

NOTE DE CALCUL

Projet: 03413-NC4

Note de calculs référence :03413-NC4.rtd

du: 31/10/18

B.E:



Tél: 0324594191

Fax: 0324590197

Mail: alusd@wanadoo.fr

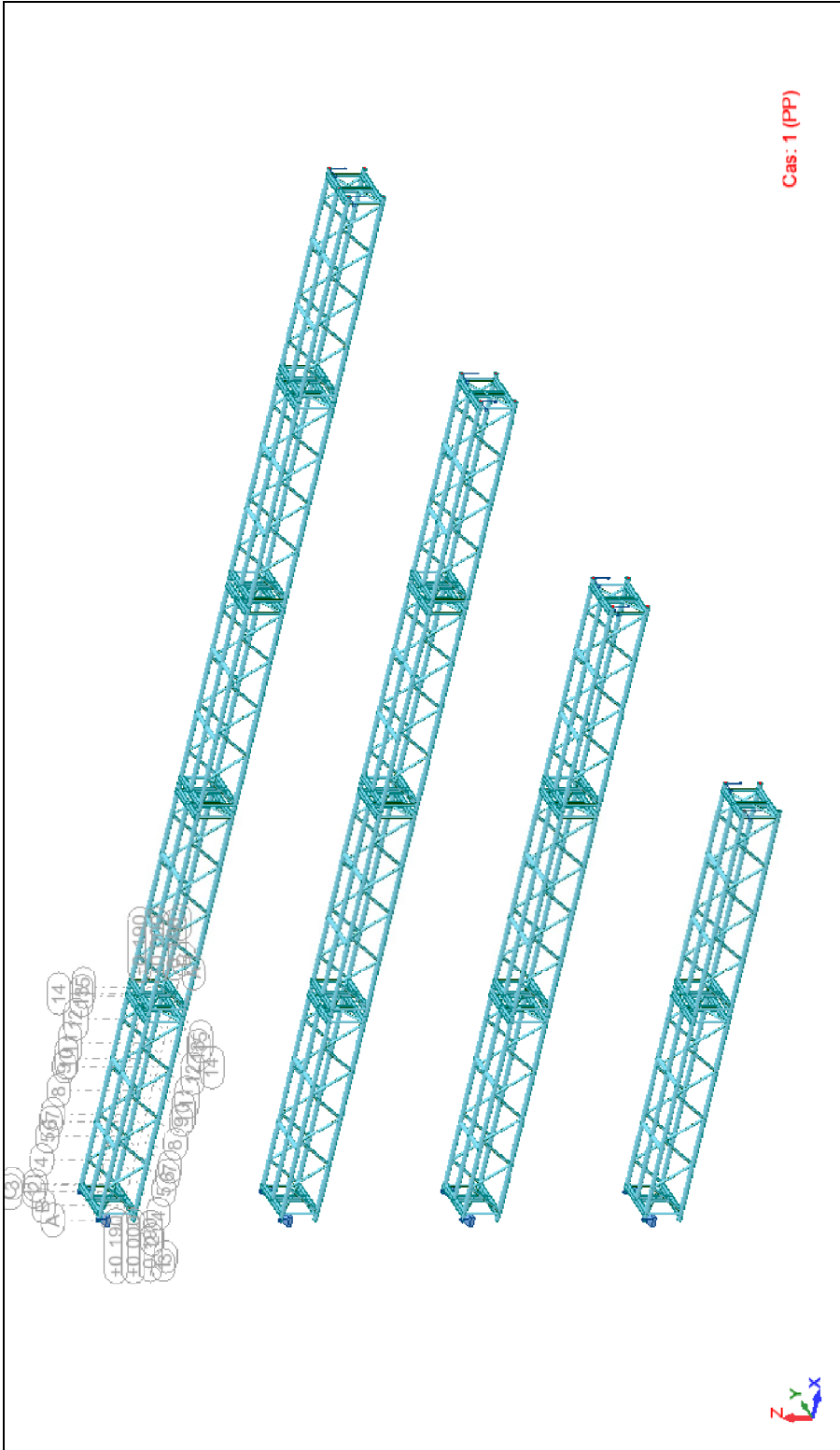
POUR:

Client: -

Auteur: S.CHRISMENT

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Vue d'ensemble



Hypothèses de calculs

Pont alu de en structure alu assemblée composé de tronçons de 2.4m de structure SR6043M (suivant plan ASD SR6043M du 25/10/16)

Calcul de 4 linéaires de pont :

| Lg pont | Poids pont | |
|--------------|------------|--|
| 2x2.4= 4.8ml | 82 daN | |
| 3x2.4= 7.2ml | 123 daN | |
| 4x2.4= 9.6ml | 164 daN | |
| 5x2.4= 12ml | 205 daN | |

Poids d'un tronçon de 2.4m :41daN

Membrures en tube ø50x3 en Alu 6005-T6 ; σ_e 22.5daN/mm².

Cette note de calcul permettra de fixer la charge sur les différents ponts reconstitués :

- uniformément répartie admissible sur la membrure supérieure centrale du pont
- Charge ponctuelle maxi uniformément espacés sur la membrure supérieure centrale du pont
 - P1 : 1 point uniformément espacé sur la membrure supérieure centrale du pont
 - P2 : 2 points uniformément espacés sur la membrure supérieure centrale du pont
 - P3 : 3 points uniformément espacés sur la membrure supérieure centrale du pont
 - P4 : 4 points uniformément espacés sur la membrure supérieure centrale du pont
- uniformément répartie admissible sur réglable inférieur optionnel de ø50x5
 - Un chargement du tube réglable inférieur optionnel de ø50x5 a fait l'objet d'une autre note de calculs séparée (03413-NC3).

Utilisation intérieure exclusive et sans à-coup.

Suspension aux deux extrémités du pont repris par, au moins, deux membrures situées dans le même plan par zone de réaction.

Limite à la traction des membrures et liaisons manchons : 3600daN/membrure aux ELU

Pas de surcharges supplémentaires.

Nous déterminerons, par itérations, la charge utile uniformément répartie admissible par le tube central supérieur de la poutre ainsi que la charge utile maximale centrée admissible par ce même tube

Taux de flèche maximal retenu dans les calculs : 1/300e

note de calcul

Propriétés du projet: **03413-NC4**

Type de structure: Portique spatial

Coordonnées du centre de gravité de la structure:

X = 4.629 (m)

Y = -0.000 (m)

Z = -2.259 (m)

Moments d'inertie centraux de la structure:

Ix = 1831.716 (kg*m²)

Iy = 5603.175 (kg*m²)

Iz = 3815.233 (kg*m²)

Masse = 400.628 (kg)

Description de la structure

| | |
|----------------------------------|------|
| Nombre de noeuds: | 596 |
| Nombre de barres: | 546 |
| Eléments finis linéiques: | 1042 |
| Eléments finis surfaciques: | 0 |
| Eléments finis volumiques: | 0 |
| Nbre de degrés de liberté stat.: | 3536 |
| Cas: | 22 |
| Combinaisons: | 10 |

Liste de cas de charges/types de calculs

Cas 1 : PP
Type d'analyse: Statique linéaire

Cas 2 : CUR
Type d'analyse: Statique linéaire

Cas 3 : CP1
Type d'analyse: Statique linéaire

Cas 4 : EFF
Type d'analyse:

Cas 5 : EFF+
Type d'analyse:

Cas 6 : EFF-
Type d'analyse:

Cas 7 : DEP
Type d'analyse:

Cas 8 : DEP+
Type d'analyse:

Cas 9 : DEP-
Type d'analyse:

Cas 10 : DEP/2=PP*1.00 + CUR*1.00
Type d'analyse: Combinaison linéaire

Cas 11 : DEP/3=PP*1.00 + CP1*1.00
Type d'analyse: Combinaison linéaire

Cas 12 : EFF/2=PP*1,50 + CUR*1,70
Type d'analyse: Combinaison linéaire

Cas 13 : EFF/3=PP*1,50 + CP1*1,70
Type d'analyse: Combinaison linéaire

Cas 14 : CP2
Type d'analyse: Statique linéaire

Cas 15 : EFF/4=PP*1,50 + CP2*1,70
Type d'analyse: Combinaison linéaire

Cas 16 : DEP/4=PP*1,00 + CP2*1,00
Type d'analyse: Combinaison linéaire

Cas 17 : CP3
Type d'analyse: Statique linéaire

Cas 18 : EFF/5=PP*1.50 + CP3*1.70
Type d'analyse: Combinaison linéaire

Cas 19 : DEP/5=PP*1.00 + CP3*1.00
Type d'analyse: Combinaison linéaire

Cas 20 : CP4
Type d'analyse: Statique linéaire

Cas 21 : EFF/6=PP*1.50 + CP4*1.70

Type d'analyse: Combinaison linéaire

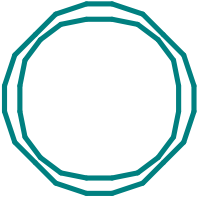
Cas 22 : DEP/6=PP*1.00 + CP4*1.00

Type d'analyse: Combinaison linéaire

propriétés des profilés

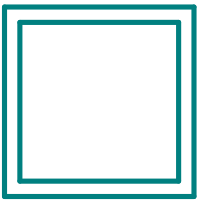
Caractéristiques de la section:

RONDE_50X3



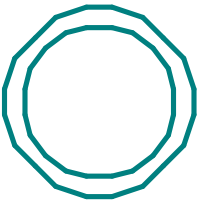
HY=50.0, HZ=50.0 [mm]
AX=4.430 [cm²]
IX=24.562, IY=12.281, IZ=12.281 [cm⁴]
Matériau=6005-T6

RECT_50X50X4



HY=50.0, HZ=50.0 [mm]
AX=7.360 [cm²]
IX=38.934, IY=26.153, IZ=26.153 [cm⁴]
Matériau=6060-T6

RONDE_30X3



HY=30.0, HZ=30.0 [mm]
AX=2.545 [cm²]
IX=4.695, IY=2.347, IZ=2.347 [cm⁴]
Matériau=6106-T6

U_60X40X4



HY=40.0, HZ=60.0 [mm]
AX=5.280 [cm²]

$I\bar{X}=0.265$, $I\bar{Y}=29.818$, $I\bar{Z}=8.379$ [cm⁴]
Matériau=6060-T6

pondérations

Pondérations suivant le règlement : AL 76 Avril 2000

Paramètres de la création des pondérations

Type de pondérations : complètes

Liste de cas actifs :

| | | | | |
|---------|----------------|----|------|-----|
| 1: PP | permanente | G1 | 1.00 | PP |
| 2: CUR | d'exploitation | Q1 | 1.00 | CUR |
| 3: CP1 | d'exploitation | Q1 | 1.00 | CP1 |
| 14: CP2 | d'exploitation | Q1 | 1.00 | CP2 |
| 17: CP3 | d'exploitation | Q1 | 1.00 | CP3 |
| 20: CP4 | d'exploitation | Q1 | 1.00 | CP4 |

Liste de modèles de combinaison :

| | |
|-----|-------------------------------|
| EFF | normale (1 charge variable) |
| EFF | normale (2 charges variables) |
| EFF | normale (3 charges variables) |
| DEP | Déplacement |

Liste de groupes définis :

| | | |
|-----------------|----|-----------|
| permanente: | G1 | et, |
| d'exploitation: | Q1 | ou excl., |

Liste de relations définies :

| | |
|-----------------|----|
| permanente: | G1 |
| d'exploitation: | Q1 |

caractéristiques - Barres

| Nom de la section | Liste des barres | AX [cm2] | AY [cm2] | AZ [cm2] | IX [cm4] | IY [cm4] | IZ [cm4] |
|---------------------|---|----------|----------|----------|----------|----------|----------|
| RONDE_50X3 | 1A4 8A14 40A43 47-A53 79A82 86A92 1-18A121 125A131 43-0A433 437A443 547-A550 554A560 586A-589 593A599 742A7-45 157A160 164A170 196A199 203A209 2-35A238 242A248 27-4A277 281A287 352-A355 359A365 391A-394 398A404 749A7-55 | 4.430 | 2.215 | 2.215 | 24.562 | 12.281 | 12.281 |
| RECT_50X50X4 | 5A278P39 6A279P39 24A297P39 25A298-P39 356 357A414P1-9 375 396A453P19 4-35 454 551 552A609-P19 570 591 610 746 747 765 766 | 7.360 | 4.000 | 4.000 | 38.934 | 26.153 | 26.153 |
| RONDE_30X3 | 15A23 26A29 7A280-P39 32A39 54A62 6-5A68 71A78 93A101 104A107 110A117 1-32A140 143A146 14-9A156 171A179 182-A185 188A195 210A-218 221A224 227A2-34 249A257 260A263 266A273 288A296 2-99A302 305A312 36-6A374 377A380 383-A390 405A413 416A-419 422A429 444A4-52 455A458 461A468 561A569 572A575 5-78A585 600A608 61-1A614 617A624 756-A764 767A770 358 3-97 436 553 592 748 773A780 | 2.545 | 2.147 | 2.147 | 4.695 | 2.347 | 2.347 |
| U_60X40X4 | 30A303P39 31A304-P39 381 382 420 421 459 460 576 577 615 616 771 772 | 5.280 | 3.200 | 2.080 | 0.265 | 29.818 | 8.379 |

caractéristiques - Matériaux

| | Matériau | E [daN/mm ²] | G [daN/mm ²] | NU | LX [1/°C] | RO [daN/m ³] | Re [daN/mm ²] |
|----------|----------|--------------------------|--------------------------|------|-----------|--------------------------|---------------------------|
| 1 | 6060-T6 | 6950.00 | 2780.00 | 0.34 | 0.00 | 2700.00 | 21.50 |
| 2 | 6106-T6 | 6950.00 | 2780.00 | 0.33 | 0.00 | 2700.00 | 20.00 |
| 3 | 6005-T6 | 7950.00 | 2780.00 | 0.34 | 0.00 | 2700.00 | 22.50 |

noeuds

| Noeud | X [m] | Y [m] | Z [m] | Code de l'appui | Appui |
|-------|-------|--------|--------|-----------------|--------|
| 1 | 0.0 | 0.275 | 0.190 | bbblll | Rotule |
| 2 | 2.400 | 0.275 | 0.190 | | |
| 3 | 0.0 | -0.275 | 0.190 | bbblll | Rotule |
| 4 | 2.400 | -0.275 | 0.190 | | |
| 5 | 2.400 | -0.275 | -0.190 | | |
| 6 | 0.0 | -0.275 | -0.190 | | |
| 7 | 0.0 | 0.275 | -0.190 | | |
| 8 | 2.400 | 0.275 | -0.190 | | |
| 9 | 0.825 | 0.275 | 0.190 | | |
| 10 | 0.825 | -0.275 | 0.190 | | |
| 11 | 1.575 | 0.275 | 0.190 | | |
| 12 | 1.575 | -0.275 | 0.190 | | |
| 13 | 0.075 | 0.0 | 0.190 | | |
| 14 | 2.325 | 0.0 | 0.190 | | |
| 15 | 0.825 | 0.0 | 0.190 | | |
| 16 | 1.575 | 0.0 | 0.190 | | |
| 17 | 0.075 | 0.275 | 0.190 | | |
| 18 | 0.075 | -0.275 | 0.190 | | |
| 19 | 2.325 | 0.275 | 0.190 | | |
| 20 | 2.325 | -0.275 | 0.190 | | |
| 21 | 0.100 | -0.275 | -0.190 | | |
| 22 | 0.375 | -0.275 | 0.190 | | |
| 23 | 0.650 | -0.275 | -0.190 | | |
| 24 | 0.925 | -0.275 | 0.190 | | |
| 25 | 1.200 | -0.275 | -0.190 | | |
| 26 | 1.475 | -0.275 | 0.190 | | |
| 27 | 1.750 | -0.275 | -0.190 | | |
| 28 | 2.025 | -0.275 | 0.190 | | |
| 29 | 2.300 | -0.275 | -0.190 | | |
| 30 | 2.325 | -0.275 | -0.190 | | |
| 31 | 2.325 | 0.275 | -0.190 | | |
| 32 | 0.075 | 0.275 | -0.190 | | |
| 33 | 0.075 | -0.275 | -0.190 | | |
| 34 | 2.325 | 0.0 | -0.190 | | |
| 35 | 0.075 | 0.0 | -0.190 | | |
| 36 | 0.100 | 0.275 | -0.190 | | |
| 37 | 0.375 | 0.275 | 0.190 | | |
| 38 | 0.650 | 0.275 | -0.190 | | |
| 39 | 0.925 | 0.275 | 0.190 | | |
| 40 | 1.200 | 0.275 | -0.190 | | |
| 41 | 1.475 | 0.275 | 0.190 | | |
| 42 | 1.750 | 0.275 | -0.190 | | |
| 43 | 2.025 | 0.275 | 0.190 | | |
| 44 | 2.300 | 0.275 | -0.190 | | |
| 45 | 4.800 | 0.275 | 0.190 | | |
| 46 | 4.800 | -0.275 | 0.190 | | |
| 47 | 4.800 | -0.275 | -0.190 | | |
| 48 | 4.800 | 0.275 | -0.190 | | |
| 49 | 2.475 | 0.0 | 0.190 | | |

| Noeud | X [m] | Y [m] | Z [m] | Code de l'appui | Appui |
|-------|-------|--------|--------|-----------------|-------|
| 50 | 3.225 | 0.0 | 0.190 | | |
| 51 | 3.975 | 0.0 | 0.190 | | |
| 52 | 4.725 | 0.0 | 0.190 | | |
| 53 | 3.225 | 0.275 | 0.190 | | |
| 54 | 3.225 | -0.275 | 0.190 | | |
| 55 | 3.975 | 0.275 | 0.190 | | |
| 56 | 3.975 | -0.275 | 0.190 | | |
| 57 | 2.475 | 0.275 | 0.190 | | |
| 58 | 2.475 | -0.275 | 0.190 | | |
| 59 | 4.725 | 0.275 | 0.190 | | |
| 60 | 4.725 | -0.275 | 0.190 | | |
| 61 | 2.500 | -0.275 | -0.190 | | |
| 62 | 2.775 | -0.275 | 0.190 | | |
| 63 | 3.050 | -0.275 | -0.190 | | |
| 64 | 3.325 | -0.275 | 0.190 | | |
| 65 | 3.600 | -0.275 | -0.190 | | |
| 66 | 3.875 | -0.275 | 0.190 | | |
| 67 | 4.150 | -0.275 | -0.190 | | |
| 68 | 4.425 | -0.275 | 0.190 | | |
| 69 | 4.700 | -0.275 | -0.190 | | |
| 70 | 4.725 | -0.275 | -0.190 | | |
| 71 | 4.725 | 0.275 | -0.190 | | |
| 72 | 2.475 | 0.275 | -0.190 | | |
| 73 | 2.475 | -0.275 | -0.190 | | |
| 74 | 4.725 | 0.0 | -0.190 | | |
| 75 | 2.475 | 0.0 | -0.190 | | |
| 76 | 2.500 | 0.275 | -0.190 | | |
| 77 | 2.775 | 0.275 | 0.190 | | |
| 78 | 3.050 | 0.275 | -0.190 | | |
| 79 | 3.325 | 0.275 | 0.190 | | |
| 80 | 3.600 | 0.275 | -0.190 | | |
| 81 | 3.875 | 0.275 | 0.190 | | |
| 82 | 4.150 | 0.275 | -0.190 | | |
| 83 | 4.425 | 0.275 | 0.190 | | |
| 84 | 4.700 | 0.275 | -0.190 | | |
| 85 | 7.200 | 0.275 | 0.190 | | |
| 86 | 7.200 | -0.275 | 0.190 | | |
| 87 | 7.200 | -0.275 | -0.190 | | |
| 88 | 7.200 | 0.275 | -0.190 | | |
| 89 | 4.875 | 0.0 | 0.190 | | |
| 90 | 5.625 | 0.0 | 0.190 | | |
| 91 | 6.375 | 0.0 | 0.190 | | |
| 92 | 7.125 | 0.0 | 0.190 | | |
| 93 | 5.625 | 0.275 | 0.190 | | |
| 94 | 5.625 | -0.275 | 0.190 | | |
| 95 | 6.375 | 0.275 | 0.190 | | |
| 96 | 6.375 | -0.275 | 0.190 | | |
| 97 | 4.875 | 0.275 | 0.190 | | |
| 98 | 4.875 | -0.275 | 0.190 | | |
| 99 | 7.125 | 0.275 | 0.190 | | |
| 100 | 7.125 | -0.275 | 0.190 | | |
| 101 | 4.900 | -0.275 | -0.190 | | |
| 102 | 5.175 | -0.275 | 0.190 | | |

| Noeud | X [m] | Y [m] | Z [m] | Code de l'appui | Appui |
|-------|-------|--------|--------|-----------------|-------|
| 103 | 5.450 | -0.275 | -0.190 | | |
| 104 | 5.725 | -0.275 | 0.190 | | |
| 105 | 6.000 | -0.275 | -0.190 | | |
| 106 | 6.275 | -0.275 | 0.190 | | |
| 107 | 6.550 | -0.275 | -0.190 | | |
| 108 | 6.825 | -0.275 | 0.190 | | |
| 109 | 7.100 | -0.275 | -0.190 | | |
| 110 | 7.125 | -0.275 | -0.190 | | |
| 111 | 7.125 | 0.275 | -0.190 | | |
| 112 | 4.875 | 0.275 | -0.190 | | |
| 113 | 4.875 | -0.275 | -0.190 | | |
| 114 | 7.125 | 0.0 | -0.190 | | |
| 115 | 4.875 | 0.0 | -0.190 | | |
| 116 | 4.900 | 0.275 | -0.190 | | |
| 117 | 5.175 | 0.275 | 0.190 | | |
| 118 | 5.450 | 0.275 | -0.190 | | |
| 119 | 5.725 | 0.275 | 0.190 | | |
| 120 | 6.000 | 0.275 | -0.190 | | |
| 121 | 6.275 | 0.275 | 0.190 | | |
| 122 | 6.550 | 0.275 | -0.190 | | |
| 123 | 6.825 | 0.275 | 0.190 | | |
| 124 | 7.100 | 0.275 | -0.190 | | |
| 125 | 9.600 | 0.275 | 0.190 | | |
| 126 | 9.600 | -0.275 | 0.190 | | |
| 127 | 9.600 | -0.275 | -0.190 | | |
| 128 | 9.600 | 0.275 | -0.190 | | |
| 129 | 7.275 | 0.0 | 0.190 | | |
| 130 | 8.025 | 0.0 | 0.190 | | |
| 131 | 8.775 | 0.0 | 0.190 | | |
| 132 | 9.525 | 0.0 | 0.190 | | |
| 133 | 8.025 | 0.275 | 0.190 | | |
| 134 | 8.025 | -0.275 | 0.190 | | |
| 135 | 8.775 | 0.275 | 0.190 | | |
| 136 | 8.775 | -0.275 | 0.190 | | |
| 137 | 7.275 | 0.275 | 0.190 | | |
| 138 | 7.275 | -0.275 | 0.190 | | |
| 139 | 9.525 | 0.275 | 0.190 | | |
| 140 | 9.525 | -0.275 | 0.190 | | |
| 141 | 7.300 | -0.275 | -0.190 | | |
| 142 | 7.575 | -0.275 | 0.190 | | |
| 143 | 7.850 | -0.275 | -0.190 | | |
| 144 | 8.125 | -0.275 | 0.190 | | |
| 145 | 8.400 | -0.275 | -0.190 | | |
| 146 | 8.675 | -0.275 | 0.190 | | |
| 147 | 8.950 | -0.275 | -0.190 | | |
| 148 | 9.225 | -0.275 | 0.190 | | |
| 149 | 9.500 | -0.275 | -0.190 | | |
| 150 | 9.525 | -0.275 | -0.190 | | |
| 151 | 9.525 | 0.275 | -0.190 | | |
| 152 | 7.275 | 0.275 | -0.190 | | |
| 153 | 7.275 | -0.275 | -0.190 | | |
| 154 | 9.525 | 0.0 | -0.190 | | |
| 155 | 7.275 | 0.0 | -0.190 | | |

| Noeud | X [m] | Y [m] | Z [m] | Code de l'appui | Appui |
|-------|--------|--------|--------|-----------------|---------------|
| 156 | 7.300 | 0.275 | -0.190 | | |
| 157 | 7.575 | 0.275 | 0.190 | | |
| 158 | 7.850 | 0.275 | -0.190 | | |
| 159 | 8.125 | 0.275 | 0.190 | | |
| 160 | 8.400 | 0.275 | -0.190 | | |
| 161 | 8.675 | 0.275 | 0.190 | | |
| 162 | 8.950 | 0.275 | -0.190 | | |
| 163 | 9.225 | 0.275 | 0.190 | | |
| 164 | 9.500 | 0.275 | -0.190 | | |
| 165 | 12.000 | 0.275 | 0.190 | lbblll | Appui_UY+_UZ+ |
| 166 | 12.000 | -0.275 | 0.190 | lbblll | Appui_UY+_UZ+ |
| 167 | 12.000 | -0.275 | -0.190 | | |
| 168 | 12.000 | 0.275 | -0.190 | | |
| 169 | 9.675 | 0.0 | 0.190 | | |
| 170 | 10.425 | 0.0 | 0.190 | | |
| 171 | 11.175 | 0.0 | 0.190 | | |
| 172 | 11.925 | 0.0 | 0.190 | | |
| 173 | 10.425 | 0.275 | 0.190 | | |
| 174 | 10.425 | -0.275 | 0.190 | | |
| 175 | 11.175 | 0.275 | 0.190 | | |
| 176 | 11.175 | -0.275 | 0.190 | | |
| 177 | 9.675 | 0.275 | 0.190 | | |
| 178 | 9.675 | -0.275 | 0.190 | | |
| 179 | 11.925 | 0.275 | 0.190 | | |
| 180 | 11.925 | -0.275 | 0.190 | | |
| 181 | 9.700 | -0.275 | -0.190 | | |
| 182 | 9.975 | -0.275 | 0.190 | | |
| 183 | 10.250 | -0.275 | -0.190 | | |
| 184 | 10.525 | -0.275 | 0.190 | | |
| 185 | 10.800 | -0.275 | -0.190 | | |
| 186 | 11.075 | -0.275 | 0.190 | | |
| 187 | 11.350 | -0.275 | -0.190 | | |
| 188 | 11.625 | -0.275 | 0.190 | | |
| 189 | 11.900 | -0.275 | -0.190 | | |
| 190 | 11.925 | -0.275 | -0.190 | | |
| 191 | 11.925 | 0.275 | -0.190 | | |
| 192 | 9.675 | 0.275 | -0.190 | | |
| 193 | 9.675 | -0.275 | -0.190 | | |
| 194 | 11.925 | 0.0 | -0.190 | | |
| 195 | 9.675 | 0.0 | -0.190 | | |
| 196 | 9.700 | 0.275 | -0.190 | | |
| 197 | 9.975 | 0.275 | 0.190 | | |
| 198 | 10.250 | 0.275 | -0.190 | | |
| 199 | 10.525 | 0.275 | 0.190 | | |
| 200 | 10.800 | 0.275 | -0.190 | | |
| 201 | 11.075 | 0.275 | 0.190 | | |
| 202 | 11.350 | 0.275 | -0.190 | | |
| 203 | 11.625 | 0.275 | 0.190 | | |
| 204 | 11.900 | 0.275 | -0.190 | | |
| 205 | 6.000 | 0.0 | 0.190 | | |
| 206 | 0.0 | 0.275 | -1.810 | bbblll | Rotule |
| 207 | 2.400 | 0.275 | -1.810 | | |
| 208 | 0.0 | -0.275 | -1.810 | bbblll | Rotule |

| Noeud | X [m] | Y [m] | Z [m] | Code de l'appui | Appui |
|-------|-------|--------|--------|-----------------|-------|
| 209 | 2.400 | -0.275 | -1.810 | | |
| 210 | 2.400 | -0.275 | -2.190 | | |
| 211 | 0.0 | -0.275 | -2.190 | | |
| 212 | 0.0 | 0.275 | -2.190 | | |
| 213 | 2.400 | 0.275 | -2.190 | | |
| 214 | 0.075 | 0.0 | -1.810 | | |
| 215 | 0.825 | 0.0 | -1.810 | | |
| 216 | 1.575 | 0.0 | -1.810 | | |
| 217 | 2.325 | 0.0 | -1.810 | | |
| 218 | 0.825 | 0.275 | -1.810 | | |
| 219 | 0.825 | -0.275 | -1.810 | | |
| 220 | 1.575 | 0.275 | -1.810 | | |
| 221 | 1.575 | -0.275 | -1.810 | | |
| 222 | 0.075 | 0.275 | -1.810 | | |
| 223 | 0.075 | -0.275 | -1.810 | | |
| 224 | 2.325 | 0.275 | -1.810 | | |
| 225 | 2.325 | -0.275 | -1.810 | | |
| 226 | 0.100 | -0.275 | -2.190 | | |
| 227 | 0.375 | -0.275 | -1.810 | | |
| 228 | 0.650 | -0.275 | -2.190 | | |
| 229 | 0.925 | -0.275 | -1.810 | | |
| 230 | 1.200 | -0.275 | -2.190 | | |
| 231 | 1.475 | -0.275 | -1.810 | | |
| 232 | 1.750 | -0.275 | -2.190 | | |
| 233 | 2.025 | -0.275 | -1.810 | | |
| 234 | 2.300 | -0.275 | -2.190 | | |
| 235 | 2.325 | -0.275 | -2.190 | | |
| 236 | 2.325 | 0.275 | -2.190 | | |
| 237 | 0.075 | 0.275 | -2.190 | | |
| 238 | 0.075 | -0.275 | -2.190 | | |
| 239 | 2.325 | 0.0 | -2.190 | | |
| 240 | 0.075 | 0.0 | -2.190 | | |
| 241 | 0.100 | 0.275 | -2.190 | | |
| 242 | 0.375 | 0.275 | -1.810 | | |
| 243 | 0.650 | 0.275 | -2.190 | | |
| 244 | 0.925 | 0.275 | -1.810 | | |
| 245 | 1.200 | 0.275 | -2.190 | | |
| 246 | 1.475 | 0.275 | -1.810 | | |
| 247 | 1.750 | 0.275 | -2.190 | | |
| 248 | 2.025 | 0.275 | -1.810 | | |
| 249 | 2.300 | 0.275 | -2.190 | | |
| 250 | 4.800 | 0.275 | -1.810 | | |
| 251 | 4.800 | -0.275 | -1.810 | | |
| 252 | 4.800 | -0.275 | -2.190 | | |
| 253 | 4.800 | 0.275 | -2.190 | | |
| 254 | 2.475 | 0.0 | -1.810 | | |
| 255 | 3.225 | 0.0 | -1.810 | | |
| 256 | 3.975 | 0.0 | -1.810 | | |
| 257 | 4.725 | 0.0 | -1.810 | | |
| 258 | 3.225 | 0.275 | -1.810 | | |
| 259 | 3.225 | -0.275 | -1.810 | | |
| 260 | 3.975 | 0.275 | -1.810 | | |
| 261 | 3.975 | -0.275 | -1.810 | | |

| Noeud | X [m] | Y [m] | Z [m] | Code de l'appui | Appui |
|-------|-------|--------|--------|-----------------|-------|
| 262 | 2.475 | 0.275 | -1.810 | | |
| 263 | 2.475 | -0.275 | -1.810 | | |
| 264 | 4.725 | 0.275 | -1.810 | | |
| 265 | 4.725 | -0.275 | -1.810 | | |
| 266 | 2.500 | -0.275 | -2.190 | | |
| 267 | 2.775 | -0.275 | -1.810 | | |
| 268 | 3.050 | -0.275 | -2.190 | | |
| 269 | 3.325 | -0.275 | -1.810 | | |
| 270 | 3.600 | -0.275 | -2.190 | | |
| 271 | 3.875 | -0.275 | -1.810 | | |
| 272 | 4.150 | -0.275 | -2.190 | | |
| 273 | 4.425 | -0.275 | -1.810 | | |
| 274 | 4.700 | -0.275 | -2.190 | | |
| 275 | 4.725 | -0.275 | -2.190 | | |
| 276 | 4.725 | 0.275 | -2.190 | | |
| 277 | 2.475 | 0.275 | -2.190 | | |
| 278 | 2.475 | -0.275 | -2.190 | | |
| 279 | 4.725 | 0.0 | -2.190 | | |
| 280 | 2.475 | 0.0 | -2.190 | | |
| 281 | 2.500 | 0.275 | -2.190 | | |
| 282 | 2.775 | 0.275 | -1.810 | | |
| 283 | 3.050 | 0.275 | -2.190 | | |
| 284 | 3.325 | 0.275 | -1.810 | | |
| 285 | 3.600 | 0.275 | -2.190 | | |
| 286 | 3.875 | 0.275 | -1.810 | | |
| 287 | 4.150 | 0.275 | -2.190 | | |
| 288 | 4.425 | 0.275 | -1.810 | | |
| 289 | 4.700 | 0.275 | -2.190 | | |
| 290 | 7.200 | 0.275 | -1.810 | | |
| 291 | 7.200 | -0.275 | -1.810 | | |
| 292 | 7.200 | -0.275 | -2.190 | | |
| 293 | 7.200 | 0.275 | -2.190 | | |
| 294 | 4.875 | 0.0 | -1.810 | | |
| 295 | 5.625 | 0.0 | -1.810 | | |
| 296 | 6.375 | 0.0 | -1.810 | | |
| 297 | 7.125 | 0.0 | -1.810 | | |
| 298 | 5.625 | 0.275 | -1.810 | | |
| 299 | 5.625 | -0.275 | -1.810 | | |
| 300 | 6.375 | 0.275 | -1.810 | | |
| 301 | 6.375 | -0.275 | -1.810 | | |
| 302 | 4.875 | 0.275 | -1.810 | | |
| 303 | 4.875 | -0.275 | -1.810 | | |
| 304 | 7.125 | 0.275 | -1.810 | | |
| 305 | 7.125 | -0.275 | -1.810 | | |
| 306 | 4.900 | -0.275 | -2.190 | | |
| 307 | 5.175 | -0.275 | -1.810 | | |
| 308 | 5.450 | -0.275 | -2.190 | | |
| 309 | 5.725 | -0.275 | -1.810 | | |
| 310 | 6.000 | -0.275 | -2.190 | | |
| 311 | 6.275 | -0.275 | -1.810 | | |
| 312 | 6.550 | -0.275 | -2.190 | | |
| 313 | 6.825 | -0.275 | -1.810 | | |
| 314 | 7.100 | -0.275 | -2.190 | | |

| Noeud | X [m] | Y [m] | Z [m] | Code de l'appui | Appui |
|-------|-------|--------|--------|-----------------|---------------|
| 315 | 7.125 | -0.275 | -2.190 | | |
| 316 | 7.125 | 0.275 | -2.190 | | |
| 317 | 4.875 | 0.275 | -2.190 | | |
| 318 | 4.875 | -0.275 | -2.190 | | |
| 319 | 7.125 | 0.0 | -2.190 | | |
| 320 | 4.875 | 0.0 | -2.190 | | |
| 321 | 4.900 | 0.275 | -2.190 | | |
| 322 | 5.175 | 0.275 | -1.810 | | |
| 323 | 5.450 | 0.275 | -2.190 | | |
| 324 | 5.725 | 0.275 | -1.810 | | |
| 325 | 6.000 | 0.275 | -2.190 | | |
| 326 | 6.275 | 0.275 | -1.810 | | |
| 327 | 6.550 | 0.275 | -2.190 | | |
| 328 | 6.825 | 0.275 | -1.810 | | |
| 329 | 7.100 | 0.275 | -2.190 | | |
| 331 | 3.600 | 0.0 | -3.810 | | |
| 332 | 3.000 | 0.0 | 0.190 | | |
| 370 | 9.600 | 0.275 | -1.810 | lbblll | Appui_UY+_UZ+ |
| 371 | 9.600 | -0.275 | -1.810 | lbblll | Appui_UY+_UZ+ |
| 372 | 9.600 | -0.275 | -2.190 | | |
| 373 | 9.600 | 0.275 | -2.190 | | |
| 374 | 7.275 | 0.0 | -1.810 | | |
| 375 | 8.025 | 0.0 | -1.810 | | |
| 376 | 8.775 | 0.0 | -1.810 | | |
| 377 | 9.525 | 0.0 | -1.810 | | |
| 378 | 8.025 | 0.275 | -1.810 | | |
| 379 | 8.025 | -0.275 | -1.810 | | |
| 380 | 8.775 | 0.275 | -1.810 | | |
| 381 | 8.775 | -0.275 | -1.810 | | |
| 382 | 7.275 | 0.275 | -1.810 | | |
| 383 | 7.275 | -0.275 | -1.810 | | |
| 384 | 9.525 | 0.275 | -1.810 | | |
| 385 | 9.525 | -0.275 | -1.810 | | |
| 386 | 7.300 | -0.275 | -2.190 | | |
| 387 | 7.575 | -0.275 | -1.810 | | |
| 388 | 7.850 | -0.275 | -2.190 | | |
| 389 | 8.125 | -0.275 | -1.810 | | |
| 390 | 8.400 | -0.275 | -2.190 | | |
| 391 | 8.675 | -0.275 | -1.810 | | |
| 392 | 8.950 | -0.275 | -2.190 | | |
| 393 | 9.225 | -0.275 | -1.810 | | |
| 394 | 9.500 | -0.275 | -2.190 | | |
| 395 | 9.525 | -0.275 | -2.190 | | |
| 396 | 9.525 | 0.275 | -2.190 | | |
| 397 | 7.275 | 0.275 | -2.190 | | |
| 398 | 7.275 | -0.275 | -2.190 | | |
| 399 | 9.525 | 0.0 | -2.190 | | |
| 400 | 7.275 | 0.0 | -2.190 | | |
| 401 | 7.300 | 0.275 | -2.190 | | |
| 402 | 7.575 | 0.275 | -1.810 | | |
| 403 | 7.850 | 0.275 | -2.190 | | |
| 404 | 8.125 | 0.275 | -1.810 | | |
| 405 | 8.400 | 0.275 | -2.190 | | |

| Noeud | X [m] | Y [m] | Z [m] | Code de l'appui | Appui |
|-------|-------|--------|--------|-----------------|--------|
| 406 | 8.675 | 0.275 | -1.810 | | |
| 407 | 8.950 | 0.275 | -2.190 | | |
| 408 | 9.225 | 0.275 | -1.810 | | |
| 409 | 9.500 | 0.275 | -2.190 | | |
| 410 | 0.0 | 0.275 | -3.810 | bbblll | Rotule |
| 411 | 2.400 | 0.275 | -3.810 | | |
| 412 | 0.0 | -0.275 | -3.810 | bbblll | Rotule |
| 413 | 2.400 | -0.275 | -3.810 | | |
| 414 | 2.400 | -0.275 | -4.190 | | |
| 415 | 0.0 | -0.275 | -4.190 | | |
| 416 | 0.0 | 0.275 | -4.190 | | |
| 417 | 2.400 | 0.275 | -4.190 | | |
| 418 | 0.075 | 0.0 | -3.810 | | |
| 419 | 0.825 | 0.0 | -3.810 | | |
| 420 | 1.575 | 0.0 | -3.810 | | |
| 421 | 2.325 | 0.0 | -3.810 | | |
| 422 | 0.825 | 0.275 | -3.810 | | |
| 423 | 0.825 | -0.275 | -3.810 | | |
| 424 | 1.575 | 0.275 | -3.810 | | |
| 425 | 1.575 | -0.275 | -3.810 | | |
| 426 | 0.075 | 0.275 | -3.810 | | |
| 427 | 0.075 | -0.275 | -3.810 | | |
| 428 | 2.325 | 0.275 | -3.810 | | |
| 429 | 2.325 | -0.275 | -3.810 | | |
| 430 | 0.100 | -0.275 | -4.190 | | |
| 431 | 0.375 | -0.275 | -3.810 | | |
| 432 | 0.650 | -0.275 | -4.190 | | |
| 433 | 0.925 | -0.275 | -3.810 | | |
| 434 | 1.200 | -0.275 | -4.190 | | |
| 435 | 1.475 | -0.275 | -3.810 | | |
| 436 | 1.750 | -0.275 | -4.190 | | |
| 437 | 2.025 | -0.275 | -3.810 | | |
| 438 | 2.300 | -0.275 | -4.190 | | |
| 439 | 2.325 | -0.275 | -4.190 | | |
| 440 | 2.325 | 0.275 | -4.190 | | |
| 441 | 0.075 | 0.275 | -4.190 | | |
| 442 | 0.075 | -0.275 | -4.190 | | |
| 443 | 2.325 | 0.0 | -4.190 | | |
| 444 | 0.075 | 0.0 | -4.190 | | |
| 445 | 0.100 | 0.275 | -4.190 | | |
| 446 | 0.375 | 0.275 | -3.810 | | |
| 447 | 0.650 | 0.275 | -4.190 | | |
| 448 | 0.925 | 0.275 | -3.810 | | |
| 449 | 1.200 | 0.275 | -4.190 | | |
| 450 | 1.475 | 0.275 | -3.810 | | |
| 451 | 1.750 | 0.275 | -4.190 | | |
| 452 | 2.025 | 0.275 | -3.810 | | |
| 453 | 2.300 | 0.275 | -4.190 | | |
| 454 | 4.800 | 0.275 | -3.810 | | |
| 455 | 4.800 | -0.275 | -3.810 | | |
| 456 | 4.800 | -0.275 | -4.190 | | |
| 457 | 4.800 | 0.275 | -4.190 | | |
| 458 | 2.475 | 0.0 | -3.810 | | |

| Noeud | X [m] | Y [m] | Z [m] | Code de l'appui | Appui |
|-------|-------|--------|--------|-----------------|---------------|
| 459 | 3.225 | 0.0 | -3.810 | | |
| 460 | 3.975 | 0.0 | -3.810 | | |
| 461 | 4.725 | 0.0 | -3.810 | | |
| 462 | 3.225 | 0.275 | -3.810 | | |
| 463 | 3.225 | -0.275 | -3.810 | | |
| 464 | 3.975 | 0.275 | -3.810 | | |
| 465 | 3.975 | -0.275 | -3.810 | | |
| 466 | 2.475 | 0.275 | -3.810 | | |
| 467 | 2.475 | -0.275 | -3.810 | | |
| 468 | 4.725 | 0.275 | -3.810 | | |
| 469 | 4.725 | -0.275 | -3.810 | | |
| 470 | 2.500 | -0.275 | -4.190 | | |
| 471 | 2.775 | -0.275 | -3.810 | | |
| 472 | 3.050 | -0.275 | -4.190 | | |
| 473 | 3.325 | -0.275 | -3.810 | | |
| 474 | 3.600 | -0.275 | -4.190 | | |
| 475 | 3.875 | -0.275 | -3.810 | | |
| 476 | 4.150 | -0.275 | -4.190 | | |
| 477 | 4.425 | -0.275 | -3.810 | | |
| 478 | 4.700 | -0.275 | -4.190 | | |
| 479 | 4.725 | -0.275 | -4.190 | | |
| 480 | 4.725 | 0.275 | -4.190 | | |
| 481 | 2.475 | 0.275 | -4.190 | | |
| 482 | 2.475 | -0.275 | -4.190 | | |
| 483 | 4.725 | 0.0 | -4.190 | | |
| 484 | 2.475 | 0.0 | -4.190 | | |
| 485 | 2.500 | 0.275 | -4.190 | | |
| 486 | 2.775 | 0.275 | -3.810 | | |
| 487 | 3.050 | 0.275 | -4.190 | | |
| 488 | 3.325 | 0.275 | -3.810 | | |
| 489 | 3.600 | 0.275 | -4.190 | | |
| 490 | 3.875 | 0.275 | -3.810 | | |
| 491 | 4.150 | 0.275 | -4.190 | | |
| 492 | 4.425 | 0.275 | -3.810 | | |
| 493 | 4.700 | 0.275 | -4.190 | | |
| 574 | 7.200 | 0.275 | -3.810 | lbblll | Appui_UY+_UZ+ |
| 575 | 7.200 | -0.275 | -3.810 | lbblll | Appui_UY+_UZ+ |
| 576 | 7.200 | -0.275 | -4.190 | | |
| 577 | 7.200 | 0.275 | -4.190 | | |
| 578 | 4.875 | 0.0 | -3.810 | | |
| 579 | 5.625 | 0.0 | -3.810 | | |
| 580 | 6.375 | 0.0 | -3.810 | | |
| 581 | 7.125 | 0.0 | -3.810 | | |
| 582 | 5.625 | 0.275 | -3.810 | | |
| 583 | 5.625 | -0.275 | -3.810 | | |
| 584 | 6.375 | 0.275 | -3.810 | | |
| 585 | 6.375 | -0.275 | -3.810 | | |
| 586 | 4.875 | 0.275 | -3.810 | | |
| 587 | 4.875 | -0.275 | -3.810 | | |
| 588 | 7.125 | 0.275 | -3.810 | | |
| 589 | 7.125 | -0.275 | -3.810 | | |
| 590 | 4.900 | -0.275 | -4.190 | | |
| 591 | 5.175 | -0.275 | -3.810 | | |

| Noeud | X [m] | Y [m] | Z [m] | Code de l'appui | Appui |
|-------|-------|--------|--------|-----------------|--------|
| 592 | 5.450 | -0.275 | -4.190 | | |
| 593 | 5.725 | -0.275 | -3.810 | | |
| 594 | 6.000 | -0.275 | -4.190 | | |
| 595 | 6.275 | -0.275 | -3.810 | | |
| 596 | 6.550 | -0.275 | -4.190 | | |
| 597 | 6.825 | -0.275 | -3.810 | | |
| 598 | 7.100 | -0.275 | -4.190 | | |
| 599 | 7.125 | -0.275 | -4.190 | | |
| 600 | 7.125 | 0.275 | -4.190 | | |
| 601 | 4.875 | 0.275 | -4.190 | | |
| 602 | 4.875 | -0.275 | -4.190 | | |
| 603 | 7.125 | 0.0 | -4.190 | | |
| 604 | 4.875 | 0.0 | -4.190 | | |
| 605 | 4.900 | 0.275 | -4.190 | | |
| 606 | 5.175 | 0.275 | -3.810 | | |
| 607 | 5.450 | 0.275 | -4.190 | | |
| 608 | 5.725 | 0.275 | -3.810 | | |
| 609 | 6.000 | 0.275 | -4.190 | | |
| 610 | 6.275 | 0.275 | -3.810 | | |
| 611 | 6.550 | 0.275 | -4.190 | | |
| 612 | 6.825 | 0.275 | -3.810 | | |
| 613 | 7.100 | 0.275 | -4.190 | | |
| 614 | 0.0 | 0.275 | -5.810 | bbblll | Rotule |
| 615 | 2.400 | 0.275 | -5.810 | | |
| 616 | 0.0 | -0.275 | -5.810 | bbblll | Rotule |
| 617 | 2.400 | -0.275 | -5.810 | | |
| 618 | 2.400 | -0.275 | -6.190 | | |
| 619 | 0.0 | -0.275 | -6.190 | | |
| 620 | 0.0 | 0.275 | -6.190 | | |
| 621 | 2.400 | 0.275 | -6.190 | | |
| 622 | 0.075 | 0.0 | -5.810 | | |
| 623 | 0.825 | 0.0 | -5.810 | | |
| 624 | 1.575 | 0.0 | -5.810 | | |
| 625 | 2.325 | 0.0 | -5.810 | | |
| 626 | 0.825 | 0.275 | -5.810 | | |
| 627 | 0.825 | -0.275 | -5.810 | | |
| 628 | 1.575 | 0.275 | -5.810 | | |
| 629 | 1.575 | -0.275 | -5.810 | | |
| 630 | 0.075 | 0.275 | -5.810 | | |
| 631 | 0.075 | -0.275 | -5.810 | | |
| 632 | 2.325 | 0.275 | -5.810 | | |
| 633 | 2.325 | -0.275 | -5.810 | | |
| 634 | 0.100 | -0.275 | -6.190 | | |
| 635 | 0.375 | -0.275 | -5.810 | | |
| 636 | 0.650 | -0.275 | -6.190 | | |
| 637 | 0.925 | -0.275 | -5.810 | | |
| 638 | 1.200 | -0.275 | -6.190 | | |
| 639 | 1.475 | -0.275 | -5.810 | | |
| 640 | 1.750 | -0.275 | -6.190 | | |
| 641 | 2.025 | -0.275 | -5.810 | | |
| 642 | 2.300 | -0.275 | -6.190 | | |
| 643 | 2.325 | -0.275 | -6.190 | | |
| 644 | 2.325 | 0.275 | -6.190 | | |

| Noeud | X [m] | Y [m] | Z [m] | Code de l'appui | Appui |
|-------|-------|--------|--------|-----------------|---------------|
| 645 | 0.075 | 0.275 | -6.190 | | |
| 646 | 0.075 | -0.275 | -6.190 | | |
| 647 | 2.325 | 0.0 | -6.190 | | |
| 648 | 0.075 | 0.0 | -6.190 | | |
| 649 | 0.100 | 0.275 | -6.190 | | |
| 650 | 0.375 | 0.275 | -5.810 | | |
| 651 | 0.650 | 0.275 | -6.190 | | |
| 652 | 0.925 | 0.275 | -5.810 | | |
| 653 | 1.200 | 0.275 | -6.190 | | |
| 654 | 1.475 | 0.275 | -5.810 | | |
| 655 | 1.750 | 0.275 | -6.190 | | |
| 656 | 2.025 | 0.275 | -5.810 | | |
| 657 | 2.300 | 0.275 | -6.190 | | |
| 778 | 4.800 | 0.275 | -5.810 | lbblll | Appui_UY+_UZ+ |
| 779 | 4.800 | -0.275 | -5.810 | lbblll | Appui_UY+_UZ+ |
| 780 | 4.800 | -0.275 | -6.190 | | |
| 781 | 4.800 | 0.275 | -6.190 | | |
| 782 | 2.475 | 0.0 | -5.810 | | |
| 783 | 3.225 | 0.0 | -5.810 | | |
| 784 | 3.975 | 0.0 | -5.810 | | |
| 785 | 4.725 | 0.0 | -5.810 | | |
| 786 | 3.225 | 0.275 | -5.810 | | |
| 787 | 3.225 | -0.275 | -5.810 | | |
| 788 | 3.975 | 0.275 | -5.810 | | |
| 789 | 3.975 | -0.275 | -5.810 | | |
| 790 | 2.475 | 0.275 | -5.810 | | |
| 791 | 2.475 | -0.275 | -5.810 | | |
| 792 | 4.725 | 0.275 | -5.810 | | |
| 793 | 4.725 | -0.275 | -5.810 | | |
| 794 | 2.500 | -0.275 | -6.190 | | |
| 795 | 2.775 | -0.275 | -5.810 | | |
| 796 | 3.050 | -0.275 | -6.190 | | |
| 797 | 3.325 | -0.275 | -5.810 | | |
| 798 | 3.600 | -0.275 | -6.190 | | |
| 799 | 3.875 | -0.275 | -5.810 | | |
| 800 | 4.150 | -0.275 | -6.190 | | |
| 801 | 4.425 | -0.275 | -5.810 | | |
| 802 | 4.700 | -0.275 | -6.190 | | |
| 803 | 4.725 | -0.275 | -6.190 | | |
| 804 | 4.725 | 0.275 | -6.190 | | |
| 805 | 2.475 | 0.275 | -6.190 | | |
| 806 | 2.475 | -0.275 | -6.190 | | |
| 807 | 4.725 | 0.0 | -6.190 | | |
| 808 | 2.475 | 0.0 | -6.190 | | |
| 809 | 2.500 | 0.275 | -6.190 | | |
| 810 | 2.775 | 0.275 | -5.810 | | |
| 811 | 3.050 | 0.275 | -6.190 | | |
| 812 | 3.325 | 0.275 | -5.810 | | |
| 813 | 3.600 | 0.275 | -6.190 | | |
| 814 | 3.875 | 0.275 | -5.810 | | |
| 815 | 4.150 | 0.275 | -6.190 | | |
| 816 | 4.425 | 0.275 | -5.810 | | |
| 817 | 4.700 | 0.275 | -6.190 | | |

| Noeud | X [m] | Y [m] | Z [m] | Code de l'appui | Appui |
|-------|-------|-------|--------|-----------------|-------|
| 820 | 9.000 | 0.0 | 0.190 | | |
| 821 | 1.800 | 0.0 | -3.810 | | |
| 822 | 5.400 | 0.0 | -3.810 | | |
| 824 | 1.200 | 0.0 | -5.810 | | |
| 825 | 3.600 | 0.0 | -5.810 | | |
| 826 | 1.920 | 0.0 | -1.810 | | |
| 827 | 3.840 | 0.0 | -1.810 | | |
| 828 | 5.760 | 0.0 | -1.810 | | |
| 829 | 7.680 | 0.0 | -1.810 | | |
| 835 | 1.440 | 0.0 | -3.810 | | |
| 836 | 2.880 | 0.0 | -3.810 | | |
| 837 | 4.320 | 0.0 | -3.810 | | |
| 838 | 5.760 | 0.0 | -3.810 | | |
| 839 | 0.960 | 0.0 | -5.810 | | |
| 840 | 1.920 | 0.0 | -5.810 | | |
| 841 | 2.880 | 0.0 | -5.810 | | |
| 842 | 3.840 | 0.0 | -5.810 | | |

barres

| Barre | Noeud 1 | Noeud 2 | Section | Matériau | Longueur [m] | Gamma [Deg] | Type de barre | Élément de construction |
|-------|---------|---------|-------------------|----------|--------------|-------------|-----------------------|-------------------------|
| 1 | 1 | 2 | RONDE_- 50X3 | 6005-T6 | 2.400 | 0.0 | Membrures 1/3- 00e | Barre |
| 2 | 3 | 4 | RONDE_- 50X3 | 6005-T6 | 2.400 | 0.0 | Membrures 1/3- 00e | Barre |
| 3 | 5 | 6 | RONDE_- 50X3 | 6005-T6 | 2.400 | 0.0 | Membrures 1/3- 00e | Barre |
| 4 | 7 | 8 | RONDE_- 50X3 | 6005-T6 | 2.400 | 0.0 | Membrures 1/3- 00e | Barre |
| 5 | 17 | 18 | RECT_50- X50X4 | 6060-T6 | 0.550 | 0.0 | Barre 1/300e | Barre |
| 6 | 19 | 20 | RECT_50- X50X4 | 6060-T6 | 0.550 | 0.0 | Barre 1/300e | Barre |
| 7 | 21 | 22 | RONDE_- 30X3 | 6106-T6 | 0.469 | 0.0 | Treillis 1/300e | Barre |
| 8 | 13 | 15 | RONDE_- 50X3 | 6005-T6 | 0.750 | 0.0 | Membrures 1/3- 00e | Barre |
| 9 | 15 | 16 | RONDE_- 50X3 | 6005-T6 | 0.750 | 0.0 | Membrures 1/3- 00e | Barre |
| 10 | 16 | 14 | RONDE_- 50X3 | 6005-T6 | 0.750 | 0.0 | Membrures 1/3- 00e | Barre |
| 11 | 9 | 15 | RONDE_- 50X3 | 6005-T6 | 0.275 | 0.0 | Membrures 1/3- 00e | Barre |
| 12 | 15 | 10 | RONDE_- 50X3 | 6005-T6 | 0.275 | 0.0 | Membrures 1/3- 00e | Barre |
| 13 | 11 | 16 | RONDE_- 50X3 | 6005-T6 | 0.275 | 0.0 | Membrures 1/3- 00e | Barre |
| 14 | 16 | 12 | RONDE_- 50X3 | 6005-T6 | 0.275 | 0.0 | Membrures 1/3- 00e | Barre |
| 15 | 22 | 23 | RONDE_- 30X3 | 6106-T6 | 0.469 | 0.0 | Treillis 1/300e | Barre |
| 16 | 23 | 24 | RONDE_- 30X3 | 6106-T6 | 0.469 | 0.0 | Treillis 1/300e | Barre |
| 17 | 24 | 25 | RONDE_- 30X3 | 6106-T6 | 0.469 | 0.0 | Treillis 1/300e | Barre |
| 18 | 25 | 26 | RONDE_- 30X3 | 6106-T6 | 0.469 | 0.0 | Treillis 1/300e | Barre |
| 19 | 26 | 27 | RONDE_- 30X3 | 6106-T6 | 0.469 | 0.0 | Treillis 1/300e | Barre |
| 20 | 27 | 28 | RONDE_- 30X3 | 6106-T6 | 0.469 | 0.0 | Treillis 1/300e | Barre |
| 21 | 28 | 29 | RONDE_- 30X3 | 6106-T6 | 0.469 | 0.0 | Treillis 1/300e | Barre |
| 22 | 20 | 30 | RONDE_- 30X3 | 6106-T6 | 0.380 | 0.0 | Treillis 1/300e | Barre |
| 23 | 19 | 31 | RONDE_- 30X3 | 6106-T6 | 0.380 | 0.0 | Treillis 1/300e | Barre |
| 24 | 30 | 31 | RECT_50- X50X4 | 6060-T6 | 0.550 | 0.0 | Barre 1/300e | Barre |
| 25 | 32 | 33 | RECT_50- X50X4 | 6060-T6 | 0.550 | 0.0 | Barre 1/300e | Barre |
| 26 | 18 | 33 | RONDE_- 30X3 | 6106-T6 | 0.380 | 0.0 | Treillis 1/300e | Barre |
| 27 | 17 | 32 | RONDE_- 30X3 | 6106-T6 | 0.380 | 0.0 | Treillis 1/300e | Barre |

| Barre | Noeud 1 | Noeud 2 | Section | Matériau | Longueur [m] | Gamma [Deg] | Type de barre | Élément de construction |
|-------|---------|---------|-------------------|----------|--------------|-------------|-----------------------|-------------------------|
| 28 | 30 | 19 | RONDE_- 30X3 | 6106-T6 | 0.669 | 0.0 | Treillis 1/300e | Barre |
| 29 | 32 | 18 | RONDE_- 30X3 | 6106-T6 | 0.669 | 0.0 | Treillis 1/300e | Barre |
| 30 | 34 | 14 | U_60X40- X4 | 6060-T6 | 0.380 | 90.0 | Barre 1/300e | Barre |
| 31 | 35 | 13 | U_60X40- X4 | 6060-T6 | 0.380 | 270.0 | Barre 1/300e | Barre |
| 32 | 36 | 37 | RONDE_- 30X3 | 6106-T6 | 0.469 | 0.0 | Treillis 1/300e | Barre |
| 33 | 37 | 38 | RONDE_- 30X3 | 6106-T6 | 0.469 | 0.0 | Treillis 1/300e | Barre |
| 34 | 38 | 39 | RONDE_- 30X3 | 6106-T6 | 0.469 | 0.0 | Treillis 1/300e | Barre |
| 35 | 39 | 40 | RONDE_- 30X3 | 6106-T6 | 0.469 | 0.0 | Treillis 1/300e | Barre |
| 36 | 40 | 41 | RONDE_- 30X3 | 6106-T6 | 0.469 | 0.0 | Treillis 1/300e | Barre |
| 37 | 41 | 42 | RONDE_- 30X3 | 6106-T6 | 0.469 | 0.0 | Treillis 1/300e | Barre |
| 38 | 42 | 43 | RONDE_- 30X3 | 6106-T6 | 0.469 | 0.0 | Treillis 1/300e | Barre |
| 39 | 43 | 44 | RONDE_- 30X3 | 6106-T6 | 0.469 | 0.0 | Treillis 1/300e | Barre |
| 40 | 2 | 45 | RONDE_- 50X3 | 6005-T6 | 2.400 | 0.0 | Membrures 1/3- 00e | Barre |
| 41 | 4 | 46 | RONDE_- 50X3 | 6005-T6 | 2.400 | 0.0 | Membrures 1/3- 00e | Barre |
| 42 | 47 | 5 | RONDE_- 50X3 | 6005-T6 | 2.400 | 0.0 | Membrures 1/3- 00e | Barre |
| 43 | 8 | 48 | RONDE_- 50X3 | 6005-T6 | 2.400 | 0.0 | Membrures 1/3- 00e | Barre |
| 44 | 57 | 58 | RECT_50- X50X4 | 6060-T6 | 0.550 | 0.0 | Barre 1/300e | Barre |
| 45 | 59 | 60 | RECT_50- X50X4 | 6060-T6 | 0.550 | 0.0 | Barre 1/300e | Barre |
| 46 | 61 | 62 | RONDE_- 30X3 | 6106-T6 | 0.469 | 0.0 | Treillis 1/300e | Barre |
| 47 | 49 | 50 | RONDE_- 50X3 | 6005-T6 | 0.750 | 0.0 | Membrures 1/3- 00e | Barre |
| 48 | 50 | 51 | RONDE_- 50X3 | 6005-T6 | 0.750 | 0.0 | Membrures 1/3- 00e | Barre |
| 49 | 51 | 52 | RONDE_- 50X3 | 6005-T6 | 0.750 | 0.0 | Membrures 1/3- 00e | Barre |
| 50 | 53 | 50 | RONDE_- 50X3 | 6005-T6 | 0.275 | 0.0 | Membrures 1/3- 00e | Barre |
| 51 | 50 | 54 | RONDE_- 50X3 | 6005-T6 | 0.275 | 0.0 | Membrures 1/3- 00e | Barre |
| 52 | 55 | 51 | RONDE_- 50X3 | 6005-T6 | 0.275 | 0.0 | Membrures 1/3- 00e | Barre |
| 53 | 51 | 56 | RONDE_- 50X3 | 6005-T6 | 0.275 | 0.0 | Membrures 1/3- 00e | Barre |
| 54 | 62 | 63 | RONDE_- 30X3 | 6106-T6 | 0.469 | 0.0 | Treillis 1/300e | Barre |
| 55 | 63 | 64 | RONDE_- 30X3 | 6106-T6 | 0.469 | 0.0 | Treillis 1/300e | Barre |
| 56 | 64 | 65 | RONDE_- 30X3 | 6106-T6 | 0.469 | 0.0 | Treillis 1/300e | Barre |

| Barre | Noeud 1 | Noeud 2 | Section | Matériau | Longueur [m] | Gamma [Deg] | Type de barre | Élément de construction |
|-------|---------|---------|-------------------|----------|--------------|-------------|-----------------------|-------------------------|
| 57 | 65 | 66 | RONDE_- 30X3 | 6106-T6 | 0.469 | 0.0 | Treillis 1/300e | Barre |
| 58 | 66 | 67 | RONDE_- 30X3 | 6106-T6 | 0.469 | 0.0 | Treillis 1/300e | Barre |
| 59 | 67 | 68 | RONDE_- 30X3 | 6106-T6 | 0.469 | 0.0 | Treillis 1/300e | Barre |
| 60 | 68 | 69 | RONDE_- 30X3 | 6106-T6 | 0.469 | 0.0 | Treillis 1/300e | Barre |
| 61 | 60 | 70 | RONDE_- 30X3 | 6106-T6 | 0.380 | 0.0 | Treillis 1/300e | Barre |
| 62 | 59 | 71 | RONDE_- 30X3 | 6106-T6 | 0.380 | 0.0 | Treillis 1/300e | Barre |
| 63 | 70 | 71 | RECT_50- X50X4 | 6060-T6 | 0.550 | 0.0 | Barre 1/300e | Barre |
| 64 | 72 | 73 | RECT_50- X50X4 | 6060-T6 | 0.550 | 0.0 | Barre 1/300e | Barre |
| 65 | 58 | 73 | RONDE_- 30X3 | 6106-T6 | 0.380 | 0.0 | Treillis 1/300e | Barre |
| 66 | 57 | 72 | RONDE_- 30X3 | 6106-T6 | 0.380 | 0.0 | Treillis 1/300e | Barre |
| 67 | 70 | 59 | RONDE_- 30X3 | 6106-T6 | 0.669 | 0.0 | Treillis 1/300e | Barre |
| 68 | 72 | 58 | RONDE_- 30X3 | 6106-T6 | 0.669 | 0.0 | Treillis 1/300e | Barre |
| 69 | 74 | 52 | U_60X40- X4 | 6060-T6 | 0.380 | 90.0 | Barre 1/300e | Barre |
| 70 | 75 | 49 | U_60X40- X4 | 6060-T6 | 0.380 | -90.0 | Barre 1/300e | Barre |
| 71 | 76 | 77 | RONDE_- 30X3 | 6106-T6 | 0.469 | 0.0 | Treillis 1/300e | Barre |
| 72 | 77 | 78 | RONDE_- 30X3 | 6106-T6 | 0.469 | 0.0 | Treillis 1/300e | Barre |
| 73 | 78 | 79 | RONDE_- 30X3 | 6106-T6 | 0.469 | 0.0 | Treillis 1/300e | Barre |
| 74 | 79 | 80 | RONDE_- 30X3 | 6106-T6 | 0.469 | 0.0 | Treillis 1/300e | Barre |
| 75 | 80 | 81 | RONDE_- 30X3 | 6106-T6 | 0.469 | 0.0 | Treillis 1/300e | Barre |
| 76 | 81 | 82 | RONDE_- 30X3 | 6106-T6 | 0.469 | 0.0 | Treillis 1/300e | Barre |
| 77 | 82 | 83 | RONDE_- 30X3 | 6106-T6 | 0.469 | 0.0 | Treillis 1/300e | Barre |
| 78 | 83 | 84 | RONDE_- 30X3 | 6106-T6 | 0.469 | 0.0 | Treillis 1/300e | Barre |
| 79 | 45 | 85 | RONDE_- 50X3 | 6005-T6 | 2.400 | 0.0 | Membrures 1/3- 00e | Barre |
| 80 | 46 | 86 | RONDE_- 50X3 | 6005-T6 | 2.400 | 0.0 | Membrures 1/3- 00e | Barre |
| 81 | 87 | 47 | RONDE_- 50X3 | 6005-T6 | 2.400 | 0.0 | Membrures 1/3- 00e | Barre |
| 82 | 48 | 88 | RONDE_- 50X3 | 6005-T6 | 2.400 | 0.0 | Membrures 1/3- 00e | Barre |
| 83 | 97 | 98 | RECT_50- X50X4 | 6060-T6 | 0.550 | 0.0 | Barre 1/300e | Barre |
| 84 | 99 | 100 | RECT_50- X50X4 | 6060-T6 | 0.550 | 0.0 | Barre 1/300e | Barre |
| 85 | 101 | 102 | RONDE_- 30X3 | 6106-T6 | 0.469 | 0.0 | Treillis 1/300e | Barre |

| Barre | Noeud 1 | Noeud 2 | Section | Matériau | Longueur [m] | Gamma [Deg] | Type de barre | Élément de construction |
|-------|---------|---------|-------------------|----------|--------------|-------------|-----------------------|-------------------------|
| 86 | 89 | 90 | RONDE_- 50X3 | 6005-T6 | 0.750 | 0.0 | Membrures 1/3- 00e | Barre |
| 87 | 90 | 91 | RONDE_- 50X3 | 6005-T6 | 0.750 | 0.0 | Membrures 1/3- 00e | Barre |
| 88 | 91 | 92 | RONDE_- 50X3 | 6005-T6 | 0.750 | 0.0 | Membrures 1/3- 00e | Barre |
| 89 | 93 | 90 | RONDE_- 50X3 | 6005-T6 | 0.275 | 0.0 | Membrures 1/3- 00e | Barre |
| 90 | 90 | 94 | RONDE_- 50X3 | 6005-T6 | 0.275 | 0.0 | Membrures 1/3- 00e | Barre |
| 91 | 95 | 91 | RONDE_- 50X3 | 6005-T6 | 0.275 | 0.0 | Membrures 1/3- 00e | Barre |
| 92 | 91 | 96 | RONDE_- 50X3 | 6005-T6 | 0.275 | 0.0 | Membrures 1/3- 00e | Barre |
| 93 | 102 | 103 | RONDE_- 30X3 | 6106-T6 | 0.469 | 0.0 | Treillis 1/300e | Barre |
| 94 | 103 | 104 | RONDE_- 30X3 | 6106-T6 | 0.469 | 0.0 | Treillis 1/300e | Barre |
| 95 | 104 | 105 | RONDE_- 30X3 | 6106-T6 | 0.469 | 0.0 | Treillis 1/300e | Barre |
| 96 | 105 | 106 | RONDE_- 30X3 | 6106-T6 | 0.469 | 0.0 | Treillis 1/300e | Barre |
| 97 | 106 | 107 | RONDE_- 30X3 | 6106-T6 | 0.469 | 0.0 | Treillis 1/300e | Barre |
| 98 | 107 | 108 | RONDE_- 30X3 | 6106-T6 | 0.469 | 0.0 | Treillis 1/300e | Barre |
| 99 | 108 | 109 | RONDE_- 30X3 | 6106-T6 | 0.469 | 0.0 | Treillis 1/300e | Barre |
| 100 | 100 | 110 | RONDE_- 30X3 | 6106-T6 | 0.380 | 0.0 | Treillis 1/300e | Barre |
| 101 | 99 | 111 | RONDE_- 30X3 | 6106-T6 | 0.380 | 0.0 | Treillis 1/300e | Barre |
| 102 | 110 | 111 | RECT_50- X50X4 | 6060-T6 | 0.550 | 0.0 | Barre 1/300e | Barre |
| 103 | 112 | 113 | RECT_50- X50X4 | 6060-T6 | 0.550 | 0.0 | Barre 1/300e | Barre |
| 104 | 98 | 113 | RONDE_- 30X3 | 6106-T6 | 0.380 | 0.0 | Treillis 1/300e | Barre |
| 105 | 97 | 112 | RONDE_- 30X3 | 6106-T6 | 0.380 | 0.0 | Treillis 1/300e | Barre |
| 106 | 110 | 99 | RONDE_- 30X3 | 6106-T6 | 0.669 | 0.0 | Treillis 1/300e | Barre |
| 107 | 112 | 98 | RONDE_- 30X3 | 6106-T6 | 0.669 | 0.0 | Treillis 1/300e | Barre |
| 108 | 114 | 92 | U_60X40- X4 | 6060-T6 | 0.380 | 90.0 | Barre 1/300e | Barre |
| 109 | 115 | 89 | U_60X40- X4 | 6060-T6 | 0.380 | -90.0 | Barre 1/300e | Barre |
| 110 | 116 | 117 | RONDE_- 30X3 | 6106-T6 | 0.469 | 0.0 | Treillis 1/300e | Barre |
| 111 | 117 | 118 | RONDE_- 30X3 | 6106-T6 | 0.469 | 0.0 | Treillis 1/300e | Barre |
| 112 | 118 | 119 | RONDE_- 30X3 | 6106-T6 | 0.469 | 0.0 | Treillis 1/300e | Barre |
| 113 | 119 | 120 | RONDE_- 30X3 | 6106-T6 | 0.469 | 0.0 | Treillis 1/300e | Barre |
| 114 | 120 | 121 | RONDE_- 30X3 | 6106-T6 | 0.469 | 0.0 | Treillis 1/300e | Barre |

| Barre | Noeud 1 | Noeud 2 | Section | Matériau | Longueur [m] | Gamma [Deg] | Type de barre | Élément de construction |
|-------|---------|---------|---------------|----------|--------------|-------------|-------------------|-------------------------|
| 115 | 121 | 122 | RONDE_-30X3 | 6106-T6 | 0.469 | 0.0 | Treillis 1/300e | Barre |
| 116 | 122 | 123 | RONDE_-30X3 | 6106-T6 | 0.469 | 0.0 | Treillis 1/300e | Barre |
| 117 | 123 | 124 | RONDE_-30X3 | 6106-T6 | 0.469 | 0.0 | Treillis 1/300e | Barre |
| 118 | 85 | 125 | RONDE_-50X3 | 6005-T6 | 2.400 | 0.0 | Membrures 1/3-00e | Barre |
| 119 | 86 | 126 | RONDE_-50X3 | 6005-T6 | 2.400 | 0.0 | Membrures 1/3-00e | Barre |
| 120 | 127 | 87 | RONDE_-50X3 | 6005-T6 | 2.400 | 0.0 | Membrures 1/3-00e | Barre |
| 121 | 88 | 128 | RONDE_-50X3 | 6005-T6 | 2.400 | 0.0 | Membrures 1/3-00e | Barre |
| 122 | 137 | 138 | RECT_50-X50X4 | 6060-T6 | 0.550 | 0.0 | Barre 1/300e | Barre |
| 123 | 139 | 140 | RECT_50-X50X4 | 6060-T6 | 0.550 | 0.0 | Barre 1/300e | Barre |
| 124 | 141 | 142 | RONDE_-30X3 | 6106-T6 | 0.469 | 0.0 | Treillis 1/300e | Barre |
| 125 | 129 | 130 | RONDE_-50X3 | 6005-T6 | 0.750 | 0.0 | Membrures 1/3-00e | Barre |
| 126 | 130 | 131 | RONDE_-50X3 | 6005-T6 | 0.750 | 0.0 | Membrures 1/3-00e | Barre |
| 127 | 131 | 132 | RONDE_-50X3 | 6005-T6 | 0.750 | 0.0 | Membrures 1/3-00e | Barre |
| 128 | 133 | 130 | RONDE_-50X3 | 6005-T6 | 0.275 | 0.0 | Membrures 1/3-00e | Barre |
| 129 | 130 | 134 | RONDE_-50X3 | 6005-T6 | 0.275 | 0.0 | Membrures 1/3-00e | Barre |
| 130 | 135 | 131 | RONDE_-50X3 | 6005-T6 | 0.275 | 0.0 | Membrures 1/3-00e | Barre |
| 131 | 131 | 136 | RONDE_-50X3 | 6005-T6 | 0.275 | 0.0 | Membrures 1/3-00e | Barre |
| 132 | 142 | 143 | RONDE_-30X3 | 6106-T6 | 0.469 | 0.0 | Treillis 1/300e | Barre |
| 133 | 143 | 144 | RONDE_-30X3 | 6106-T6 | 0.469 | 0.0 | Treillis 1/300e | Barre |
| 134 | 144 | 145 | RONDE_-30X3 | 6106-T6 | 0.469 | 0.0 | Treillis 1/300e | Barre |
| 135 | 145 | 146 | RONDE_-30X3 | 6106-T6 | 0.469 | 0.0 | Treillis 1/300e | Barre |
| 136 | 146 | 147 | RONDE_-30X3 | 6106-T6 | 0.469 | 0.0 | Treillis 1/300e | Barre |
| 137 | 147 | 148 | RONDE_-30X3 | 6106-T6 | 0.469 | 0.0 | Treillis 1/300e | Barre |
| 138 | 148 | 149 | RONDE_-30X3 | 6106-T6 | 0.469 | 0.0 | Treillis 1/300e | Barre |
| 139 | 140 | 150 | RONDE_-30X3 | 6106-T6 | 0.380 | 0.0 | Treillis 1/300e | Barre |
| 140 | 139 | 151 | RONDE_-30X3 | 6106-T6 | 0.380 | 0.0 | Treillis 1/300e | Barre |
| 141 | 150 | 151 | RECT_50-X50X4 | 6060-T6 | 0.550 | 0.0 | Barre 1/300e | Barre |
| 142 | 152 | 153 | RECT_50-X50X4 | 6060-T6 | 0.550 | 0.0 | Barre 1/300e | Barre |
| 143 | 138 | 153 | RONDE_-30X3 | 6106-T6 | 0.380 | 0.0 | Treillis 1/300e | Barre |

| Barre | Noeud 1 | Noeud 2 | Section | Matériau | Longueur [m] | Gamma [Deg] | Type de barre | Élément de construction |
|-------|---------|---------|---------------|----------|--------------|-------------|-------------------|-------------------------|
| 144 | 137 | 152 | RONDE_-30X3 | 6106-T6 | 0.380 | 0.0 | Treillis 1/300e | Barre |
| 145 | 150 | 139 | RONDE_-30X3 | 6106-T6 | 0.669 | 0.0 | Treillis 1/300e | Barre |
| 146 | 152 | 138 | RONDE_-30X3 | 6106-T6 | 0.669 | 0.0 | Treillis 1/300e | Barre |
| 147 | 154 | 132 | U_60X40-X4 | 6060-T6 | 0.380 | 90.0 | Barre 1/300e | Barre |
| 148 | 155 | 129 | U_60X40-X4 | 6060-T6 | 0.380 | -90.0 | Barre 1/300e | Barre |
| 149 | 156 | 157 | RONDE_-30X3 | 6106-T6 | 0.469 | 0.0 | Treillis 1/300e | Barre |
| 150 | 157 | 158 | RONDE_-30X3 | 6106-T6 | 0.469 | 0.0 | Treillis 1/300e | Barre |
| 151 | 158 | 159 | RONDE_-30X3 | 6106-T6 | 0.469 | 0.0 | Treillis 1/300e | Barre |
| 152 | 159 | 160 | RONDE_-30X3 | 6106-T6 | 0.469 | 0.0 | Treillis 1/300e | Barre |
| 153 | 160 | 161 | RONDE_-30X3 | 6106-T6 | 0.469 | 0.0 | Treillis 1/300e | Barre |
| 154 | 161 | 162 | RONDE_-30X3 | 6106-T6 | 0.469 | 0.0 | Treillis 1/300e | Barre |
| 155 | 162 | 163 | RONDE_-30X3 | 6106-T6 | 0.469 | 0.0 | Treillis 1/300e | Barre |
| 156 | 163 | 164 | RONDE_-30X3 | 6106-T6 | 0.469 | 0.0 | Treillis 1/300e | Barre |
| 157 | 125 | 165 | RONDE_-50X3 | 6005-T6 | 2.400 | 0.0 | Membrures 1/3-00e | Barre |
| 158 | 126 | 166 | RONDE_-50X3 | 6005-T6 | 2.400 | 0.0 | Membrures 1/3-00e | Barre |
| 159 | 167 | 127 | RONDE_-50X3 | 6005-T6 | 2.400 | 0.0 | Membrures 1/3-00e | Barre |
| 160 | 128 | 168 | RONDE_-50X3 | 6005-T6 | 2.400 | 0.0 | Membrures 1/3-00e | Barre |
| 161 | 177 | 178 | RECT_50-X50X4 | 6060-T6 | 0.550 | 0.0 | Barre 1/300e | Barre |
| 162 | 179 | 180 | RECT_50-X50X4 | 6060-T6 | 0.550 | 0.0 | Barre 1/300e | Barre |
| 163 | 181 | 182 | RONDE_-30X3 | 6106-T6 | 0.469 | 0.0 | Treillis 1/300e | Barre |
| 164 | 169 | 170 | RONDE_-50X3 | 6005-T6 | 0.750 | 0.0 | Membrures 1/3-00e | Barre |
| 165 | 170 | 171 | RONDE_-50X3 | 6005-T6 | 0.750 | 0.0 | Membrures 1/3-00e | Barre |
| 166 | 171 | 172 | RONDE_-50X3 | 6005-T6 | 0.750 | 0.0 | Membrures 1/3-00e | Barre |
| 167 | 173 | 170 | RONDE_-50X3 | 6005-T6 | 0.275 | 0.0 | Membrures 1/3-00e | Barre |
| 168 | 170 | 174 | RONDE_-50X3 | 6005-T6 | 0.275 | 0.0 | Membrures 1/3-00e | Barre |
| 169 | 175 | 171 | RONDE_-50X3 | 6005-T6 | 0.275 | 0.0 | Membrures 1/3-00e | Barre |
| 170 | 171 | 176 | RONDE_-50X3 | 6005-T6 | 0.275 | 0.0 | Membrures 1/3-00e | Barre |
| 171 | 182 | 183 | RONDE_-30X3 | 6106-T6 | 0.469 | 0.0 | Treillis 1/300e | Barre |
| 172 | 183 | 184 | RONDE_-30X3 | 6106-T6 | 0.469 | 0.0 | Treillis 1/300e | Barre |

| Barre | Noeud 1 | Noeud 2 | Section | Matériau | Longueur [m] | Gamma [Deg] | Type de barre | Élément de construction |
|-------|---------|---------|-------------------|----------|--------------|-------------|-----------------------|-------------------------|
| 173 | 184 | 185 | RONDE_- 30X3 | 6106-T6 | 0.469 | 0.0 | Treillis 1/300e | Barre |
| 174 | 185 | 186 | RONDE_- 30X3 | 6106-T6 | 0.469 | 0.0 | Treillis 1/300e | Barre |
| 175 | 186 | 187 | RONDE_- 30X3 | 6106-T6 | 0.469 | 0.0 | Treillis 1/300e | Barre |
| 176 | 187 | 188 | RONDE_- 30X3 | 6106-T6 | 0.469 | 0.0 | Treillis 1/300e | Barre |
| 177 | 188 | 189 | RONDE_- 30X3 | 6106-T6 | 0.469 | 0.0 | Treillis 1/300e | Barre |
| 178 | 180 | 190 | RONDE_- 30X3 | 6106-T6 | 0.380 | 0.0 | Treillis 1/300e | Barre |
| 179 | 179 | 191 | RONDE_- 30X3 | 6106-T6 | 0.380 | 0.0 | Treillis 1/300e | Barre |
| 180 | 190 | 191 | RECT_50- X50X4 | 6060-T6 | 0.550 | 0.0 | Barre 1/300e | Barre |
| 181 | 192 | 193 | RECT_50- X50X4 | 6060-T6 | 0.550 | 0.0 | Barre 1/300e | Barre |
| 182 | 178 | 193 | RONDE_- 30X3 | 6106-T6 | 0.380 | 0.0 | Treillis 1/300e | Barre |
| 183 | 177 | 192 | RONDE_- 30X3 | 6106-T6 | 0.380 | 0.0 | Treillis 1/300e | Barre |
| 184 | 190 | 179 | RONDE_- 30X3 | 6106-T6 | 0.669 | 0.0 | Treillis 1/300e | Barre |
| 185 | 192 | 178 | RONDE_- 30X3 | 6106-T6 | 0.669 | 0.0 | Treillis 1/300e | Barre |
| 186 | 194 | 172 | U_60X40- X4 | 6060-T6 | 0.380 | 90.0 | Barre 1/300e | Barre |
| 187 | 195 | 169 | U_60X40- X4 | 6060-T6 | 0.380 | -90.0 | Barre 1/300e | Barre |
| 188 | 196 | 197 | RONDE_- 30X3 | 6106-T6 | 0.469 | 0.0 | Treillis 1/300e | Barre |
| 189 | 197 | 198 | RONDE_- 30X3 | 6106-T6 | 0.469 | 0.0 | Treillis 1/300e | Barre |
| 190 | 198 | 199 | RONDE_- 30X3 | 6106-T6 | 0.469 | 0.0 | Treillis 1/300e | Barre |
| 191 | 199 | 200 | RONDE_- 30X3 | 6106-T6 | 0.469 | 0.0 | Treillis 1/300e | Barre |
| 192 | 200 | 201 | RONDE_- 30X3 | 6106-T6 | 0.469 | 0.0 | Treillis 1/300e | Barre |
| 193 | 201 | 202 | RONDE_- 30X3 | 6106-T6 | 0.469 | 0.0 | Treillis 1/300e | Barre |
| 194 | 202 | 203 | RONDE_- 30X3 | 6106-T6 | 0.469 | 0.0 | Treillis 1/300e | Barre |
| 195 | 203 | 204 | RONDE_- 30X3 | 6106-T6 | 0.469 | 0.0 | Treillis 1/300e | Barre |
| 196 | 206 | 207 | RONDE_- 50X3 | 6005-T6 | 2.400 | 0.0 | Membrures 1/3- 00e | Barre |
| 197 | 208 | 209 | RONDE_- 50X3 | 6005-T6 | 2.400 | 0.0 | Membrures 1/3- 00e | Barre |
| 198 | 210 | 211 | RONDE_- 50X3 | 6005-T6 | 2.400 | 0.0 | Membrures 1/3- 00e | Barre |
| 199 | 212 | 213 | RONDE_- 50X3 | 6005-T6 | 2.400 | 0.0 | Membrures 1/3- 00e | Barre |
| 200 | 222 | 223 | RECT_50- X50X4 | 6060-T6 | 0.550 | 0.0 | Barre 1/300e | Barre |
| 201 | 224 | 225 | RECT_50- X50X4 | 6060-T6 | 0.550 | 0.0 | Barre 1/300e | Barre |

| Barre | Noeud 1 | Noeud 2 | Section | Matériau | Longueur [m] | Gamma [Deg] | Type de barre | Élément de construction |
|-------|---------|---------|-------------------|----------|--------------|-------------|-----------------------|-------------------------|
| 202 | 226 | 227 | RONDE_- 30X3 | 6106-T6 | 0.469 | 0.0 | Treillis 1/300e | Barre |
| 203 | 214 | 215 | RONDE_- 50X3 | 6005-T6 | 0.750 | 0.0 | Membrures 1/3- 00e | Barre |
| 204 | 215 | 216 | RONDE_- 50X3 | 6005-T6 | 0.750 | 0.0 | Membrures 1/3- 00e | Barre |
| 205 | 216 | 217 | RONDE_- 50X3 | 6005-T6 | 0.750 | 0.0 | Membrures 1/3- 00e | Barre |
| 206 | 218 | 215 | RONDE_- 50X3 | 6005-T6 | 0.275 | 0.0 | Membrures 1/3- 00e | Barre |
| 207 | 215 | 219 | RONDE_- 50X3 | 6005-T6 | 0.275 | 0.0 | Membrures 1/3- 00e | Barre |
| 208 | 220 | 216 | RONDE_- 50X3 | 6005-T6 | 0.275 | 0.0 | Membrures 1/3- 00e | Barre |
| 209 | 216 | 221 | RONDE_- 50X3 | 6005-T6 | 0.275 | 0.0 | Membrures 1/3- 00e | Barre |
| 210 | 227 | 228 | RONDE_- 30X3 | 6106-T6 | 0.469 | 0.0 | Treillis 1/300e | Barre |
| 211 | 228 | 229 | RONDE_- 30X3 | 6106-T6 | 0.469 | 0.0 | Treillis 1/300e | Barre |
| 212 | 229 | 230 | RONDE_- 30X3 | 6106-T6 | 0.469 | 0.0 | Treillis 1/300e | Barre |
| 213 | 230 | 231 | RONDE_- 30X3 | 6106-T6 | 0.469 | 0.0 | Treillis 1/300e | Barre |
| 214 | 231 | 232 | RONDE_- 30X3 | 6106-T6 | 0.469 | 0.0 | Treillis 1/300e | Barre |
| 215 | 232 | 233 | RONDE_- 30X3 | 6106-T6 | 0.469 | 0.0 | Treillis 1/300e | Barre |
| 216 | 233 | 234 | RONDE_- 30X3 | 6106-T6 | 0.469 | 0.0 | Treillis 1/300e | Barre |
| 217 | 225 | 235 | RONDE_- 30X3 | 6106-T6 | 0.380 | 0.0 | Treillis 1/300e | Barre |
| 218 | 224 | 236 | RONDE_- 30X3 | 6106-T6 | 0.380 | 0.0 | Treillis 1/300e | Barre |
| 219 | 235 | 236 | RECT_50- X50X4 | 6060-T6 | 0.550 | 0.0 | Barre 1/300e | Barre |
| 220 | 237 | 238 | RECT_50- X50X4 | 6060-T6 | 0.550 | 0.0 | Barre 1/300e | Barre |
| 221 | 223 | 238 | RONDE_- 30X3 | 6106-T6 | 0.380 | 0.0 | Treillis 1/300e | Barre |
| 222 | 222 | 237 | RONDE_- 30X3 | 6106-T6 | 0.380 | 0.0 | Treillis 1/300e | Barre |
| 223 | 235 | 224 | RONDE_- 30X3 | 6106-T6 | 0.669 | 0.0 | Treillis 1/300e | Barre |
| 224 | 237 | 223 | RONDE_- 30X3 | 6106-T6 | 0.669 | 0.0 | Treillis 1/300e | Barre |
| 225 | 239 | 217 | U_60X40- X4 | 6060-T6 | 0.380 | 90.0 | Barre 1/300e | Barre |
| 226 | 240 | 214 | U_60X40- X4 | 6060-T6 | 0.380 | -90.0 | Barre 1/300e | Barre |
| 227 | 241 | 242 | RONDE_- 30X3 | 6106-T6 | 0.469 | 0.0 | Treillis 1/300e | Barre |
| 228 | 242 | 243 | RONDE_- 30X3 | 6106-T6 | 0.469 | 0.0 | Treillis 1/300e | Barre |
| 229 | 243 | 244 | RONDE_- 30X3 | 6106-T6 | 0.469 | 0.0 | Treillis 1/300e | Barre |
| 230 | 244 | 245 | RONDE_- 30X3 | 6106-T6 | 0.469 | 0.0 | Treillis 1/300e | Barre |

| Barre | Noeud 1 | Noeud 2 | Section | Matériau | Longueur [m] | Gamma [Deg] | Type de barre | Élément de construction |
|-------|---------|---------|-------------------|----------|--------------|-------------|-----------------------|-------------------------|
| 231 | 245 | 246 | RONDE_- 30X3 | 6106-T6 | 0.469 | 0.0 | Treillis 1/300e | Barre |
| 232 | 246 | 247 | RONDE_- 30X3 | 6106-T6 | 0.469 | 0.0 | Treillis 1/300e | Barre |
| 233 | 247 | 248 | RONDE_- 30X3 | 6106-T6 | 0.469 | 0.0 | Treillis 1/300e | Barre |
| 234 | 248 | 249 | RONDE_- 30X3 | 6106-T6 | 0.469 | 0.0 | Treillis 1/300e | Barre |
| 235 | 207 | 250 | RONDE_- 50X3 | 6005-T6 | 2.400 | 0.0 | Membrures 1/3- 00e | Barre |
| 236 | 209 | 251 | RONDE_- 50X3 | 6005-T6 | 2.400 | 0.0 | Membrures 1/3- 00e | Barre |
| 237 | 252 | 210 | RONDE_- 50X3 | 6005-T6 | 2.400 | 0.0 | Membrures 1/3- 00e | Barre |
| 238 | 213 | 253 | RONDE_- 50X3 | 6005-T6 | 2.400 | 0.0 | Membrures 1/3- 00e | Barre |
| 239 | 262 | 263 | RECT_50- X50X4 | 6060-T6 | 0.550 | 0.0 | Barre 1/300e | Barre |
| 240 | 264 | 265 | RECT_50- X50X4 | 6060-T6 | 0.550 | 0.0 | Barre 1/300e | Barre |
| 241 | 266 | 267 | RONDE_- 30X3 | 6106-T6 | 0.469 | 0.0 | Treillis 1/300e | Barre |
| 242 | 254 | 255 | RONDE_- 50X3 | 6005-T6 | 0.750 | 0.0 | Membrures 1/3- 00e | Barre |
| 243 | 255 | 256 | RONDE_- 50X3 | 6005-T6 | 0.750 | 0.0 | Membrures 1/3- 00e | Barre |
| 244 | 256 | 257 | RONDE_- 50X3 | 6005-T6 | 0.750 | 0.0 | Membrures 1/3- 00e | Barre |
| 245 | 258 | 255 | RONDE_- 50X3 | 6005-T6 | 0.275 | 0.0 | Membrures 1/3- 00e | Barre |
| 246 | 255 | 259 | RONDE_- 50X3 | 6005-T6 | 0.275 | 0.0 | Membrures 1/3- 00e | Barre |
| 247 | 260 | 256 | RONDE_- 50X3 | 6005-T6 | 0.275 | 0.0 | Membrures 1/3- 00e | Barre |
| 248 | 256 | 261 | RONDE_- 50X3 | 6005-T6 | 0.275 | 0.0 | Membrures 1/3- 00e | Barre |
| 249 | 267 | 268 | RONDE_- 30X3 | 6106-T6 | 0.469 | 0.0 | Treillis 1/300e | Barre |
| 250 | 268 | 269 | RONDE_- 30X3 | 6106-T6 | 0.469 | 0.0 | Treillis 1/300e | Barre |
| 251 | 269 | 270 | RONDE_- 30X3 | 6106-T6 | 0.469 | 0.0 | Treillis 1/300e | Barre |
| 252 | 270 | 271 | RONDE_- 30X3 | 6106-T6 | 0.469 | 0.0 | Treillis 1/300e | Barre |
| 253 | 271 | 272 | RONDE_- 30X3 | 6106-T6 | 0.469 | 0.0 | Treillis 1/300e | Barre |
| 254 | 272 | 273 | RONDE_- 30X3 | 6106-T6 | 0.469 | 0.0 | Treillis 1/300e | Barre |
| 255 | 273 | 274 | RONDE_- 30X3 | 6106-T6 | 0.469 | 0.0 | Treillis 1/300e | Barre |
| 256 | 265 | 275 | RONDE_- 30X3 | 6106-T6 | 0.380 | 0.0 | Treillis 1/300e | Barre |
| 257 | 264 | 276 | RONDE_- 30X3 | 6106-T6 | 0.380 | 0.0 | Treillis 1/300e | Barre |
| 258 | 275 | 276 | RECT_50- X50X4 | 6060-T6 | 0.550 | 0.0 | Barre 1/300e | Barre |
| 259 | 277 | 278 | RECT_50- X50X4 | 6060-T6 | 0.550 | 0.0 | Barre 1/300e | Barre |

| Barre | Noeud 1 | Noeud 2 | Section | Matériau | Longueur [m] | Gamma [Deg] | Type de barre | Élément de construction |
|-------|---------|---------|-------------------|----------|--------------|-------------|-----------------------|-------------------------|
| 260 | 263 | 278 | RONDE_- 30X3 | 6106-T6 | 0.380 | 0.0 | Treillis 1/300e | Barre |
| 261 | 262 | 277 | RONDE_- 30X3 | 6106-T6 | 0.380 | 0.0 | Treillis 1/300e | Barre |
| 262 | 275 | 264 | RONDE_- 30X3 | 6106-T6 | 0.669 | 0.0 | Treillis 1/300e | Barre |
| 263 | 277 | 263 | RONDE_- 30X3 | 6106-T6 | 0.669 | 0.0 | Treillis 1/300e | Barre |
| 264 | 279 | 257 | U_60X40- X4 | 6060-T6 | 0.380 | 90.0 | Barre 1/300e | Barre |
| 265 | 280 | 254 | U_60X40- X4 | 6060-T6 | 0.380 | -90.0 | Barre 1/300e | Barre |
| 266 | 281 | 282 | RONDE_- 30X3 | 6106-T6 | 0.469 | 0.0 | Treillis 1/300e | Barre |
| 267 | 282 | 283 | RONDE_- 30X3 | 6106-T6 | 0.469 | 0.0 | Treillis 1/300e | Barre |
| 268 | 283 | 284 | RONDE_- 30X3 | 6106-T6 | 0.469 | 0.0 | Treillis 1/300e | Barre |
| 269 | 284 | 285 | RONDE_- 30X3 | 6106-T6 | 0.469 | 0.0 | Treillis 1/300e | Barre |
| 270 | 285 | 286 | RONDE_- 30X3 | 6106-T6 | 0.469 | 0.0 | Treillis 1/300e | Barre |
| 271 | 286 | 287 | RONDE_- 30X3 | 6106-T6 | 0.469 | 0.0 | Treillis 1/300e | Barre |
| 272 | 287 | 288 | RONDE_- 30X3 | 6106-T6 | 0.469 | 0.0 | Treillis 1/300e | Barre |
| 273 | 288 | 289 | RONDE_- 30X3 | 6106-T6 | 0.469 | 0.0 | Treillis 1/300e | Barre |
| 274 | 250 | 290 | RONDE_- 50X3 | 6005-T6 | 2.400 | 0.0 | Membrures 1/3- 00e | Barre |
| 275 | 251 | 291 | RONDE_- 50X3 | 6005-T6 | 2.400 | 0.0 | Membrures 1/3- 00e | Barre |
| 276 | 292 | 252 | RONDE_- 50X3 | 6005-T6 | 2.400 | 0.0 | Membrures 1/3- 00e | Barre |
| 277 | 253 | 293 | RONDE_- 50X3 | 6005-T6 | 2.400 | 0.0 | Membrures 1/3- 00e | Barre |
| 278 | 302 | 303 | RECT_50- X50X4 | 6060-T6 | 0.550 | 0.0 | Barre 1/300e | Barre |
| 279 | 304 | 305 | RECT_50- X50X4 | 6060-T6 | 0.550 | 0.0 | Barre 1/300e | Barre |
| 280 | 306 | 307 | RONDE_- 30X3 | 6106-T6 | 0.469 | 0.0 | Treillis 1/300e | Barre |
| 281 | 294 | 295 | RONDE_- 50X3 | 6005-T6 | 0.750 | 0.0 | Membrures 1/3- 00e | Barre |
| 282 | 295 | 296 | RONDE_- 50X3 | 6005-T6 | 0.750 | 0.0 | Membrures 1/3- 00e | Barre |
| 283 | 296 | 297 | RONDE_- 50X3 | 6005-T6 | 0.750 | 0.0 | Membrures 1/3- 00e | Barre |
| 284 | 298 | 295 | RONDE_- 50X3 | 6005-T6 | 0.275 | 0.0 | Membrures 1/3- 00e | Barre |
| 285 | 295 | 299 | RONDE_- 50X3 | 6005-T6 | 0.275 | 0.0 | Membrures 1/3- 00e | Barre |
| 286 | 300 | 296 | RONDE_- 50X3 | 6005-T6 | 0.275 | 0.0 | Membrures 1/3- 00e | Barre |
| 287 | 296 | 301 | RONDE_- 50X3 | 6005-T6 | 0.275 | 0.0 | Membrures 1/3- 00e | Barre |
| 288 | 307 | 308 | RONDE_- 30X3 | 6106-T6 | 0.469 | 0.0 | Treillis 1/300e | Barre |

| Barre | Noeud 1 | Noeud 2 | Section | Matériau | Longueur [m] | Gamma [Deg] | Type de barre | Élément de construction |
|-------|---------|---------|-------------------|----------|--------------|-------------|-----------------------|-------------------------|
| 289 | 308 | 309 | RONDE_- 30X3 | 6106-T6 | 0.469 | 0.0 | Treillis 1/300e | Barre |
| 290 | 309 | 310 | RONDE_- 30X3 | 6106-T6 | 0.469 | 0.0 | Treillis 1/300e | Barre |
| 291 | 310 | 311 | RONDE_- 30X3 | 6106-T6 | 0.469 | 0.0 | Treillis 1/300e | Barre |
| 292 | 311 | 312 | RONDE_- 30X3 | 6106-T6 | 0.469 | 0.0 | Treillis 1/300e | Barre |
| 293 | 312 | 313 | RONDE_- 30X3 | 6106-T6 | 0.469 | 0.0 | Treillis 1/300e | Barre |
| 294 | 313 | 314 | RONDE_- 30X3 | 6106-T6 | 0.469 | 0.0 | Treillis 1/300e | Barre |
| 295 | 305 | 315 | RONDE_- 30X3 | 6106-T6 | 0.380 | 0.0 | Treillis 1/300e | Barre |
| 296 | 304 | 316 | RONDE_- 30X3 | 6106-T6 | 0.380 | 0.0 | Treillis 1/300e | Barre |
| 297 | 315 | 316 | RECT_50- X50X4 | 6060-T6 | 0.550 | 0.0 | Barre 1/300e | Barre |
| 298 | 317 | 318 | RECT_50- X50X4 | 6060-T6 | 0.550 | 0.0 | Barre 1/300e | Barre |
| 299 | 303 | 318 | RONDE_- 30X3 | 6106-T6 | 0.380 | 0.0 | Treillis 1/300e | Barre |
| 300 | 302 | 317 | RONDE_- 30X3 | 6106-T6 | 0.380 | 0.0 | Treillis 1/300e | Barre |
| 301 | 315 | 304 | RONDE_- 30X3 | 6106-T6 | 0.669 | 0.0 | Treillis 1/300e | Barre |
| 302 | 317 | 303 | RONDE_- 30X3 | 6106-T6 | 0.669 | 0.0 | Treillis 1/300e | Barre |
| 303 | 319 | 297 | U_60X40- X4 | 6060-T6 | 0.380 | 90.0 | Barre 1/300e | Barre |
| 304 | 320 | 294 | U_60X40- X4 | 6060-T6 | 0.380 | -90.0 | Barre 1/300e | Barre |
| 305 | 321 | 322 | RONDE_- 30X3 | 6106-T6 | 0.469 | 0.0 | Treillis 1/300e | Barre |
| 306 | 322 | 323 | RONDE_- 30X3 | 6106-T6 | 0.469 | 0.0 | Treillis 1/300e | Barre |
| 307 | 323 | 324 | RONDE_- 30X3 | 6106-T6 | 0.469 | 0.0 | Treillis 1/300e | Barre |
| 308 | 324 | 325 | RONDE_- 30X3 | 6106-T6 | 0.469 | 0.0 | Treillis 1/300e | Barre |
| 309 | 325 | 326 | RONDE_- 30X3 | 6106-T6 | 0.469 | 0.0 | Treillis 1/300e | Barre |
| 310 | 326 | 327 | RONDE_- 30X3 | 6106-T6 | 0.469 | 0.0 | Treillis 1/300e | Barre |
| 311 | 327 | 328 | RONDE_- 30X3 | 6106-T6 | 0.469 | 0.0 | Treillis 1/300e | Barre |
| 312 | 328 | 329 | RONDE_- 30X3 | 6106-T6 | 0.469 | 0.0 | Treillis 1/300e | Barre |
| 352 | 290 | 370 | RONDE_- 50X3 | 6005-T6 | 2.400 | 0.0 | Membrures 1/3- 00e | Barre |
| 353 | 291 | 371 | RONDE_- 50X3 | 6005-T6 | 2.400 | 0.0 | Membrures 1/3- 00e | Barre |
| 354 | 372 | 292 | RONDE_- 50X3 | 6005-T6 | 2.400 | 0.0 | Membrures 1/3- 00e | Barre |
| 355 | 293 | 373 | RONDE_- 50X3 | 6005-T6 | 2.400 | 0.0 | Membrures 1/3- 00e | Barre |
| 356 | 382 | 383 | RECT_50- X50X4 | 6060-T6 | 0.550 | 0.0 | Barre 1/300e | Barre |

| Barre | Noeud 1 | Noeud 2 | Section | Matériau | Longueur [m] | Gamma [Deg] | Type de barre | Élément de construction |
|-------|---------|---------|---------------|----------|--------------|-------------|-------------------|-------------------------|
| 357 | 384 | 385 | RECT_50-X50X4 | 6060-T6 | 0.550 | 0.0 | Barre 1/300e | Barre |
| 358 | 386 | 387 | RONDE_-30X3 | 6106-T6 | 0.469 | 0.0 | Treillis 1/300e | Barre |
| 359 | 374 | 375 | RONDE_-50X3 | 6005-T6 | 0.750 | 0.0 | Membrures 1/3-00e | Barre |
| 360 | 375 | 376 | RONDE_-50X3 | 6005-T6 | 0.750 | 0.0 | Membrures 1/3-00e | Barre |
| 361 | 376 | 377 | RONDE_-50X3 | 6005-T6 | 0.750 | 0.0 | Membrures 1/3-00e | Barre |
| 362 | 378 | 375 | RONDE_-50X3 | 6005-T6 | 0.275 | 0.0 | Membrures 1/3-00e | Barre |
| 363 | 375 | 379 | RONDE_-50X3 | 6005-T6 | 0.275 | 0.0 | Membrures 1/3-00e | Barre |
| 364 | 380 | 376 | RONDE_-50X3 | 6005-T6 | 0.275 | 0.0 | Membrures 1/3-00e | Barre |
| 365 | 376 | 381 | RONDE_-50X3 | 6005-T6 | 0.275 | 0.0 | Membrures 1/3-00e | Barre |
| 366 | 387 | 388 | RONDE_-30X3 | 6106-T6 | 0.469 | 0.0 | Treillis 1/300e | Barre |
| 367 | 388 | 389 | RONDE_-30X3 | 6106-T6 | 0.469 | 0.0 | Treillis 1/300e | Barre |
| 368 | 389 | 390 | RONDE_-30X3 | 6106-T6 | 0.469 | 0.0 | Treillis 1/300e | Barre |
| 369 | 390 | 391 | RONDE_-30X3 | 6106-T6 | 0.469 | 0.0 | Treillis 1/300e | Barre |
| 370 | 391 | 392 | RONDE_-30X3 | 6106-T6 | 0.469 | 0.0 | Treillis 1/300e | Barre |
| 371 | 392 | 393 | RONDE_-30X3 | 6106-T6 | 0.469 | 0.0 | Treillis 1/300e | Barre |
| 372 | 393 | 394 | RONDE_-30X3 | 6106-T6 | 0.469 | 0.0 | Treillis 1/300e | Barre |
| 373 | 385 | 395 | RONDE_-30X3 | 6106-T6 | 0.380 | 0.0 | Treillis 1/300e | Barre |
| 374 | 384 | 396 | RONDE_-30X3 | 6106-T6 | 0.380 | 0.0 | Treillis 1/300e | Barre |
| 375 | 395 | 396 | RECT_50-X50X4 | 6060-T6 | 0.550 | 0.0 | Barre 1/300e | Barre |
| 376 | 397 | 398 | RECT_50-X50X4 | 6060-T6 | 0.550 | 0.0 | Barre 1/300e | Barre |
| 377 | 383 | 398 | RONDE_-30X3 | 6106-T6 | 0.380 | 0.0 | Treillis 1/300e | Barre |
| 378 | 382 | 397 | RONDE_-30X3 | 6106-T6 | 0.380 | 0.0 | Treillis 1/300e | Barre |
| 379 | 395 | 384 | RONDE_-30X3 | 6106-T6 | 0.669 | 0.0 | Treillis 1/300e | Barre |
| 380 | 397 | 383 | RONDE_-30X3 | 6106-T6 | 0.669 | 0.0 | Treillis 1/300e | Barre |
| 381 | 399 | 377 | U_60X40-X4 | 6060-T6 | 0.380 | 90.0 | Barre 1/300e | Barre |
| 382 | 400 | 374 | U_60X40-X4 | 6060-T6 | 0.380 | -90.0 | Barre 1/300e | Barre |
| 383 | 401 | 402 | RONDE_-30X3 | 6106-T6 | 0.469 | 0.0 | Treillis 1/300e | Barre |
| 384 | 402 | 403 | RONDE_-30X3 | 6106-T6 | 0.469 | 0.0 | Treillis 1/300e | Barre |
| 385 | 403 | 404 | RONDE_-30X3 | 6106-T6 | 0.469 | 0.0 | Treillis 1/300e | Barre |

| Barre | Noeud 1 | Noeud 2 | Section | Matériau | Longueur [m] | Gamma [Deg] | Type de barre | Élément de construction |
|-------|---------|---------|-------------------|----------|--------------|-------------|-----------------------|-------------------------|
| 386 | 404 | 405 | RONDE_- 30X3 | 6106-T6 | 0.469 | 0.0 | Treillis 1/300e | Barre |
| 387 | 405 | 406 | RONDE_- 30X3 | 6106-T6 | 0.469 | 0.0 | Treillis 1/300e | Barre |
| 388 | 406 | 407 | RONDE_- 30X3 | 6106-T6 | 0.469 | 0.0 | Treillis 1/300e | Barre |
| 389 | 407 | 408 | RONDE_- 30X3 | 6106-T6 | 0.469 | 0.0 | Treillis 1/300e | Barre |
| 390 | 408 | 409 | RONDE_- 30X3 | 6106-T6 | 0.469 | 0.0 | Treillis 1/300e | Barre |
| 391 | 410 | 411 | RONDE_- 50X3 | 6005-T6 | 2.400 | 0.0 | Membrures 1/3- 00e | Barre |
| 392 | 412 | 413 | RONDE_- 50X3 | 6005-T6 | 2.400 | 0.0 | Membrures 1/3- 00e | Barre |
| 393 | 414 | 415 | RONDE_- 50X3 | 6005-T6 | 2.400 | 0.0 | Membrures 1/3- 00e | Barre |
| 394 | 416 | 417 | RONDE_- 50X3 | 6005-T6 | 2.400 | 0.0 | Membrures 1/3- 00e | Barre |
| 395 | 426 | 427 | RECT_50- X50X4 | 6060-T6 | 0.550 | 0.0 | Barre 1/300e | Barre |
| 396 | 428 | 429 | RECT_50- X50X4 | 6060-T6 | 0.550 | 0.0 | Barre 1/300e | Barre |
| 397 | 430 | 431 | RONDE_- 30X3 | 6106-T6 | 0.469 | 0.0 | Treillis 1/300e | Barre |
| 398 | 418 | 419 | RONDE_- 50X3 | 6005-T6 | 0.750 | 0.0 | Membrures 1/3- 00e | Barre |
| 399 | 419 | 420 | RONDE_- 50X3 | 6005-T6 | 0.750 | 0.0 | Membrures 1/3- 00e | Barre |
| 400 | 420 | 421 | RONDE_- 50X3 | 6005-T6 | 0.750 | 0.0 | Membrures 1/3- 00e | Barre |
| 401 | 422 | 419 | RONDE_- 50X3 | 6005-T6 | 0.275 | 0.0 | Membrures 1/3- 00e | Barre |
| 402 | 419 | 423 | RONDE_- 50X3 | 6005-T6 | 0.275 | 0.0 | Membrures 1/3- 00e | Barre |
| 403 | 424 | 420 | RONDE_- 50X3 | 6005-T6 | 0.275 | 0.0 | Membrures 1/3- 00e | Barre |
| 404 | 420 | 425 | RONDE_- 50X3 | 6005-T6 | 0.275 | 0.0 | Membrures 1/3- 00e | Barre |
| 405 | 431 | 432 | RONDE_- 30X3 | 6106-T6 | 0.469 | 0.0 | Treillis 1/300e | Barre |
| 406 | 432 | 433 | RONDE_- 30X3 | 6106-T6 | 0.469 | 0.0 | Treillis 1/300e | Barre |
| 407 | 433 | 434 | RONDE_- 30X3 | 6106-T6 | 0.469 | 0.0 | Treillis 1/300e | Barre |
| 408 | 434 | 435 | RONDE_- 30X3 | 6106-T6 | 0.469 | 0.0 | Treillis 1/300e | Barre |
| 409 | 435 | 436 | RONDE_- 30X3 | 6106-T6 | 0.469 | 0.0 | Treillis 1/300e | Barre |
| 410 | 436 | 437 | RONDE_- 30X3 | 6106-T6 | 0.469 | 0.0 | Treillis 1/300e | Barre |
| 411 | 437 | 438 | RONDE_- 30X3 | 6106-T6 | 0.469 | 0.0 | Treillis 1/300e | Barre |
| 412 | 429 | 439 | RONDE_- 30X3 | 6106-T6 | 0.380 | 0.0 | Treillis 1/300e | Barre |
| 413 | 428 | 440 | RONDE_- 30X3 | 6106-T6 | 0.380 | 0.0 | Treillis 1/300e | Barre |
| 414 | 439 | 440 | RECT_50- X50X4 | 6060-T6 | 0.550 | 0.0 | Barre 1/300e | Barre |

| Barre | Noeud 1 | Noeud 2 | Section | Matériau | Longueur [m] | Gamma [Deg] | Type de barre | Élément de construction |
|-------|---------|---------|-------------------|----------|--------------|-------------|-----------------------|-------------------------|
| 415 | 441 | 442 | RECT_50- X50X4 | 6060-T6 | 0.550 | 0.0 | Barre 1/300e | Barre |
| 416 | 427 | 442 | RONDE_- 30X3 | 6106-T6 | 0.380 | 0.0 | Treillis 1/300e | Barre |
| 417 | 426 | 441 | RONDE_- 30X3 | 6106-T6 | 0.380 | 0.0 | Treillis 1/300e | Barre |
| 418 | 439 | 428 | RONDE_- 30X3 | 6106-T6 | 0.669 | 0.0 | Treillis 1/300e | Barre |
| 419 | 441 | 427 | RONDE_- 30X3 | 6106-T6 | 0.669 | 0.0 | Treillis 1/300e | Barre |
| 420 | 443 | 421 | U_60X40- X4 | 6060-T6 | 0.380 | 90.0 | Barre 1/300e | Barre |
| 421 | 444 | 418 | U_60X40- X4 | 6060-T6 | 0.380 | -90.0 | Barre 1/300e | Barre |
| 422 | 445 | 446 | RONDE_- 30X3 | 6106-T6 | 0.469 | 0.0 | Treillis 1/300e | Barre |
| 423 | 446 | 447 | RONDE_- 30X3 | 6106-T6 | 0.469 | 0.0 | Treillis 1/300e | Barre |
| 424 | 447 | 448 | RONDE_- 30X3 | 6106-T6 | 0.469 | 0.0 | Treillis 1/300e | Barre |
| 425 | 448 | 449 | RONDE_- 30X3 | 6106-T6 | 0.469 | 0.0 | Treillis 1/300e | Barre |
| 426 | 449 | 450 | RONDE_- 30X3 | 6106-T6 | 0.469 | 0.0 | Treillis 1/300e | Barre |
| 427 | 450 | 451 | RONDE_- 30X3 | 6106-T6 | 0.469 | 0.0 | Treillis 1/300e | Barre |
| 428 | 451 | 452 | RONDE_- 30X3 | 6106-T6 | 0.469 | 0.0 | Treillis 1/300e | Barre |
| 429 | 452 | 453 | RONDE_- 30X3 | 6106-T6 | 0.469 | 0.0 | Treillis 1/300e | Barre |
| 430 | 411 | 454 | RONDE_- 50X3 | 6005-T6 | 2.400 | 0.0 | Membrures 1/3- 00e | Barre |
| 431 | 413 | 455 | RONDE_- 50X3 | 6005-T6 | 2.400 | 0.0 | Membrures 1/3- 00e | Barre |
| 432 | 456 | 414 | RONDE_- 50X3 | 6005-T6 | 2.400 | 0.0 | Membrures 1/3- 00e | Barre |
| 433 | 417 | 457 | RONDE_- 50X3 | 6005-T6 | 2.400 | 0.0 | Membrures 1/3- 00e | Barre |
| 434 | 466 | 467 | RECT_50- X50X4 | 6060-T6 | 0.550 | 0.0 | Barre 1/300e | Barre |
| 435 | 468 | 469 | RECT_50- X50X4 | 6060-T6 | 0.550 | 0.0 | Barre 1/300e | Barre |
| 436 | 470 | 471 | RONDE_- 30X3 | 6106-T6 | 0.469 | 0.0 | Treillis 1/300e | Barre |
| 437 | 458 | 459 | RONDE_- 50X3 | 6005-T6 | 0.750 | 0.0 | Membrures 1/3- 00e | Barre |
| 438 | 459 | 460 | RONDE_- 50X3 | 6005-T6 | 0.750 | 0.0 | Membrures 1/3- 00e | Barre |
| 439 | 460 | 461 | RONDE_- 50X3 | 6005-T6 | 0.750 | 0.0 | Membrures 1/3- 00e | Barre |
| 440 | 462 | 459 | RONDE_- 50X3 | 6005-T6 | 0.275 | 0.0 | Membrures 1/3- 00e | Barre |
| 441 | 459 | 463 | RONDE_- 50X3 | 6005-T6 | 0.275 | 0.0 | Membrures 1/3- 00e | Barre |
| 442 | 464 | 460 | RONDE_- 50X3 | 6005-T6 | 0.275 | 0.0 | Membrures 1/3- 00e | Barre |
| 443 | 460 | 465 | RONDE_- 50X3 | 6005-T6 | 0.275 | 0.0 | Membrures 1/3- 00e | Barre |

| Barre | Noeud 1 | Noeud 2 | Section | Matériau | Longueur [m] | Gamma [Deg] | Type de barre | Élément de construction |
|-------|---------|---------|-------------------|----------|--------------|-------------|-----------------------|-------------------------|
| 444 | 471 | 472 | RONDE_- 30X3 | 6106-T6 | 0.469 | 0.0 | Treillis 1/300e | Barre |
| 445 | 472 | 473 | RONDE_- 30X3 | 6106-T6 | 0.469 | 0.0 | Treillis 1/300e | Barre |
| 446 | 473 | 474 | RONDE_- 30X3 | 6106-T6 | 0.469 | 0.0 | Treillis 1/300e | Barre |
| 447 | 474 | 475 | RONDE_- 30X3 | 6106-T6 | 0.469 | 0.0 | Treillis 1/300e | Barre |
| 448 | 475 | 476 | RONDE_- 30X3 | 6106-T6 | 0.469 | 0.0 | Treillis 1/300e | Barre |
| 449 | 476 | 477 | RONDE_- 30X3 | 6106-T6 | 0.469 | 0.0 | Treillis 1/300e | Barre |
| 450 | 477 | 478 | RONDE_- 30X3 | 6106-T6 | 0.469 | 0.0 | Treillis 1/300e | Barre |
| 451 | 469 | 479 | RONDE_- 30X3 | 6106-T6 | 0.380 | 0.0 | Treillis 1/300e | Barre |
| 452 | 468 | 480 | RONDE_- 30X3 | 6106-T6 | 0.380 | 0.0 | Treillis 1/300e | Barre |
| 453 | 479 | 480 | RECT_50- X50X4 | 6060-T6 | 0.550 | 0.0 | Barre 1/300e | Barre |
| 454 | 481 | 482 | RECT_50- X50X4 | 6060-T6 | 0.550 | 0.0 | Barre 1/300e | Barre |
| 455 | 467 | 482 | RONDE_- 30X3 | 6106-T6 | 0.380 | 0.0 | Treillis 1/300e | Barre |
| 456 | 466 | 481 | RONDE_- 30X3 | 6106-T6 | 0.380 | 0.0 | Treillis 1/300e | Barre |
| 457 | 479 | 468 | RONDE_- 30X3 | 6106-T6 | 0.669 | 0.0 | Treillis 1/300e | Barre |
| 458 | 481 | 467 | RONDE_- 30X3 | 6106-T6 | 0.669 | 0.0 | Treillis 1/300e | Barre |
| 459 | 483 | 461 | U_60X40- X4 | 6060-T6 | 0.380 | 90.0 | Barre 1/300e | Barre |
| 460 | 484 | 458 | U_60X40- X4 | 6060-T6 | 0.380 | -90.0 | Barre 1/300e | Barre |
| 461 | 485 | 486 | RONDE_- 30X3 | 6106-T6 | 0.469 | 0.0 | Treillis 1/300e | Barre |
| 462 | 486 | 487 | RONDE_- 30X3 | 6106-T6 | 0.469 | 0.0 | Treillis 1/300e | Barre |
| 463 | 487 | 488 | RONDE_- 30X3 | 6106-T6 | 0.469 | 0.0 | Treillis 1/300e | Barre |
| 464 | 488 | 489 | RONDE_- 30X3 | 6106-T6 | 0.469 | 0.0 | Treillis 1/300e | Barre |
| 465 | 489 | 490 | RONDE_- 30X3 | 6106-T6 | 0.469 | 0.0 | Treillis 1/300e | Barre |
| 466 | 490 | 491 | RONDE_- 30X3 | 6106-T6 | 0.469 | 0.0 | Treillis 1/300e | Barre |
| 467 | 491 | 492 | RONDE_- 30X3 | 6106-T6 | 0.469 | 0.0 | Treillis 1/300e | Barre |
| 468 | 492 | 493 | RONDE_- 30X3 | 6106-T6 | 0.469 | 0.0 | Treillis 1/300e | Barre |
| 547 | 454 | 574 | RONDE_- 50X3 | 6005-T6 | 2.400 | 0.0 | Membrures 1/3- 00e | Barre |
| 548 | 455 | 575 | RONDE_- 50X3 | 6005-T6 | 2.400 | 0.0 | Membrures 1/3- 00e | Barre |
| 549 | 576 | 456 | RONDE_- 50X3 | 6005-T6 | 2.400 | 0.0 | Membrures 1/3- 00e | Barre |
| 550 | 457 | 577 | RONDE_- 50X3 | 6005-T6 | 2.400 | 0.0 | Membrures 1/3- 00e | Barre |

| Barre | Noeud 1 | Noeud 2 | Section | Matériau | Longueur [m] | Gamma [Deg] | Type de barre | Élément de construction |
|-------|---------|---------|---------------|----------|--------------|-------------|-------------------|-------------------------|
| 551 | 586 | 587 | RECT_50-X50X4 | 6060-T6 | 0.550 | 0.0 | Barre 1/300e | Barre |
| 552 | 588 | 589 | RECT_50-X50X4 | 6060-T6 | 0.550 | 0.0 | Barre 1/300e | Barre |
| 553 | 590 | 591 | RONDE_-30X3 | 6106-T6 | 0.469 | 0.0 | Treillis 1/300e | Barre |
| 554 | 578 | 579 | RONDE_-50X3 | 6005-T6 | 0.750 | 0.0 | Membrures 1/3-00e | Barre |
| 555 | 579 | 580 | RONDE_-50X3 | 6005-T6 | 0.750 | 0.0 | Membrures 1/3-00e | Barre |
| 556 | 580 | 581 | RONDE_-50X3 | 6005-T6 | 0.750 | 0.0 | Membrures 1/3-00e | Barre |
| 557 | 582 | 579 | RONDE_-50X3 | 6005-T6 | 0.275 | 0.0 | Membrures 1/3-00e | Barre |
| 558 | 579 | 583 | RONDE_-50X3 | 6005-T6 | 0.275 | 0.0 | Membrures 1/3-00e | Barre |
| 559 | 584 | 580 | RONDE_-50X3 | 6005-T6 | 0.275 | 0.0 | Membrures 1/3-00e | Barre |
| 560 | 580 | 585 | RONDE_-50X3 | 6005-T6 | 0.275 | 0.0 | Membrures 1/3-00e | Barre |
| 561 | 591 | 592 | RONDE_-30X3 | 6106-T6 | 0.469 | 0.0 | Treillis 1/300e | Barre |
| 562 | 592 | 593 | RONDE_-30X3 | 6106-T6 | 0.469 | 0.0 | Treillis 1/300e | Barre |
| 563 | 593 | 594 | RONDE_-30X3 | 6106-T6 | 0.469 | 0.0 | Treillis 1/300e | Barre |
| 564 | 594 | 595 | RONDE_-30X3 | 6106-T6 | 0.469 | 0.0 | Treillis 1/300e | Barre |
| 565 | 595 | 596 | RONDE_-30X3 | 6106-T6 | 0.469 | 0.0 | Treillis 1/300e | Barre |
| 566 | 596 | 597 | RONDE_-30X3 | 6106-T6 | 0.469 | 0.0 | Treillis 1/300e | Barre |
| 567 | 597 | 598 | RONDE_-30X3 | 6106-T6 | 0.469 | 0.0 | Treillis 1/300e | Barre |
| 568 | 589 | 599 | RONDE_-30X3 | 6106-T6 | 0.380 | 0.0 | Treillis 1/300e | Barre |
| 569 | 588 | 600 | RONDE_-30X3 | 6106-T6 | 0.380 | 0.0 | Treillis 1/300e | Barre |
| 570 | 599 | 600 | RECT_50-X50X4 | 6060-T6 | 0.550 | 0.0 | Barre 1/300e | Barre |
| 571 | 601 | 602 | RECT_50-X50X4 | 6060-T6 | 0.550 | 0.0 | Barre 1/300e | Barre |
| 572 | 587 | 602 | RONDE_-30X3 | 6106-T6 | 0.380 | 0.0 | Treillis 1/300e | Barre |
| 573 | 586 | 601 | RONDE_-30X3 | 6106-T6 | 0.380 | 0.0 | Treillis 1/300e | Barre |
| 574 | 599 | 588 | RONDE_-30X3 | 6106-T6 | 0.669 | 0.0 | Treillis 1/300e | Barre |
| 575 | 601 | 587 | RONDE_-30X3 | 6106-T6 | 0.669 | 0.0 | Treillis 1/300e | Barre |
| 576 | 603 | 581 | U_60X40-X4 | 6060-T6 | 0.380 | 90.0 | Barre 1/300e | Barre |
| 577 | 604 | 578 | U_60X40-X4 | 6060-T6 | 0.380 | -90.0 | Barre 1/300e | Barre |
| 578 | 605 | 606 | RONDE_-30X3 | 6106-T6 | 0.469 | 0.0 | Treillis 1/300e | Barre |
| 579 | 606 | 607 | RONDE_-30X3 | 6106-T6 | 0.469 | 0.0 | Treillis 1/300e | Barre |

| Barre | Noeud 1 | Noeud 2 | Section | Matériau | Longueur [m] | Gamma [Deg] | Type de barre | Élément de construction |
|-------|---------|---------|-------------------|----------|--------------|-------------|-----------------------|-------------------------|
| 580 | 607 | 608 | RONDE_- 30X3 | 6106-T6 | 0.469 | 0.0 | Treillis 1/300e | Barre |
| 581 | 608 | 609 | RONDE_- 30X3 | 6106-T6 | 0.469 | 0.0 | Treillis 1/300e | Barre |
| 582 | 609 | 610 | RONDE_- 30X3 | 6106-T6 | 0.469 | 0.0 | Treillis 1/300e | Barre |
| 583 | 610 | 611 | RONDE_- 30X3 | 6106-T6 | 0.469 | 0.0 | Treillis 1/300e | Barre |
| 584 | 611 | 612 | RONDE_- 30X3 | 6106-T6 | 0.469 | 0.0 | Treillis 1/300e | Barre |
| 585 | 612 | 613 | RONDE_- 30X3 | 6106-T6 | 0.469 | 0.0 | Treillis 1/300e | Barre |
| 586 | 614 | 615 | RONDE_- 50X3 | 6005-T6 | 2.400 | 0.0 | Membrures 1/3- 00e | Barre |
| 587 | 616 | 617 | RONDE_- 50X3 | 6005-T6 | 2.400 | 0.0 | Membrures 1/3- 00e | Barre |
| 588 | 618 | 619 | RONDE_- 50X3 | 6005-T6 | 2.400 | 0.0 | Membrures 1/3- 00e | Barre |
| 589 | 620 | 621 | RONDE_- 50X3 | 6005-T6 | 2.400 | 0.0 | Membrures 1/3- 00e | Barre |
| 590 | 630 | 631 | RECT_50- X50X4 | 6060-T6 | 0.550 | 0.0 | Barre 1/300e | Barre |
| 591 | 632 | 633 | RECT_50- X50X4 | 6060-T6 | 0.550 | 0.0 | Barre 1/300e | Barre |
| 592 | 634 | 635 | RONDE_- 30X3 | 6106-T6 | 0.469 | 0.0 | Treillis 1/300e | Barre |
| 593 | 622 | 623 | RONDE_- 50X3 | 6005-T6 | 0.750 | 0.0 | Membrures 1/3- 00e | Barre |
| 594 | 623 | 624 | RONDE_- 50X3 | 6005-T6 | 0.750 | 0.0 | Membrures 1/3- 00e | Barre |
| 595 | 624 | 625 | RONDE_- 50X3 | 6005-T6 | 0.750 | 0.0 | Membrures 1/3- 00e | Barre |
| 596 | 626 | 623 | RONDE_- 50X3 | 6005-T6 | 0.275 | 0.0 | Membrures 1/3- 00e | Barre |
| 597 | 623 | 627 | RONDE_- 50X3 | 6005-T6 | 0.275 | 0.0 | Membrures 1/3- 00e | Barre |
| 598 | 628 | 624 | RONDE_- 50X3 | 6005-T6 | 0.275 | 0.0 | Membrures 1/3- 00e | Barre |
| 599 | 624 | 629 | RONDE_- 50X3 | 6005-T6 | 0.275 | 0.0 | Membrures 1/3- 00e | Barre |
| 600 | 635 | 636 | RONDE_- 30X3 | 6106-T6 | 0.469 | 0.0 | Treillis 1/300e | Barre |
| 601 | 636 | 637 | RONDE_- 30X3 | 6106-T6 | 0.469 | 0.0 | Treillis 1/300e | Barre |
| 602 | 637 | 638 | RONDE_- 30X3 | 6106-T6 | 0.469 | 0.0 | Treillis 1/300e | Barre |
| 603 | 638 | 639 | RONDE_- 30X3 | 6106-T6 | 0.469 | 0.0 | Treillis 1/300e | Barre |
| 604 | 639 | 640 | RONDE_- 30X3 | 6106-T6 | 0.469 | 0.0 | Treillis 1/300e | Barre |
| 605 | 640 | 641 | RONDE_- 30X3 | 6106-T6 | 0.469 | 0.0 | Treillis 1/300e | Barre |
| 606 | 641 | 642 | RONDE_- 30X3 | 6106-T6 | 0.469 | 0.0 | Treillis 1/300e | Barre |
| 607 | 633 | 643 | RONDE_- 30X3 | 6106-T6 | 0.380 | 0.0 | Treillis 1/300e | Barre |
| 608 | 632 | 644 | RONDE_- 30X3 | 6106-T6 | 0.380 | 0.0 | Treillis 1/300e | Barre |

| Barre | Noeud 1 | Noeud 2 | Section | Matériau | Longueur [m] | Gamma [Deg] | Type de barre | Élément de construction |
|-------|---------|---------|---------------|----------|--------------|-------------|-------------------|-------------------------|
| 609 | 643 | 644 | RECT_50-X50X4 | 6060-T6 | 0.550 | 0.0 | Barre 1/300e | Barre |
| 610 | 645 | 646 | RECT_50-X50X4 | 6060-T6 | 0.550 | 0.0 | Barre 1/300e | Barre |
| 611 | 631 | 646 | RONDE_-30X3 | 6106-T6 | 0.380 | 0.0 | Treillis 1/300e | Barre |
| 612 | 630 | 645 | RONDE_-30X3 | 6106-T6 | 0.380 | 0.0 | Treillis 1/300e | Barre |
| 613 | 643 | 632 | RONDE_-30X3 | 6106-T6 | 0.669 | 0.0 | Treillis 1/300e | Barre |
| 614 | 645 | 631 | RONDE_-30X3 | 6106-T6 | 0.669 | 0.0 | Treillis 1/300e | Barre |
| 615 | 647 | 625 | U_60X40-X4 | 6060-T6 | 0.380 | 90.0 | Barre 1/300e | Barre |
| 616 | 648 | 622 | U_60X40-X4 | 6060-T6 | 0.380 | -90.0 | Barre 1/300e | Barre |
| 617 | 649 | 650 | RONDE_-30X3 | 6106-T6 | 0.469 | 0.0 | Treillis 1/300e | Barre |
| 618 | 650 | 651 | RONDE_-30X3 | 6106-T6 | 0.469 | 0.0 | Treillis 1/300e | Barre |
| 619 | 651 | 652 | RONDE_-30X3 | 6106-T6 | 0.469 | 0.0 | Treillis 1/300e | Barre |
| 620 | 652 | 653 | RONDE_-30X3 | 6106-T6 | 0.469 | 0.0 | Treillis 1/300e | Barre |
| 621 | 653 | 654 | RONDE_-30X3 | 6106-T6 | 0.469 | 0.0 | Treillis 1/300e | Barre |
| 622 | 654 | 655 | RONDE_-30X3 | 6106-T6 | 0.469 | 0.0 | Treillis 1/300e | Barre |
| 623 | 655 | 656 | RONDE_-30X3 | 6106-T6 | 0.469 | 0.0 | Treillis 1/300e | Barre |
| 624 | 656 | 657 | RONDE_-30X3 | 6106-T6 | 0.469 | 0.0 | Treillis 1/300e | Barre |
| 742 | 615 | 778 | RONDE_-50X3 | 6005-T6 | 2.400 | 0.0 | Membrures 1/3-00e | Barre |
| 743 | 617 | 779 | RONDE_-50X3 | 6005-T6 | 2.400 | 0.0 | Membrures 1/3-00e | Barre |
| 744 | 780 | 618 | RONDE_-50X3 | 6005-T6 | 2.400 | 0.0 | Membrures 1/3-00e | Barre |
| 745 | 621 | 781 | RONDE_-50X3 | 6005-T6 | 2.400 | 0.0 | Membrures 1/3-00e | Barre |
| 746 | 790 | 791 | RECT_50-X50X4 | 6060-T6 | 0.550 | 0.0 | Barre 1/300e | Barre |
| 747 | 792 | 793 | RECT_50-X50X4 | 6060-T6 | 0.550 | 0.0 | Barre 1/300e | Barre |
| 748 | 794 | 795 | RONDE_-30X3 | 6106-T6 | 0.469 | 0.0 | Treillis 1/300e | Barre |
| 749 | 782 | 783 | RONDE_-50X3 | 6005-T6 | 0.750 | 0.0 | Membrures 1/3-00e | Barre |
| 750 | 783 | 784 | RONDE_-50X3 | 6005-T6 | 0.750 | 0.0 | Membrures 1/3-00e | Barre |
| 751 | 784 | 785 | RONDE_-50X3 | 6005-T6 | 0.750 | 0.0 | Membrures 1/3-00e | Barre |
| 752 | 786 | 783 | RONDE_-50X3 | 6005-T6 | 0.275 | 0.0 | Membrures 1/3-00e | Barre |
| 753 | 783 | 787 | RONDE_-50X3 | 6005-T6 | 0.275 | 0.0 | Membrures 1/3-00e | Barre |
| 754 | 788 | 784 | RONDE_-50X3 | 6005-T6 | 0.275 | 0.0 | Membrures 1/3-00e | Barre |

| Barre | Noeud 1 | Noeud 2 | Section | Matériau | Longueur [m] | Gamma [Deg] | Type de barre | Élément de construction |
|-------|---------|---------|-------------------|----------|--------------|-------------|-----------------------|-------------------------|
| 755 | 784 | 789 | RONDE_- 50X3 | 6005-T6 | 0.275 | 0.0 | Membrures 1/3- 00e | Barre |
| 756 | 795 | 796 | RONDE_- 30X3 | 6106-T6 | 0.469 | 0.0 | Treillis 1/300e | Barre |
| 757 | 796 | 797 | RONDE_- 30X3 | 6106-T6 | 0.469 | 0.0 | Treillis 1/300e | Barre |
| 758 | 797 | 798 | RONDE_- 30X3 | 6106-T6 | 0.469 | 0.0 | Treillis 1/300e | Barre |
| 759 | 798 | 799 | RONDE_- 30X3 | 6106-T6 | 0.469 | 0.0 | Treillis 1/300e | Barre |
| 760 | 799 | 800 | RONDE_- 30X3 | 6106-T6 | 0.469 | 0.0 | Treillis 1/300e | Barre |
| 761 | 800 | 801 | RONDE_- 30X3 | 6106-T6 | 0.469 | 0.0 | Treillis 1/300e | Barre |
| 762 | 801 | 802 | RONDE_- 30X3 | 6106-T6 | 0.469 | 0.0 | Treillis 1/300e | Barre |
| 763 | 793 | 803 | RONDE_- 30X3 | 6106-T6 | 0.380 | 0.0 | Treillis 1/300e | Barre |
| 764 | 792 | 804 | RONDE_- 30X3 | 6106-T6 | 0.380 | 0.0 | Treillis 1/300e | Barre |
| 765 | 803 | 804 | RECT_50- X50X4 | 6060-T6 | 0.550 | 0.0 | Barre 1/300e | Barre |
| 766 | 805 | 806 | RECT_50- X50X4 | 6060-T6 | 0.550 | 0.0 | Barre 1/300e | Barre |
| 767 | 791 | 806 | RONDE_- 30X3 | 6106-T6 | 0.380 | 0.0 | Treillis 1/300e | Barre |
| 768 | 790 | 805 | RONDE_- 30X3 | 6106-T6 | 0.380 | 0.0 | Treillis 1/300e | Barre |
| 769 | 803 | 792 | RONDE_- 30X3 | 6106-T6 | 0.669 | 0.0 | Treillis 1/300e | Barre |
| 770 | 805 | 791 | RONDE_- 30X3 | 6106-T6 | 0.669 | 0.0 | Treillis 1/300e | Barre |
| 771 | 807 | 785 | U_60X40- X4 | 6060-T6 | 0.380 | 90.0 | Barre 1/300e | Barre |
| 772 | 808 | 782 | U_60X40- X4 | 6060-T6 | 0.380 | -90.0 | Barre 1/300e | Barre |
| 773 | 809 | 810 | RONDE_- 30X3 | 6106-T6 | 0.469 | 0.0 | Treillis 1/300e | Barre |
| 774 | 810 | 811 | RONDE_- 30X3 | 6106-T6 | 0.469 | 0.0 | Treillis 1/300e | Barre |
| 775 | 811 | 812 | RONDE_- 30X3 | 6106-T6 | 0.469 | 0.0 | Treillis 1/300e | Barre |
| 776 | 812 | 813 | RONDE_- 30X3 | 6106-T6 | 0.469 | 0.0 | Treillis 1/300e | Barre |
| 777 | 813 | 814 | RONDE_- 30X3 | 6106-T6 | 0.469 | 0.0 | Treillis 1/300e | Barre |
| 778 | 814 | 815 | RONDE_- 30X3 | 6106-T6 | 0.469 | 0.0 | Treillis 1/300e | Barre |
| 779 | 815 | 816 | RONDE_- 30X3 | 6106-T6 | 0.469 | 0.0 | Treillis 1/300e | Barre |
| 780 | 816 | 817 | RONDE_- 30X3 | 6106-T6 | 0.469 | 0.0 | Treillis 1/300e | Barre |

charges

| Cas | Préfixe | Type de charge | Liste |
|-----|---------|-----------------|----------------------------------|
| 1 | PP | poids propre | 1A312 352A468 547A624 742A780 |
| 2 | CUR | charge uniforme | 8A10 47A49 86A88 125A127 164A166 |
| 2 | CUR | charge uniforme | 203A205 242A244 281A283 359A361 |
| 2 | CUR | charge uniforme | 398A400 437A439 554A556 |
| 2 | CUR | charge uniforme | 593A595 749A751 |
| 3 | CP1 | force sur barre | 87 |
| 3 | CP1 | force nodale | 257 |
| 3 | CP1 | force sur barre | 438 |
| 3 | CP1 | force nodale | 625 |
| 14 | CP2 | force nodale | 51 130 |
| 14 | CP2 | force nodale | 255 296 |
| 14 | CP2 | force nodale | 421 578 |
| 14 | CP2 | force nodale | 624 783 |
| 17 | CP3 | force nodale | 205 332 820 |
| 17 | CP3 | force nodale | 217 257 297 |
| 17 | CP3 | force nodale | 331 821 822 |
| 17 | CP3 | force nodale | 625 824 825 |
| 20 | CP4 | force nodale | 14 52 92 132 |
| 20 | CP4 | force nodale | 826A829 |
| 20 | CP4 | force nodale | 835A838 |
| 20 | CP4 | force nodale | 839A842 |

| Cas | Valeurs de la charge | Remarques utilisateur |
|-----|-----------------------------------|-----------------------|
| 1 | PZ Moins Coef=1.41 | 17.1KG/ML SR6043M |
| 2 | PZ=-65.00[daN/m] | 12ml |
| 2 | PZ=-130.00[daN/m] | 9.6ML |
| 2 | PZ=-250.00[daN/m] | 7.2ML |
| 2 | PZ=-575.00[daN/m] | 4.8ML |
| 3 | FZ=-425.00[daN] X=0.500 relatives | 12ml |
| 3 | FZ=-425.00[daN] | 9.6ml |
| 3 | FZ=-425.00[daN] X=0.500 relatives | 7.2ml |
| 3 | FZ=-425.00[daN] | 4.8ml |
| 14 | FZ=-270.00[daN] | 12ML |
| 14 | FZ=-425.00[daN] | 9.6ML |
| 14 | FZ=-425.00[daN] | 7.2ML |
| 14 | FZ=-425.00[daN] | 4.8ML |
| 17 | FZ=-190.00[daN] | 12ML |
| 17 | FZ=-300.00[daN] | 9.6ML |
| 17 | FZ=-425.00[daN] | 7.2ML |
| 17 | FZ=-425.00[daN] | 4.8ml |
| 20 | FZ=-150.00[daN] | 12ml |
| 20 | FZ=-250.00[daN] | 9.6ml |
| 20 | FZ=-350.00[daN] | 7.8ml |
| 20 | FZ=-425.00[daN] | |

combinaisons

| Combinaison | Nom | Type d'analyse | Type de la combinaison | Nature du cas | Définition |
|-------------|--------------------------|----------------------|------------------------|---------------|------------------|
| 10 (C) | DEP/2=PP*1.00 + CUR*1.00 | Combinaison linéaire | DEP | permanente | (PP+CUR)*1.00 |
| 11 (C) | DEP/3=PP*1.00 + CP1*1.00 | Combinaison linéaire | DEP | permanente | (PP+CP1)*1.00 |
| 12 (C) | EFF/2=PP*1,50 + CUR*1,70 | Combinaison linéaire | EFF | permanente | PP*1.50+CUR*1.70 |
| 13 (C) | EFF/3=PP*1,50 + CP1*1,70 | Combinaison linéaire | EFF | permanente | PP*1.50+CP1*1.70 |
| 15 (C) | EFF/4=PP*1,50 + CP2*1,70 | Combinaison linéaire | EFF | permanente | PP*1.50+CP2*1.70 |
| 16 (C) | DEP/4=PP*1,00 + CP2*1,00 | Combinaison linéaire | DEP | permanente | (PP+CP2)*1.00 |
| 18 (C) | EFF/5=PP*1.50 + CP3*1.70 | Combinaison linéaire | EFF | permanente | PP*1.50+CP3*1.70 |
| 19 (C) | DEP/5=PP*1.00 + CP3*1.00 | Combinaison linéaire | DEP | permanente | (PP+CP3)*1.00 |
| 21 (C) | EFF/6=PP*1.50 + CP4*1.70 | Combinaison linéaire | EFF | permanente | PP*1.50+CP4*1.70 |
| 22 (C) | DEP/6=PP*1.00 + CP4*1.00 | Combinaison linéaire | DEP | permanente | (PP+CP4)*1.00 |

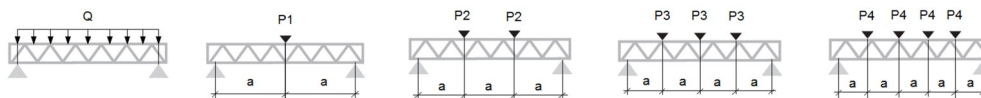
Définitions des pondérations - Cas: 4 7 [AL 76 Avril 2000] [AL 76 Avril 2000]: Valeurs: 1

| Combinaison/Comp. | Définition |
|-------------------|--------------------|
| EFF/ 1 | PP*1.50 |
| EFF/ 2 | PP*1.50 + CUR*1.70 |
| EFF/ 3 | PP*1.50 + CP1*1.70 |
| EFF/ 4 | PP*1.50 + CP2*1.70 |
| EFF/ 5 | PP*1.50 + CP3*1.70 |
| EFF/ 6 | PP*1.50 + CP4*1.70 |
| EFF/ 7 | PP*1.00 |
| EFF/ 8 | PP*1.00 + CUR*1.70 |
| EFF/ 9 | PP*1.00 + CP1*1.70 |
| EFF/ 10 | PP*1.00 + CP2*1.70 |
| EFF/ 11 | PP*1.00 + CP3*1.70 |
| EFF/ 12 | PP*1.00 + CP4*1.70 |
| DEP/ 1 | PP*1.00 |
| DEP/ 2 | PP*1.00 + CUR*1.00 |
| DEP/ 3 | PP*1.00 + CP1*1.00 |
| DEP/ 4 | PP*1.00 + CP2*1.00 |
| DEP/ 5 | PP*1.00 + CP3*1.00 |
| DEP/ 6 | PP*1.00 + CP4*1.00 |

Conclusion

Au du respect des hypothèses de calculs et des résultats ci-dessus, le pont de 12ml est correctement dimensionné pour être compatible avec les valeurs de chargement suivantes :

Charge maximale utile sur tube central supérieur :



| Chargement maximal utile sur tube central supérieur | | | | | | |
|---|---|---|--|--|--|--|
| | Q | P1 | P2 | P3 | P4 | SW |
| Portée | Charge uniformément répartie admissible | Charge ponctuelle P1 centrée admissible | Charge ponctuelle maxi pour de 2 points uniformément espacés | Charge ponctuelle maxi pour de 3 points uniformément espacés | Charge ponctuelle maxi pour de 4 points uniformément espacés | Poids propre moyen de la structure seule |
| L(m) | kg/ml | kg | kg/pt2 | kg/pt3 | kg/pt4 | kgs |
| 4.8 | 575 | 425* | 425* | 425* | 425* | 82 |
| 7.2 | 250 | 425* | 425* | 425* | 350 | 123 |
| 9.6 | 130 | 425* | 425* | 300 | 250 | 164 |
| 12 | 65 | 425 | 270 | 190 | 150 | 205 |

Tableau 1

(*) la charge est volontairement limitée à 425kg de par la contrainte normale admissible maximale de la membrure centrale (en tenant d'un décalage possible de la charge de $\pm 100\text{mm}$)

Charge maximale utile répartie sur le tube réglable en hauteur (optionnel) :

Le chargement du tube réglable inférieur $\varnothing 50 \times 5$, a fait l'objet d'une autre note de calculs séparée (03413-NC3).

Les limites en résultant applicables sur les différentes seront les suivantes :

- Sous une charge uniformément répartie de **65daN/ml** sur le tube réglable (et ce, quel que soit la longueur du pont formé), Il en résulte une flèche locale du tube d'environ 15mm (taux de flèche de $1/145e$) **pouvant interpeler l'œil**.
- Le chargement résultant pour une flèche locale de 7mm (taux de flèche de $1/300^\circ$) est lui de 30daN/ml.
 - Asd préconise donc de limiter à **30daN/ml**, le chargement du tube réglable optionnel pour l'ensemble du pont formé de 2.4 à 12ml ($30\text{daN} < 65\text{daN/ml}$ du Tableau 1)

L'installateur devra veiller à la compatibilité de ses accroches (situées en bout de pont) pour être compatible avec les valeurs de réactions maxi fournies sur la page précédente.

Annexe1.

| Pièce | Profil | Matériau | Lay | Laz | Ratio | Cas | Ratio(uy) |
|------------------------|--------------|----------|-------|-------|-------|-----------|-----------|
| 1 Membrures 1/300e_1 | RONDE_50X3 | 6005-T6 | 29.73 | 71.35 | 0.41 | 4 EFF /2/ | 0.01 |
| 2 Membrures 1/300e_2 | RONDE_50X3 | 6005-T6 | 29.73 | 71.35 | 0.41 | 4 EFF /2/ | 0.01 |
| 3 Membrures 1/300e_3 | RONDE_50X3 | 6005-T6 | 29.73 | 71.35 | 0.24 | 4 EFF /2/ | 0.01 |
| 4 Membrures 1/300e_4 | RONDE_50X3 | 6005-T6 | 29.73 | 71.35 | 0.24 | 4 EFF /2/ | 0.01 |
| 5 Barre 1/300e_5 | RECT_50X50X4 | 6060-T6 | 29.18 | 29.18 | 0.10 | 4 EFF /2/ | 0.04 |
| 6 Barre 1/300e_6 | RECT_50X50X4 | 6060-T6 | 29.18 | 29.18 | 0.13 | 4 EFF /2/ | 0.09 |
| 7 Treillis 1/300e_7 | RONDE_30X3 | 6106-T6 | 39.07 | 39.07 | 0.14 | 4 EFF /2/ | 0.01 |
| 8 | RONDE_50X3 | 6005-T6 | 29.73 | 22.30 | 0.07 | 4 EFF /2/ | 0.00 |
| 9 | RONDE_50X3 | 6005-T6 | 29.73 | 22.30 | 0.07 | 4 EFF /2/ | 0.00 |
| 10 | RONDE_50X3 | 6005-T6 | 29.73 | 22.30 | 0.07 | 4 EFF /2/ | 0.00 |
| 11 | RONDE_50X3 | 6005-T6 | 29.73 | 8.18 | 0.11 | 4 EFF /2/ | 0.01 |
| 12 | RONDE_50X3 | 6005-T6 | 29.73 | 8.18 | 0.11 | 4 EFF /2/ | 0.01 |
| 13 | RONDE_50X3 | 6005-T6 | 29.73 | 8.18 | 0.09 | 4 EFF /2/ | 0.00 |
| 14 | RONDE_50X3 | 6005-T6 | 29.73 | 8.18 | 0.09 | 4 EFF /2/ | 0.00 |
| 15 Treillis 1/300e_15 | RONDE_30X3 | 6106-T6 | 39.07 | 39.07 | 0.10 | 4 EFF /2/ | 0.01 |
| 16 Treillis 1/300e_16 | RONDE_30X3 | 6106-T6 | 39.07 | 39.07 | 0.11 | 4 EFF /2/ | 0.02 |
| 17 Treillis 1/300e_17 | RONDE_30X3 | 6106-T6 | 39.07 | 39.07 | 0.09 | 4 EFF /2/ | 0.01 |
| 18 Treillis 1/300e_18 | RONDE_30X3 | 6106-T6 | 39.07 | 39.07 | 0.10 | 4 EFF /2/ | 0.01 |
| 19 Treillis 1/300e_19 | RONDE_30X3 | 6106-T6 | 39.07 | 39.07 | 0.10 | 4 EFF /2/ | 0.02 |
| 20 Treillis 1/300e_20 | RONDE_30X3 | 6106-T6 | 39.07 | 39.07 | 0.08 | 4 EFF /2/ | 0.00 |
| 21 Treillis 1/300e_21 | RONDE_30X3 | 6106-T6 | 39.07 | 39.07 | 0.12 | 4 EFF /2/ | 0.00 |
| 22 Treillis 1/300e_22 | RONDE_30X3 | 6106-T6 | 31.65 | 31.65 | 0.14 | 4 EFF /2/ | 0.00 |
| 23 Treillis 1/300e_23 | RONDE_30X3 | 6106-T6 | 31.65 | 31.65 | 0.14 | 4 EFF /2/ | 0.01 |
| 24 Barre 1/300e_24 | RECT_50X50X4 | 6060-T6 | 29.18 | 29.18 | 0.03 | 4 EFF /2/ | 0.00 |
| 25 Barre 1/300e_25 | RECT_50X50X4 | 6060-T6 | 29.18 | 29.18 | 0.03 | 4 EFF /2/ | 0.02 |
| 26 Treillis 1/300e_26 | RONDE_30X3 | 6106-T6 | 31.65 | 31.65 | 0.26 | 4 EFF /2/ | 0.01 |
| 27 Treillis 1/300e_27 | RONDE_30X3 | 6106-T6 | 31.65 | 31.65 | 0.26 | 4 EFF /2/ | 0.01 |
| 28 Treillis 1/300e_28 | RONDE_30X3 | 6106-T6 | 55.68 | 55.68 | 0.03 | 4 EFF /3/ | 0.03 |
| 29 Treillis 1/300e_29 | RONDE_30X3 | 6106-T6 | 55.68 | 55.68 | 0.06 | 4 EFF /2/ | 0.04 |
| 30 Barre 1/300e_30 | U_60X40X4 | 6060-T6 | 15.99 | 30.17 | 0.05 | 4 EFF /3/ | 0.02 |
| 31 Barre 1/300e_31 | U_60X40X4 | 6060-T6 | 15.99 | 30.17 | 0.18 | 4 EFF /2/ | 0.04 |
| 32 Treillis 1/300e_32 | RONDE_30X3 | 6106-T6 | 39.07 | 39.07 | 0.14 | 4 EFF /2/ | 0.01 |
| 33 Treillis 1/300e_33 | RONDE_30X3 | 6106-T6 | 39.07 | 39.07 | 0.10 | 4 EFF /2/ | 0.01 |
| 34 Treillis 1/300e_34 | RONDE_30X3 | 6106-T6 | 39.07 | 39.07 | 0.11 | 4 EFF /2/ | 0.02 |
| 35 Treillis 1/300e_35 | RONDE_30X3 | 6106-T6 | 39.07 | 39.07 | 0.09 | 4 EFF /2/ | 0.01 |
| 36 Treillis 1/300e_36 | RONDE_30X3 | 6106-T6 | 39.07 | 39.07 | 0.10 | 4 EFF /2/ | 0.01 |
| 37 Treillis 1/300e_37 | RONDE_30X3 | 6106-T6 | 39.07 | 39.07 | 0.10 | 4 EFF /2/ | 0.02 |
| 38 Treillis 1/300e_38 | RONDE_30X3 | 6106-T6 | 39.07 | 39.07 | 0.08 | 4 EFF /2/ | 0.00 |
| 39 Treillis 1/300e_39 | RONDE_30X3 | 6106-T6 | 39.07 | 39.07 | 0.12 | 4 EFF /2/ | 0.00 |
| 40 Membrures 1/300e_40 | RONDE_50X3 | 6005-T6 | 29.73 | 71.35 | 0.72 | 4 EFF /2/ | 0.02 |
| 41 Membrures 1/300e_41 | RONDE_50X3 | 6005-T6 | 29.73 | 71.35 | 0.72 | 4 EFF /2/ | 0.02 |
| 42 Membrures 1/300e_42 | RONDE_50X3 | 6005-T6 | 29.73 | 71.35 | 0.35 | 4 EFF /2/ | 0.01 |
| 43 Membrures 1/300e_43 | RONDE_50X3 | 6005-T6 | 29.73 | 71.35 | 0.35 | 4 EFF /2/ | 0.01 |
| 44 Barre 1/300e_44 | RECT_50X50X4 | 6060-T6 | 29.18 | 29.18 | 0.23 | 4 EFF /2/ | 0.15 |
| 45 Barre 1/300e_45 | RECT_50X50X4 | 6060-T6 | 29.18 | 29.18 | 0.25 | 4 EFF /2/ | 0.17 |
| 46 Treillis 1/300e_46 | RONDE_30X3 | 6106-T6 | 39.07 | 39.07 | 0.12 | 4 EFF /3/ | 0.01 |
| 47 Membrures 1/300e_47 | RONDE_50X3 | 6005-T6 | 29.73 | 22.30 | 0.11 | 4 EFF /2/ | 0.00 |
| 48 Membrures 1/300e_48 | RONDE_50X3 | 6005-T6 | 29.73 | 22.30 | 0.14 | 4 EFF /2/ | 0.00 |

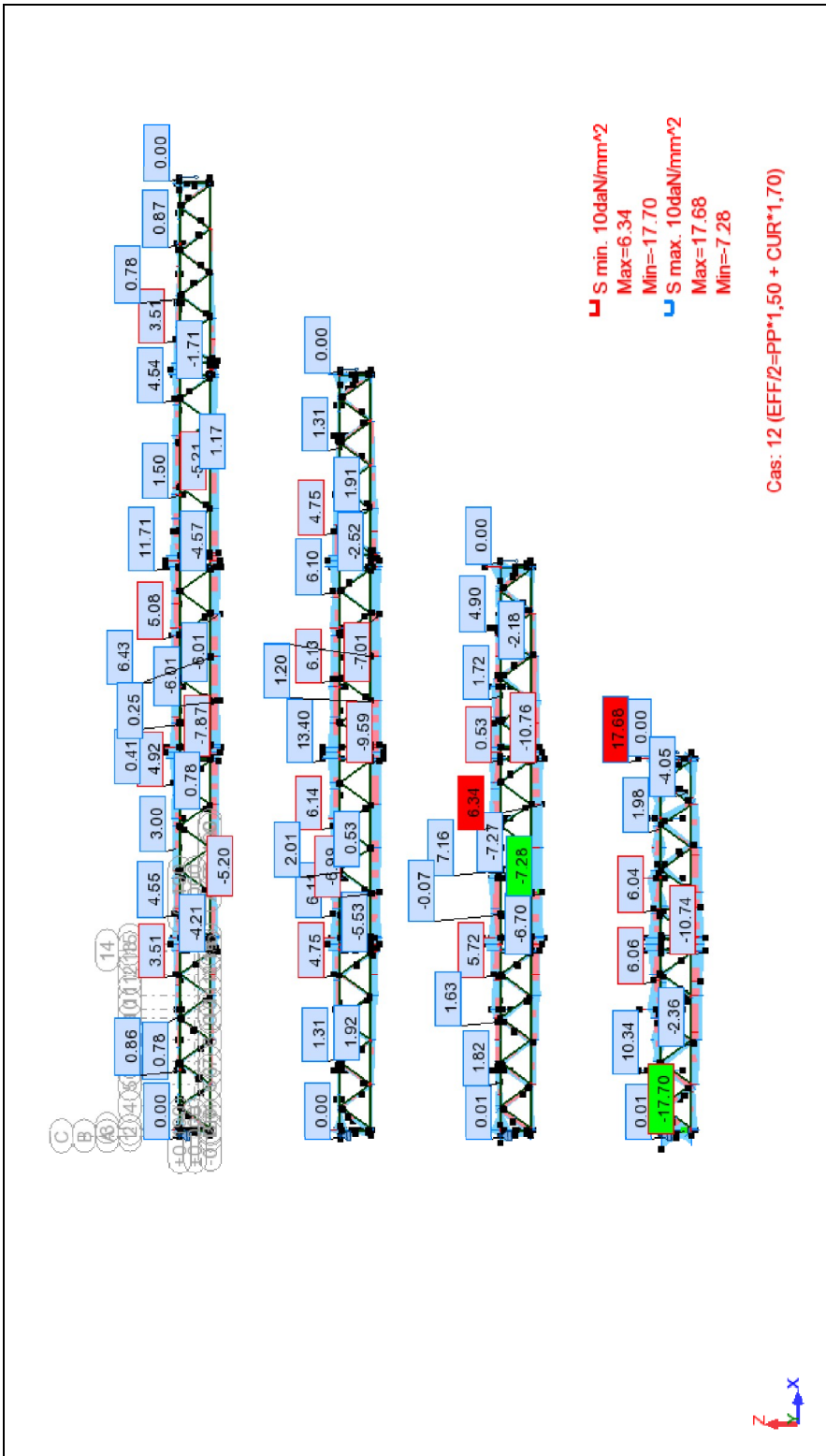
| Pièce | Profil | Matériau | Lay | Laz | Ratio | Cas | Ratio(uy) |
|------------------------|--------------|----------|-------|-------|-------|-----------|-----------|
| 49 Membrures 1/300e_49 | RONDE_50X3 | 6005-T6 | 29.73 | 22.30 | 0.12 | 4 EFF /2/ | 0.00 |
| 50 Membrures 1/300e_50 | RONDE_50X3 | 6005-T6 | 29.73 | 8.18 | 0.13 | 4 EFF /2/ | 0.01 |
| 51 Membrures 1/300e_51 | RONDE_50X3 | 6005-T6 | 29.73 | 8.18 | 0.13 | 4 EFF /2/ | 0.01 |
| 52 Membrures 1/300e_52 | RONDE_50X3 | 6005-T6 | 29.73 | 8.18 | 0.11 | 4 EFF /2/ | 0.01 |
| 53 Membrures 1/300e_53 | RONDE_50X3 | 6005-T6 | 29.73 | 8.18 | 0.11 | 4 EFF /2/ | 0.01 |
| 54 Treillis 1/300e_54 | RONDE_30X3 | 6106-T6 | 39.07 | 39.07 | 0.07 | 4 EFF /3/ | 0.01 |
| 55 Treillis 1/300e_55 | RONDE_30X3 | 6106-T6 | 39.07 | 39.07 | 0.07 | 4 EFF /2/ | 0.02 |
| 56 Treillis 1/300e_56 | RONDE_30X3 | 6106-T6 | 39.07 | 39.07 | 0.07 | 4 EFF /3/ | 0.01 |
| 57 Treillis 1/300e_57 | RONDE_30X3 | 6106-T6 | 39.07 | 39.07 | 0.07 | 4 EFF /3/ | 0.01 |
| 58 Treillis 1/300e_58 | RONDE_30X3 | 6106-T6 | 39.07 | 39.07 | 0.07 | 4 EFF /3/ | 0.02 |
| 59 Treillis 1/300e_59 | RONDE_30X3 | 6106-T6 | 39.07 | 39.07 | 0.07 | 4 EFF /3/ | 0.01 |
| 60 Treillis 1/300e_60 | RONDE_30X3 | 6106-T6 | 39.07 | 39.07 | 0.10 | 4 EFF /3/ | 0.01 |
| 61 Treillis 1/300e_61 | RONDE_30X3 | 6106-T6 | 31.65 | 31.65 | 0.12 | 4 EFF /3/ | 0.00 |
| 62 Treillis 1/300e_62 | RONDE_30X3 | 6106-T6 | 31.65 | 31.65 | 0.12 | 4 EFF /3/ | 0.00 |
| 63 Barre 1/300e_63 | RECT_50X50X4 | 6060-T6 | 29.18 | 29.18 | 0.03 | 4 EFF /2/ | 0.01 |
| 64 Barre 1/300e_64 | RECT_50X50X4 | 6060-T6 | 29.18 | 29.18 | 0.03 | 4 EFF /2/ | 0.01 |
| 65 Treillis 1/300e_65 | RONDE_30X3 | 6106-T6 | 31.65 | 31.65 | 0.12 | 4 EFF /2/ | 0.01 |
| 66 Treillis 1/300e_66 | RONDE_30X3 | 6106-T6 | 31.65 | 31.65 | 0.12 | 4 EFF /2/ | 0.01 |
| 67 Treillis 1/300e_67 | RONDE_30X3 | 6106-T6 | 55.68 | 55.68 | 0.03 | 4 EFF /2/ | 0.04 |
| 68 Treillis 1/300e_68 | RONDE_30X3 | 6106-T6 | 55.68 | 55.68 | 0.06 | 4 EFF /2/ | 0.04 |
| 69 Barre 1/300e_69 | U_60X40X4 | 6060-T6 | 15.99 | 30.17 | 0.09 | 4 EFF /2/ | 0.02 |
| 70 Barre 1/300e_70 | U_60X40X4 | 6060-T6 | 15.99 | 30.17 | 0.17 | 4 EFF /2/ | 0.02 |
| 71 Treillis 1/300e_71 | RONDE_30X3 | 6106-T6 | 39.07 | 39.07 | 0.11 | 4 EFF /3/ | 0.01 |
| 72 Treillis 1/300e_72 | RONDE_30X3 | 6106-T6 | 39.07 | 39.07 | 0.07 | 4 EFF /3/ | 0.01 |
| 73 Treillis 1/300e_73 | RONDE_30X3 | 6106-T6 | 39.07 | 39.07 | 0.07 | 4 EFF /2/ | 0.02 |
| 74 Treillis 1/300e_74 | RONDE_30X3 | 6106-T6 | 39.07 | 39.07 | 0.07 | 4 EFF /3/ | 0.01 |
| 75 Treillis 1/300e_75 | RONDE_30X3 | 6106-T6 | 39.07 | 39.07 | 0.07 | 4 EFF /3/ | 0.01 |
| 76 Treillis 1/300e_76 | RONDE_30X3 | 6106-T6 | 39.07 | 39.07 | 0.07 | 4 EFF /3/ | 0.02 |
| 77 Treillis 1/300e_77 | RONDE_30X3 | 6106-T6 | 39.07 | 39.07 | 0.06 | 4 EFF /3/ | 0.01 |
| 78 Treillis 1/300e_78 | RONDE_30X3 | 6106-T6 | 39.07 | 39.07 | 0.10 | 4 EFF /3/ | 0.01 |
| 79 Membrures 1/300e_79 | RONDE_50X3 | 6005-T6 | 29.73 | 71.35 | 0.78 | 4 EFF /3/ | 0.02 |
| 80 Membrures 1/300e_80 | RONDE_50X3 | 6005-T6 | 29.73 | 71.35 | 0.78 | 4 EFF /3/ | 0.02 |
| 81 Membrures 1/300e_81 | RONDE_50X3 | 6005-T6 | 29.73 | 71.35 | 0.40 | 4 EFF /3/ | 0.06 |
| 82 Membrures 1/300e_82 | RONDE_50X3 | 6005-T6 | 29.73 | 71.35 | 0.40 | 4 EFF /3/ | 0.06 |
| 83 Barre 1/300e_83 | RECT_50X50X4 | 6060-T6 | 29.18 | 29.18 | 0.28 | 4 EFF /3/ | 0.20 |
| 84 Barre 1/300e_84 | RECT_50X50X4 | 6060-T6 | 29.18 | 29.18 | 0.28 | 4 EFF /3/ | 0.20 |
| 85 Treillis 1/300e_85 | RONDE_30X3 | 6106-T6 | 39.07 | 39.07 | 0.11 | 4 EFF /3/ | 0.03 |
| 86 Membrures 1/300e_86 | RONDE_50X3 | 6005-T6 | 29.73 | 22.30 | 0.21 | 4 EFF /3/ | 0.00 |
| 87 Membrures 1/300e_87 | RONDE_50X3 | 6005-T6 | 29.73 | 22.30 | 0.92 | 4 EFF /3/ | 0.00 |
| 88 Membrures 1/300e_88 | RONDE_50X3 | 6005-T6 | 29.73 | 22.30 | 0.21 | 4 EFF /3/ | 0.00 |
| 89 Membrures 1/300e_89 | RONDE_50X3 | 6005-T6 | 29.73 | 8.18 | 0.42 | 4 EFF /3/ | 0.02 |
| 90 Membrures 1/300e_90 | RONDE_50X3 | 6005-T6 | 29.73 | 8.18 | 0.42 | 4 EFF /3/ | 0.02 |

| Pièce | Profil | Matériau | Lay | Laz | Ratio | Cas | Ratio(uy) |
|--------------------------|--------------|----------|-------|-------|-------|-----------|-----------|
| 91 Membrures 1/300e_91 | RONDE_50X3 | 6005-T6 | 29.73 | 8.18 | 0.42 | 4 EFF /3/ | 0.02 |
| 92 Membrures 1/300e_92 | RONDE_50X3 | 6005-T6 | 29.73 | 8.18 | 0.42 | 4 EFF /3/ | 0.02 |
| 93 Treillis 1/300e_93 | RONDE_30X3 | 6106-T6 | 39.07 | 39.07 | 0.08 | 4 EFF /3/ | 0.01 |
| 94 Treillis 1/300e_94 | RONDE_30X3 | 6106-T6 | 39.07 | 39.07 | 0.15 | 4 EFF /3/ | 0.09 |
| 95 Treillis 1/300e_95 | RONDE_30X3 | 6106-T6 | 39.07 | 39.07 | 0.05 | 4 EFF /6/ | 0.06 |
| 96 Treillis 1/300e_96 | RONDE_30X3 | 6106-T6 | 39.07 | 39.07 | 0.05 | 4 EFF /6/ | 0.06 |
| 97 Treillis 1/300e_97 | RONDE_30X3 | 6106-T6 | 39.07 | 39.07 | 0.15 | 4 EFF /3/ | 0.09 |
| 98 Treillis 1/300e_98 | RONDE_30X3 | 6106-T6 | 39.07 | 39.07 | 0.08 | 4 EFF /3/ | 0.01 |
| 99 Treillis 1/300e_99 | RONDE_30X3 | 6106-T6 | 39.07 | 39.07 | 0.11 | 4 EFF /3/ | 0.03 |
| 100 Treillis 1/300e_100 | RONDE_30X3 | 6106-T6 | 31.65 | 31.65 | 0.10 | 4 EFF /3/ | 0.01 |
| 101 Treillis 1/300e_101 | RONDE_30X3 | 6106-T6 | 31.65 | 31.65 | 0.10 | 4 EFF /3/ | 0.01 |
| 102 Barre 1/300e_102 | RECT_50X50X4 | 6060-T6 | 29.18 | 29.18 | 0.03 | 4 EFF /2/ | 0.01 |
| 103 Barre 1/300e_103 | RECT_50X50X4 | 6060-T6 | 29.18 | 29.18 | 0.03 | 4 EFF /2/ | 0.01 |
| 104 Treillis 1/300e_104 | RONDE_30X3 | 6106-T6 | 31.65 | 31.65 | 0.10 | 4 EFF /3/ | 0.01 |
| 105 Treillis 1/300e_105 | RONDE_30X3 | 6106-T6 | 31.65 | 31.65 | 0.10 | 4 EFF /3/ | 0.01 |
| 106 Treillis 1/300e_106 | RONDE_30X3 | 6106-T6 | 55.68 | 55.68 | 0.07 | 4 EFF /3/ | 0.04 |
| 107 Treillis 1/300e_107 | RONDE_30X3 | 6106-T6 | 55.68 | 55.68 | 0.07 | 4 EFF /3/ | 0.04 |
| 108 Barre 1/300e_108 | U_60X40X4 | 6060-T6 | 15.99 | 30.17 | 0.15 | 4 EFF /3/ | 0.03 |
| 109 Barre 1/300e_109 | U_60X40X4 | 6060-T6 | 15.99 | 30.17 | 0.15 | 4 EFF /3/ | 0.03 |
| 110 Treillis 1/300e_110 | RONDE_30X3 | 6106-T6 | 39.07 | 39.07 | 0.11 | 4 EFF /3/ | 0.03 |
| 111 Treillis 1/300e_111 | RONDE_30X3 | 6106-T6 | 39.07 | 39.07 | 0.08 | 4 EFF /3/ | 0.01 |
| 112 Treillis 1/300e_112 | RONDE_30X3 | 6106-T6 | 39.07 | 39.07 | 0.15 | 4 EFF /3/ | 0.09 |
| 113 Treillis 1/300e_113 | RONDE_30X3 | 6106-T6 | 39.07 | 39.07 | 0.05 | 4 EFF /6/ | 0.06 |
| 114 Treillis 1/300e_114 | RONDE_30X3 | 6106-T6 | 39.07 | 39.07 | 0.05 | 4 EFF /6/ | 0.06 |
| 115 Treillis 1/300e_115 | RONDE_30X3 | 6106-T6 | 39.07 | 39.07 | 0.15 | 4 EFF /3/ | 0.09 |
| 116 Treillis 1/300e_116 | RONDE_30X3 | 6106-T6 | 39.07 | 39.07 | 0.08 | 4 EFF /3/ | 0.01 |
| 117 Treillis 1/300e_117 | RONDE_30X3 | 6106-T6 | 39.07 | 39.07 | 0.11 | 4 EFF /3/ | 0.03 |
| 118 Membrures 1/300e_118 | RONDE_50X3 | 6005-T6 | 29.73 | 71.35 | 0.72 | 4 EFF /2/ | 0.02 |
| 119 Membrures 1/300e_119 | RONDE_50X3 | 6005-T6 | 29.73 | 71.35 | 0.72 | 4 EFF /2/ | 0.02 |
| 120 Membrures 1/300e_120 | RONDE_50X3 | 6005-T6 | 29.73 | 71.35 | 0.35 | 4 EFF /2/ | 0.01 |
| 121 Membrures 1/300e_121 | RONDE_50X3 | 6005-T6 | 29.73 | 71.35 | 0.35 | 4 EFF /2/ | 0.01 |
| 122 Barre 1/300e_122 | RECT_50X50X4 | 6060-T6 | 29.18 | 29.18 | 0.25 | 4 EFF /2/ | 0.17 |
| 123 Barre 1/300e_123 | RECT_50X50X4 | 6060-T6 | 29.18 | 29.18 | 0.23 | 4 EFF /2/ | 0.15 |
| 124 Treillis 1/300e_124 | RONDE_30X3 | 6106-T6 | 39.07 | 39.07 | 0.10 | 4 EFF /3/ | 0.01 |
| 125 Membrures 1/300e_125 | RONDE_50X3 | 6005-T6 | 29.73 | 22.30 | 0.12 | 4 EFF /2/ | 0.00 |
| 126 Membrures 1/300e_126 | RONDE_50X3 | 6005-T6 | 29.73 | 22.30 | 0.14 | 4 EFF /2/ | 0.00 |
| 127 Membrures 1/300e_127 | RONDE_50X3 | 6005-T6 | 29.73 | 22.30 | 0.11 | 4 EFF /2/ | 0.00 |
| 128 Membrures 1/300e_128 | RONDE_50X3 | 6005-T6 | 29.73 | 8.18 | 0.11 | 4 EFF /2/ | 0.01 |
| 129 Membrures 1/300e_129 | RONDE_50X3 | 6005-T6 | 29.73 | 8.18 | 0.11 | 4 EFF /2/ | 0.01 |
| 130 Membrures 1/300e_130 | RONDE_50X3 | 6005-T6 | 29.73 | 8.18 | 0.13 | 4 EFF /2/ | 0.01 |
| 131 Membrures 1/300e_131 | RONDE_50X3 | 6005-T6 | 29.73 | 8.18 | 0.13 | 4 EFF /2/ | 0.01 |
| 132 Treillis 1/300e_132 | RONDE_30X3 | 6106-T6 | 39.07 | 39.07 | 0.06 | 4 EFF /3/ | 0.01 |
| 133 Treillis 1/300e_133 | RONDE_30X3 | 6106-T6 | 39.07 | 39.07 | 0.07 | 4 EFF /3/ | 0.02 |
| 134 Treillis 1/300e_134 | RONDE_30X3 | 6106-T6 | 39.07 | 39.07 | 0.07 | 4 EFF /3/ | 0.01 |

| Pièce | Profil | Matériau | Lay | Laz | Ratio | Cas | Ratio(uy) |
|---------------------------|--------------|----------|-------|-------|-------|-----------|-----------|
| 135 Treillis 1/300e_135 | RONDE_30X3 | 6106-T6 | 39.07 | 39.07 | 0.07 | 4 EFF /3/ | 0.01 |
| 136 Treillis 1/300e_136 | RONDE_30X3 | 6106-T6 | 39.07 | 39.07 | 0.07 | 4 EFF /2/ | 0.02 |
| 137 Treillis 1/300e_137 | RONDE_30X3 | 6106-T6 | 39.07 | 39.07 | 0.07 | 4 EFF /3/ | 0.01 |
| 138 Treillis 1/300e_138 | RONDE_30X3 | 6106-T6 | 39.07 | 39.07 | 0.11 | 4 EFF /3/ | 0.01 |
| 139 Treillis 1/300e_139 | RONDE_30X3 | 6106-T6 | 31.65 | 31.65 | 0.12 | 4 EFF /2/ | 0.01 |
| 140 Treillis 1/300e_140 | RONDE_30X3 | 6106-T6 | 31.65 | 31.65 | 0.12 | 4 EFF /2/ | 0.01 |
| 141 Barre 1/300e_141 | RECT_50X50X4 | 6060-T6 | 29.18 | 29.18 | 0.03 | 4 EFF /2/ | 0.01 |
| 142 Barre 1/300e_142 | RECT_50X50X4 | 6060-T6 | 29.18 | 29.18 | 0.03 | 4 EFF /2/ | 0.01 |
| 143 Treillis 1/300e_143 | RONDE_30X3 | 6106-T6 | 31.65 | 31.65 | 0.12 | 4 EFF /3/ | 0.00 |
| 144 Treillis 1/300e_144 | RONDE_30X3 | 6106-T6 | 31.65 | 31.65 | 0.12 | 4 EFF /3/ | 0.00 |
| 145 Treillis 1/300e_145 | RONDE_30X3 | 6106-T6 | 55.68 | 55.68 | 0.06 | 4 EFF /2/ | 0.04 |
| 146 Treillis 1/300e_146 | RONDE_30X3 | 6106-T6 | 55.68 | 55.68 | 0.03 | 4 EFF /2/ | 0.04 |
| 147 Barre 1/300e_147 | U_60X40X4 | 6060-T6 | 15.99 | 30.17 | 0.17 | 4 EFF /2/ | 0.02 |
| 148 Barre 1/300e_148 | U_60X40X4 | 6060-T6 | 15.99 | 30.17 | 0.09 | 4 EFF /2/ | 0.02 |
| 149 Treillis 1/300e_149 | RONDE_30X3 | 6106-T6 | 39.07 | 39.07 | 0.10 | 4 EFF /3/ | 0.01 |
| 150 Treillis 1/300e_150 | RONDE_30X3 | 6106-T6 | 39.07 | 39.07 | 0.07 | 4 EFF /3/ | 0.01 |
| 151 Treillis 1/300e_151 | RONDE_30X3 | 6106-T6 | 39.07 | 39.07 | 0.07 | 4 EFF /3/ | 0.02 |
| 152 Treillis 1/300e_152 | RONDE_30X3 | 6106-T6 | 39.07 | 39.07 | 0.07 | 4 EFF /3/ | 0.01 |
| 153 Treillis 1/300e_153 | RONDE_30X3 | 6106-T6 | 39.07 | 39.07 | 0.07 | 4 EFF /3/ | 0.01 |
| 154 Treillis 1/300e_154 | RONDE_30X3 | 6106-T6 | 39.07 | 39.07 | 0.07 | 4 EFF /2/ | 0.02 |
| 155 Treillis 1/300e_155 | RONDE_30X3 | 6106-T6 | 39.07 | 39.07 | 0.07 | 4 EFF /3/ | 0.01 |
| 156 Treillis 1/300e_156 | RONDE_30X3 | 6106-T6 | 39.07 | 39.07 | 0.12 | 4 EFF /3/ | 0.01 |
| 157 Membres 1/300e_157 | RONDE_50X3 | 6005-T6 | 29.73 | 71.35 | 0.41 | 4 EFF /2/ | 0.01 |
| 158 Membres 1/300e_158 | RONDE_50X3 | 6005-T6 | 29.73 | 71.35 | 0.41 | 4 EFF /2/ | 0.01 |
| 159 Membres 1/300e_159 | RONDE_50X3 | 6005-T6 | 29.73 | 71.35 | 0.24 | 4 EFF /2/ | 0.01 |
| 160 Membres 1/300e_160 | RONDE_50X3 | 6005-T6 | 29.73 | 71.35 | 0.24 | 4 EFF /2/ | 0.01 |
| 161 Barre 1/300e_161 | RECT_50X50X4 | 6060-T6 | 29.18 | 29.18 | 0.13 | 4 EFF /2/ | 0.09 |
| 162 Barre 1/300e_162 | RECT_50X50X4 | 6060-T6 | 29.18 | 29.18 | 0.10 | 4 EFF /2/ | 0.04 |
| 163 Treillis 1/300e_163 | RONDE_30X3 | 6106-T6 | 39.07 | 39.07 | 0.12 | 4 EFF /2/ | 0.00 |
| 164 Membres 1/300e_164 | RONDE_50X3 | 6005-T6 | 29.73 | 22.30 | 0.07 | 4 EFF /2/ | 0.00 |
| 165 Membres 1/300e_165 | RONDE_50X3 | 6005-T6 | 29.73 | 22.30 | 0.07 | 4 EFF /2/ | 0.00 |
| 166 Membres 1/300e_166 | RONDE_50X3 | 6005-T6 | 29.73 | 22.30 | 0.07 | 4 EFF /2/ | 0.00 |
| 167 Membres 1/300e_167 | RONDE_50X3 | 6005-T6 | 29.73 | 8.18 | 0.09 | 4 EFF /2/ | 0.00 |
| 168 Membres 1/300e_168 | RONDE_50X3 | 6005-T6 | 29.73 | 8.18 | 0.09 | 4 EFF /2/ | 0.00 |
| 169 Membres 1/300e_169 | RONDE_50X3 | 6005-T6 | 29.73 | 8.18 | 0.11 | 4 EFF /2/ | 0.01 |
| 170 Membres 1/300e_170 | RONDE_50X3 | 6005-T6 | 29.73 | 8.18 | 0.11 | 4 EFF /2/ | 0.01 |
| 171 Treillis 1/300e_171 | RONDE_30X3 | 6106-T6 | 39.07 | 39.07 | 0.08 | 4 EFF /2/ | 0.00 |
| 172 Treillis 1/300e_172 | RONDE_30X3 | 6106-T6 | 39.07 | 39.07 | 0.10 | 4 EFF /2/ | 0.02 |
| 173 Treillis 1/300e_173 | RONDE_30X3 | 6106-T6 | 39.07 | 39.07 | 0.10 | 4 EFF /2/ | 0.01 |
| 174 Treillis 1/300e_174 | RONDE_30X3 | 6106-T6 | 39.07 | 39.07 | 0.09 | 4 EFF /2/ | 0.01 |
| 175 Treillis 1/300e_175 | RONDE_30X3 | 6106-T6 | 39.07 | 39.07 | 0.11 | 4 EFF /2/ | 0.02 |
| 176 Treillis 1/300e_176 | RONDE_30X3 | 6106-T6 | 39.07 | 39.07 | 0.10 | 4 EFF /2/ | 0.01 |
| 177 Treillis 1/300e_177 | RONDE_30X3 | 6106-T6 | 39.07 | 39.07 | 0.14 | 4 EFF /2/ | 0.01 |
| 178 Treillis 1/300e_178 | RONDE_30X3 | 6106-T6 | 31.65 | 31.65 | 0.26 | 4 EFF /2/ | 0.01 |
| 179 Treillis 1/300e_179 | RONDE_30X3 | 6106-T6 | 31.65 | 31.65 | 0.26 | 4 EFF /2/ | 0.01 |
| 180 Barre 1/300e_180 | RECT_50X50X4 | 6060-T6 | 29.18 | 29.18 | 0.03 | 4 EFF /2/ | 0.02 |

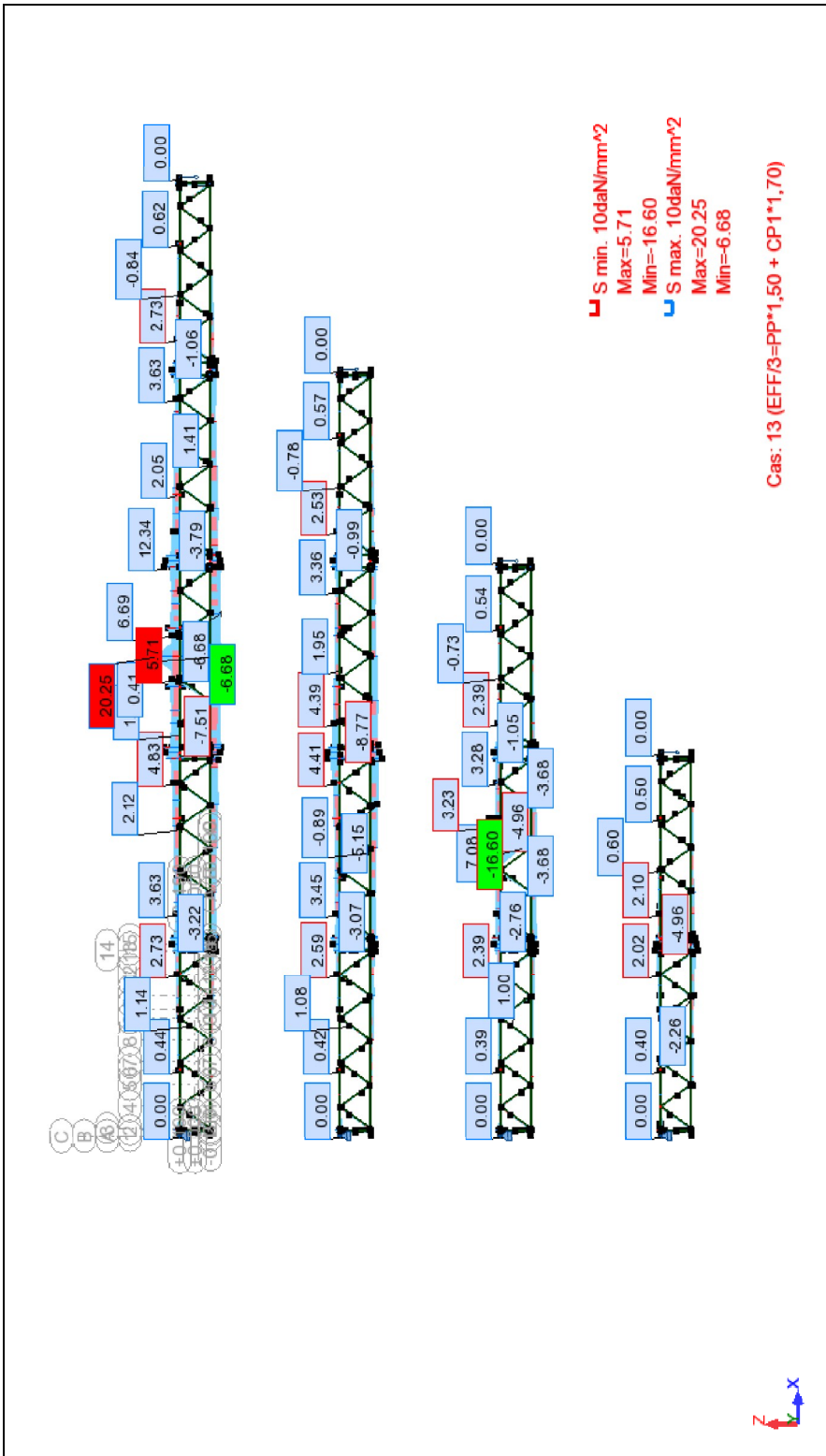
| Pièce | Profil | Matériau | Lay | Laz | Ratio | Cas | Ratio(uy) |
|-------------------------|--------------|----------|-------|-------|-------|-----------|-----------|
| 181 Barre 1/300e_181 | RECT_50X50X4 | 6060-T6 | 29.18 | 29.18 | 0.03 | 4 EFF /2/ | 0.00 |
| 182 Treillis 1/300e_182 | RONDE_30X3 | 6106-T6 | 31.65 | 31.65 | 0.14 | 4 EFF /2/ | 0.01 |
| 183 Treillis 1/300e_183 | RONDE_30X3 | 6106-T6 | 31.65 | 31.65 | 0.14 | 4 EFF /2/ | 0.00 |
| 184 Treillis 1/300e_184 | RONDE_30X3 | 6106-T6 | 55.68 | 55.68 | 0.06 | 4 EFF /2/ | 0.04 |
| 185 Treillis 1/300e_185 | RONDE_30X3 | 6106-T6 | 55.68 | 55.68 | 0.03 | 4 EFF /3/ | 0.03 |
| 186 Barre 1/300e_186 | U_60X40X4 | 6060-T6 | 15.99 | 30.17 | 0.18 | 4 EFF /2/ | 0.04 |
| 187 Barre 1/300e_187 | U_60X40X4 | 6060-T6 | 15.99 | 30.17 | 0.05 | 4 EFF /3/ | 0.02 |
| 188 Treillis 1/300e_188 | RONDE_30X3 | 6106-T6 | 39.07 | 39.07 | 0.12 | 4 EFF /2/ | 0.00 |
| 189 Treillis 1/300e_189 | RONDE_30X3 | 6106-T6 | 39.07 | 39.07 | 0.08 | 4 EFF /2/ | 0.00 |
| 190 Treillis 1/300e_190 | RONDE_30X3 | 6106-T6 | 39.07 | 39.07 | 0.10 | 4 EFF /2/ | 0.02 |
| 191 Treillis 1/300e_191 | RONDE_30X3 | 6106-T6 | 39.07 | 39.07 | 0.10 | 4 EFF /2/ | 0.01 |
| 192 Treillis 1/300e_192 | RONDE_30X3 | 6106-T6 | 39.07 | 39.07 | 0.09 | 4 EFF /2/ | 0.01 |
| 193 Treillis 1/300e_193 | RONDE_30X3 | 6106-T6 | 39.07 | 39.07 | 0.11 | 4 EFF /2/ | 0.02 |
| 194 Treillis 1/300e_194 | RONDE_30X3 | 6106-T6 | 39.07 | 39.07 | 0.10 | 4 EFF /2/ | 0.01 |
| 195 Treillis 1/300e_195 | RONDE_30X3 | 6106-T6 | 39.07 | 39.07 | 0.14 | 4 EFF /2/ | 0.01 |

Sigma ELU - S max; S min; Cas: 21 (EFF/6=PP*1.50 + CP4*1.70) 1



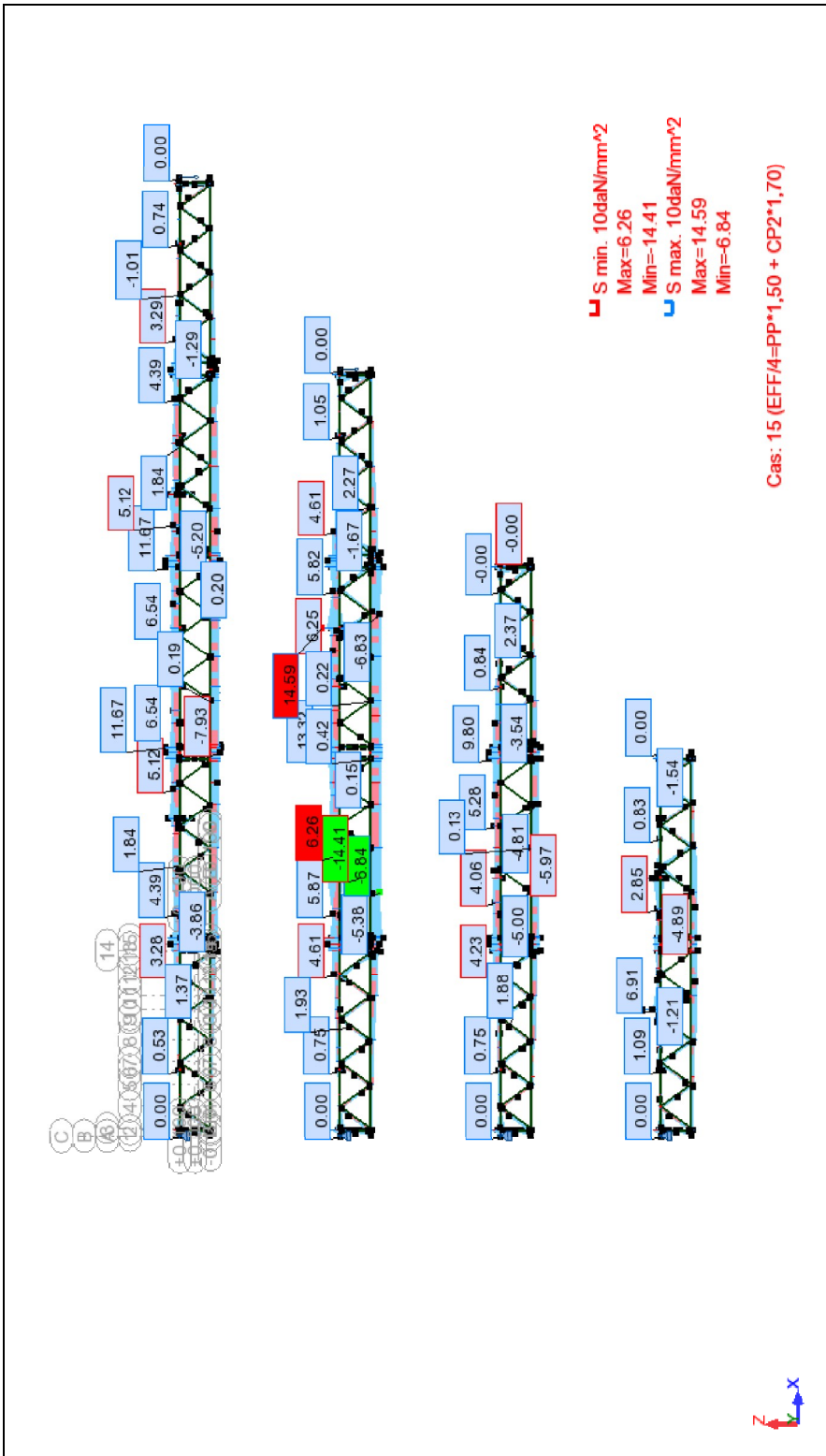
17.7 < 22.5 daN/mm² ; correct

Sigma ELU - S max;S min; Cas: 13 (EFF/3=PP*1,50 + CP1*1,70) 1



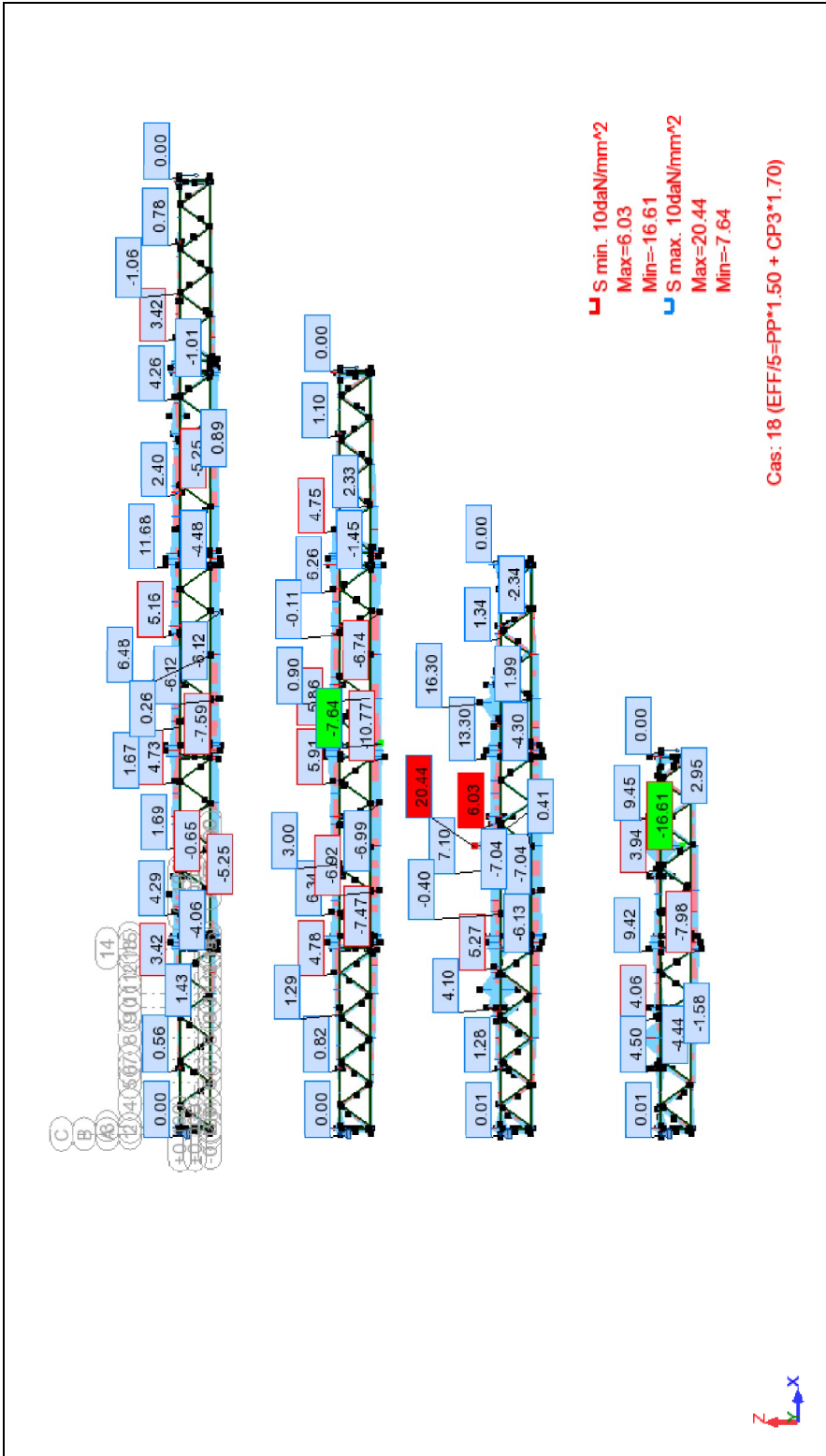
20.2 < 22.5 daN/mm² ; correct

Sigma ELU - S max;S min; Cas: 15 (EFF/4=PP*1,50 + CP2*1,70) 1



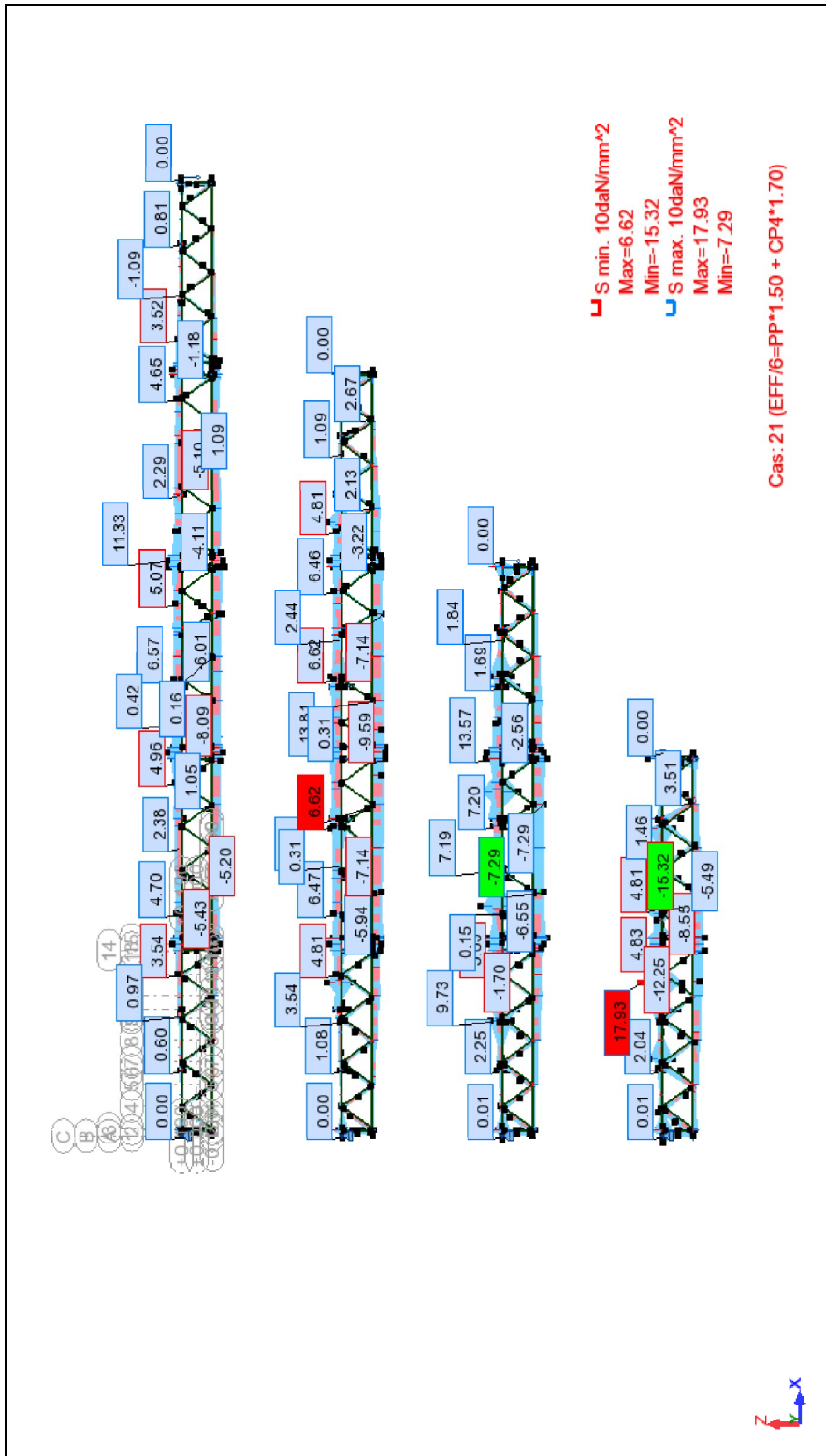
14.6 < 22.5 daN/mm² ; correct

Sigma ELU - S max;S min; Cas: 18 (EFF/5=PP*1.50 + CP3*1.70) 1



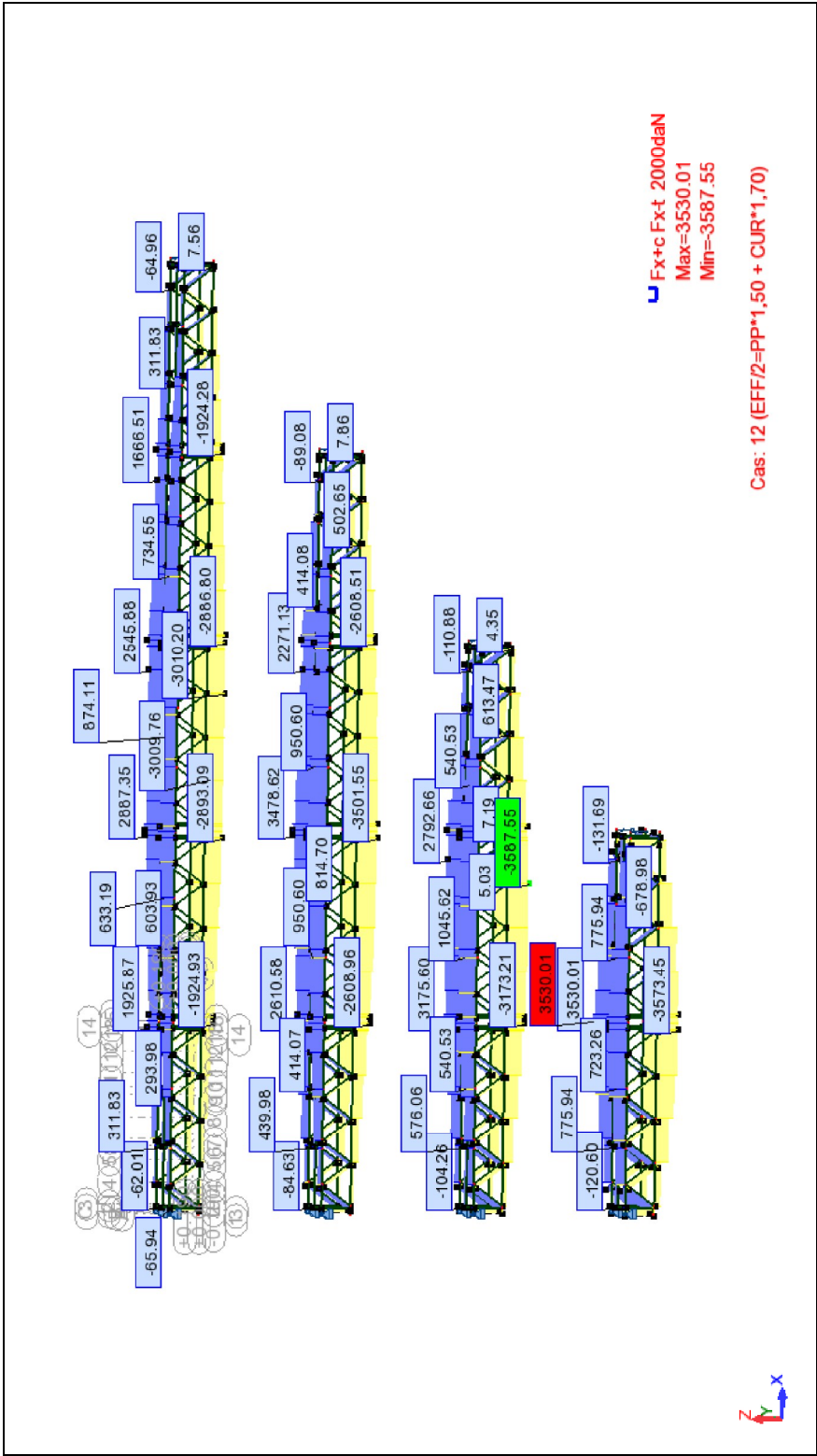
20.4 < 22.5 daN/mm² ; correct

Sigma ELU - S max; S min; Cas: 21 (EFF/6=PP*1.50 + CP4*1.70) 2

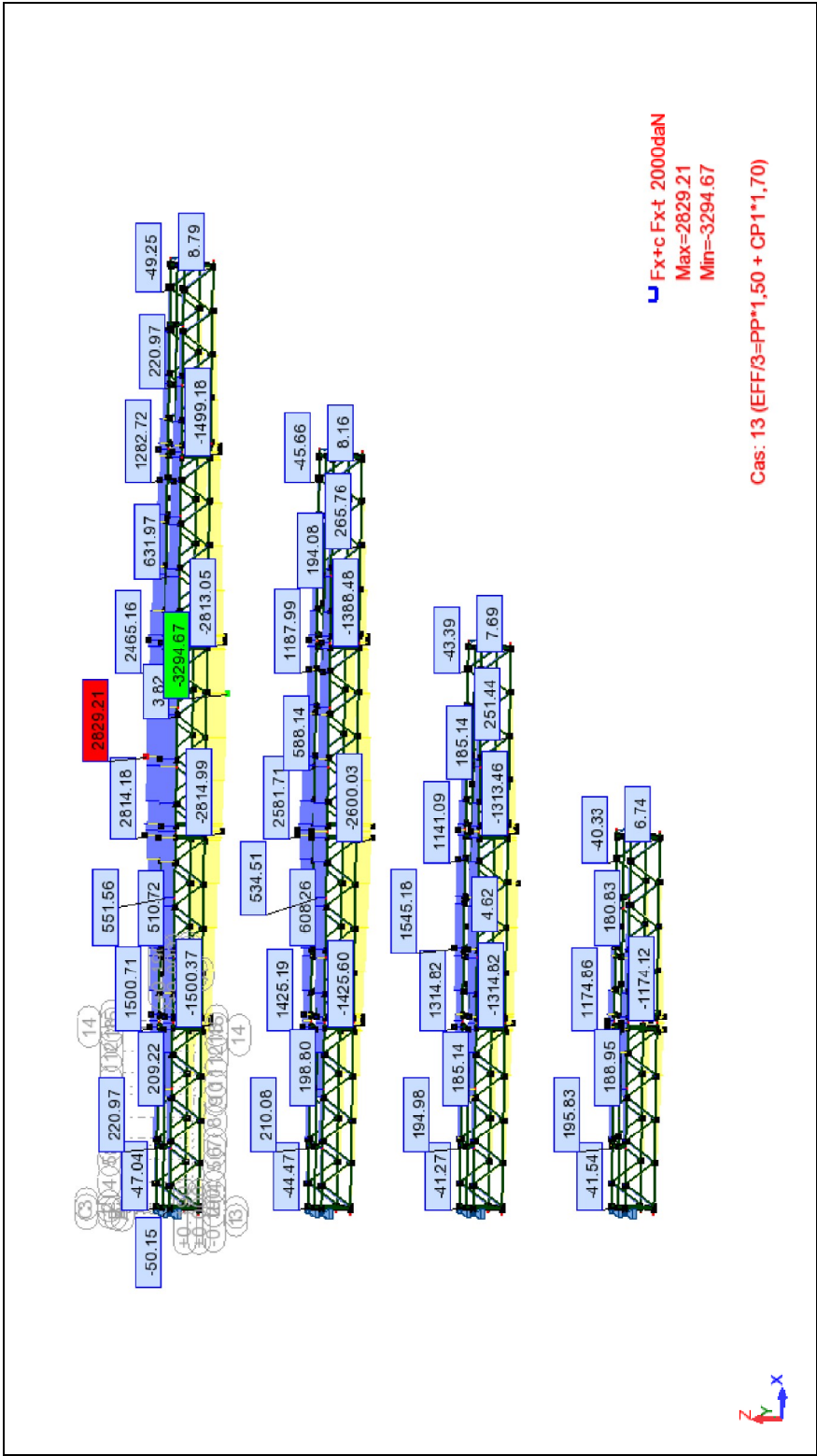


18<22.5daN/mm² ; correct

Fx ELU - FX; Cas: 12 (EFF/2=PP*1,50 + CUR*1,70)

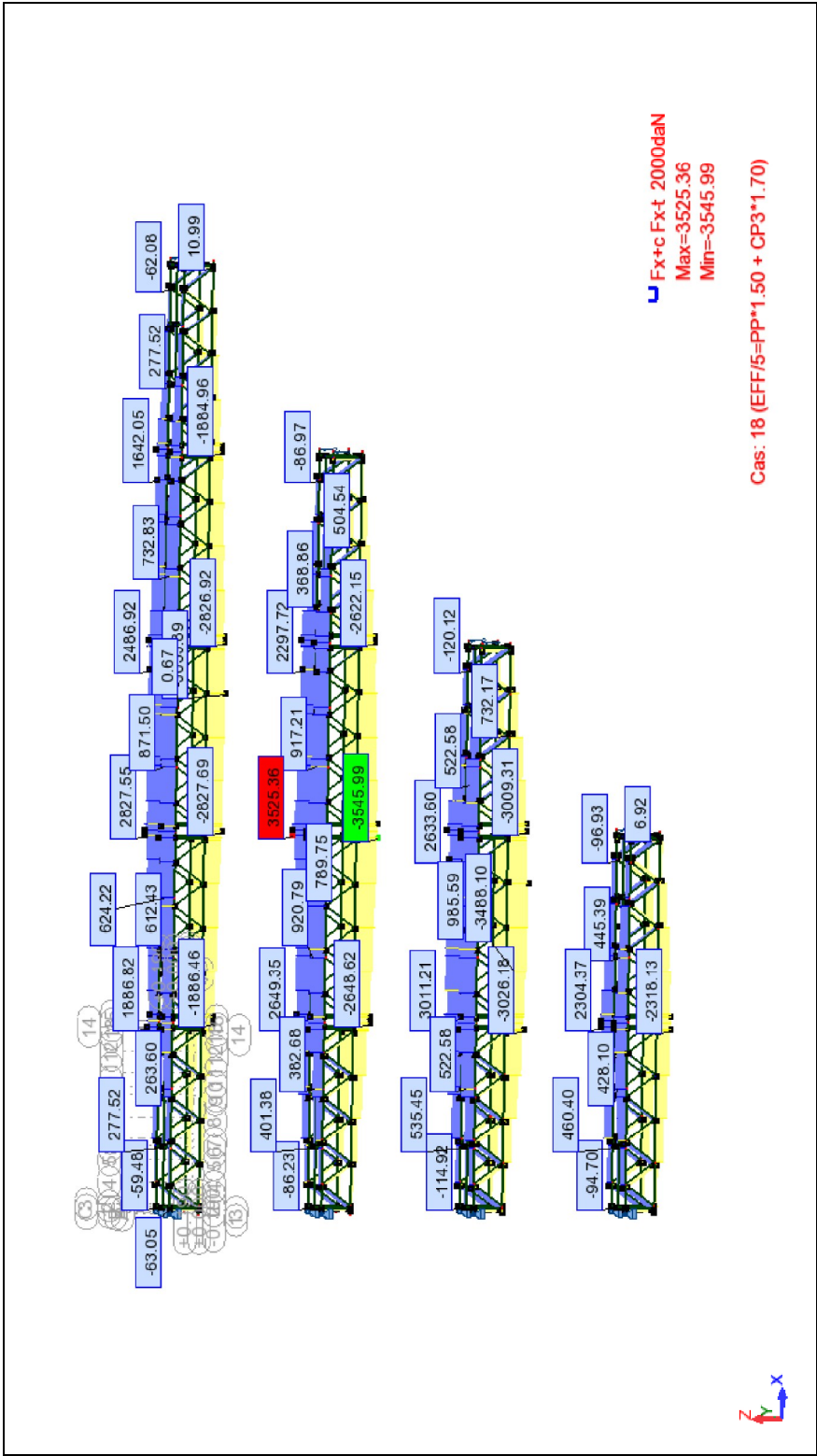


Fx ELU - FX; Cas: 13 (EFF/3=PP*1,50 + CP1*1,70)

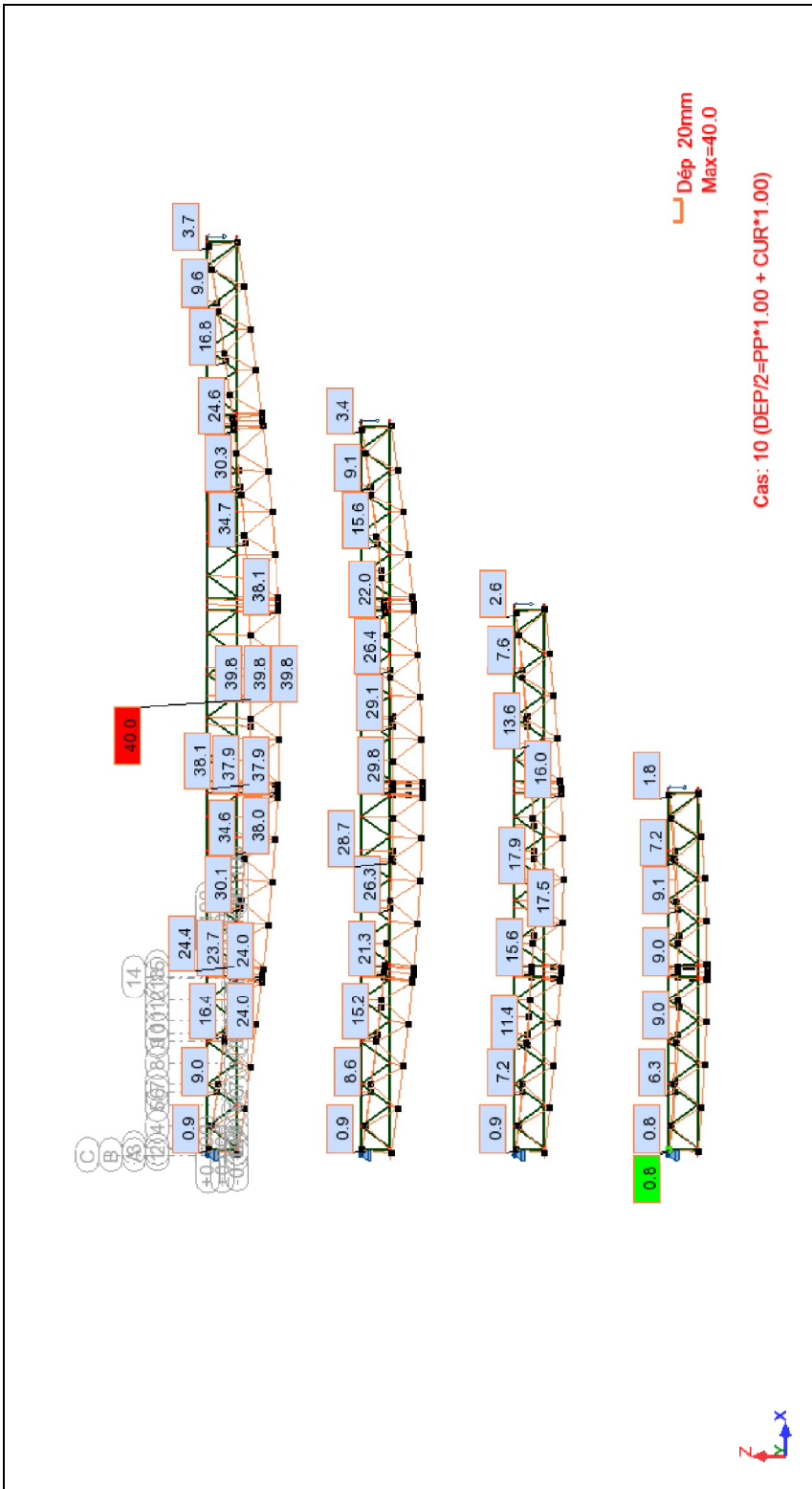


3300<3600daN ; correct

Fx ELU - FX; Cas: 18 (EFF/5=PP*1.50 + CP3*1.70)

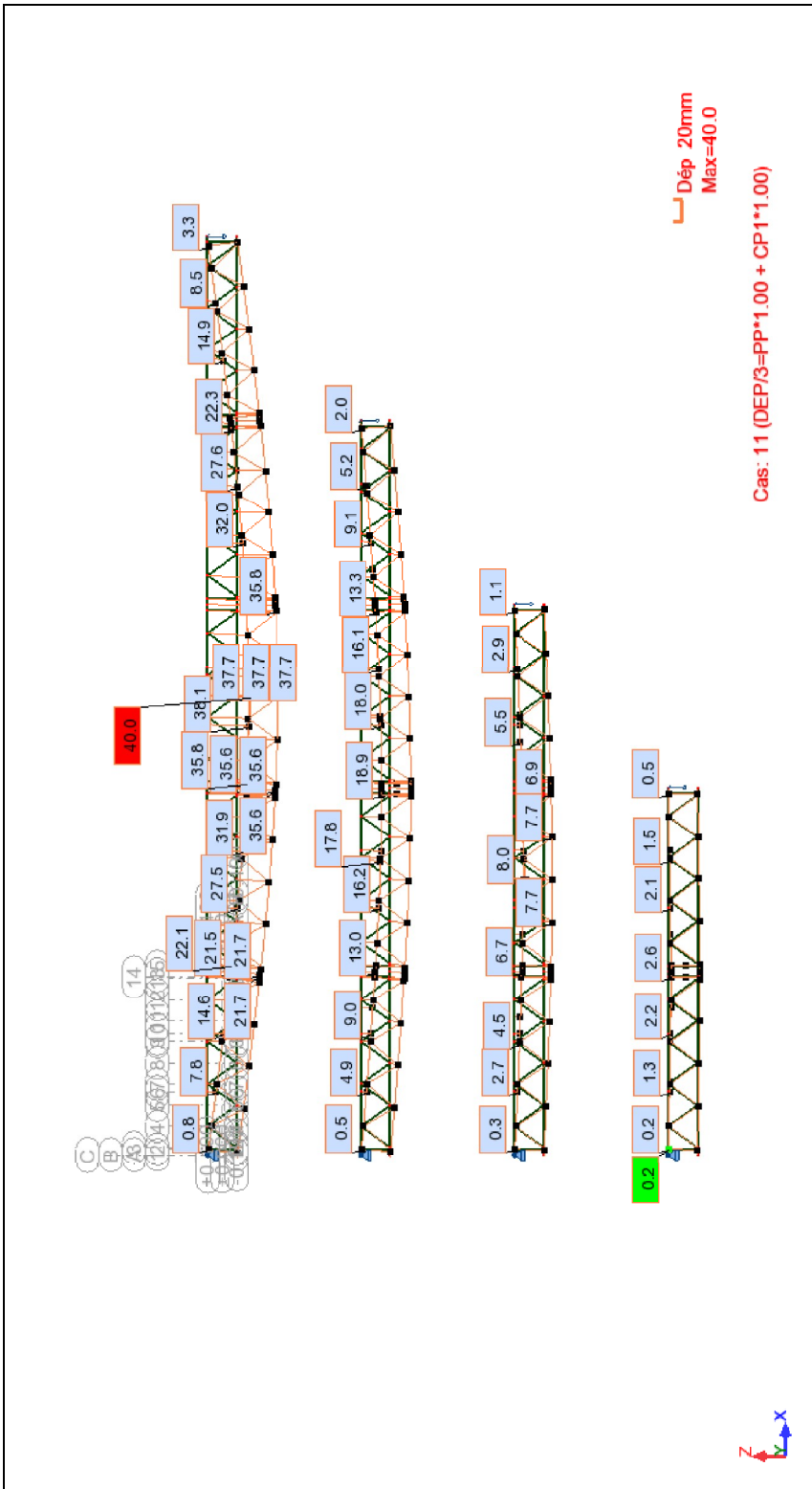


Fleche ELS - Déformée exacte; Cas: 10 (DEP/2=PP*1.00 + CUR*1.00)



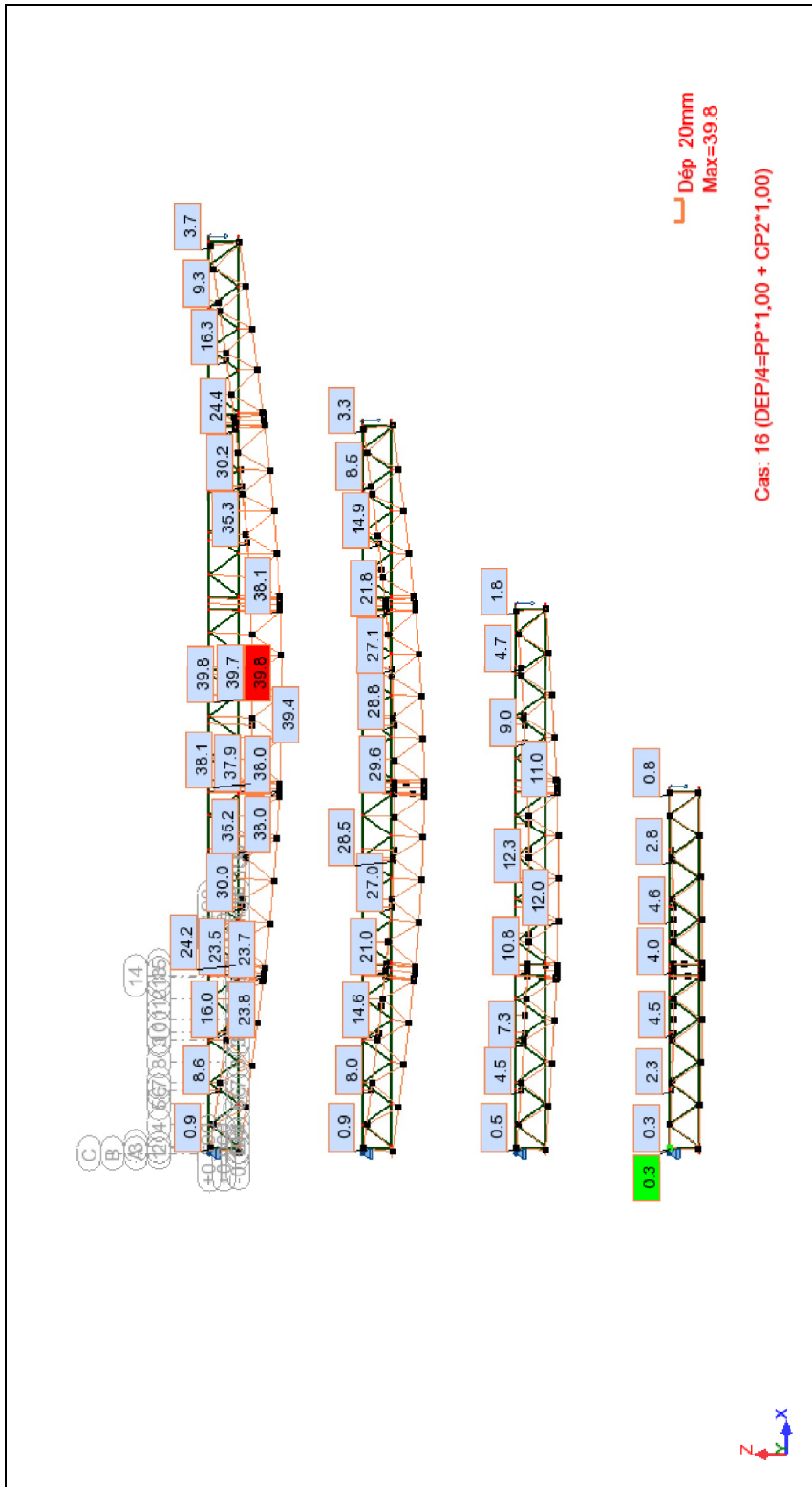
Les différentes taux de flèche des 4 portées sont inférieur au taux de $1/300^{\circ}$; correct

Fleche ELS - Déformée exacte; Cas: 11 (DEP/3=PP*1.00 + CP1*1.00)



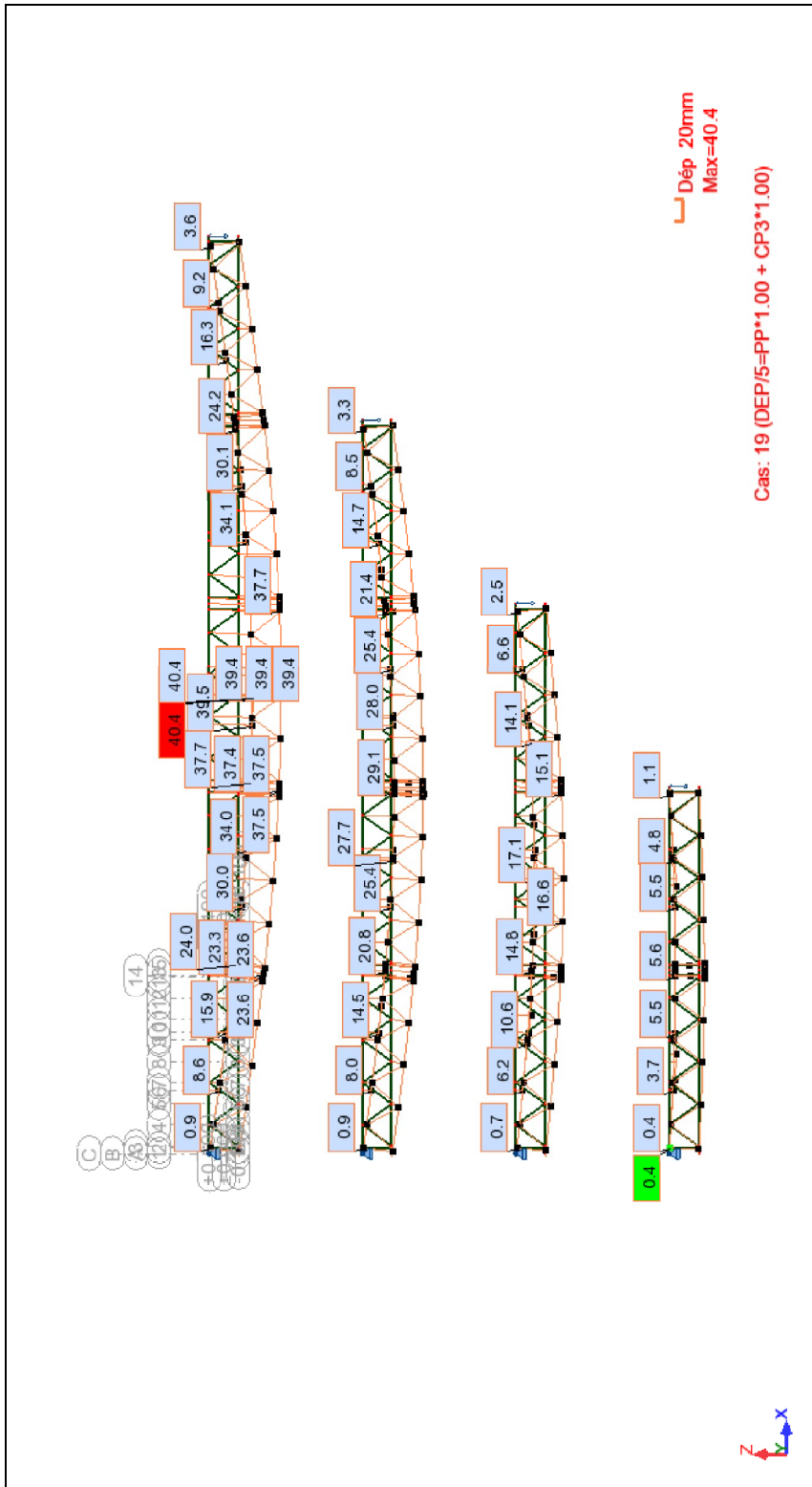
Les différentes taux de flèche des 4 portées sont inférieur au taux de $1/300^{\circ}$; correct

Fleche ELS - Déformée exacte; Cas: 16 (DEP/4=PP*1,00 + CP2*1,00)



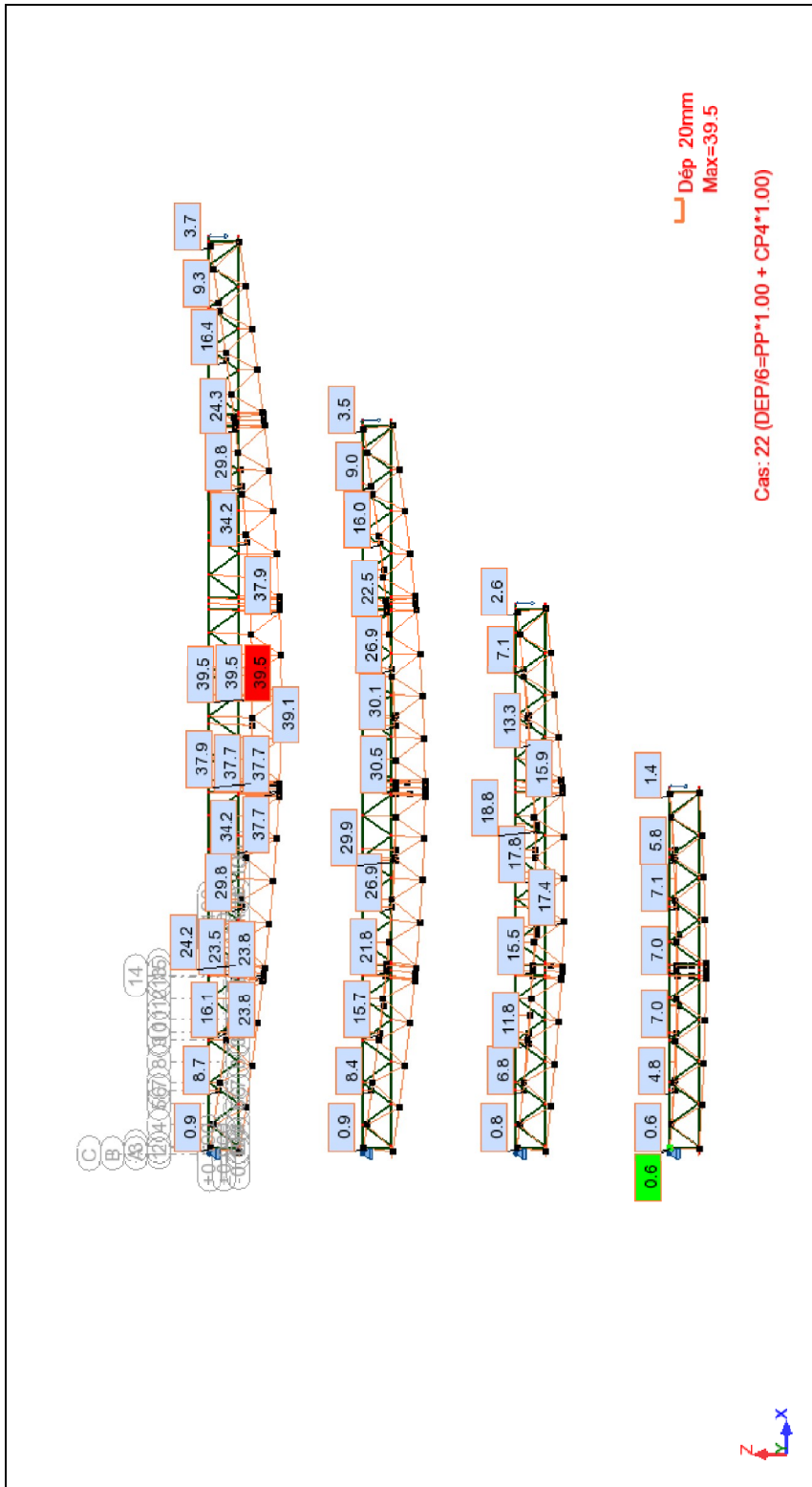
Les différentes taux de flèche des 4 portées sont inférieur au taux de $1/300^e$; correct

Fleche ELS - Déformée exacte; Cas: 19 (DEP/5=PP*1.00 + CP3*1.00)



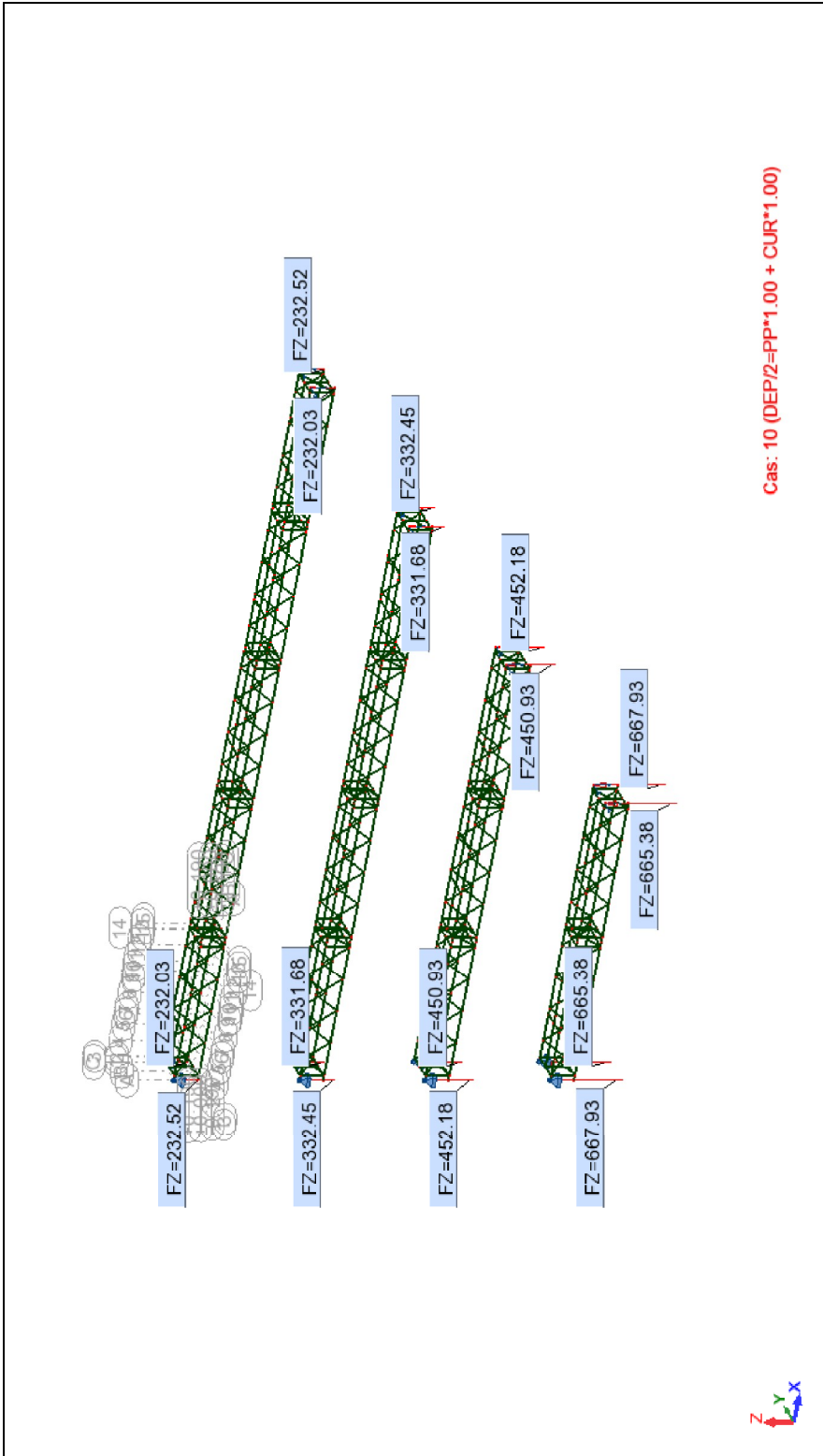
Les différentes taux de flèche des 4 portées sont inférieur au taux de $1/300^{\circ}$; correct

Fleche ELS - Déformée exacte; Cas: 22 (DEP/6=PP*1.00 + CP4*1.00)

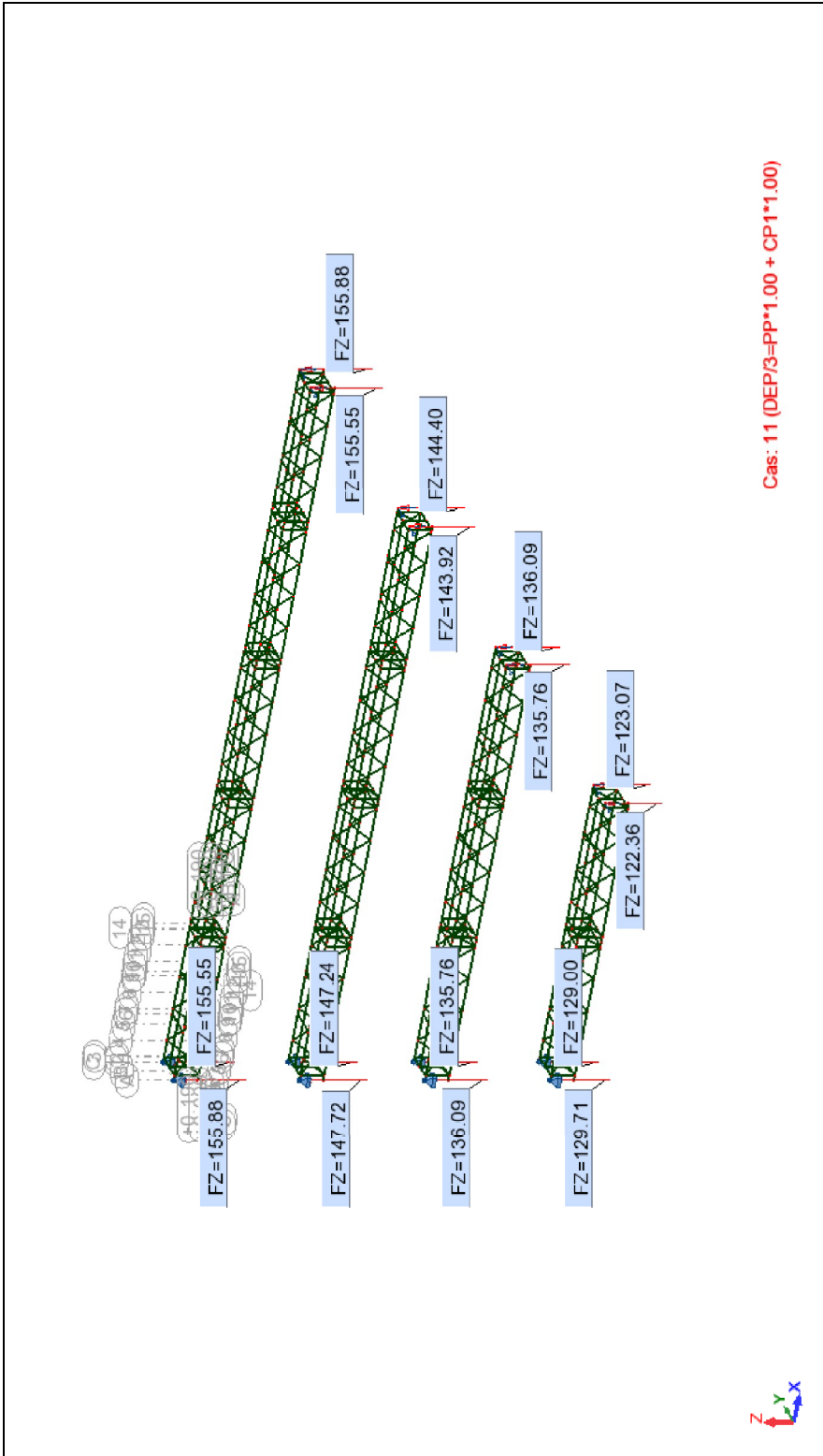


Les différentes taux de flèche des 4 portées sont inférieure au taux de $1/300^{\circ}$; correct

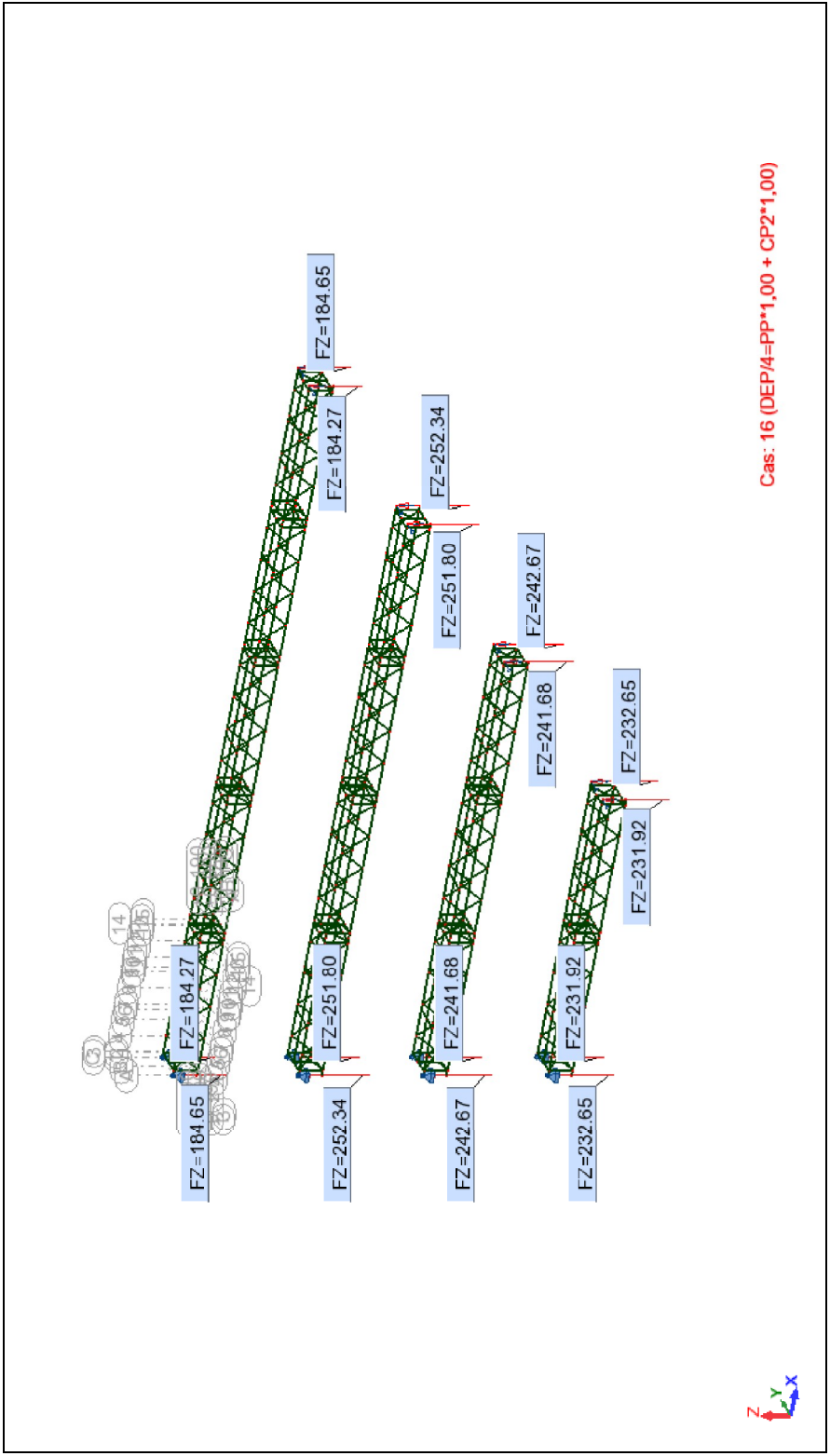
Réaction ELS - Forces de réaction(daN); Cas: 10 (DEP/2=PP*1.00 + CUR*1.00)



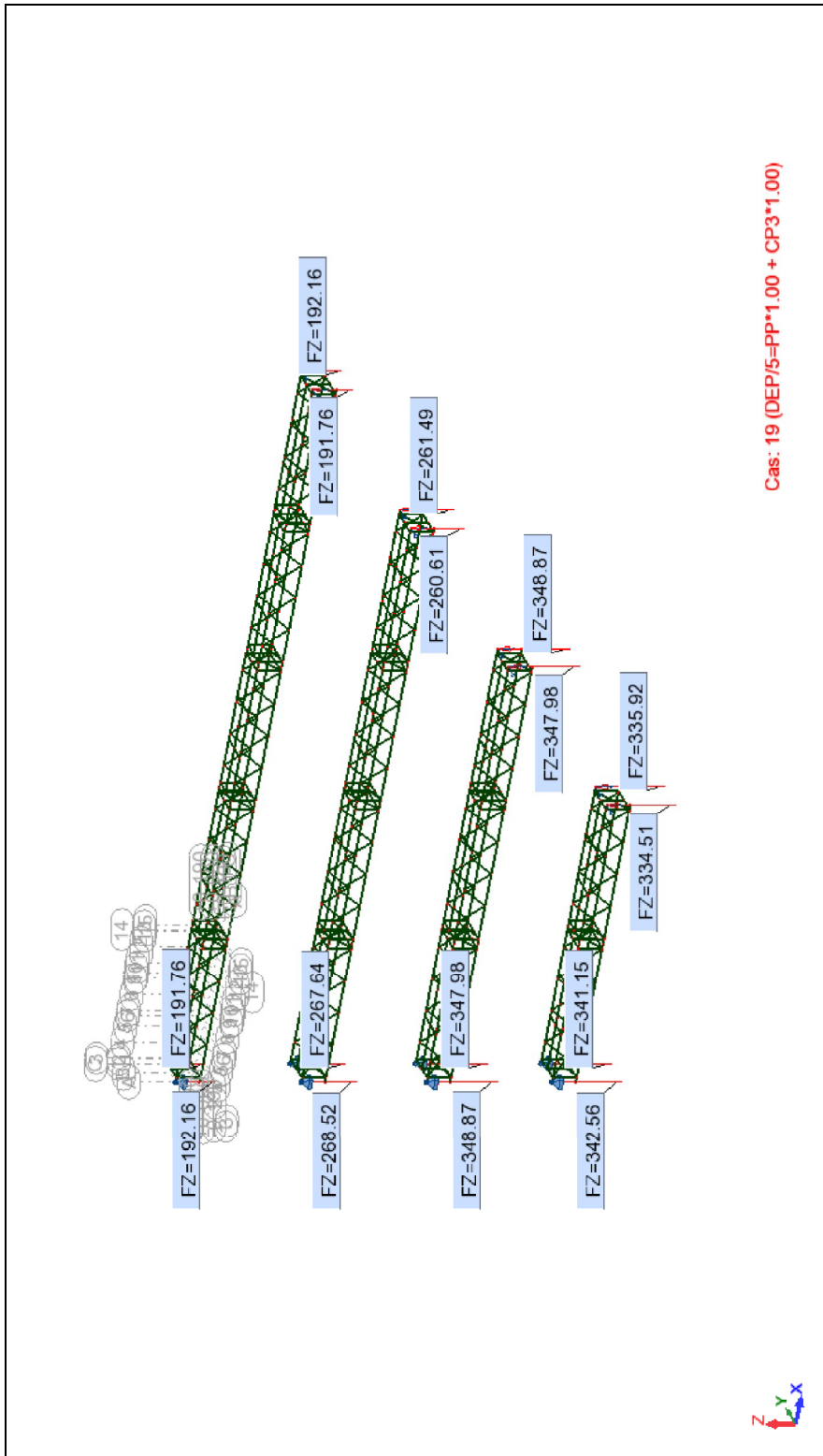
Reaction ELS - Forces de réaction(daN); Cas: 11 (DEP/3=PP*1.00 + CP1*1.00)



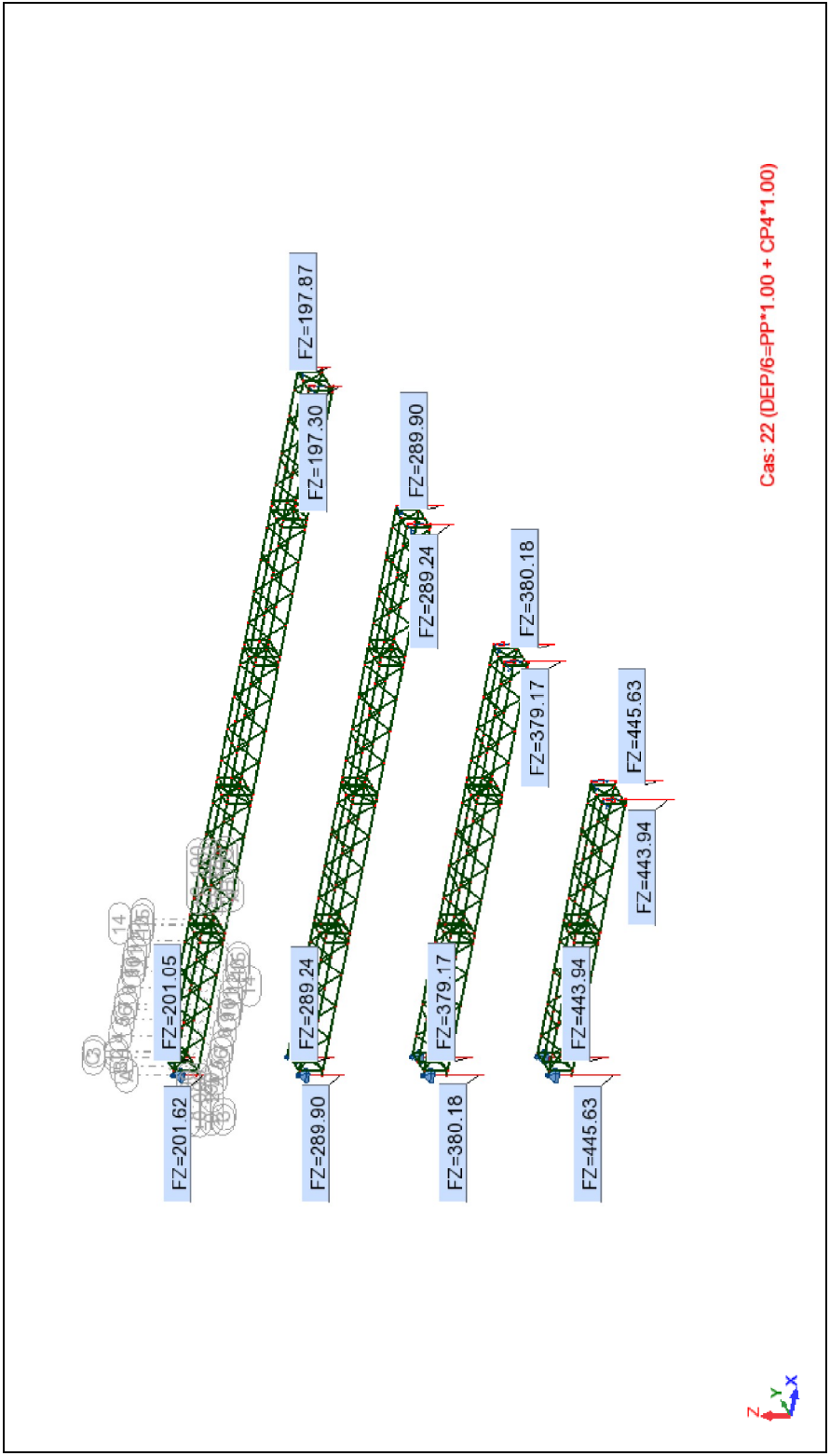
Reaction ELS - Forces de réaction(daN); Cas: 16 (DEP/4=PP*1,00 + CP2*1,00)



Reaction ELS - Forces de réaction(daN); Cas: 19 (DEP/5=PP*1.00 + CP3*1.00)



Reaction ELS - Forces de réaction(daN); Cas: 22 (DEP/6=PP*1.00 + CP4*1.00)



Vérf complète

| Pièce | Profil | Matériau | Lay | Laz | Ratio | Cas | Ratio(uy) | |
|-------|---------------------|--------------|---------|-------|-------|------|-----------|------|
| 1 | Membrures 1/300e_1 | RONDE_50X3 | 6005-T6 | 29.73 | 71.35 | 0.42 | 4 EFF /6/ | 0.01 |
| 2 | Membrures 1/300e_2 | RONDE_50X3 | 6005-T6 | 29.73 | 71.35 | 0.41 | 4 EFF /6/ | 0.01 |
| 3 | Membrures 1/300e_3 | RONDE_50X3 | 6005-T6 | 29.73 | 71.35 | 0.25 | 4 EFF /5/ | 0.01 |
| 4 | Membrures 1/300e_4 | RONDE_50X3 | 6005-T6 | 29.73 | 71.35 | 0.25 | 4 EFF /5/ | 0.01 |
| 5 | Barre 1/300e_5 | RECT_50X50X4 | 6060-T6 | 29.18 | 29.18 | 0.10 | 4 EFF /2/ | 0.04 |
| 6 | Barre 1/300e_6 | RECT_50X50X4 | 6060-T6 | 29.18 | 29.18 | 0.18 | 4 EFF /6/ | 0.09 |
| 7 | Treillis 1/300e_7 | RONDE_30X3 | 6106-T6 | 39.07 | 39.07 | 0.14 | 4 EFF /2/ | 0.01 |
| 8 | Membrures 1/300e_8 | RONDE_50X3 | 6005-T6 | 29.73 | 22.30 | 0.07 | 4 EFF /2/ | 0.00 |
| 9 | Membrures 1/300e_9 | RONDE_50X3 | 6005-T6 | 29.73 | 22.30 | 0.07 | 4 EFF /2/ | 0.00 |
| 10 | Membrures 1/300e_10 | RONDE_50X3 | 6005-T6 | 29.73 | 22.30 | 0.07 | 4 EFF /2/ | 0.00 |
| 11 | Membrures 1/300e_11 | RONDE_50X3 | 6005-T6 | 29.73 | 8.18 | 0.11 | 4 EFF /2/ | 0.01 |
| 12 | Membrures 1/300e_12 | RONDE_50X3 | 6005-T6 | 29.73 | 8.18 | 0.11 | 4 EFF /2/ | 0.01 |
| 13 | Membrures 1/300e_13 | RONDE_50X3 | 6005-T6 | 29.73 | 8.18 | 0.09 | 4 EFF /2/ | 0.00 |
| 14 | Membrures 1/300e_14 | RONDE_50X3 | 6005-T6 | 29.73 | 8.18 | 0.09 | 4 EFF /2/ | 0.00 |
| 15 | Treillis 1/300e_15 | RONDE_30X3 | 6106-T6 | 39.07 | 39.07 | 0.10 | 4 EFF /2/ | 0.01 |
| 16 | Treillis 1/300e_16 | RONDE_30X3 | 6106-T6 | 39.07 | 39.07 | 0.11 | 4 EFF /2/ | 0.02 |
| 17 | Treillis 1/300e_17 | RONDE_30X3 | 6106-T6 | 39.07 | 39.07 | 0.10 | 4 EFF /6/ | 0.01 |
| 18 | Treillis 1/300e_18 | RONDE_30X3 | 6106-T6 | 39.07 | 39.07 | 0.10 | 4 EFF /2/ | 0.01 |
| 19 | Treillis 1/300e_19 | RONDE_30X3 | 6106-T6 | 39.07 | 39.07 | 0.10 | 4 EFF /2/ | 0.02 |
| 20 | Treillis 1/300e_20 | RONDE_30X3 | 6106-T6 | 39.07 | 39.07 | 0.09 | 4 EFF /6/ | 0.00 |
| 21 | Treillis 1/300e_21 | RONDE_30X3 | 6106-T6 | 39.07 | 39.07 | 0.15 | 4 EFF /5/ | 0.01 |
| 22 | Treillis 1/300e_22 | RONDE_30X3 | 6106-T6 | 31.65 | 31.65 | 0.17 | 4 EFF /5/ | 0.01 |
| 23 | Treillis 1/300e_23 | RONDE_30X3 | 6106-T6 | 31.65 | 31.65 | 0.17 | 4 EFF /5/ | 0.01 |
| 24 | Barre 1/300e_24 | RECT_50X50X4 | 6060-T6 | 29.18 | 29.18 | 0.07 | 4 EFF /6/ | 0.00 |
| 25 | Barre 1/300e_25 | RECT_50X50X4 | 6060-T6 | 29.18 | 29.18 | 0.04 | 4 EFF /6/ | 0.02 |
| 26 | Treillis 1/300e_26 | RONDE_30X3 | 6106-T6 | 31.65 | 31.65 | 0.26 | 4 EFF /2/ | 0.01 |
| 27 | Treillis 1/300e_27 | RONDE_30X3 | 6106-T6 | 31.65 | 31.65 | 0.26 | 4 EFF /2/ | 0.01 |
| 28 | Treillis 1/300e_28 | RONDE_30X3 | 6106-T6 | 55.68 | 55.68 | 0.03 | 4 EFF /5/ | 0.03 |
| 29 | Treillis 1/300e_29 | RONDE_30X3 | 6106-T6 | 55.68 | 55.68 | 0.06 | 4 EFF /2/ | 0.04 |
| 30 | Barre 1/300e_30 | U_60X40X4 | 6060-T6 | 15.99 | 30.17 | 0.07 | 4 EFF /5/ | 0.02 |
| 31 | Barre 1/300e_31 | U_60X40X4 | 6060-T6 | 15.99 | 30.17 | 0.18 | 4 EFF /2/ | 0.04 |
| 32 | Treillis 1/300e_32 | RONDE_30X3 | 6106-T6 | 39.07 | 39.07 | 0.14 | 4 EFF /2/ | 0.01 |
| 33 | Treillis 1/300e_33 | RONDE_30X3 | 6106-T6 | 39.07 | 39.07 | 0.10 | 4 EFF /2/ | 0.01 |
| 34 | Treillis 1/300e_34 | RONDE_30X3 | 6106-T6 | 39.07 | 39.07 | 0.11 | 4 EFF /2/ | 0.02 |
| 35 | Treillis 1/300e_35 | RONDE_30X3 | 6106-T6 | 39.07 | 39.07 | 0.10 | 4 EFF /6/ | 0.01 |
| 36 | Treillis 1/300e_36 | RONDE_30X3 | 6106-T6 | 39.07 | 39.07 | 0.10 | 4 EFF /2/ | 0.01 |
| 37 | Treillis 1/300e_37 | RONDE_30X3 | 6106-T6 | 39.07 | 39.07 | 0.10 | 4 EFF /2/ | 0.02 |
| 38 | Treillis 1/300e_38 | RONDE_30X3 | 6106-T6 | 39.07 | 39.07 | 0.09 | 4 EFF /6/ | 0.00 |
| 39 | Treillis 1/300e_39 | RONDE_30X3 | 6106-T6 | 39.07 | 39.07 | 0.15 | 4 EFF /5/ | 0.01 |
| 40 | Membrures 1/300e_40 | RONDE_50X3 | 6005-T6 | 29.73 | 71.35 | 0.74 | 4 EFF /4/ | 0.02 |
| 41 | Membrures 1/300e_41 | RONDE_50X3 | 6005-T6 | 29.73 | 71.35 | 0.74 | 4 EFF /4/ | 0.02 |
| 42 | Membrures 1/300e_42 | RONDE_50X3 | 6005-T6 | 29.73 | 71.35 | 0.36 | 4 EFF /6/ | 0.03 |
| 43 | Membrures 1/300e_43 | RONDE_50X3 | 6005-T6 | 29.73 | 71.35 | 0.36 | 4 EFF /6/ | 0.03 |
| 44 | Barre 1/300e_44 | RECT_50X50X4 | 6060-T6 | 29.18 | 29.18 | 0.24 | 4 EFF /5/ | 0.15 |
| 45 | Barre 1/300e_45 | RECT_50X50X4 | 6060-T6 | 29.18 | 29.18 | 0.30 | 4 EFF /6/ | 0.17 |
| 46 | Treillis 1/300e_46 | RONDE_30X3 | 6106-T6 | 39.07 | 39.07 | 0.14 | 4 EFF /5/ | 0.01 |
| 47 | Membrures 1/300e_47 | RONDE_50X3 | 6005-T6 | 29.73 | 22.30 | 0.38 | 4 EFF /5/ | 0.00 |
| 48 | Membrures 1/300e_48 | RONDE_50X3 | 6005-T6 | 29.73 | 22.30 | 0.19 | 4 EFF /4/ | 0.00 |
| 49 | Membrures 1/300e_49 | RONDE_50X3 | 6005-T6 | 29.73 | 22.30 | 0.21 | 4 EFF /4/ | 0.00 |
| 50 | Membrures 1/300e_50 | RONDE_50X3 | 6005-T6 | 29.73 | 8.18 | 0.25 | 4 EFF /5/ | 0.02 |
| 51 | Membrures 1/300e_51 | RONDE_50X3 | 6005-T6 | 29.73 | 8.18 | 0.25 | 4 EFF /5/ | 0.02 |
| 52 | Membrures 1/300e_52 | RONDE_50X3 | 6005-T6 | 29.73 | 8.18 | 0.41 | 4 EFF /4/ | 0.01 |
| 53 | Membrures 1/300e_53 | RONDE_50X3 | 6005-T6 | 29.73 | 8.18 | 0.41 | 4 EFF /4/ | 0.01 |
| 54 | Treillis 1/300e_54 | RONDE_30X3 | 6106-T6 | 39.07 | 39.07 | 0.09 | 4 EFF /4/ | 0.01 |

| Pièce | Profil | Matériau | Lay | Laz | Ratio | Cas | Ratio(uy) |
|-------------------------|--------------|----------|-------|-------|-------|-----------|-----------|
| 55 Treillis 1/300e_55 | RONDE_30X3 | 6106-T6 | 39.07 | 39.07 | 0.11 | 4 EFF /5/ | 0.04 |
| 56 Treillis 1/300e_56 | RONDE_30X3 | 6106-T6 | 39.07 | 39.07 | 0.09 | 4 EFF /4/ | 0.03 |
| 57 Treillis 1/300e_57 | RONDE_30X3 | 6106-T6 | 39.07 | 39.07 | 0.14 | 4 EFF /4/ | 0.06 |
| 58 Treillis 1/300e_58 | RONDE_30X3 | 6106-T6 | 39.07 | 39.07 | 0.12 | 4 EFF /4/ | 0.07 |
| 59 Treillis 1/300e_59 | RONDE_30X3 | 6106-T6 | 39.07 | 39.07 | 0.07 | 4 EFF /3/ | 0.02 |
| 60 Treillis 1/300e_60 | RONDE_30X3 | 6106-T6 | 39.07 | 39.07 | 0.10 | 4 EFF /3/ | 0.03 |
| 61 Treillis 1/300e_61 | RONDE_30X3 | 6106-T6 | 31.65 | 31.65 | 0.12 | 4 EFF /3/ | 0.01 |
| 62 Treillis 1/300e_62 | RONDE_30X3 | 6106-T6 | 31.65 | 31.65 | 0.12 | 4 EFF /3/ | 0.01 |
| 63 Barre 1/300e_63 | RECT_50X50X4 | 6060-T6 | 29.18 | 29.18 | 0.07 | 4 EFF /6/ | 0.01 |
| 64 Barre 1/300e_64 | RECT_50X50X4 | 6060-T6 | 29.18 | 29.18 | 0.05 | 4 EFF /5/ | 0.02 |
| 65 Treillis 1/300e_65 | RONDE_30X3 | 6106-T6 | 31.65 | 31.65 | 0.15 | 4 EFF /5/ | 0.01 |
| 66 Treillis 1/300e_66 | RONDE_30X3 | 6106-T6 | 31.65 | 31.65 | 0.15 | 4 EFF /5/ | 0.01 |
| 67 Treillis 1/300e_67 | RONDE_30X3 | 6106-T6 | 55.68 | 55.68 | 0.04 | 4 EFF /4/ | 0.04 |
| 68 Treillis 1/300e_68 | RONDE_30X3 | 6106-T6 | 55.68 | 55.68 | 0.07 | 4 EFF /5/ | 0.04 |
| 69 Barre 1/300e_69 | U_60X40X4 | 6060-T6 | 15.99 | 30.17 | 0.13 | 4 EFF /4/ | 0.03 |
| 70 Barre 1/300e_70 | U_60X40X4 | 6060-T6 | 15.99 | 30.17 | 0.28 | 4 EFF /5/ | 0.06 |
| 71 Treillis 1/300e_71 | RONDE_30X3 | 6106-T6 | 39.07 | 39.07 | 0.14 | 4 EFF /5/ | 0.01 |
| 72 Treillis 1/300e_72 | RONDE_30X3 | 6106-T6 | 39.07 | 39.07 | 0.09 | 4 EFF /4/ | 0.01 |
| 73 Treillis 1/300e_73 | RONDE_30X3 | 6106-T6 | 39.07 | 39.07 | 0.11 | 4 EFF /5/ | 0.04 |
| 74 Treillis 1/300e_74 | RONDE_30X3 | 6106-T6 | 39.07 | 39.07 | 0.09 | 4 EFF /4/ | 0.03 |
| 75 Treillis 1/300e_75 | RONDE_30X3 | 6106-T6 | 39.07 | 39.07 | 0.14 | 4 EFF /4/ | 0.06 |
| 76 Treillis 1/300e_76 | RONDE_30X3 | 6106-T6 | 39.07 | 39.07 | 0.12 | 4 EFF /4/ | 0.07 |
| 77 Treillis 1/300e_77 | RONDE_30X3 | 6106-T6 | 39.07 | 39.07 | 0.06 | 4 EFF /3/ | 0.02 |
| 78 Treillis 1/300e_78 | RONDE_30X3 | 6106-T6 | 39.07 | 39.07 | 0.10 | 4 EFF /3/ | 0.03 |
| 79 Membrures 1/300e_79 | RONDE_50X3 | 6005-T6 | 29.73 | 71.35 | 0.78 | 4 EFF /3/ | 0.02 |
| 80 Membrures 1/300e_80 | RONDE_50X3 | 6005-T6 | 29.73 | 71.35 | 0.78 | 4 EFF /3/ | 0.02 |
| 81 Membrures 1/300e_81 | RONDE_50X3 | 6005-T6 | 29.73 | 71.35 | 0.40 | 4 EFF /6/ | 0.06 |
| 82 Membrures 1/300e_82 | RONDE_50X3 | 6005-T6 | 29.73 | 71.35 | 0.40 | 4 EFF /6/ | 0.06 |
| 83 Barre 1/300e_83 | RECT_50X50X4 | 6060-T6 | 29.18 | 29.18 | 0.28 | 4 EFF /3/ | 0.20 |
| 84 Barre 1/300e_84 | RECT_50X50X4 | 6060-T6 | 29.18 | 29.18 | 0.33 | 4 EFF /6/ | 0.20 |
| 85 Treillis 1/300e_85 | RONDE_30X3 | 6106-T6 | 39.07 | 39.07 | 0.11 | 4 EFF /3/ | 0.03 |
| 86 Membrures 1/300e_86 | RONDE_50X3 | 6005-T6 | 29.73 | 22.30 | 0.21 | 4 EFF /3/ | 0.00 |
| 87 Membrures 1/300e_87 | RONDE_50X3 | 6005-T6 | 29.73 | 22.30 | 0.92 | 4 EFF /3/ | 0.00 |
| 88 Membrures 1/300e_88 | RONDE_50X3 | 6005-T6 | 29.73 | 22.30 | 0.21 | 4 EFF /3/ | 0.00 |
| 89 Membrures 1/300e_89 | RONDE_50X3 | 6005-T6 | 29.73 | 8.18 | 0.42 | 4 EFF /3/ | 0.02 |
| 90 Membrures 1/300e_90 | RONDE_50X3 | 6005-T6 | 29.73 | 8.18 | 0.42 | 4 EFF /3/ | 0.02 |
| 91 Membrures 1/300e_91 | RONDE_50X3 | 6005-T6 | 29.73 | 8.18 | 0.42 | 4 EFF /3/ | 0.02 |
| 92 Membrures 1/300e_92 | RONDE_50X3 | 6005-T6 | 29.73 | 8.18 | 0.42 | 4 EFF /3/ | 0.02 |
| 93 Treillis 1/300e_93 | RONDE_30X3 | 6106-T6 | 39.07 | 39.07 | 0.08 | 4 EFF /3/ | 0.01 |
| 94 Treillis 1/300e_94 | RONDE_30X3 | 6106-T6 | 39.07 | 39.07 | 0.15 | 4 EFF /3/ | 0.09 |
| 95 Treillis 1/300e_95 | RONDE_30X3 | 6106-T6 | 39.07 | 39.07 | 0.05 | 4 EFF /9/ | 0.06 |
| 96 Treillis 1/300e_96 | RONDE_30X3 | 6106-T6 | 39.07 | 39.07 | 0.05 | 4 EFF /9/ | 0.06 |
| 97 Treillis 1/300e_97 | RONDE_30X3 | 6106-T6 | 39.07 | 39.07 | 0.15 | 4 EFF /3/ | 0.09 |
| 98 Treillis 1/300e_98 | RONDE_30X3 | 6106-T6 | 39.07 | 39.07 | 0.08 | 4 EFF /3/ | 0.01 |
| 99 Treillis 1/300e_99 | RONDE_30X3 | 6106-T6 | 39.07 | 39.07 | 0.11 | 4 EFF /3/ | 0.03 |
| 100 Treillis 1/300e_100 | RONDE_30X3 | 6106-T6 | 31.65 | 31.65 | 0.10 | 4 EFF /3/ | 0.01 |
| 101 Treillis 1/300e_101 | RONDE_30X3 | 6106-T6 | 31.65 | 31.65 | 0.10 | 4 EFF /3/ | 0.01 |
| 102 Barre 1/300e_102 | RECT_50X50X4 | 6060-T6 | 29.18 | 29.18 | 0.07 | 4 EFF /6/ | 0.01 |
| 103 Barre 1/300e_103 | RECT_50X50X4 | 6060-T6 | 29.18 | 29.18 | 0.03 | 4 EFF /2/ | 0.01 |
| 104 Treillis 1/300e_104 | RONDE_30X3 | 6106-T6 | 31.65 | 31.65 | 0.10 | 4 EFF /3/ | 0.01 |
| 105 Treillis 1/300e_105 | RONDE_30X3 | 6106-T6 | 31.65 | 31.65 | 0.10 | 4 EFF /3/ | 0.01 |
| 106 Treillis 1/300e_106 | RONDE_30X3 | 6106-T6 | 55.68 | 55.68 | 0.07 | 4 EFF /3/ | 0.04 |
| 107 Treillis 1/300e_107 | RONDE_30X3 | 6106-T6 | 55.68 | 55.68 | 0.07 | 4 EFF /3/ | 0.04 |
| 108 Barre 1/300e_108 | U_60X40X4 | 6060-T6 | 15.99 | 30.17 | 0.15 | 4 EFF /3/ | 0.03 |
| 109 Barre 1/300e_109 | U_60X40X4 | 6060-T6 | 15.99 | 30.17 | 0.15 | 4 EFF /3/ | 0.03 |
| 110 Treillis 1/300e_110 | RONDE_30X3 | 6106-T6 | 39.07 | 39.07 | 0.11 | 4 EFF /3/ | 0.03 |

| Pièce | Profil | Matériau | Lay | Laz | Ratio | Cas | Ratio(uy) |
|--------------------------|--------------|----------|-------|-------|-------|-----------|-----------|
| 111 Treillis 1/300e_111 | RONDE_30X3 | 6106-T6 | 39.07 | 39.07 | 0.08 | 4 EFF /3/ | 0.01 |
| 112 Treillis 1/300e_112 | RONDE_30X3 | 6106-T6 | 39.07 | 39.07 | 0.15 | 4 EFF /3/ | 0.09 |
| 113 Treillis 1/300e_113 | RONDE_30X3 | 6106-T6 | 39.07 | 39.07 | 0.05 | 4 EFF /9/ | 0.06 |
| 114 Treillis 1/300e_114 | RONDE_30X3 | 6106-T6 | 39.07 | 39.07 | 0.05 | 4 EFF /9/ | 0.06 |
| 115 Treillis 1/300e_115 | RONDE_30X3 | 6106-T6 | 39.07 | 39.07 | 0.15 | 4 EFF /3/ | 0.09 |
| 116 Treillis 1/300e_116 | RONDE_30X3 | 6106-T6 | 39.07 | 39.07 | 0.08 | 4 EFF /3/ | 0.01 |
| 117 Treillis 1/300e_117 | RONDE_30X3 | 6106-T6 | 39.07 | 39.07 | 0.11 | 4 EFF /3/ | 0.03 |
| 118 Membrures 1/300e_118 | RONDE_50X3 | 6005-T6 | 29.73 | 71.35 | 0.74 | 4 EFF /4/ | 0.02 |
| 119 Membrures 1/300e_119 | RONDE_50X3 | 6005-T6 | 29.73 | 71.35 | 0.74 | 4 EFF /4/ | 0.02 |
| 120 Membrures 1/300e_120 | RONDE_50X3 | 6005-T6 | 29.73 | 71.35 | 0.36 | 4 EFF /6/ | 0.03 |
| 121 Membrures 1/300e_121 | RONDE_50X3 | 6005-T6 | 29.73 | 71.35 | 0.36 | 4 EFF /6/ | 0.03 |
| 122 Barre 1/300e_122 | RECT_50X50X4 | 6060-T6 | 29.18 | 29.18 | 0.25 | 4 EFF /4/ | 0.17 |
| 123 Barre 1/300e_123 | RECT_50X50X4 | 6060-T6 | 29.18 | 29.18 | 0.28 | 4 EFF /6/ | 0.15 |
| 124 Treillis 1/300e_124 | RONDE_30X3 | 6106-T6 | 39.07 | 39.07 | 0.10 | 4 EFF /3/ | 0.03 |
| 125 Membrures 1/300e_125 | RONDE_50X3 | 6005-T6 | 29.73 | 22.30 | 0.21 | 4 EFF /4/ | 0.00 |
| 126 Membrures 1/300e_126 | RONDE_50X3 | 6005-T6 | 29.73 | 22.30 | 0.19 | 4 EFF /4/ | 0.00 |
| 127 Membrures 1/300e_127 | RONDE_50X3 | 6005-T6 | 29.73 | 22.30 | 0.38 | 4 EFF /5/ | 0.00 |
| 128 Membrures 1/300e_128 | RONDE_50X3 | 6005-T6 | 29.73 | 8.18 | 0.41 | 4 EFF /4/ | 0.01 |
| 129 Membrures 1/300e_129 | RONDE_50X3 | 6005-T6 | 29.73 | 8.18 | 0.41 | 4 EFF /4/ | 0.01 |
| 130 Membrures 1/300e_130 | RONDE_50X3 | 6005-T6 | 29.73 | 8.18 | 0.25 | 4 EFF /5/ | 0.02 |
| 131 Membrures 1/300e_131 | RONDE_50X3 | 6005-T6 | 29.73 | 8.18 | 0.25 | 4 EFF /5/ | 0.02 |
| 132 Treillis 1/300e_132 | RONDE_30X3 | 6106-T6 | 39.07 | 39.07 | 0.06 | 4 EFF /3/ | 0.02 |
| 133 Treillis 1/300e_133 | RONDE_30X3 | 6106-T6 | 39.07 | 39.07 | 0.12 | 4 EFF /4/ | 0.07 |
| 134 Treillis 1/300e_134 | RONDE_30X3 | 6106-T6 | 39.07 | 39.07 | 0.14 | 4 EFF /4/ | 0.06 |
| 135 Treillis 1/300e_135 | RONDE_30X3 | 6106-T6 | 39.07 | 39.07 | 0.09 | 4 EFF /4/ | 0.03 |
| 136 Treillis 1/300e_136 | RONDE_30X3 | 6106-T6 | 39.07 | 39.07 | 0.11 | 4 EFF /5/ | 0.04 |
| 137 Treillis 1/300e_137 | RONDE_30X3 | 6106-T6 | 39.07 | 39.07 | 0.09 | 4 EFF /4/ | 0.01 |
| 138 Treillis 1/300e_138 | RONDE_30X3 | 6106-T6 | 39.07 | 39.07 | 0.14 | 4 EFF /5/ | 0.01 |
| 139 Treillis 1/300e_139 | RONDE_30X3 | 6106-T6 | 31.65 | 31.65 | 0.15 | 4 EFF /5/ | 0.01 |
| 140 Treillis 1/300e_140 | RONDE_30X3 | 6106-T6 | 31.65 | 31.65 | 0.15 | 4 EFF /5/ | 0.01 |
| 141 Barre 1/300e_141 | RECT_50X50X4 | 6060-T6 | 29.18 | 29.18 | 0.07 | 4 EFF /6/ | 0.02 |
| 142 Barre 1/300e_142 | RECT_50X50X4 | 6060-T6 | 29.18 | 29.18 | 0.03 | 4 EFF /4/ | 0.01 |
| 143 Treillis 1/300e_143 | RONDE_30X3 | 6106-T6 | 31.65 | 31.65 | 0.12 | 4 EFF /3/ | 0.01 |
| 144 Treillis 1/300e_144 | RONDE_30X3 | 6106-T6 | 31.65 | 31.65 | 0.12 | 4 EFF /3/ | 0.01 |
| 145 Treillis 1/300e_145 | RONDE_30X3 | 6106-T6 | 55.68 | 55.68 | 0.07 | 4 EFF /5/ | 0.04 |
| 146 Treillis 1/300e_146 | RONDE_30X3 | 6106-T6 | 55.68 | 55.68 | 0.04 | 4 EFF /4/ | 0.04 |
| 147 Barre 1/300e_147 | U_60X40X4 | 6060-T6 | 15.99 | 30.17 | 0.28 | 4 EFF /5/ | 0.06 |
| 148 Barre 1/300e_148 | U_60X40X4 | 6060-T6 | 15.99 | 30.17 | 0.13 | 4 EFF /4/ | 0.03 |
| 149 Treillis 1/300e_149 | RONDE_30X3 | 6106-T6 | 39.07 | 39.07 | 0.10 | 4 EFF /3/ | 0.03 |
| 150 Treillis 1/300e_150 | RONDE_30X3 | 6106-T6 | 39.07 | 39.07 | 0.07 | 4 EFF /3/ | 0.02 |
| 151 Treillis 1/300e_151 | RONDE_30X3 | 6106-T6 | 39.07 | 39.07 | 0.12 | 4 EFF /4/ | 0.07 |
| 152 Treillis 1/300e_152 | RONDE_30X3 | 6106-T6 | 39.07 | 39.07 | 0.14 | 4 EFF /4/ | 0.06 |
| 153 Treillis 1/300e_153 | RONDE_30X3 | 6106-T6 | 39.07 | 39.07 | 0.09 | 4 EFF /4/ | 0.03 |
| 154 Treillis 1/300e_154 | RONDE_30X3 | 6106-T6 | 39.07 | 39.07 | 0.11 | 4 EFF /5/ | 0.04 |
| 155 Treillis 1/300e_155 | RONDE_30X3 | 6106-T6 | 39.07 | 39.07 | 0.09 | 4 EFF /4/ | 0.01 |
| 156 Treillis 1/300e_156 | RONDE_30X3 | 6106-T6 | 39.07 | 39.07 | 0.14 | 4 EFF /5/ | 0.01 |

| Pièce | Profil | Matériau | Lay | Laz | Ratio | Cas | Ratio(uy) |
|--------------------------|--------------|----------|-------|-------|-------|-----------|-----------|
| 157 Membrures 1/300e_157 | RONDE_50X3 | 6005-T6 | 29.73 | 71.35 | 0.41 | 4 EFF /6/ | 0.01 |
| 158 Membrures 1/300e_158 | RONDE_50X3 | 6005-T6 | 29.73 | 71.35 | 0.41 | 4 EFF /6/ | 0.01 |
| 159 Membrures 1/300e_159 | RONDE_50X3 | 6005-T6 | 29.73 | 71.35 | 0.25 | 4 EFF /6/ | 0.01 |
| 160 Membrures 1/300e_160 | RONDE_50X3 | 6005-T6 | 29.73 | 71.35 | 0.25 | 4 EFF /6/ | 0.01 |
| 161 Barre 1/300e_161 | RECT_50X50X4 | 6060-T6 | 29.18 | 29.18 | 0.13 | 4 EFF /2/ | 0.09 |
| 162 Barre 1/300e_162 | RECT_50X50X4 | 6060-T6 | 29.18 | 29.18 | 0.10 | 4 EFF /2/ | 0.04 |
| 163 Treillis 1/300e_163 | RONDE_30X3 | 6106-T6 | 39.07 | 39.07 | 0.15 | 4 EFF /5/ | 0.00 |
| 164 Membrures 1/300e_164 | RONDE_50X3 | 6005-T6 | 29.73 | 22.30 | 0.07 | 4 EFF /2/ | 0.00 |
| 165 Membrures 1/300e_165 | RONDE_50X3 | 6005-T6 | 29.73 | 22.30 | 0.07 | 4 EFF /2/ | 0.00 |
| 166 Membrures 1/300e_166 | RONDE_50X3 | 6005-T6 | 29.73 | 22.30 | 0.07 | 4 EFF /2/ | 0.00 |
| 167 Membrures 1/300e_167 | RONDE_50X3 | 6005-T6 | 29.73 | 8.18 | 0.09 | 4 EFF /2/ | 0.00 |
| 168 Membrures 1/300e_168 | RONDE_50X3 | 6005-T6 | 29.73 | 8.18 | 0.09 | 4 EFF /2/ | 0.00 |
| 169 Membrures 1/300e_169 | RONDE_50X3 | 6005-T6 | 29.73 | 8.18 | 0.11 | 4 EFF /2/ | 0.01 |
| 170 Membrures 1/300e_170 | RONDE_50X3 | 6005-T6 | 29.73 | 8.18 | 0.11 | 4 EFF /2/ | 0.01 |
| 171 Treillis 1/300e_171 | RONDE_30X3 | 6106-T6 | 39.07 | 39.07 | 0.09 | 4 EFF /6/ | 0.00 |
| 172 Treillis 1/300e_172 | RONDE_30X3 | 6106-T6 | 39.07 | 39.07 | 0.10 | 4 EFF /2/ | 0.02 |
| 173 Treillis 1/300e_173 | RONDE_30X3 | 6106-T6 | 39.07 | 39.07 | 0.10 | 4 EFF /2/ | 0.01 |
| 174 Treillis 1/300e_174 | RONDE_30X3 | 6106-T6 | 39.07 | 39.07 | 0.10 | 4 EFF /6/ | 0.01 |
| 175 Treillis 1/300e_175 | RONDE_30X3 | 6106-T6 | 39.07 | 39.07 | 0.11 | 4 EFF /2/ | 0.02 |
| 176 Treillis 1/300e_176 | RONDE_30X3 | 6106-T6 | 39.07 | 39.07 | 0.10 | 4 EFF /2/ | 0.01 |
| 177 Treillis 1/300e_177 | RONDE_30X3 | 6106-T6 | 39.07 | 39.07 | 0.14 | 4 EFF /2/ | 0.01 |
| 178 Treillis 1/300e_178 | RONDE_30X3 | 6106-T6 | 31.65 | 31.65 | 0.26 | 4 EFF /2/ | 0.01 |
| 179 Treillis 1/300e_179 | RONDE_30X3 | 6106-T6 | 31.65 | 31.65 | 0.26 | 4 EFF /2/ | 0.01 |
| 180 Barre 1/300e_180 | RECT_50X50X4 | 6060-T6 | 29.18 | 29.18 | 0.04 | 4 EFF /6/ | 0.02 |
| 181 Barre 1/300e_181 | RECT_50X50X4 | 6060-T6 | 29.18 | 29.18 | 0.03 | 4 EFF /2/ | 0.00 |
| 182 Treillis 1/300e_182 | RONDE_30X3 | 6106-T6 | 31.65 | 31.65 | 0.17 | 4 EFF /6/ | 0.01 |
| 183 Treillis 1/300e_183 | RONDE_30X3 | 6106-T6 | 31.65 | 31.65 | 0.17 | 4 EFF /6/ | 0.01 |
| 184 Treillis 1/300e_184 | RONDE_30X3 | 6106-T6 | 55.68 | 55.68 | 0.06 | 4 EFF /2/ | 0.04 |
| 185 Treillis 1/300e_185 | RONDE_30X3 | 6106-T6 | 55.68 | 55.68 | 0.03 | 4 EFF /5/ | 0.03 |
| 186 Barre 1/300e_186 | U_60X40X4 | 6060-T6 | 15.99 | 30.17 | 0.18 | 4 EFF /2/ | 0.04 |
| 187 Barre 1/300e_187 | U_60X40X4 | 6060-T6 | 15.99 | 30.17 | 0.07 | 4 EFF /5/ | 0.02 |
| 188 Treillis 1/300e_188 | RONDE_30X3 | 6106-T6 | 39.07 | 39.07 | 0.15 | 4 EFF /5/ | 0.00 |
| 189 Treillis 1/300e_189 | RONDE_30X3 | 6106-T6 | 39.07 | 39.07 | 0.09 | 4 EFF /6/ | 0.00 |
| 190 Treillis 1/300e_190 | RONDE_30X3 | 6106-T6 | 39.07 | 39.07 | 0.10 | 4 EFF /2/ | 0.02 |
| 191 Treillis 1/300e_191 | RONDE_30X3 | 6106-T6 | 39.07 | 39.07 | 0.10 | 4 EFF /2/ | 0.01 |
| 192 Treillis 1/300e_192 | RONDE_30X3 | 6106-T6 | 39.07 | 39.07 | 0.10 | 4 EFF /6/ | 0.01 |
| 193 Treillis 1/300e_193 | RONDE_30X3 | 6106-T6 | 39.07 | 39.07 | 0.11 | 4 EFF /2/ | 0.02 |
| 194 Treillis 1/300e_194 | RONDE_30X3 | 6106-T6 | 39.07 | 39.07 | 0.10 | 4 EFF /2/ | 0.01 |
| 195 Treillis 1/300e_195 | RONDE_30X3 | 6106-T6 | 39.07 | 39.07 | 0.14 | 4 EFF /2/ | 0.01 |
| 196 Membrures 1/300e_1 | RONDE_50X3 | 6005-T6 | 29.73 | 71.35 | 0.63 | 4 EFF /6/ | 0.01 |
| 197 Membrures 1/300e_197 | RONDE_50X3 | 6005-T6 | 29.73 | 71.35 | 0.62 | 4 EFF /6/ | 0.01 |
| 198 Membrures 1/300e_198 | RONDE_50X3 | 6005-T6 | 29.73 | 71.35 | 0.34 | 4 EFF /4/ | 0.02 |
| 199 Membrures 1/300e_199 | RONDE_50X3 | 6005-T6 | 29.73 | 71.35 | 0.34 | 4 EFF /4/ | 0.03 |

| Pièce | Profil | Matériau | Lay | Laz | Ratio | Cas | Ratio(uy) |
|--------------------------|--------------|----------|-------|-------|-------|------------|-----------|
| 200 Barre 1/300e_200 | RECT_50X50X4 | 6060-T6 | 29.18 | 29.18 | 0.15 | 4 EFF /2/ | 0.06 |
| 201 Barre 1/300e_201 | RECT_50X50X4 | 6060-T6 | 29.18 | 29.18 | 0.28 | 4 EFF /5/ | 0.12 |
| 202 Treillis 1/300e_202 | RONDE_30X3 | 6106-T6 | 39.07 | 39.07 | 0.20 | 4 EFF /2/ | 0.01 |
| 203 Membrures 1/300e_203 | RONDE_50X3 | 6005-T6 | 29.73 | 22.30 | 0.11 | 4 EFF /2/ | 0.00 |
| 204 Membrures 1/300e_204 | RONDE_50X3 | 6005-T6 | 29.73 | 22.30 | 0.13 | 4 EFF /2/ | 0.00 |
| 205 Membrures 1/300e_205 | RONDE_50X3 | 6005-T6 | 29.73 | 22.30 | 0.51 | 4 EFF /6/ | 0.00 |
| 206 Membrures 1/300e_206 | RONDE_50X3 | 6005-T6 | 29.73 | 8.18 | 0.20 | 4 EFF /2/ | 0.01 |
| 207 Membrures 1/300e_207 | RONDE_50X3 | 6005-T6 | 29.73 | 8.18 | 0.20 | 4 EFF /2/ | 0.02 |
| 208 Membrures 1/300e_208 | RONDE_50X3 | 6005-T6 | 29.73 | 8.18 | 0.23 | 4 EFF /6/ | 0.00 |
| 209 Membrures 1/300e_209 | RONDE_50X3 | 6005-T6 | 29.73 | 8.18 | 0.23 | 4 EFF /6/ | 0.00 |
| 210 Treillis 1/300e_210 | RONDE_30X3 | 6106-T6 | 39.07 | 39.07 | 0.14 | 4 EFF /2/ | 0.01 |
| 211 Treillis 1/300e_211 | RONDE_30X3 | 6106-T6 | 39.07 | 39.07 | 0.16 | 4 EFF /2/ | 0.04 |
| 212 Treillis 1/300e_212 | RONDE_30X3 | 6106-T6 | 39.07 | 39.07 | 0.15 | 4 EFF /6/ | 0.02 |
| 213 Treillis 1/300e_213 | RONDE_30X3 | 6106-T6 | 39.07 | 39.07 | 0.18 | 4 EFF /6/ | 0.03 |
| 214 Treillis 1/300e_214 | RONDE_30X3 | 6106-T6 | 39.07 | 39.07 | 0.17 | 4 EFF /6/ | 0.04 |
| 215 Treillis 1/300e_215 | RONDE_30X3 | 6106-T6 | 39.07 | 39.07 | 0.13 | 4 EFF /5/ | 0.01 |
| 216 Treillis 1/300e_216 | RONDE_30X3 | 6106-T6 | 39.07 | 39.07 | 0.20 | 4 EFF /4/ | 0.01 |
| 217 Treillis 1/300e_217 | RONDE_30X3 | 6106-T6 | 31.65 | 31.65 | 0.23 | 4 EFF /4/ | 0.02 |
| 218 Treillis 1/300e_218 | RONDE_30X3 | 6106-T6 | 31.65 | 31.65 | 0.23 | 4 EFF /4/ | 0.02 |
| 219 Barre 1/300e_219 | RECT_50X50X4 | 6060-T6 | 29.18 | 29.18 | 0.13 | 4 EFF /5/ | 0.01 |
| 220 Barre 1/300e_220 | RECT_50X50X4 | 6060-T6 | 29.18 | 29.18 | 0.05 | 4 EFF /6/ | 0.03 |
| 221 Treillis 1/300e_221 | RONDE_30X3 | 6106-T6 | 31.65 | 31.65 | 0.38 | 4 EFF /2/ | 0.02 |
| 222 Treillis 1/300e_222 | RONDE_30X3 | 6106-T6 | 31.65 | 31.65 | 0.38 | 4 EFF /2/ | 0.02 |
| 223 Treillis 1/300e_223 | RONDE_30X3 | 6106-T6 | 55.68 | 55.68 | 0.04 | 4 EFF /4/ | 0.04 |
| 224 Treillis 1/300e_224 | RONDE_30X3 | 6106-T6 | 55.68 | 55.68 | 0.09 | 4 EFF /2/ | 0.06 |
| 225 Barre 1/300e_225 | U_60X40X4 | 6060-T6 | 15.99 | 30.17 | 0.22 | 4 EFF /12/ | 0.09 |
| 226 Barre 1/300e_226 | U_60X40X4 | 6060-T6 | 15.99 | 30.17 | 0.29 | 4 EFF /2/ | 0.07 |
| 227 Treillis 1/300e_227 | RONDE_30X3 | 6106-T6 | 39.07 | 39.07 | 0.21 | 4 EFF /2/ | 0.02 |
| 228 Treillis 1/300e_228 | RONDE_30X3 | 6106-T6 | 39.07 | 39.07 | 0.15 | 4 EFF /2/ | 0.01 |
| 229 Treillis 1/300e_229 | RONDE_30X3 | 6106-T6 | 39.07 | 39.07 | 0.16 | 4 EFF /2/ | 0.04 |
| 230 Treillis 1/300e_230 | RONDE_30X3 | 6106-T6 | 39.07 | 39.07 | 0.15 | 4 EFF /6/ | 0.02 |
| 231 Treillis 1/300e_231 | RONDE_30X3 | 6106-T6 | 39.07 | 39.07 | 0.18 | 4 EFF /6/ | 0.03 |
| 232 Treillis 1/300e_232 | RONDE_30X3 | 6106-T6 | 39.07 | 39.07 | 0.17 | 4 EFF /6/ | 0.04 |
| 233 Treillis 1/300e_233 | RONDE_30X3 | 6106-T6 | 39.07 | 39.07 | 0.13 | 4 EFF /5/ | 0.01 |
| 234 Treillis 1/300e_234 | RONDE_30X3 | 6106-T6 | 39.07 | 39.07 | 0.20 | 4 EFF /4/ | 0.02 |
| 235 Membrures 1/300e_235 | RONDE_50X3 | 6005-T6 | 29.73 | 71.35 | 1.02 | 4 EFF /6/ | 0.02 |
| 236 Membrures 1/300e_236 | RONDE_50X3 | 6005-T6 | 29.73 | 71.35 | 1.02 | 4 EFF /6/ | 0.02 |
| 237 Membrures 1/300e_237 | RONDE_50X3 | 6005-T6 | 29.73 | 71.35 | 0.48 | 4 EFF /5/ | 0.05 |
| 238 Membrures 1/300e_238 | RONDE_50X3 | 6005-T6 | 29.73 | 71.35 | 0.47 | 4 EFF /5/ | 0.05 |
| 239 Barre 1/300e_239 | RECT_50X50X4 | 6060-T6 | 29.18 | 29.18 | 0.31 | 4 EFF /2/ | 0.19 |
| 240 Barre 1/300e_240 | RECT_50X50X4 | 6060-T6 | 29.18 | 29.18 | 0.41 | 4 EFF /5/ | 0.22 |
| 241 Treillis 1/300e_241 | RONDE_30X3 | 6106-T6 | 39.07 | 39.07 | 0.22 | 4 EFF /4/ | 0.04 |
| 242 Membrures 1/300e_242 | RONDE_50X3 | 6005-T6 | 29.73 | 22.30 | 0.30 | 4 EFF /4/ | 0.00 |
| 243 Membrures 1/300e_243 | RONDE_50X3 | 6005-T6 | 29.73 | 22.30 | 0.40 | 4 EFF /6/ | 0.00 |

| Pièce | Profil | Matériau | Lay | Laz | Ratio | Cas | Ratio(uy) |
|--------------------------|--------------|----------|-------|-------|-------|-----------|-----------|
| 244 Membrures 1/300e_244 | RONDE_50X3 | 6005-T6 | 29.73 | 22.30 | 0.17 | 4 EFF /2/ | 0.00 |
| 245 Membrures 1/300e_245 | RONDE_50X3 | 6005-T6 | 29.73 | 8.18 | 0.65 | 4 EFF /4/ | 0.02 |
| 246 Membrures 1/300e_246 | RONDE_50X3 | 6005-T6 | 29.73 | 8.18 | 0.65 | 4 EFF /4/ | 0.02 |
| 247 Membrures 1/300e_247 | RONDE_50X3 | 6005-T6 | 29.73 | 8.18 | 0.37 | 4 EFF /6/ | 0.02 |
| 248 Membrures 1/300e_248 | RONDE_50X3 | 6005-T6 | 29.73 | 8.18 | 0.37 | 4 EFF /6/ | 0.02 |
| 249 Treillis 1/300e_249 | RONDE_30X3 | 6106-T6 | 39.07 | 39.07 | 0.13 | 4 EFF /4/ | 0.03 |
| 250 Treillis 1/300e_250 | RONDE_30X3 | 6106-T6 | 39.07 | 39.07 | 0.23 | 4 EFF /4/ | 0.11 |
| 251 Treillis 1/300e_251 | RONDE_30X3 | 6106-T6 | 39.07 | 39.07 | 0.11 | 4 EFF /4/ | 0.09 |
| 252 Treillis 1/300e_252 | RONDE_30X3 | 6106-T6 | 39.07 | 39.07 | 0.10 | 4 EFF /6/ | 0.05 |
| 253 Treillis 1/300e_253 | RONDE_30X3 | 6106-T6 | 39.07 | 39.07 | 0.10 | 4 EFF /6/ | 0.07 |
| 254 Treillis 1/300e_254 | RONDE_30X3 | 6106-T6 | 39.07 | 39.07 | 0.07 | 4 EFF /3/ | 0.02 |
| 255 Treillis 1/300e_255 | RONDE_30X3 | 6106-T6 | 39.07 | 39.07 | 0.09 | 4 EFF /3/ | 0.02 |
| 256 Treillis 1/300e_256 | RONDE_30X3 | 6106-T6 | 31.65 | 31.65 | 0.16 | 4 EFF /3/ | 0.03 |
| 257 Treillis 1/300e_257 | RONDE_30X3 | 6106-T6 | 31.65 | 31.65 | 0.16 | 4 EFF /3/ | 0.03 |
| 258 Barre 1/300e_258 | RECT_50X50X4 | 6060-T6 | 29.18 | 29.18 | 0.17 | 4 EFF /3/ | 0.01 |
| 259 Barre 1/300e_259 | RECT_50X50X4 | 6060-T6 | 29.18 | 29.18 | 0.05 | 4 EFF /2/ | 0.02 |
| 260 Treillis 1/300e_260 | RONDE_30X3 | 6106-T6 | 31.65 | 31.65 | 0.21 | 4 EFF /4/ | 0.01 |
| 261 Treillis 1/300e_261 | RONDE_30X3 | 6106-T6 | 31.65 | 31.65 | 0.21 | 4 EFF /4/ | 0.01 |
| 262 Treillis 1/300e_262 | RONDE_30X3 | 6106-T6 | 55.68 | 55.68 | 0.06 | 4 EFF /5/ | 0.05 |
| 263 Treillis 1/300e_263 | RONDE_30X3 | 6106-T6 | 55.68 | 55.68 | 0.09 | 4 EFF /4/ | 0.05 |
| 264 Barre 1/300e_264 | U_60X40X4 | 6060-T6 | 15.99 | 30.17 | 0.16 | 4 EFF /2/ | 0.03 |
| 265 Barre 1/300e_265 | U_60X40X4 | 6060-T6 | 15.99 | 30.17 | 0.29 | 4 EFF /4/ | 0.05 |
| 266 Treillis 1/300e_266 | RONDE_30X3 | 6106-T6 | 39.07 | 39.07 | 0.21 | 4 EFF /4/ | 0.04 |
| 267 Treillis 1/300e_267 | RONDE_30X3 | 6106-T6 | 39.07 | 39.07 | 0.13 | 4 EFF /4/ | 0.03 |
| 268 Treillis 1/300e_268 | RONDE_30X3 | 6106-T6 | 39.07 | 39.07 | 0.23 | 4 EFF /4/ | 0.11 |
| 269 Treillis 1/300e_269 | RONDE_30X3 | 6106-T6 | 39.07 | 39.07 | 0.11 | 4 EFF /4/ | 0.09 |
| 270 Treillis 1/300e_270 | RONDE_30X3 | 6106-T6 | 39.07 | 39.07 | 0.10 | 4 EFF /6/ | 0.05 |
| 271 Treillis 1/300e_271 | RONDE_30X3 | 6106-T6 | 39.07 | 39.07 | 0.10 | 4 EFF /6/ | 0.07 |
| 272 Treillis 1/300e_272 | RONDE_30X3 | 6106-T6 | 39.07 | 39.07 | 0.07 | 4 EFF /3/ | 0.02 |
| 273 Treillis 1/300e_273 | RONDE_30X3 | 6106-T6 | 39.07 | 39.07 | 0.09 | 4 EFF /3/ | 0.02 |
| 274 Membrures 1/300e_274 | RONDE_50X3 | 6005-T6 | 29.73 | 71.35 | 1.03 | 4 EFF /6/ | 0.02 |
| 275 Membrures 1/300e_275 | RONDE_50X3 | 6005-T6 | 29.73 | 71.35 | 1.02 | 4 EFF /6/ | 0.02 |
| 276 Membrures 1/300e_276 | RONDE_50X3 | 6005-T6 | 29.73 | 71.35 | 0.46 | 4 EFF /5/ | 0.05 |
| 277 Membrures 1/300e_277 | RONDE_50X3 | 6005-T6 | 29.73 | 71.35 | 0.45 | 4 EFF /5/ | 0.05 |
| 278 Barre 1/300e_278 | RECT_50X50X4 | 6060-T6 | 29.18 | 29.18 | 0.32 | 4 EFF /2/ | 0.22 |
| 279 Barre 1/300e_279 | RECT_50X50X4 | 6060-T6 | 29.18 | 29.18 | 0.40 | 4 EFF /5/ | 0.19 |
| 280 Treillis 1/300e_280 | RONDE_30X3 | 6106-T6 | 39.07 | 39.07 | 0.08 | 4 EFF /3/ | 0.02 |
| 281 Membrures 1/300e_281 | RONDE_50X3 | 6005-T6 | 29.73 | 22.30 | 0.17 | 4 EFF /2/ | 0.00 |
| 282 Membrures 1/300e_282 | RONDE_50X3 | 6005-T6 | 29.73 | 22.30 | 0.40 | 4 EFF /6/ | 0.00 |
| 283 Membrures 1/300e_283 | RONDE_50X3 | 6005-T6 | 29.73 | 22.30 | 0.30 | 4 EFF /4/ | 0.00 |
| 284 Membrures 1/300e_284 | RONDE_50X3 | 6005-T6 | 29.73 | 8.18 | 0.37 | 4 EFF /6/ | 0.02 |
| 285 Membrures 1/300e_285 | RONDE_50X3 | 6005-T6 | 29.73 | 8.18 | 0.37 | 4 EFF /6/ | 0.02 |

| Pièce | Profil | Matériau | Lay | Laz | Ratio | Cas | Ratio(uy) |
|--------------------------|--------------|----------|-------|-------|-------|-----------|-----------|
| 286 Membrures 1/300e_286 | RONDE_50X3 | 6005-T6 | 29.73 | 8.18 | 0.65 | 4 EFF /4/ | 0.02 |
| 287 Membrures 1/300e_287 | RONDE_50X3 | 6005-T6 | 29.73 | 8.18 | 0.65 | 4 EFF /4/ | 0.02 |
| 288 Treillis 1/300e_288 | RONDE_30X3 | 6106-T6 | 39.07 | 39.07 | 0.06 | 4 EFF /3/ | 0.02 |
| 289 Treillis 1/300e_289 | RONDE_30X3 | 6106-T6 | 39.07 | 39.07 | 0.10 | 4 EFF /6/ | 0.07 |
| 290 Treillis 1/300e_290 | RONDE_30X3 | 6106-T6 | 39.07 | 39.07 | 0.10 | 4 EFF /6/ | 0.05 |
| 291 Treillis 1/300e_291 | RONDE_30X3 | 6106-T6 | 39.07 | 39.07 | 0.11 | 4 EFF /4/ | 0.09 |
| 292 Treillis 1/300e_292 | RONDE_30X3 | 6106-T6 | 39.07 | 39.07 | 0.23 | 4 EFF /4/ | 0.11 |
| 293 Treillis 1/300e_293 | RONDE_30X3 | 6106-T6 | 39.07 | 39.07 | 0.13 | 4 EFF /4/ | 0.03 |
| 294 Treillis 1/300e_294 | RONDE_30X3 | 6106-T6 | 39.07 | 39.07 | 0.21 | 4 EFF /4/ | 0.04 |
| 295 Treillis 1/300e_295 | RONDE_30X3 | 6106-T6 | 31.65 | 31.65 | 0.21 | 4 EFF /4/ | 0.03 |
| 296 Treillis 1/300e_296 | RONDE_30X3 | 6106-T6 | 31.65 | 31.65 | 0.21 | 4 EFF /4/ | 0.02 |
| 297 Barre 1/300e_297 | RECT_50X50X4 | 6060-T6 | 29.18 | 29.18 | 0.13 | 4 EFF /5/ | 0.02 |
| 298 Barre 1/300e_298 | RECT_50X50X4 | 6060-T6 | 29.18 | 29.18 | 0.05 | 4 EFF /2/ | 0.01 |
| 299 Treillis 1/300e_299 | RONDE_30X3 | 6106-T6 | 31.65 | 31.65 | 0.11 | 4 EFF /3/ | 0.01 |
| 300 Treillis 1/300e_300 | RONDE_30X3 | 6106-T6 | 31.65 | 31.65 | 0.11 | 4 EFF /3/ | 0.01 |
| 301 Treillis 1/300e_301 | RONDE_30X3 | 6106-T6 | 55.68 | 55.68 | 0.09 | 4 EFF /4/ | 0.05 |
| 302 Treillis 1/300e_302 | RONDE_30X3 | 6106-T6 | 55.68 | 55.68 | 0.05 | 4 EFF /6/ | 0.05 |
| 303 Barre 1/300e_303 | U_60X40X4 | 6060-T6 | 15.99 | 30.17 | 0.29 | 4 EFF /4/ | 0.05 |
| 304 Barre 1/300e_304 | U_60X40X4 | 6060-T6 | 15.99 | 30.17 | 0.16 | 4 EFF /2/ | 0.03 |
| 305 Treillis 1/300e_305 | RONDE_30X3 | 6106-T6 | 39.07 | 39.07 | 0.08 | 4 EFF /3/ | 0.02 |
| 306 Treillis 1/300e_306 | RONDE_30X3 | 6106-T6 | 39.07 | 39.07 | 0.06 | 4 EFF /3/ | 0.02 |
| 307 Treillis 1/300e_307 | RONDE_30X3 | 6106-T6 | 39.07 | 39.07 | 0.10 | 4 EFF /6/ | 0.07 |
| 308 Treillis 1/300e_308 | RONDE_30X3 | 6106-T6 | 39.07 | 39.07 | 0.10 | 4 EFF /6/ | 0.05 |
| 309 Treillis 1/300e_309 | RONDE_30X3 | 6106-T6 | 39.07 | 39.07 | 0.11 | 4 EFF /4/ | 0.09 |
| 310 Treillis 1/300e_310 | RONDE_30X3 | 6106-T6 | 39.07 | 39.07 | 0.23 | 4 EFF /4/ | 0.11 |
| 311 Treillis 1/300e_311 | RONDE_30X3 | 6106-T6 | 39.07 | 39.07 | 0.13 | 4 EFF /4/ | 0.03 |
| 312 Treillis 1/300e_312 | RONDE_30X3 | 6106-T6 | 39.07 | 39.07 | 0.22 | 4 EFF /4/ | 0.04 |
| 352 Membrures 1/300e_352 | RONDE_50X3 | 6005-T6 | 29.73 | 71.35 | 0.62 | 4 EFF /6/ | 0.01 |
| 353 Membrures 1/300e_353 | RONDE_50X3 | 6005-T6 | 29.73 | 71.35 | 0.63 | 4 EFF /6/ | 0.01 |
| 354 Membrures 1/300e_354 | RONDE_50X3 | 6005-T6 | 29.73 | 71.35 | 0.34 | 4 EFF /5/ | 0.03 |
| 355 Membrures 1/300e_355 | RONDE_50X3 | 6005-T6 | 29.73 | 71.35 | 0.34 | 4 EFF /4/ | 0.02 |
| 356 Barre 1/300e_356 | RECT_50X50X4 | 6060-T6 | 29.18 | 29.18 | 0.21 | 4 EFF /6/ | 0.12 |
| 357 Barre 1/300e_357 | RECT_50X50X4 | 6060-T6 | 29.18 | 29.18 | 0.15 | 4 EFF /2/ | 0.06 |
| 358 Treillis 1/300e_358 | RONDE_30X3 | 6106-T6 | 39.07 | 39.07 | 0.20 | 4 EFF /4/ | 0.01 |
| 359 Membrures 1/300e_359 | RONDE_50X3 | 6005-T6 | 29.73 | 22.30 | 0.51 | 4 EFF /6/ | 0.00 |
| 360 Membrures 1/300e_360 | RONDE_50X3 | 6005-T6 | 29.73 | 22.30 | 0.13 | 4 EFF /2/ | 0.00 |
| 361 Membrures 1/300e_361 | RONDE_50X3 | 6005-T6 | 29.73 | 22.30 | 0.11 | 4 EFF /2/ | 0.00 |
| 362 Membrures 1/300e_362 | RONDE_50X3 | 6005-T6 | 29.73 | 8.18 | 0.23 | 4 EFF /6/ | 0.00 |
| 363 Membrures 1/300e_363 | RONDE_50X3 | 6005-T6 | 29.73 | 8.18 | 0.23 | 4 EFF /6/ | 0.00 |
| 364 Membrures 1/300e_364 | RONDE_50X3 | 6005-T6 | 29.73 | 8.18 | 0.20 | 4 EFF /2/ | 0.02 |
| 365 Membrures 1/300e_365 | RONDE_50X3 | 6005-T6 | 29.73 | 8.18 | 0.20 | 4 EFF /2/ | 0.01 |
| 366 Treillis 1/300e_366 | RONDE_30X3 | 6106-T6 | 39.07 | 39.07 | 0.12 | 4 EFF /5/ | 0.01 |
| 367 Treillis 1/300e_367 | RONDE_30X3 | 6106-T6 | 39.07 | 39.07 | 0.17 | 4 EFF /6/ | 0.04 |
| 368 Treillis 1/300e_368 | RONDE_30X3 | 6106-T6 | 39.07 | 39.07 | 0.18 | 4 EFF /6/ | 0.03 |

| Pièce | Profil | Matériau | Lay | Laz | Ratio | Cas | Ratio(uy) |
|--------------------------|--------------|----------|-------|-------|-------|------------|-----------|
| 369 Treillis 1/300e_369 | RONDE_30X3 | 6106-T6 | 39.07 | 39.07 | 0.15 | 4 EFF /6/ | 0.02 |
| 370 Treillis 1/300e_370 | RONDE_30X3 | 6106-T6 | 39.07 | 39.07 | 0.16 | 4 EFF /2/ | 0.04 |
| 371 Treillis 1/300e_371 | RONDE_30X3 | 6106-T6 | 39.07 | 39.07 | 0.15 | 4 EFF /2/ | 0.01 |
| 372 Treillis 1/300e_372 | RONDE_30X3 | 6106-T6 | 39.07 | 39.07 | 0.21 | 4 EFF /2/ | 0.02 |
| 373 Treillis 1/300e_373 | RONDE_30X3 | 6106-T6 | 31.65 | 31.65 | 0.38 | 4 EFF /2/ | 0.02 |
| 374 Treillis 1/300e_374 | RONDE_30X3 | 6106-T6 | 31.65 | 31.65 | 0.37 | 4 EFF /2/ | 0.02 |
| 375 Barre 1/300e_375 | RECT_50X50X4 | 6060-T6 | 29.18 | 29.18 | 0.05 | 4 EFF /6/ | 0.03 |
| 376 Barre 1/300e_376 | RECT_50X50X4 | 6060-T6 | 29.18 | 29.18 | 0.08 | 4 EFF /6/ | 0.01 |
| 377 Treillis 1/300e_377 | RONDE_30X3 | 6106-T6 | 31.65 | 31.65 | 0.23 | 4 EFF /5/ | 0.01 |
| 378 Treillis 1/300e_378 | RONDE_30X3 | 6106-T6 | 31.65 | 31.65 | 0.23 | 4 EFF /4/ | 0.01 |
| 379 Treillis 1/300e_379 | RONDE_30X3 | 6106-T6 | 55.68 | 55.68 | 0.09 | 4 EFF /2/ | 0.06 |
| 380 Treillis 1/300e_380 | RONDE_30X3 | 6106-T6 | 55.68 | 55.68 | 0.04 | 4 EFF /4/ | 0.04 |
| 381 Barre 1/300e_381 | U_60X40X4 | 6060-T6 | 15.99 | 30.17 | 0.29 | 4 EFF /2/ | 0.07 |
| 382 Barre 1/300e_382 | U_60X40X4 | 6060-T6 | 15.99 | 30.17 | 0.22 | 4 EFF /12/ | 0.09 |
| 383 Treillis 1/300e_383 | RONDE_30X3 | 6106-T6 | 39.07 | 39.07 | 0.20 | 4 EFF /4/ | 0.01 |
| 384 Treillis 1/300e_384 | RONDE_30X3 | 6106-T6 | 39.07 | 39.07 | 0.12 | 4 EFF /5/ | 0.01 |
| 385 Treillis 1/300e_385 | RONDE_30X3 | 6106-T6 | 39.07 | 39.07 | 0.17 | 4 EFF /6/ | 0.04 |
| 386 Treillis 1/300e_386 | RONDE_30X3 | 6106-T6 | 39.07 | 39.07 | 0.18 | 4 EFF /6/ | 0.03 |
| 387 Treillis 1/300e_387 | RONDE_30X3 | 6106-T6 | 39.07 | 39.07 | 0.15 | 4 EFF /6/ | 0.02 |
| 388 Treillis 1/300e_388 | RONDE_30X3 | 6106-T6 | 39.07 | 39.07 | 0.16 | 4 EFF /2/ | 0.04 |
| 389 Treillis 1/300e_389 | RONDE_30X3 | 6106-T6 | 39.07 | 39.07 | 0.14 | 4 EFF /2/ | 0.01 |
| 390 Treillis 1/300e_390 | RONDE_30X3 | 6106-T6 | 39.07 | 39.07 | 0.20 | 4 EFF /2/ | 0.01 |
| 391 Membrures 1/300e_1 | RONDE_50X3 | 6005-T6 | 29.73 | 71.35 | 0.81 | 4 EFF /2/ | 0.02 |
| 392 Membrures 1/300e_392 | RONDE_50X3 | 6005-T6 | 29.73 | 71.35 | 0.81 | 4 EFF /2/ | 0.02 |
| 393 Membrures 1/300e_393 | RONDE_50X3 | 6005-T6 | 29.73 | 71.35 | 0.39 | 4 EFF /2/ | 0.05 |
| 394 Membrures 1/300e_394 | RONDE_50X3 | 6005-T6 | 29.73 | 71.35 | 0.40 | 4 EFF /2/ | 0.05 |
| 395 Barre 1/300e_395 | RECT_50X50X4 | 6060-T6 | 29.18 | 29.18 | 0.21 | 4 EFF /2/ | 0.07 |
| 396 Barre 1/300e_396 | RECT_50X50X4 | 6060-T6 | 29.18 | 29.18 | 0.31 | 4 EFF /4/ | 0.15 |
| 397 Treillis 1/300e_397 | RONDE_30X3 | 6106-T6 | 39.07 | 39.07 | 0.28 | 4 EFF /2/ | 0.03 |
| 398 Membrures 1/300e_398 | RONDE_50X3 | 6005-T6 | 29.73 | 22.30 | 0.18 | 4 EFF /2/ | 0.00 |
| 399 Membrures 1/300e_399 | RONDE_50X3 | 6005-T6 | 29.73 | 22.30 | 0.44 | 4 EFF /6/ | 0.00 |
| 400 Membrures 1/300e_400 | RONDE_50X3 | 6005-T6 | 29.73 | 22.30 | 0.74 | 4 EFF /5/ | 0.00 |
| 401 Membrures 1/300e_401 | RONDE_50X3 | 6005-T6 | 29.73 | 8.18 | 0.35 | 4 EFF /2/ | 0.02 |
| 402 Membrures 1/300e_402 | RONDE_50X3 | 6005-T6 | 29.73 | 8.18 | 0.35 | 4 EFF /2/ | 0.02 |
| 403 Membrures 1/300e_403 | RONDE_50X3 | 6005-T6 | 29.73 | 8.18 | 0.52 | 4 EFF /5/ | 0.00 |
| 404 Membrures 1/300e_404 | RONDE_50X3 | 6005-T6 | 29.73 | 8.18 | 0.52 | 4 EFF /5/ | 0.00 |
| 405 Treillis 1/300e_405 | RONDE_30X3 | 6106-T6 | 39.07 | 39.07 | 0.19 | 4 EFF /2/ | 0.02 |
| 406 Treillis 1/300e_406 | RONDE_30X3 | 6106-T6 | 39.07 | 39.07 | 0.24 | 4 EFF /2/ | 0.07 |
| 407 Treillis 1/300e_407 | RONDE_30X3 | 6106-T6 | 39.07 | 39.07 | 0.18 | 4 EFF /5/ | 0.05 |
| 408 Treillis 1/300e_408 | RONDE_30X3 | 6106-T6 | 39.07 | 39.07 | 0.28 | 4 EFF /5/ | 0.08 |
| 409 Treillis 1/300e_409 | RONDE_30X3 | 6106-T6 | 39.07 | 39.07 | 0.23 | 4 EFF /5/ | 0.09 |
| 410 Treillis 1/300e_410 | RONDE_30X3 | 6106-T6 | 39.07 | 39.07 | 0.13 | 4 EFF /5/ | 0.02 |
| 411 Treillis 1/300e_411 | RONDE_30X3 | 6106-T6 | 39.07 | 39.07 | 0.16 | 4 EFF /6/ | 0.03 |
| 412 Treillis 1/300e_412 | RONDE_30X3 | 6106-T6 | 31.65 | 31.65 | 0.19 | 4 EFF /4/ | 0.03 |
| 413 Treillis 1/300e_413 | RONDE_30X3 | 6106-T6 | 31.65 | 31.65 | 0.20 | 4 EFF /4/ | 0.03 |
| 414 Barre 1/300e_414 | RECT_50X50X4 | 6060-T6 | 29.18 | 29.18 | 0.17 | 4 EFF /4/ | 0.01 |
| 415 Barre 1/300e_415 | RECT_50X50X4 | 6060-T6 | 29.18 | 29.18 | 0.07 | 4 EFF /2/ | 0.03 |

| Pièce | Profil | Matériau | Lay | Laz | Ratio | Cas | Ratio(uy) |
|--------------------------|--------------|----------|-------|-------|-------|------------|-----------|
| 416 Treillis 1/300e_416 | RONDE_30X3 | 6106-T6 | 31.65 | 31.65 | 0.52 | 4 EFF /2/ | 0.02 |
| 417 Treillis 1/300e_417 | RONDE_30X3 | 6106-T6 | 31.65 | 31.65 | 0.53 | 4 EFF /2/ | 0.03 |
| 418 Treillis 1/300e_418 | RONDE_30X3 | 6106-T6 | 55.68 | 55.68 | 0.03 | 4 EFF /10/ | 0.04 |
| 419 Treillis 1/300e_419 | RONDE_30X3 | 6106-T6 | 55.68 | 55.68 | 0.13 | 4 EFF /2/ | 0.08 |
| 420 Barre 1/300e_420 | U_60X40X4 | 6060-T6 | 15.99 | 30.17 | 0.31 | 4 EFF /11/ | 0.11 |
| 421 Barre 1/300e_421 | U_60X40X4 | 6060-T6 | 15.99 | 30.17 | 0.43 | 4 EFF /2/ | 0.11 |
| 422 Treillis 1/300e_422 | RONDE_30X3 | 6106-T6 | 39.07 | 39.07 | 0.29 | 4 EFF /2/ | 0.03 |
| 423 Treillis 1/300e_423 | RONDE_30X3 | 6106-T6 | 39.07 | 39.07 | 0.20 | 4 EFF /2/ | 0.02 |
| 424 Treillis 1/300e_424 | RONDE_30X3 | 6106-T6 | 39.07 | 39.07 | 0.24 | 4 EFF /2/ | 0.08 |
| 425 Treillis 1/300e_425 | RONDE_30X3 | 6106-T6 | 39.07 | 39.07 | 0.18 | 4 EFF /5/ | 0.05 |
| 426 Treillis 1/300e_426 | RONDE_30X3 | 6106-T6 | 39.07 | 39.07 | 0.28 | 4 EFF /5/ | 0.08 |
| 427 Treillis 1/300e_427 | RONDE_30X3 | 6106-T6 | 39.07 | 39.07 | 0.23 | 4 EFF /5/ | 0.09 |
| 428 Treillis 1/300e_428 | RONDE_30X3 | 6106-T6 | 39.07 | 39.07 | 0.13 | 4 EFF /5/ | 0.02 |
| 429 Treillis 1/300e_429 | RONDE_30X3 | 6106-T6 | 39.07 | 39.07 | 0.16 | 4 EFF /6/ | 0.03 |
| 430 Membrures 1/300e_430 | RONDE_50X3 | 6005-T6 | 29.73 | 71.35 | 0.93 | 4 EFF /2/ | 0.02 |
| 431 Membrures 1/300e_431 | RONDE_50X3 | 6005-T6 | 29.73 | 71.35 | 0.93 | 4 EFF /2/ | 0.02 |
| 432 Membrures 1/300e_432 | RONDE_50X3 | 6005-T6 | 29.73 | 71.35 | 0.52 | 4 EFF /6/ | 0.06 |
| 433 Membrures 1/300e_433 | RONDE_50X3 | 6005-T6 | 29.73 | 71.35 | 0.52 | 4 EFF /6/ | 0.06 |
| 434 Barre 1/300e_434 | RECT_50X50X4 | 6060-T6 | 29.18 | 29.18 | 0.38 | 4 EFF /6/ | 0.21 |
| 435 Barre 1/300e_435 | RECT_50X50X4 | 6060-T6 | 29.18 | 29.18 | 0.38 | 4 EFF /6/ | 0.21 |
| 436 Treillis 1/300e_436 | RONDE_30X3 | 6106-T6 | 39.07 | 39.07 | 0.14 | 4 EFF /6/ | 0.03 |
| 437 Membrures 1/300e_437 | RONDE_50X3 | 6005-T6 | 29.73 | 22.30 | 0.77 | 4 EFF /6/ | 0.00 |
| 438 Membrures 1/300e_438 | RONDE_50X3 | 6005-T6 | 29.73 | 22.30 | 0.94 | 4 EFF /5/ | 0.00 |
| 439 Membrures 1/300e_439 | RONDE_50X3 | 6005-T6 | 29.73 | 22.30 | 0.77 | 4 EFF /6/ | 0.00 |
| 440 Membrures 1/300e_440 | RONDE_50X3 | 6005-T6 | 29.73 | 8.18 | 0.42 | 4 EFF /5/ | 0.02 |
| 441 Membrures 1/300e_441 | RONDE_50X3 | 6005-T6 | 29.73 | 8.18 | 0.42 | 4 EFF /5/ | 0.02 |
| 442 Membrures 1/300e_442 | RONDE_50X3 | 6005-T6 | 29.73 | 8.18 | 0.42 | 4 EFF /5/ | 0.02 |
| 443 Membrures 1/300e_443 | RONDE_50X3 | 6005-T6 | 29.73 | 8.18 | 0.42 | 4 EFF /5/ | 0.02 |
| 444 Treillis 1/300e_444 | RONDE_30X3 | 6106-T6 | 39.07 | 39.07 | 0.08 | 4 EFF /5/ | 0.01 |
| 445 Treillis 1/300e_445 | RONDE_30X3 | 6106-T6 | 39.07 | 39.07 | 0.15 | 4 EFF /5/ | 0.09 |
| 446 Treillis 1/300e_446 | RONDE_30X3 | 6106-T6 | 39.07 | 39.07 | 0.05 | 4 EFF /9/ | 0.06 |
| 447 Treillis 1/300e_447 | RONDE_30X3 | 6106-T6 | 39.07 | 39.07 | 0.05 | 4 EFF /9/ | 0.06 |
| 448 Treillis 1/300e_448 | RONDE_30X3 | 6106-T6 | 39.07 | 39.07 | 0.15 | 4 EFF /5/ | 0.09 |
| 449 Treillis 1/300e_449 | RONDE_30X3 | 6106-T6 | 39.07 | 39.07 | 0.08 | 4 EFF /5/ | 0.01 |
| 450 Treillis 1/300e_450 | RONDE_30X3 | 6106-T6 | 39.07 | 39.07 | 0.14 | 4 EFF /6/ | 0.03 |
| 451 Treillis 1/300e_451 | RONDE_30X3 | 6106-T6 | 31.65 | 31.65 | 0.18 | 4 EFF /6/ | 0.02 |
| 452 Treillis 1/300e_452 | RONDE_30X3 | 6106-T6 | 31.65 | 31.65 | 0.17 | 4 EFF /6/ | 0.02 |
| 453 Barre 1/300e_453 | RECT_50X50X4 | 6060-T6 | 29.18 | 29.18 | 0.12 | 4 EFF /6/ | 0.03 |
| 454 Barre 1/300e_454 | RECT_50X50X4 | 6060-T6 | 29.18 | 29.18 | 0.12 | 4 EFF /6/ | 0.03 |
| 455 Treillis 1/300e_455 | RONDE_30X3 | 6106-T6 | 31.65 | 31.65 | 0.17 | 4 EFF /6/ | 0.02 |
| 456 Treillis 1/300e_456 | RONDE_30X3 | 6106-T6 | 31.65 | 31.65 | 0.18 | 4 EFF /6/ | 0.02 |
| 457 Treillis 1/300e_457 | RONDE_30X3 | 6106-T6 | 55.68 | 55.68 | 0.09 | 4 EFF /6/ | 0.06 |
| 458 Treillis 1/300e_458 | RONDE_30X3 | 6106-T6 | 55.68 | 55.68 | 0.09 | 4 EFF /6/ | 0.06 |
| 459 Barre 1/300e_459 | U_60X40X4 | 6060-T6 | 15.99 | 30.17 | 0.52 | 4 EFF /6/ | 0.13 |
| 460 Barre 1/300e_460 | U_60X40X4 | 6060-T6 | 15.99 | 30.17 | 0.52 | 4 EFF /6/ | 0.13 |
| 461 Treillis 1/300e_461 | RONDE_30X3 | 6106-T6 | 39.07 | 39.07 | 0.14 | 4 EFF /6/ | 0.03 |

| Pièce | Profil | Matériau | Lay | Laz | Ratio | Cas | Ratio(uy) |
|--------------------------|--------------|----------|-------|-------|-------|------------|-----------|
| 462 Treillis 1/300e_462 | RONDE_30X3 | 6106-T6 | 39.07 | 39.07 | 0.08 | 4 EFF /5/ | 0.01 |
| 463 Treillis 1/300e_463 | RONDE_30X3 | 6106-T6 | 39.07 | 39.07 | 0.15 | 4 EFF /5/ | 0.09 |
| 464 Treillis 1/300e_464 | RONDE_30X3 | 6106-T6 | 39.07 | 39.07 | 0.05 | 4 EFF /9/ | 0.06 |
| 465 Treillis 1/300e_465 | RONDE_30X3 | 6106-T6 | 39.07 | 39.07 | 0.05 | 4 EFF /9/ | 0.06 |
| 466 Treillis 1/300e_466 | RONDE_30X3 | 6106-T6 | 39.07 | 39.07 | 0.15 | 4 EFF /5/ | 0.09 |
| 467 Treillis 1/300e_467 | RONDE_30X3 | 6106-T6 | 39.07 | 39.07 | 0.08 | 4 EFF /5/ | 0.01 |
| 468 Treillis 1/300e_468 | RONDE_30X3 | 6106-T6 | 39.07 | 39.07 | 0.14 | 4 EFF /6/ | 0.03 |
| 547 Membrures 1/300e_547 | RONDE_50X3 | 6005-T6 | 29.73 | 71.35 | 0.81 | 4 EFF /2/ | 0.02 |
| 548 Membrures 1/300e_548 | RONDE_50X3 | 6005-T6 | 29.73 | 71.35 | 0.81 | 4 EFF /2/ | 0.02 |
| 549 Membrures 1/300e_549 | RONDE_50X3 | 6005-T6 | 29.73 | 71.35 | 0.40 | 4 EFF /2/ | 0.05 |
| 550 Membrures 1/300e_550 | RONDE_50X3 | 6005-T6 | 29.73 | 71.35 | 0.39 | 4 EFF /2/ | 0.05 |
| 551 Barre 1/300e_551 | RECT_50X50X4 | 6060-T6 | 29.18 | 29.18 | 0.31 | 4 EFF /4/ | 0.15 |
| 552 Barre 1/300e_552 | RECT_50X50X4 | 6060-T6 | 29.18 | 29.18 | 0.21 | 4 EFF /2/ | 0.07 |
| 553 Treillis 1/300e_553 | RONDE_30X3 | 6106-T6 | 39.07 | 39.07 | 0.16 | 4 EFF /6/ | 0.03 |
| 554 Membrures 1/300e_554 | RONDE_50X3 | 6005-T6 | 29.73 | 22.30 | 0.74 | 4 EFF /5/ | 0.00 |
| 555 Membrures 1/300e_555 | RONDE_50X3 | 6005-T6 | 29.73 | 22.30 | 0.44 | 4 EFF /6/ | 0.00 |
| 556 Membrures 1/300e_556 | RONDE_50X3 | 6005-T6 | 29.73 | 22.30 | 0.18 | 4 EFF /2/ | 0.00 |
| 557 Membrures 1/300e_557 | RONDE_50X3 | 6005-T6 | 29.73 | 8.18 | 0.52 | 4 EFF /5/ | 0.00 |
| 558 Membrures 1/300e_558 | RONDE_50X3 | 6005-T6 | 29.73 | 8.18 | 0.52 | 4 EFF /5/ | 0.00 |
| 559 Membrures 1/300e_559 | RONDE_50X3 | 6005-T6 | 29.73 | 8.18 | 0.35 | 4 EFF /2/ | 0.02 |
| 560 Membrures 1/300e_560 | RONDE_50X3 | 6005-T6 | 29.73 | 8.18 | 0.35 | 4 EFF /2/ | 0.02 |
| 561 Treillis 1/300e_561 | RONDE_30X3 | 6106-T6 | 39.07 | 39.07 | 0.13 | 4 EFF /5/ | 0.02 |
| 562 Treillis 1/300e_562 | RONDE_30X3 | 6106-T6 | 39.07 | 39.07 | 0.23 | 4 EFF /5/ | 0.09 |
| 563 Treillis 1/300e_563 | RONDE_30X3 | 6106-T6 | 39.07 | 39.07 | 0.28 | 4 EFF /5/ | 0.08 |
| 564 Treillis 1/300e_564 | RONDE_30X3 | 6106-T6 | 39.07 | 39.07 | 0.18 | 4 EFF /5/ | 0.05 |
| 565 Treillis 1/300e_565 | RONDE_30X3 | 6106-T6 | 39.07 | 39.07 | 0.24 | 4 EFF /2/ | 0.08 |
| 566 Treillis 1/300e_566 | RONDE_30X3 | 6106-T6 | 39.07 | 39.07 | 0.20 | 4 EFF /2/ | 0.02 |
| 567 Treillis 1/300e_567 | RONDE_30X3 | 6106-T6 | 39.07 | 39.07 | 0.29 | 4 EFF /2/ | 0.03 |
| 568 Treillis 1/300e_568 | RONDE_30X3 | 6106-T6 | 31.65 | 31.65 | 0.53 | 4 EFF /2/ | 0.03 |
| 569 Treillis 1/300e_569 | RONDE_30X3 | 6106-T6 | 31.65 | 31.65 | 0.52 | 4 EFF /2/ | 0.02 |
| 570 Barre 1/300e_570 | RECT_50X50X4 | 6060-T6 | 29.18 | 29.18 | 0.07 | 4 EFF /2/ | 0.03 |
| 571 Barre 1/300e_571 | RECT_50X50X4 | 6060-T6 | 29.18 | 29.18 | 0.17 | 4 EFF /4/ | 0.01 |
| 572 Treillis 1/300e_572 | RONDE_30X3 | 6106-T6 | 31.65 | 31.65 | 0.20 | 4 EFF /4/ | 0.03 |
| 573 Treillis 1/300e_573 | RONDE_30X3 | 6106-T6 | 31.65 | 31.65 | 0.19 | 4 EFF /4/ | 0.03 |
| 574 Treillis 1/300e_574 | RONDE_30X3 | 6106-T6 | 55.68 | 55.68 | 0.13 | 4 EFF /2/ | 0.08 |
| 575 Treillis 1/300e_575 | RONDE_30X3 | 6106-T6 | 55.68 | 55.68 | 0.03 | 4 EFF /10/ | 0.04 |
| 576 Barre 1/300e_576 | U_60X40X4 | 6060-T6 | 15.99 | 30.17 | 0.43 | 4 EFF /2/ | 0.11 |
| 577 Barre 1/300e_577 | U_60X40X4 | 6060-T6 | 15.99 | 30.17 | 0.31 | 4 EFF /11/ | 0.11 |
| 578 Treillis 1/300e_578 | RONDE_30X3 | 6106-T6 | 39.07 | 39.07 | 0.16 | 4 EFF /6/ | 0.03 |
| 579 Treillis 1/300e_579 | RONDE_30X3 | 6106-T6 | 39.07 | 39.07 | 0.13 | 4 EFF /5/ | 0.02 |
| 580 Treillis 1/300e_580 | RONDE_30X3 | 6106-T6 | 39.07 | 39.07 | 0.23 | 4 EFF /5/ | 0.09 |
| 581 Treillis 1/300e_581 | RONDE_30X3 | 6106-T6 | 39.07 | 39.07 | 0.28 | 4 EFF /5/ | 0.08 |
| 582 Treillis 1/300e_582 | RONDE_30X3 | 6106-T6 | 39.07 | 39.07 | 0.18 | 4 EFF /5/ | 0.05 |
| 583 Treillis 1/300e_583 | RONDE_30X3 | 6106-T6 | 39.07 | 39.07 | 0.24 | 4 EFF /2/ | 0.07 |
| 584 Treillis 1/300e_584 | RONDE_30X3 | 6106-T6 | 39.07 | 39.07 | 0.19 | 4 EFF /2/ | 0.02 |
| 585 Treillis 1/300e_585 | RONDE_30X3 | 6106-T6 | 39.07 | 39.07 | 0.28 | 4 EFF /2/ | 0.03 |

| Pièce | Profil | Matériau | Lay | Laz | Ratio | Cas | Ratio(uy) |
|--------------------------|--------------|----------|-------|-------|-------|-----------|-----------|
| 586 Membrures 1/300e_1 | RONDE_50X3 | 6005-T6 | 29.73 | 71.35 | 0.92 | 4 EFF /2/ | 0.02 |
| 587 Membrures 1/300e_587 | RONDE_50X3 | 6005-T6 | 29.73 | 71.35 | 0.92 | 4 EFF /2/ | 0.02 |
| 588 Membrures 1/300e_588 | RONDE_50X3 | 6005-T6 | 29.73 | 71.35 | 0.48 | 4 EFF /2/ | 0.12 |
| 589 Membrures 1/300e_589 | RONDE_50X3 | 6005-T6 | 29.73 | 71.35 | 0.48 | 4 EFF /2/ | 0.12 |
| 590 Barre 1/300e_590 | RECT_50X50X4 | 6060-T6 | 29.18 | 29.18 | 0.32 | 4 EFF /2/ | 0.09 |
| 591 Barre 1/300e_591 | RECT_50X50X4 | 6060-T6 | 29.18 | 29.18 | 0.35 | 4 EFF /2/ | 0.18 |
| 592 Treillis 1/300e_592 | RONDE_30X3 | 6106-T6 | 39.07 | 39.07 | 0.44 | 4 EFF /2/ | 0.07 |
| 593 Membrures 1/300e_593 | RONDE_50X3 | 6005-T6 | 29.73 | 22.30 | 0.41 | 4 EFF /2/ | 0.00 |
| 594 Membrures 1/300e_594 | RONDE_50X3 | 6005-T6 | 29.73 | 22.30 | 0.84 | 4 EFF /5/ | 0.00 |
| 595 Membrures 1/300e_595 | RONDE_50X3 | 6005-T6 | 29.73 | 22.30 | 0.81 | 4 EFF /6/ | 0.00 |
| 596 Membrures 1/300e_596 | RONDE_50X3 | 6005-T6 | 29.73 | 8.18 | 0.78 | 4 EFF /2/ | 0.02 |
| 597 Membrures 1/300e_597 | RONDE_50X3 | 6005-T6 | 29.73 | 8.18 | 0.78 | 4 EFF /2/ | 0.02 |
| 598 Membrures 1/300e_598 | RONDE_50X3 | 6005-T6 | 29.73 | 8.18 | 0.75 | 4 EFF /2/ | 0.00 |
| 599 Membrures 1/300e_599 | RONDE_50X3 | 6005-T6 | 29.73 | 8.18 | 0.75 | 4 EFF /2/ | 0.00 |
| 600 Treillis 1/300e_600 | RONDE_30X3 | 6106-T6 | 39.07 | 39.07 | 0.27 | 4 EFF /2/ | 0.03 |
| 601 Treillis 1/300e_601 | RONDE_30X3 | 6106-T6 | 39.07 | 39.07 | 0.40 | 4 EFF /2/ | 0.16 |
| 602 Treillis 1/300e_602 | RONDE_30X3 | 6106-T6 | 39.07 | 39.07 | 0.23 | 4 EFF /2/ | 0.11 |
| 603 Treillis 1/300e_603 | RONDE_30X3 | 6106-T6 | 39.07 | 39.07 | 0.28 | 4 EFF /2/ | 0.11 |
| 604 Treillis 1/300e_604 | RONDE_30X3 | 6106-T6 | 39.07 | 39.07 | 0.26 | 4 EFF /2/ | 0.15 |
| 605 Treillis 1/300e_605 | RONDE_30X3 | 6106-T6 | 39.07 | 39.07 | 0.10 | 4 EFF /2/ | 0.02 |
| 606 Treillis 1/300e_606 | RONDE_30X3 | 6106-T6 | 39.07 | 39.07 | 0.15 | 4 EFF /2/ | 0.06 |
| 607 Treillis 1/300e_607 | RONDE_30X3 | 6106-T6 | 31.65 | 31.65 | 0.17 | 4 EFF /5/ | 0.04 |
| 608 Treillis 1/300e_608 | RONDE_30X3 | 6106-T6 | 31.65 | 31.65 | 0.17 | 4 EFF /5/ | 0.03 |
| 609 Barre 1/300e_609 | RECT_50X50X4 | 6060-T6 | 29.18 | 29.18 | 0.16 | 4 EFF /5/ | 0.01 |
| 610 Barre 1/300e_610 | RECT_50X50X4 | 6060-T6 | 29.18 | 29.18 | 0.14 | 4 EFF /2/ | 0.04 |
| 611 Treillis 1/300e_611 | RONDE_30X3 | 6106-T6 | 31.65 | 31.65 | 0.77 | 4 EFF /2/ | 0.05 |
| 612 Treillis 1/300e_612 | RONDE_30X3 | 6106-T6 | 31.65 | 31.65 | 0.80 | 4 EFF /2/ | 0.06 |
| 613 Treillis 1/300e_613 | RONDE_30X3 | 6106-T6 | 55.68 | 55.68 | 0.06 | 4 EFF /2/ | 0.04 |
| 614 Treillis 1/300e_614 | RONDE_30X3 | 6106-T6 | 55.68 | 55.68 | 0.20 | 4 EFF /2/ | 0.12 |
| 615 Barre 1/300e_615 | U_60X40X4 | 6060-T6 | 15.99 | 30.17 | 0.45 | 4 EFF /6/ | 0.15 |
| 616 Barre 1/300e_616 | U_60X40X4 | 6060-T6 | 15.99 | 30.17 | 0.74 | 4 EFF /2/ | 0.21 |
| 617 Treillis 1/300e_617 | RONDE_30X3 | 6106-T6 | 39.07 | 39.07 | 0.48 | 4 EFF /2/ | 0.07 |
| 618 Treillis 1/300e_618 | RONDE_30X3 | 6106-T6 | 39.07 | 39.07 | 0.28 | 4 EFF /2/ | 0.03 |
| 619 Treillis 1/300e_619 | RONDE_30X3 | 6106-T6 | 39.07 | 39.07 | 0.41 | 4 EFF /2/ | 0.17 |
| 620 Treillis 1/300e_620 | RONDE_30X3 | 6106-T6 | 39.07 | 39.07 | 0.23 | 4 EFF /2/ | 0.11 |
| 621 Treillis 1/300e_621 | RONDE_30X3 | 6106-T6 | 39.07 | 39.07 | 0.28 | 4 EFF /2/ | 0.11 |
| 622 Treillis 1/300e_622 | RONDE_30X3 | 6106-T6 | 39.07 | 39.07 | 0.26 | 4 EFF /2/ | 0.15 |
| 623 Treillis 1/300e_623 | RONDE_30X3 | 6106-T6 | 39.07 | 39.07 | 0.10 | 4 EFF /2/ | 0.02 |
| 624 Treillis 1/300e_624 | RONDE_30X3 | 6106-T6 | 39.07 | 39.07 | 0.15 | 4 EFF /2/ | 0.06 |
| 742 Membrures 1/300e_742 | RONDE_50X3 | 6005-T6 | 29.73 | 71.35 | 0.92 | 4 EFF /2/ | 0.02 |
| 743 Membrures 1/300e_743 | RONDE_50X3 | 6005-T6 | 29.73 | 71.35 | 0.92 | 4 EFF /2/ | 0.02 |
| 744 Membrures 1/300e_744 | RONDE_50X3 | 6005-T6 | 29.73 | 71.35 | 0.48 | 4 EFF /2/ | 0.12 |
| 745 Membrures 1/300e_745 | RONDE_50X3 | 6005-T6 | 29.73 | 71.35 | 0.48 | 4 EFF /2/ | 0.12 |

| Pièce | Profil | Matériau | Lay | Laz | Ratio | Cas | Ratio(uy) |
|--------------------------|--------------|----------|-------|-------|-------|-----------|-----------|
| 746 Barre 1/300e_746 | RECT_50X50X4 | 6060-T6 | 29.18 | 29.18 | 0.35 | 4 EFF /2/ | 0.18 |
| 747 Barre 1/300e_747 | RECT_50X50X4 | 6060-T6 | 29.18 | 29.18 | 0.32 | 4 EFF /2/ | 0.09 |
| 748 Treillis 1/300e_748 | RONDE_30X3 | 6106-T6 | 39.07 | 39.07 | 0.15 | 4 EFF /2/ | 0.06 |
| 749 Membrures 1/300e_749 | RONDE_50X3 | 6005-T6 | 29.73 | 22.30 | 0.81 | 4 EFF /6/ | 0.00 |
| 750 Membrures 1/300e_750 | RONDE_50X3 | 6005-T6 | 29.73 | 22.30 | 0.84 | 4 EFF /5/ | 0.00 |
| 751 Membrures 1/300e_751 | RONDE_50X3 | 6005-T6 | 29.73 | 22.30 | 0.41 | 4 EFF /2/ | 0.00 |
| 752 Membrures 1/300e_752 | RONDE_50X3 | 6005-T6 | 29.73 | 8.18 | 0.75 | 4 EFF /2/ | 0.00 |
| 753 Membrures 1/300e_753 | RONDE_50X3 | 6005-T6 | 29.73 | 8.18 | 0.75 | 4 EFF /2/ | 0.00 |
| 754 Membrures 1/300e_754 | RONDE_50X3 | 6005-T6 | 29.73 | 8.18 | 0.78 | 4 EFF /2/ | 0.02 |
| 755 Membrures 1/300e_755 | RONDE_50X3 | 6005-T6 | 29.73 | 8.18 | 0.78 | 4 EFF /2/ | 0.02 |
| 756 Treillis 1/300e_756 | RONDE_30X3 | 6106-T6 | 39.07 | 39.07 | 0.10 | 4 EFF /2/ | 0.02 |
| 757 Treillis 1/300e_757 | RONDE_30X3 | 6106-T6 | 39.07 | 39.07 | 0.26 | 4 EFF /2/ | 0.15 |
| 758 Treillis 1/300e_758 | RONDE_30X3 | 6106-T6 | 39.07 | 39.07 | 0.28 | 4 EFF /2/ | 0.11 |
| 759 Treillis 1/300e_759 | RONDE_30X3 | 6106-T6 | 39.07 | 39.07 | 0.23 | 4 EFF /2/ | 0.11 |
| 760 Treillis 1/300e_760 | RONDE_30X3 | 6106-T6 | 39.07 | 39.07 | 0.41 | 4 EFF /2/ | 0.17 |
| 761 Treillis 1/300e_761 | RONDE_30X3 | 6106-T6 | 39.07 | 39.07 | 0.28 | 4 EFF /2/ | 0.03 |
| 762 Treillis 1/300e_762 | RONDE_30X3 | 6106-T6 | 39.07 | 39.07 | 0.48 | 4 EFF /2/ | 0.07 |
| 763 Treillis 1/300e_763 | RONDE_30X3 | 6106-T6 | 31.65 | 31.65 | 0.80 | 4 EFF /2/ | 0.06 |
| 764 Treillis 1/300e_764 | RONDE_30X3 | 6106-T6 | 31.65 | 31.65 | 0.77 | 4 EFF /2/ | 0.05 |
| 765 Barre 1/300e_765 | RECT_50X50X4 | 6060-T6 | 29.18 | 29.18 | 0.14 | 4 EFF /2/ | 0.04 |
| 766 Barre 1/300e_766 | RECT_50X50X4 | 6060-T6 | 29.18 | 29.18 | 0.14 | 4 EFF /2/ | 0.01 |
| 767 Treillis 1/300e_767 | RONDE_30X3 | 6106-T6 | 31.65 | 31.65 | 0.14 | 4 EFF /2/ | 0.03 |
| 768 Treillis 1/300e_768 | RONDE_30X3 | 6106-T6 | 31.65 | 31.65 | 0.14 | 4 EFF /2/ | 0.03 |
| 769 Treillis 1/300e_769 | RONDE_30X3 | 6106-T6 | 55.68 | 55.68 | 0.20 | 4 EFF /2/ | 0.12 |
| 770 Treillis 1/300e_770 | RONDE_30X3 | 6106-T6 | 55.68 | 55.68 | 0.06 | 4 EFF /2/ | 0.04 |
| 771 Barre 1/300e_771 | U_60X40X4 | 6060-T6 | 15.99 | 30.17 | 0.74 | 4 EFF /2/ | 0.21 |
| 772 Barre 1/300e_772 | U_60X40X4 | 6060-T6 | 15.99 | 30.17 | 0.45 | 4 EFF /6/ | 0.15 |
| 773 Treillis 1/300e_773 | RONDE_30X3 | 6106-T6 | 39.07 | 39.07 | 0.15 | 4 EFF /2/ | 0.06 |
| 774 Treillis 1/300e_774 | RONDE_30X3 | 6106-T6 | 39.07 | 39.07 | 0.10 | 4 EFF /2/ | 0.02 |
| 775 Treillis 1/300e_775 | RONDE_30X3 | 6106-T6 | 39.07 | 39.07 | 0.26 | 4 EFF /2/ | 0.15 |
| 776 Treillis 1/300e_776 | RONDE_30X3 | 6106-T6 | 39.07 | 39.07 | 0.28 | 4 EFF /2/ | 0.11 |
| 777 Treillis 1/300e_777 | RONDE_30X3 | 6106-T6 | 39.07 | 39.07 | 0.23 | 4 EFF /2/ | 0.11 |
| 778 Treillis 1/300e_778 | RONDE_30X3 | 6106-T6 | 39.07 | 39.07 | 0.40 | 4 EFF /2/ | 0.16 |
| 779 Treillis 1/300e_779 | RONDE_30X3 | 6106-T6 | 39.07 | 39.07 | 0.27 | 4 EFF /2/ | 0.03 |
| 780 Treillis 1/300e_780 | RONDE_30X3 | 6106-T6 | 39.07 | 39.07 | 0.44 | 4 EFF /2/ | 0.07 |