |

Stato limite elastico - Verifiche a flessione/presoflessione

| Nodo | X<br><m> | Y<br><m> | DV | CC | TCC | AfE S<br><cmq> | AfE I<br><cmq> | My<br><daNm> | M'ydy<br><daNm> | Sic.  |
|------|----------|----------|----|----|-----|----------------|----------------|--------------|-----------------|-------|
| -366 | 35.95    | 5.25     | XX | 17 | SND | 4.52           | 4.52           | 1385.85      | 5320.01         | 3.839 |
| -398 | 34.67    | 5.95     | XX | 17 | SND | 4.52           | 4.52           | -1509.23     | -5320.01        | 3.525 |
| -367 | 3.95     | 5.95     | YY | 27 | SND | 4.52           | 4.52           | 2304.75      | 5320.01         | 2.308 |
| -316 | 3.95     | 4.50     | YY | 15 | SND | 4.52           | 4.52           | 1848.40      | 5320.01         | 2.878 |

Stato limite ultimo - Verifica a taglio del calcestruzzo

| Nodo | X<br><m> | Y<br><m> | DV | CC | TCC | AfE S<br><cmq> | AfE I<br><cmq> | AfE St.<br><cmq/m> | Vsdu<br><daN> | VRcd<br><daN> | VRsd<br><daN> | Vrdu<br><daN> | Sic.T |
|------|----------|----------|----|----|-----|----------------|----------------|--------------------|---------------|---------------|---------------|---------------|-------|
| -366 | 35.95    | 5.25     | XX | 33 | SLU | 4.52           | 4.52           |                    | 2543.63       |               |               | 14463.60      | 5.69  |
| -366 | 35.95    | 5.25     | XX | 17 | SND | 4.52           | 4.52           |                    | 4860.02       |               |               | 14463.60      | 2.98  |
| -400 | 35.95    | 5.95     | YY | 33 | SLU | 4.52           | 4.52           |                    | 2680.32       |               |               | 14463.60      | 5.40  |
| -172 | 35.95    | -0.70    | YY | 19 | SND | 4.52           | 4.52           |                    | 5807.19       |               |               | 14463.60      | 2.49  |

Stato limite d'esercizio - Verifiche tensionali

| Nodo | X<br><m> | Y<br><m> | DV | CC | TCC   | AfE S<br><cmq> | AfE I<br><cmq> | Mom<br><daNm> | $\sigma_c$<br><daN/cmq> | $\sigma_f$<br><daN/cmq> |
|------|----------|----------|----|----|-------|----------------|----------------|---------------|-------------------------|-------------------------|
| -394 | 30.95    | 5.95     | XX | 34 | SLE R | 4.52           | 4.52           | 508.14        | 5.37                    | 374.43                  |
| -394 | 30.95    | 5.95     | XX | 36 | SLE Q | 4.52           | 4.52           | 452.83        | 4.79                    | 333.68                  |
| -353 | 17.76    | 5.25     | XX | 34 | SLE R | 4.52           | 4.52           | -372.38       | 3.94                    | 274.39                  |
| -353 | 17.76    | 5.25     | XX | 36 | SLE Q | 4.52           | 4.52           | -331.81       | 3.51                    | 244.50                  |
| -400 | 35.95    | 5.95     | YY | 34 | SLE R | 4.52           | 4.52           | 732.44        | 7.74                    | 539.71                  |
| -400 | 35.95    | 5.95     | YY | 36 | SLE Q | 4.52           | 4.52           | 676.17        | 7.15                    | 498.25                  |
| -315 | 35.95    | 4.04     | YY | 34 | SLE R | 4.52           | 4.52           | -324.21       | 3.43                    | 238.90                  |
| -315 | 35.95    | 4.04     | YY | 36 | SLE Q | 4.52           | 4.52           | -295.66       | 3.13                    | 217.86                  |

Stato limite d'esercizio - Verifiche a fessurazione

| Nodo | X<br><m> | Y<br><m> | DV | CC | TCC   | c<br><mm> | s<br><mm> | K <sub>2</sub> | $\Phi_{eq}$ | $\Delta_{sm}$<br><mm> | A <sub>s</sub><br><cmq> | A <sub>c eff</sub><br><cmq> | $\sigma_s$<br><daN/cmq> | $\epsilon_{sm}$ | wk<br><mm> |
|------|----------|----------|----|----|-------|-----------|-----------|----------------|-------------|-----------------------|-------------------------|-----------------------------|-------------------------|-----------------|------------|
| -394 | 30.95    | 5.95     | XX | 36 | SLE Q | 24.00     | 250.00    | 0.50           | 12.00       | 223.07                | 5.65                    | 825.00                      | 333.68                  | 0.10            | 0.04       |
| -394 | 30.95    | 5.95     | XX | 35 | SLE F | 24.00     | 250.00    | 0.50           | 12.00       | 223.07                | 5.65                    | 825.00                      | 337.39                  | 0.10            | 0.04       |
| -353 | 17.76    | 5.25     | XX | 36 | SLE Q | 24.00     | 250.00    | 0.50           | 12.00       | 223.07                | 5.65                    | 825.00                      | 244.50                  | 0.07            | 0.03       |
| -353 | 17.76    | 5.25     | XX | 35 | SLE F | 24.00     | 250.00    | 0.50           | 12.00       | 223.07                | 5.65                    | 825.00                      | 247.64                  | 0.07            | 0.03       |
| -400 | 35.95    | 5.95     | YY | 36 | SLE Q | 24.00     | 250.00    | 0.50           | 12.00       | 223.07                | 5.65                    | 825.00                      | 498.25                  | 0.15            | 0.06       |
| -400 | 35.95    | 5.95     | YY | 35 | SLE F | 24.00     | 250.00    | 0.50           | 12.00       | 223.07                | 5.65                    | 825.00                      | 501.65                  | 0.15            | 0.06       |
| -315 | 35.95    | 4.04     | YY | 36 | SLE Q | 24.00     | 250.00    | 0.50           | 12.00       | 223.07                | 5.65                    | 825.00                      | 217.86                  | 0.06            | 0.02       |
| -315 | 35.95    | 4.04     | YY | 35 | SLE F | 24.00     | 250.00    | 0.50           | 12.00       | 223.07                | 5.65                    | 825.00                      | 219.59                  | 0.06            | 0.02       |

Stato limite ultimo - Armatura a punzonamento - Verifiche armatura

| Pil | CC | TCC | d<br><m> | My<br><daNm> | Mz<br><daNm> | u <sub>0</sub><br><m> | V <sub>Ed, red</sub> (u <sub>0</sub> )<br><daN> | $\beta$ (u <sub>0</sub> ) | v    | V <sub>Ed</sub> (u <sub>0</sub> )<br><daN/mq> | V <sub>Rd, max</sub><br><daN/mq> | u <sub>1</sub><br><m> | V <sub>Ed, red</sub> (u <sub>1</sub> )<br><daN> | $\beta$ (u <sub>1</sub> ) | $\rho_t$ | V <sub>Ed</sub> (u <sub>1</sub> )<br><daN/mq> | V <sub>Rd, c</sub><br><daN/mq> | A <sub>sw</sub><br><cmq> | V <sub>Rd, cs</sub><br><daN/mq> |
|-----|----|-----|----------|--------------|--------------|-----------------------|-------------------------------------------------|---------------------------|------|-----------------------------------------------|----------------------------------|-----------------------|-------------------------------------------------|---------------------------|----------|-----------------------------------------------|--------------------------------|--------------------------|---------------------------------|
| 1   | 25 | SND | 0.32     | 461.96       | 10167.70     | 0.80                  | 1596.54                                         | 7.45                      | 0.53 | 46452.70                                      | 436465.00                        | 2.15                  | 10640.70                                        | 1.97                      | 1.41     | 30389.00                                      | 45198.90                       | 0.00                     | 0.00                            |
| 4   | 27 | SND | 0.32     | 1221.42      | 3607.67      | 0.90                  | 12059.00                                        | 1.36                      | 0.53 | 56938.20                                      | 436465.00                        | 3.30                  | 2960.49                                         | 2.47                      | 1.41     | 6914.29                                       | 45198.90                       | 0.00                     | 0.00                            |
| 5   | 11 | SND | 0.32     | 944.32       | 3499.69      | 0.90                  | 12212.30                                        | 1.34                      | 0.53 | 56742.80                                      | 436465.00                        | 3.30                  | 3210.54                                         | 2.29                      | 1.41     | 6952.61                                       | 45198.90                       | 0.00                     | 0.00                            |
| 6   | 1  | SND | 0.32     | 3331.30      | 1209.00      | 0.90                  | 10105.20                                        | 1.40                      | 0.53 | 49106.00                                      | 436465.00                        | 3.30                  | 4829.62                                         | 1.84                      | 1.41     | 8398.86                                       | 45198.90                       | 0.00                     | 0.00                            |
| 7   | 5  | SND | 0.32     | 7027.95      | 2581.81      | 0.80                  | 3912.95                                         | 3.15                      | 0.53 | 48181.30                                      | 436465.00                        | 2.15                  | 10428.50                                        | 1.81                      | 1.41     | 27382.10                                      | 45198.90                       | 0.00                     | 0.00                            |
| 8   | 13 | SND | 0.32     | 437.39       | 10061.90     | 0.80                  | 1574.46                                         | 7.47                      | 0.53 | 45944.00                                      | 436465.00                        | 2.15                  | 11201.80                                        | 1.91                      | 1.41     | 31046.40                                      | 45198.90                       | 0.00                     | 0.00                            |
| 11  | 15 | SND | 0.32     | 1219.92      | 3600.58      | 0.90                  | 12025.40                                        | 1.36                      | 0.53 | 56792.90                                      | 436465.00                        | 3.30                  | 3829.97                                         | 2.13                      | 1.41     | 7730.10                                       | 45198.90                       | 0.00                     | 0.00                            |
| 12  | 31 | SND | 0.32     | 941.77       | 3489.18      | 0.90                  | 12180.90                                        | 1.34                      | 0.53 | 56590.90                                      | 436465.00                        | 3.30                  | 4083.59                                         | 2.01                      | 1.41     | 7767.91                                       | 45198.90                       | 0.00                     | 0.00                            |
| 13  | 19 | SND | 0.32     | 3314.81      | 1236.04      | 0.90                  | 10085.90                                        | 1.40                      | 0.53 | 49014.90                                      | 436465.00                        | 3.30                  | 5686.03                                         | 1.71                      | 1.41     | 9203.42                                       | 45198.90                       | 0.00                     | 0.00                            |
| 14  | 23 | SND | 0.32     | 6825.28      | 2477.28      | 0.80                  | 3914.63                                         | 3.09                      | 0.53 | 47202.50                                      | 436465.00                        | 2.15                  | 11095.20                                        | 1.74                      | 1.41     | 27984.30                                      | 45198.90                       | 0.00                     | 0.00                            |

Armatura platea a quota -1.50

Caratteristiche delle sezioni e dei materiali utilizzati

| Spess. | Cf sup | Cf inf | Cls    | Fck       | Fctk      | Fcd       | Fctd      | Tp    | Fyk       | Fyd       |
|--------|--------|--------|--------|-----------|-----------|-----------|-----------|-------|-----------|-----------|
| <cm>   | <cm>   | <cm>   |        | <daN/cmq> | <daN/cmq> | <daN/cmq> | <daN/cmq> |       | <daN/cmq> | <daN/cmq> |
| 35.00  | 3.00   | 3.00   | C28/35 | 290.50    | 19.84     | 164.62    | 13.23     | B450C | 4500.00   | 3913.04   |

Stato limite ultimo - Verifiche a flessione/presoflessione

| Nodo | X<br><m> | Y<br><m> | DV | CC | TCC | AfE S<br><cmq> | AfE I<br><cmq> | My<br><daNm> | MRdy<br><daNm> | Sic.   |
|------|----------|----------|----|----|-----|----------------|----------------|--------------|----------------|--------|
| -2   | 8.56     | -0.00    | XX | 33 | SLU | 4.52           | 4.52           | -150.25      | -5743.13       | 38.224 |
| -80  | 14.47    | 5.25     | XX | 33 | SLU | 4.52           | 4.52           | 30.29        | 5743.13        | >100   |
| -56  | 14.47    | 4.04     | YY | 33 | SLU | 4.52           | 4.52           | -336.99      | -5743.13       | 17.042 |

Stato limite elastico - Verifiche a flessione/presoflessione

Relazione di calcolo

| Nodo | X<br><m> | Y<br><m> | DV | CC | TCC | Afe S<br><cmq> | Afe I<br><cmq> | My<br><daNm> | M'ydy<br><daNm> | Sic.   |
|------|----------|----------|----|----|-----|----------------|----------------|--------------|-----------------|--------|
| -2   | 8.56     | -0.00    | XX | 25 | SND | 4.52           | 4.52           | -125.45      | -5320.01        | 42.407 |
| -80  | 14.47    | 5.25     | XX | 25 | SND | 4.52           | 4.52           | 45.56        | 5320.01         | >100   |
| -75  | 8.95     | 5.25     | YY | 13 | SND | 4.52           | 4.52           | -366.41      | -5320.01        | 14.519 |
| -74  | 8.56     | 5.25     | YY | 13 | SND | 4.52           | 4.52           | -306.92      | -5320.01        | 17.333 |

Stato limite ultimo - Verifica a taglio del calcestruzzo

| Nodo | X<br><m> | Y<br><m> | DV | CC | TCC | Afe S<br><cmq> | Afe I<br><cmq> | Afe St.<br><cmq/m> | Vsdu<br><daN> | VRcd<br><daN> | VRsd<br><daN> | Vrdu<br><daN> | Sic.T |
|------|----------|----------|----|----|-----|----------------|----------------|--------------------|---------------|---------------|---------------|---------------|-------|
| -49  | 7.91     | 4.04     | XX | 33 | SLU | 4.52           | 4.52           |                    | 683.55        |               |               | 14463.60      | 21.16 |
| -49  | 7.91     | 4.04     | XX | 15 | SND | 4.52           | 4.52           |                    | 594.93        |               |               | 14463.60      | 24.31 |
| -80  | 14.47    | 5.25     | YY | 33 | SLU | 4.52           | 4.52           |                    | 1592.60       |               |               | 14463.60      | 9.08  |
| -75  | 8.95     | 5.25     | YY | 25 | SND | 4.52           | 4.52           |                    | 1423.86       |               |               | 14463.60      | 10.16 |

Stato limite d'esercizio - Verifiche tensionali

| Nodo | X<br><m> | Y<br><m> | DV | CC | TCC   | Afe S<br><cmq> | Afe I<br><cmq> | Mom<br><daNm> | $\sigma_c$<br><daN/cmq> | $\sigma_f$<br><daN/cmq> |
|------|----------|----------|----|----|-------|----------------|----------------|---------------|-------------------------|-------------------------|
| -2   | 8.56     | -0.00    | XX | 34 | SLE R | 4.52           | 4.52           | -109.67       | 1.16                    | 80.81                   |
| -2   | 8.56     | -0.00    | XX | 36 | SLE Q | 4.52           | 4.52           | -97.43        | 1.03                    | 71.80                   |
| -80  | 14.47    | 5.25     | XX | 34 | SLE R | 4.52           | 4.52           | 22.09         | 0.23                    | 16.28                   |
| -80  | 14.47    | 5.25     | XX | 36 | SLE Q | 4.52           | 4.52           | 19.79         | 0.21                    | 14.58                   |
| -56  | 14.47    | 4.04     | YY | 34 | SLE R | 4.52           | 4.52           | -243.24       | 2.57                    | 179.24                  |
| -56  | 14.47    | 4.04     | YY | 36 | SLE Q | 4.52           | 4.52           | -226.29       | 2.39                    | 166.75                  |

Stato limite d'esercizio - Verifiche a fessurazione

| Nodo | X<br><m> | Y<br><m> | DV | CC | TCC   | c<br><mm> | s<br><mm> | K <sub>2</sub> | $\Phi_{eq}$ | $\Delta_{sm}$<br><mm> | A <sub>s</sub><br><cmq> | A <sub>c eff</sub><br><cmq> | $\sigma_s$<br><daN/cmq> | $\epsilon_{sm}$ | w <sub>k</sub><br><mm> |
|------|----------|----------|----|----|-------|-----------|-----------|----------------|-------------|-----------------------|-------------------------|-----------------------------|-------------------------|-----------------|------------------------|
| -2   | 8.56     | -0.00    | XX | 36 | SLE Q | 24.00     | 250.00    | 0.50           | 12.00       | 223.07                | 5.65                    | 825.00                      | 71.80                   | 0.02            | 0.01                   |
| -2   | 8.56     | -0.00    | XX | 35 | SLE F | 24.00     | 250.00    | 0.50           | 12.00       | 223.07                | 5.65                    | 825.00                      | 72.18                   | 0.02            | 0.01                   |
| -80  | 14.47    | 5.25     | XX | 36 | SLE Q | 24.00     | 250.00    | 0.50           | 12.00       | 223.07                | 5.65                    | 825.00                      | 14.58                   | 0.00            | 0.00                   |
| -80  | 14.47    | 5.25     | XX | 35 | SLE F | 24.00     | 250.00    | 0.50           | 12.00       | 223.07                | 5.65                    | 825.00                      | 14.81                   | 0.00            | 0.00                   |
| -56  | 14.47    | 4.04     | YY | 36 | SLE Q | 24.00     | 250.00    | 0.50           | 12.00       | 223.07                | 5.65                    | 825.00                      | 166.75                  | 0.05            | 0.02                   |
| -56  | 14.47    | 4.04     | YY | 35 | SLE F | 24.00     | 250.00    | 0.50           | 12.00       | 223.07                | 5.65                    | 825.00                      | 168.03                  | 0.05            | 0.02                   |

Verifiche tamponature

Simbologia

Tt = Numero del tipo tamponatura  
Spess. = Spessore  
Peso = Peso per unità di superficie della tamponatura  
E = Modulo elastico  
Fd = Resistenza di calcolo della tamponatura

Configurazione geometrica e caratteristiche dei materiali utilizzati

| Tt | Spess. | Peso     | E         | Fd        |
|----|--------|----------|-----------|-----------|
|    | <cm>   | <daN/mq> | <daN/cmq> | <daN/cmq> |

Sintesi

Tipo di normativa: stati limite D.M. 18  
Tipo di calcolo: analisi sismica statica

Dati generali della struttura

- Sito di costruzione: Contrada Argentone, Erchie, BR 72020, 72020 Erchie BR, Italia LON. 17.75470 LAT. 40.40000  
Contenuto tra ID reticolo: 34808 35030 34807 35029

Pericolosità sismica di base

Simbologia

TCC = Tipo di combinazione di carico  
SLU = Stato limite ultimo  
SLU S = Stato limite ultimo (azione sismica)  
SLE R = Stato limite d'esercizio, combinazione rara  
SLE F = Stato limite d'esercizio, combinazione frequente  
SLE Q = Stato limite d'esercizio, combinazione quasi permanente  
SLD = Stato limite di danno  
SLV = Stato limite di salvaguardia della vita  
SLC = Stato limite di prevenzione del collasso  
SLO = Stato limite di operatività  
SLU I = Stato limite di resistenza al fuoco  
SND = Stato limite di salvaguardia della vita (non dissipativo)  
T<sub>R</sub> = Periodo di ritorno <anni>  
Ag = Accelerazione orizzontale massima al sito  
Fo = Valore massimo del fattore di amplificazione dello spettro in accelerazione orizzontale  
FV = Valore massimo del fattore di amplificazione dello spettro in accelerazione verticale

## Relazione di calcolo

Tc\* = Periodo di inizio del tratto a velocità costante dello spettro in accelerazione orizzontale <sec>  
 S<sub>s</sub> = Coefficiente di amplificazione stratigrafica  
 C<sub>c</sub> = Coefficiente funzione della categoria del suolo  
 S = Coefficiente di amplificazione stratigrafica e topografica  
 TC = Periodo corrispondente all'inizio del tratto dello spettro a velocità costante  
 TB = Periodo corrispondente all'inizio del tratto dello spettro ad accelerazione costante  
 TD = Periodo corrispondente all'inizio del tratto dello spettro a spostamento costante

| TCC | T <sub>R</sub> | Ag<br><g> | Fo   | FV   | Tc*  | S <sub>s</sub> | C <sub>c</sub> | S    | TC   | TB   | TD   |
|-----|----------------|-----------|------|------|------|----------------|----------------|------|------|------|------|
| SLD | 201            | 0.0391    | 2.51 | 0.67 | 0.39 | 1.00           | 1.00           | 1.00 | 0.39 | 0.13 | 1.76 |
| SLV | 1898           | 0.0700    | 2.92 | 1.04 | 0.52 | 1.00           | 1.00           | 1.00 | 0.52 | 0.17 | 1.88 |

- Edificio esistente: No  
 - Tipo di opera: Opera ordinaria  
 - Vita nominale V<sub>N</sub>: 100.00  
 - Classe d'uso: Classe IV  
 - Coefficiente d'uso CU: 2.00  
 - Periodo di riferimento VR: 200.00

### Dati di piano

#### Simbologia

Imp. = Numero dell'impalcato  
 L<sub>x</sub> = Dimensione del piano in dir. X  
 L<sub>y</sub> = Dimensione del piano in dir. Y  
 E<sub>x</sub> = Eccentricità in dir. X  
 E<sub>y</sub> = Eccentricità in dir. Y  
 E<sub>a</sub> = Eccentricità complessiva

| Imp. | L <sub>x</sub><br><m> | L <sub>y</sub><br><m> | E <sub>x</sub><br><m> | E <sub>y</sub><br><m> | E <sub>a</sub><br><m> |
|------|-----------------------|-----------------------|-----------------------|-----------------------|-----------------------|
| 1    | 0.00                  | 0.00                  | 0.00                  | 0.00                  | 0.00                  |
| 2    | 31.50                 | 6.25                  | 1.58                  | 0.31                  | 1.61                  |

### Dati di progetto

- Categoria del suolo di fondazione: A  
 - Tipologia strutturale: c.a. o prefabbricata a telaio a più piani e più campate

| Periodo T <sub>1</sub>                                               | 0.25266 |
|----------------------------------------------------------------------|---------|
| Coeff. λ SLD                                                         | 1.00    |
| Coeff. λ SLV                                                         | 1.00    |
| Rapporto di sovraresistenza (α <sub>u</sub> /α <sub>1</sub> )        | 1.30    |
| Valore di riferimento del fattore di comportamento (q <sub>0</sub> ) | 3.90    |
| Fattore riduttivo (K <sub>w</sub> )                                  | 1.00    |
| Fattore riduttivo regolarità in altezza (K <sub>R</sub> )            | 1.00    |
| Fattore di comportamento dissipativo (q)                             | 3.90    |
| Fattore di comportamento non dissipativo (q <sub>ND</sub> )          | 1.50    |
| Fattore di comportamento per SLD (q <sub>D</sub> )                   | 1.50    |

- Categoria topografica: T1 - Superficie pianeggiante, pendii e rilievi isolati con inclinazione media i ≤ 15°  
 - Coeff. amplificazione topografica S<sub>T</sub>: 1.00  
 - Accelerazione di picco del terreno Ag<sub>S</sub>: 0.07 <g>  
 - Applica semplificazioni per bassa sismicità: No  
 - Quota di riferimento: -1.50 <m>  
 - Quota max della struttura: 3.55 <m>  
 - Altezza della struttura: 5.05 <m>  
 - Numero piani edificio: 2  
 - Coefficiente θ: 0.00  
 - Edificio regolare in altezza: Sì  
 - Edificio regolare in pianta: Sì  
 - Struttura dissipativa: No  
 - Fattore di comportamento per sisma verticale (q<sub>v</sub>): 1.50  
 - Smorzamento spettro: 5.00%

#### Spettro SLD.TXT :

0.0000 0.3833  
 0.0500 0.4815  
 0.1000 0.5798  
 0.1307 0.6401  
 0.1500 0.6401  
 0.2000 0.6401  
 0.2500 0.6401  
 0.3000 0.6401  
 0.3500 0.6401  
 0.3922 0.6401

## Relazione di calcolo

---

|        |        |
|--------|--------|
| 0.4000 | 0.6276 |
| 0.4500 | 0.5579 |
| 0.5000 | 0.5021 |
| 0.5500 | 0.4564 |
| 0.6000 | 0.4184 |
| 0.6500 | 0.3862 |
| 0.7000 | 0.3586 |
| 0.7500 | 0.3347 |
| 0.8000 | 0.3138 |
| 0.8500 | 0.2953 |
| 0.9000 | 0.2789 |
| 0.9500 | 0.2643 |
| 1.0000 | 0.2510 |
| 1.0500 | 0.2391 |
| 1.1000 | 0.2282 |
| 1.1500 | 0.2183 |
| 1.2000 | 0.2092 |
| 1.2500 | 0.2008 |
| 1.3000 | 0.1931 |
| 1.3500 | 0.1860 |
| 1.4000 | 0.1793 |
| 1.4500 | 0.1731 |
| 1.5000 | 0.1674 |
| 1.5500 | 0.1620 |
| 1.6000 | 0.1569 |
| 1.6500 | 0.1521 |
| 1.7000 | 0.1477 |
| 1.7500 | 0.1435 |
| 1.7563 | 0.1429 |
| 1.8000 | 0.1361 |
| 1.8500 | 0.1288 |
| 1.9000 | 0.1221 |
| 1.9500 | 0.1159 |
| 2.0000 | 0.1102 |
| 2.0500 | 0.1049 |
| 2.1000 | 0.1000 |
| 2.1500 | 0.0954 |
| 2.2000 | 0.0911 |
| 2.2500 | 0.0871 |
| 2.3000 | 0.0833 |
| 2.3500 | 0.0798 |
| 2.4000 | 0.0767 |
| 2.4500 | 0.0767 |
| 2.5000 | 0.0767 |
| 2.5500 | 0.0767 |
| 2.6000 | 0.0767 |
| 2.6500 | 0.0767 |
| 2.7000 | 0.0767 |
| 2.7500 | 0.0767 |
| 2.8000 | 0.0767 |
| 2.8500 | 0.0767 |
| 2.9000 | 0.0767 |
| 2.9500 | 0.0767 |
| 3.0000 | 0.0767 |
| 3.0500 | 0.0767 |
| 3.1000 | 0.0767 |
| 3.1500 | 0.0767 |
| 3.2000 | 0.0767 |
| 3.2500 | 0.0767 |
| 3.3000 | 0.0767 |
| 3.3500 | 0.0767 |
| 3.4000 | 0.0767 |
| 3.4500 | 0.0767 |
| 3.5000 | 0.0767 |
| 3.5500 | 0.0767 |
| 3.6000 | 0.0767 |
| 3.6500 | 0.0767 |
| 3.7000 | 0.0767 |
| 3.7500 | 0.0767 |
| 3.8000 | 0.0767 |
| 3.8500 | 0.0767 |
| 3.9000 | 0.0767 |
| 3.9500 | 0.0767 |
| 4.0000 | 0.0767 |

Spettro SND.TXT :

|        |        |
|--------|--------|
| 0.0000 | 0.6865 |
| 0.0500 | 0.8737 |
| 0.1000 | 1.0608 |
| 0.1500 | 1.2480 |
| 0.1741 | 1.3382 |

## Relazione di calcolo

---

|        |        |
|--------|--------|
| 0.2000 | 1.3382 |
| 0.2500 | 1.3382 |
| 0.3000 | 1.3382 |
| 0.3500 | 1.3382 |
| 0.4000 | 1.3382 |
| 0.4500 | 1.3382 |
| 0.5000 | 1.3382 |
| 0.5223 | 1.3382 |
| 0.5500 | 1.2707 |
| 0.6000 | 1.1648 |
| 0.6500 | 1.0752 |
| 0.7000 | 0.9984 |
| 0.7500 | 0.9318 |
| 0.8000 | 0.8736 |
| 0.8500 | 0.8222 |
| 0.9000 | 0.7765 |
| 0.9500 | 0.7356 |
| 1.0000 | 0.6989 |
| 1.0500 | 0.6656 |
| 1.1000 | 0.6353 |
| 1.1500 | 0.6077 |
| 1.2000 | 0.5824 |
| 1.2500 | 0.5591 |
| 1.3000 | 0.5376 |
| 1.3500 | 0.5177 |
| 1.4000 | 0.4992 |
| 1.4500 | 0.4820 |
| 1.5000 | 0.4659 |
| 1.5500 | 0.4509 |
| 1.6000 | 0.4368 |
| 1.6500 | 0.4236 |
| 1.7000 | 0.4111 |
| 1.7500 | 0.3993 |
| 1.8000 | 0.3883 |
| 1.8500 | 0.3778 |
| 1.8799 | 0.3717 |
| 1.9000 | 0.3639 |
| 1.9500 | 0.3455 |
| 2.0000 | 0.3285 |
| 2.0500 | 0.3126 |
| 2.1000 | 0.2979 |
| 2.1500 | 0.2842 |
| 2.2000 | 0.2714 |
| 2.2500 | 0.2595 |
| 2.3000 | 0.2484 |
| 2.3500 | 0.2379 |
| 2.4000 | 0.2281 |
| 2.4500 | 0.2189 |
| 2.5000 | 0.2102 |
| 2.5500 | 0.2020 |
| 2.6000 | 0.1943 |
| 2.6500 | 0.1871 |
| 2.7000 | 0.1802 |
| 2.7500 | 0.1737 |
| 2.8000 | 0.1676 |
| 2.8500 | 0.1617 |
| 2.9000 | 0.1562 |
| 2.9500 | 0.1510 |
| 3.0000 | 0.1460 |
| 3.0500 | 0.1412 |
| 3.1000 | 0.1373 |
| 3.1500 | 0.1373 |
| 3.2000 | 0.1373 |
| 3.2500 | 0.1373 |
| 3.3000 | 0.1373 |
| 3.3500 | 0.1373 |
| 3.4000 | 0.1373 |
| 3.4500 | 0.1373 |
| 3.5000 | 0.1373 |
| 3.5500 | 0.1373 |
| 3.6000 | 0.1373 |
| 3.6500 | 0.1373 |
| 3.7000 | 0.1373 |
| 3.7500 | 0.1373 |
| 3.8000 | 0.1373 |
| 3.8500 | 0.1373 |
| 3.9000 | 0.1373 |
| 3.9500 | 0.1373 |
| 4.0000 | 0.1373 |

Condizioni di carico elementari

## Relazione di calcolo

### Simbologia

CCE = Numero della condizione di carico elementare

Comm. = Commento

Tipo CCE = Tipo di CCE per calcolo agli stati limite

Sic. = Contributo alla sicurezza

F = a favore

S = a sfavore

A = ambigua

Var. = Tipo di variabilità

B = di base

I = indipendente

A = ambigua

s = Coeff. di riduzione (T.A. o S.L. D.M. 96)

Dir. = Direzione del vento

Tipo = Tipologia di pressione vento

M = Massimizzata

E = Esterna

I = Interna

Mx = Moltiplicatore della massa in dir. X

My = Moltiplicatore della massa in dir. Y

Mz = Moltiplicatore della massa in dir. Z

Jpx = Moltiplicatore del momento d'inerzia intorno all'asse X

Jpy = Moltiplicatore del momento d'inerzia intorno all'asse Y

Jpz = Moltiplicatore del momento d'inerzia intorno all'asse Z

| CCE | Comm.               | Tipo CCE | Sic. | Var. | s    | Dir.<br><grad> | Tipo | Mx   | My   | Mz   | Jpx  | Jpy  | Jpz  |
|-----|---------------------|----------|------|------|------|----------------|------|------|------|------|------|------|------|
| 1   | peso proprio        |          | 1S   | --   | 1.00 | --             | --   | 1.00 | 1.00 | 0.00 | 0.00 | 0.00 | 1.00 |
| 2   | strutturale solaio  |          | 1S   | --   | 1.00 | --             | --   | 1.00 | 1.00 | 0.00 | 0.00 | 0.00 | 1.00 |
| 3   | permanente solaio   |          | 2S   | --   | 1.00 | --             | --   | 1.00 | 1.00 | 0.00 | 0.00 | 0.00 | 1.00 |
| 4   | variabile solaio    |          | 19S  | B    | 1.00 | --             | --   | 1.00 | 1.00 | 0.00 | 0.00 | 0.00 | 1.00 |
| 5   | neve                |          | 11S  | B    | 1.00 | --             | --   | 1.00 | 1.00 | 0.00 | 0.00 | 0.00 | 1.00 |
| 6   | tamponature         |          | 2S   | --   | 1.00 | --             | --   | 1.00 | 1.00 | 0.00 | 0.00 | 0.00 | 1.00 |
| 7   | variabile pavimento |          | 7S   | B    | 1.00 | --             | --   | 1.00 | 1.00 | 0.00 | 0.00 | 0.00 | 1.00 |

### Elenco baricentri e masse impalcanti

#### Simbologia

Imp. = Numero dell'impalcato

X = Coordinata X

Y = Coordinata Y

Z = Coordinata Z

Mo = Massa orizzontale

Jpz = Massa rotazionale intorno all'asse Z

| Imp. | X<br><m> | Y<br><m> | Z<br><m> | Mo<br><kg> | Jpz<br><kg*mq> |
|------|----------|----------|----------|------------|----------------|
| 2    | 17.45    | 2.66     | 3.55     | 231733.00  | 17602700.00    |

### Totali masse impalcanti

| Mo<br><kg> | Jpz<br><kg*mq> |
|------------|----------------|
| 231733.00  | 17602700.00    |

### Materiali

#### Cemento armato

Elenco dei criteri di progetto e delle loro principali caratteristiche meccaniche utilizzate:

Nuclei: 1 Armatura orizzontale con risvolti di estremità

Pilastri in c.a.: 1 Pilastri rettangolari poco armati

Solette/Platee: 1

Travi in c.a.: 1

#### Calcestruzzo

Tipo di calcestruzzo: C28/35

Rck calcestruzzo (Rck calcestruzzo) <daN/cm<sup>2</sup>>: 350.00

Resistenza caratteristica cilindrica a compressione del calcestruzzo (Fck) <daN/cm<sup>2</sup>>: 290.50

Resistenza caratteristica a trazione del calcestruzzo (Fctk) <daN/cm<sup>2</sup>>: 19.84

$\alpha_{cc}$ : 0.85

$\gamma_c$ : 1.50

Resistenza di calcolo a compressione del calcestruzzo (Fcd) <daN/cm<sup>2</sup>>: 164.62

Resistenza di calcolo a trazione del calcestruzzo (Fctd) <daN/cm<sup>2</sup>>: 13.23

#### Acciaio

Tipo di acciaio: B450C

Tensione caratteristica di snervamento dell'acciaio (Fyk) <daN/cm<sup>2</sup>>: 4500.00

## Relazione di calcolo

$\gamma_s$ : 1.15

Resistenza di calcolo dell'acciaio ( $F_{yd}$ ) <daN/cm<sup>2</sup>>: 3913.04

### Prove in sito

#### Elenco colonne stratigrafiche

##### Simbologia

|                  |                                                     |
|------------------|-----------------------------------------------------|
| St.              | =Strato                                             |
| z                | =Profondità della superficie superiore dello strato |
| Spess.           | =Spessore                                           |
| Unità geotecnica | =Unità geotecnica                                   |
| Class.           | =Classificazione                                    |
|                  | Coes. = Coesivo                                     |
|                  | Inc. = Incoerente                                   |
|                  | Roc. = Roccia                                       |
|                  | N. c. = Non classificato                            |
| $\gamma$         | =Peso specifico del terreno naturale                |
| $\gamma_{sat}$   | =Peso specifico del terreno saturo                  |
| $\phi'$          | =Angolo di attrito efficace                         |
| $c'$             | =Coesione efficace                                  |
| $c_u$            | =Coesione non drenata                               |
| E                | =Modulo elastico normale                            |
| G                | =Modulo elastico tangenziale                        |
| $E_{ed}$         | =Modulo edometrico                                  |

Colonna stratigrafica numero 1 str\_01

| St. | z<br><m> | Spess.<br><cm> | Unità geotecnica | Class. | $\gamma$<br><daN/mc> | $\gamma_{sat}$<br><daN/mc> | $\phi'$<br><grad> | $c'$<br><daN/mq> | $c_u$<br><daN/mq> | E<br><daN/mq> | G<br><daN/mq> | $E_{ed}$<br><daN/mq> |
|-----|----------|----------------|------------------|--------|----------------------|----------------------------|-------------------|------------------|-------------------|---------------|---------------|----------------------|
| 1   | 0.00     | --             | 6 calcare        | Roc.   | 2200.00              | 2200.00                    | 35.00             | 3500.00          |                   | 900000000.00  | 319150000.00  | 638300000.00         |

**Le verifiche degli elementi di fondazione sono state effettuate utilizzando l'approccio 2 - Combinazione 1.**

Coefficienti parziali per le azioni, per verifiche in condizioni statiche:

|                                                 |                     |
|-------------------------------------------------|---------------------|
| Permanenti strutturali, sicurezza a favore      | $\gamma_A = 1.00$ ; |
| Permanenti strutturali, sicurezza a sfavore     | $\gamma_A = 1.30$ ; |
| Permanenti non strutturali, sicurezza a favore  | $\gamma_A = 0.00$ ; |
| Permanenti non strutturali, sicurezza a sfavore | $\gamma_A = 1.50$ ; |
| Variabili, sicurezza a favore                   | $\gamma_A = 0.00$ ; |
| Variabili, sicurezza a sfavore                  | $\gamma_A = 1.50$ . |

I coefficienti parziali per le azioni sono posti pari all'unità per le verifiche in condizioni sismiche.

Tali coefficienti sono comunque desumibili dalla tabella delle combinazioni delle CCE (Parametri di calcolo).

Coefficienti parziali per i parametri geotecnici:

|                                            |         |
|--------------------------------------------|---------|
| Tangente dell'angolo di attrito $\gamma_M$ | = 1.00; |
| Coesione efficace $\gamma_M$               | = 1.00; |
| Coesione non drenata $\gamma_M$            | = 1.00; |

Coefficienti parziali per la resistenza delle fondazioni superficiali:

Capacità portante  $\gamma_R = 2.30$ ;

Scorrimento  $\gamma_R = 1.10$ ;

Coefficienti parziali per la resistenza delle fondazioni profonde:

Per pali infissi:

|                                                   |         |
|---------------------------------------------------|---------|
| Resistenza alla base $\gamma_R, b$                | = 1.15; |
| Resistenza laterale in compressione $\gamma_R, s$ | = 1.15; |
| Resistenza laterale in trazione $\gamma_R, t$     | = 1.25; |

Per pali trivellati:

|                                                   |         |
|---------------------------------------------------|---------|
| Resistenza alla base $\gamma_R, b$                | = 1.35; |
| Resistenza laterale in compressione $\gamma_R, s$ | = 1.15; |
| Resistenza laterale in trazione $\gamma_R, t$     | = 1.25; |

Per pali ad elica continua:

|                                                   |         |
|---------------------------------------------------|---------|
| Resistenza alla base $\gamma_R, b$                | = 1.30; |
| Resistenza laterale in compressione $\gamma_R, s$ | = 1.15; |
| Resistenza laterale in trazione $\gamma_R, t$     | = 1.25; |

Fattore di correlazione per la determinazione della resistenza caratteristica desumibile dai criteri di progetto.

### Carichi

##### Simbologia

|            |                                                |
|------------|------------------------------------------------|
| Imp.       | = Numero dell'impalcato                        |
| Quota      | = Quota impalcato                              |
| Ts         | = Numero del tipo solaio                       |
| Comm.      | = Commento                                     |
| $M_{qTot}$ | = Area solai                                   |
| $Q_{ps}$   | = Carico permanente strutturale                |
| CCE        | = Numero della condizione di carico elementare |
| $Q_{pn}$   | = Carico permanente non strutturale            |

## Relazione di calcolo

QA = Primo carico accidentale  
QA2 = Secondo carico accidentale  
QA3 = Terzo carico accidentale

| Imp. | Quota<br><m> | Ts | Comm.             | Mq <sub>Tot</sub><br><mq> | Qps<br><daN/mq> | CCE | Qpn<br><daN/mq> | CCE | QA<br><daN/mq> | CCE | QA2<br><daN/mq> | CCE | QA3<br><daN/mq> | CCE |
|------|--------------|----|-------------------|---------------------------|-----------------|-----|-----------------|-----|----------------|-----|-----------------|-----|-----------------|-----|
| 2    | 3.55         | 1  | SOLAIO COPERTURA  | 162.75                    | 325.00          | 2   | 200.00          | 3   | 50.00          | 4   | 50.00           | 5   | --              | --  |
| 2    | 3.55         | 1  | SOLAIO COPERTURA  | 34.14                     | 325.00          | 2   | 200.00          | 3   | 50.00          | 4   | --              | --  | --              | --  |
| 0    | 0.00         | 2  | SOLAIO INTERMEDIO | 27.68                     | 325.00          | 2   | 200.00          | 3   | 300.00         | 4   | 0.00            | 5   | --              | --  |
| 0    | -0.00        | 2  | SOLAIO INTERMEDIO | 24.03                     | 325.00          | 2   | 200.00          | 3   | 300.00         | 4   | --              | --  | --              | --  |

### Spostamenti massimi d'impalcato

#### Simbologia

Imp. = Numero dell'impalcato  
TCC = Tipo di combinazione di carico  
SLU = Stato limite ultimo  
SLU S = Stato limite ultimo (azione sismica)  
SLE R = Stato limite d'esercizio, combinazione rara  
SLE F = Stato limite d'esercizio, combinazione frequente  
SLE Q = Stato limite d'esercizio, combinazione quasi permanente  
SLD = Stato limite di danno  
SLV = Stato limite di salvaguardia della vita  
SLC = Stato limite di prevenzione del collasso  
SLO = Stato limite di operatività  
SLU I = Stato limite di resistenza al fuoco  
SND = Stato limite di salvaguardia della vita (non dissipativo)  
Nodo = Numero del nodo  
Sx = Spostamento in dir. X  
CC = Numero della combinazione delle condizioni di carico elementari  
Sy = Spostamento in dir. Y

| Imp. | TCC | Nodo | Sx<br><cm> | CC | Nodo | Sy<br><cm> | CC |
|------|-----|------|------------|----|------|------------|----|
| 1    | SLD | 0    | 0.00000    | 0  | 0    | 0.00000    | 0  |
| 2    | SLD | 219  | 0.25094    | 18 | 201  | 0.58853    | 26 |

### Minimo coefficiente di sicurezza

#### Simbologia

Elem. = Elemento  
CC = Numero della combinazione delle condizioni di carico elementari  
TCC = Tipo di combinazione di carico  
SLU = Stato limite ultimo  
SLU S = Stato limite ultimo (azione sismica)  
SLE R = Stato limite d'esercizio, combinazione rara  
SLE F = Stato limite d'esercizio, combinazione frequente  
SLE Q = Stato limite d'esercizio, combinazione quasi permanente  
SLD = Stato limite di danno  
SLV = Stato limite di salvaguardia della vita  
SLC = Stato limite di prevenzione del collasso  
SLO = Stato limite di operatività  
SLU I = Stato limite di resistenza al fuoco  
SND = Stato limite di salvaguardia della vita (non dissipativo)  
TV = Tipo di verifica  
PRFL = Flessione e pressoflessione  
TAG = Taglio o altre rotture fragili  
NOD = Nodi in c.a. e collegamenti in acciaio  
STAB = Stabilità  
CP = Capacità portante  
RNP = Resistenza nel piano  
RFP = Resistenza fuori piano  
CIN = Cinematismi  
CON = Connessioni  
Sic. = Sicurezza

### Tabella elementi e minimo coefficiente di sicurezza

| Elem.            | CC | TCC | TV   | Sic.  |
|------------------|----|-----|------|-------|
| Travata n. 201   | 3  | SND | PRFL | 1.02  |
| Travata n. 202   | 33 | SLU | TAG  | 3.15  |
| Pilastrata n. 1  | 27 | SND | PRFL | 1.00  |
| Pilastrata n. 1  | 15 | SND | TAG  | 2.25  |
| Nucleo n. 209    | 25 | SND | PRFL | 4.49  |
| Nucleo n. 209    | 33 | SLU | TAG  | 44.48 |
| Platea a quota 0 | 27 | SND | PRFL | 2.31  |
| Platea a quota 0 | 13 | SND | TAG  | 1.46  |

Minimo coefficiente di sicurezza:1.00