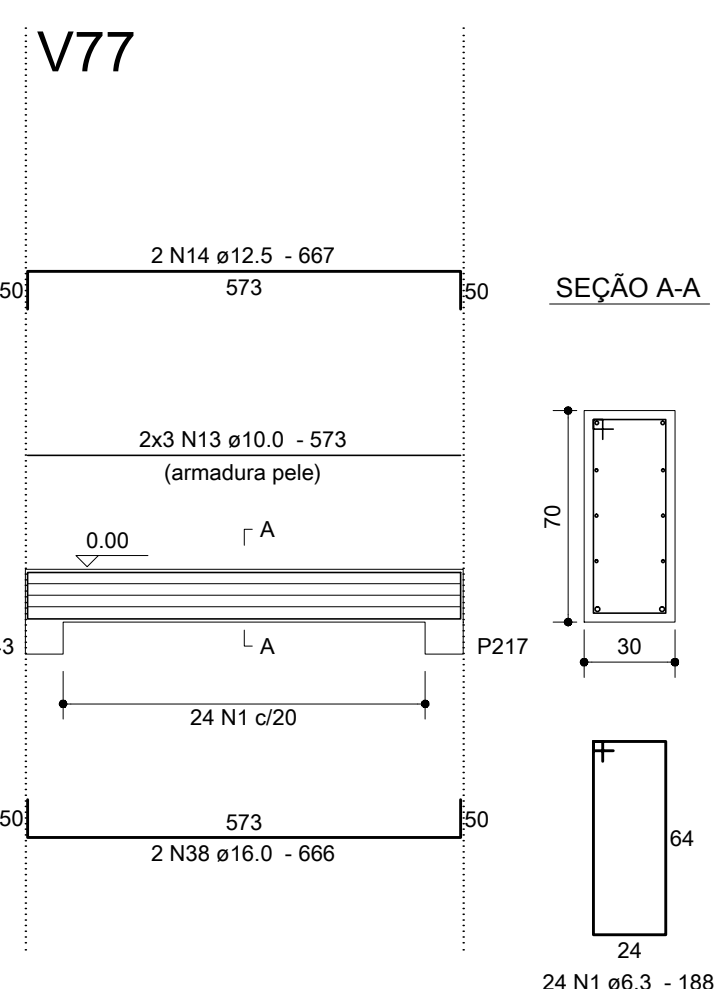
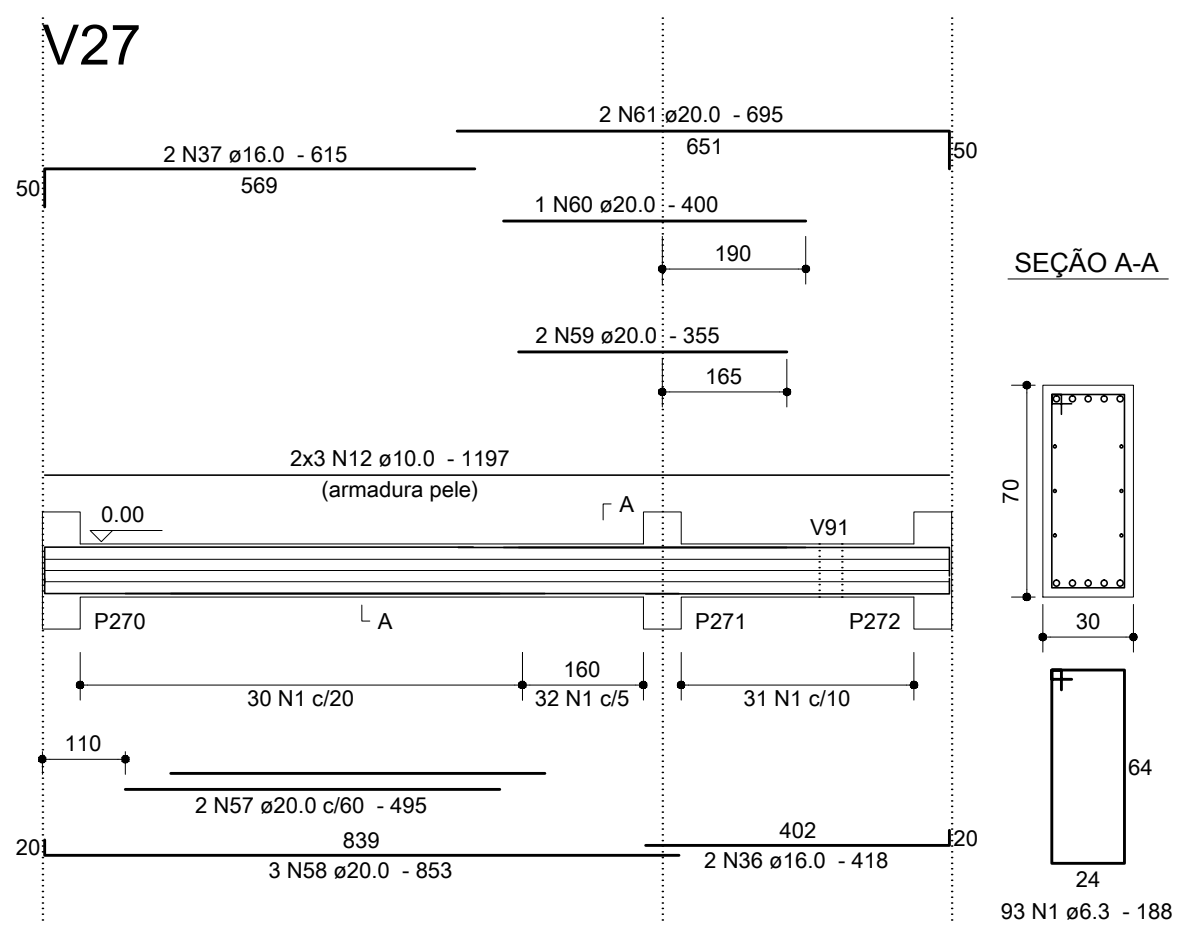
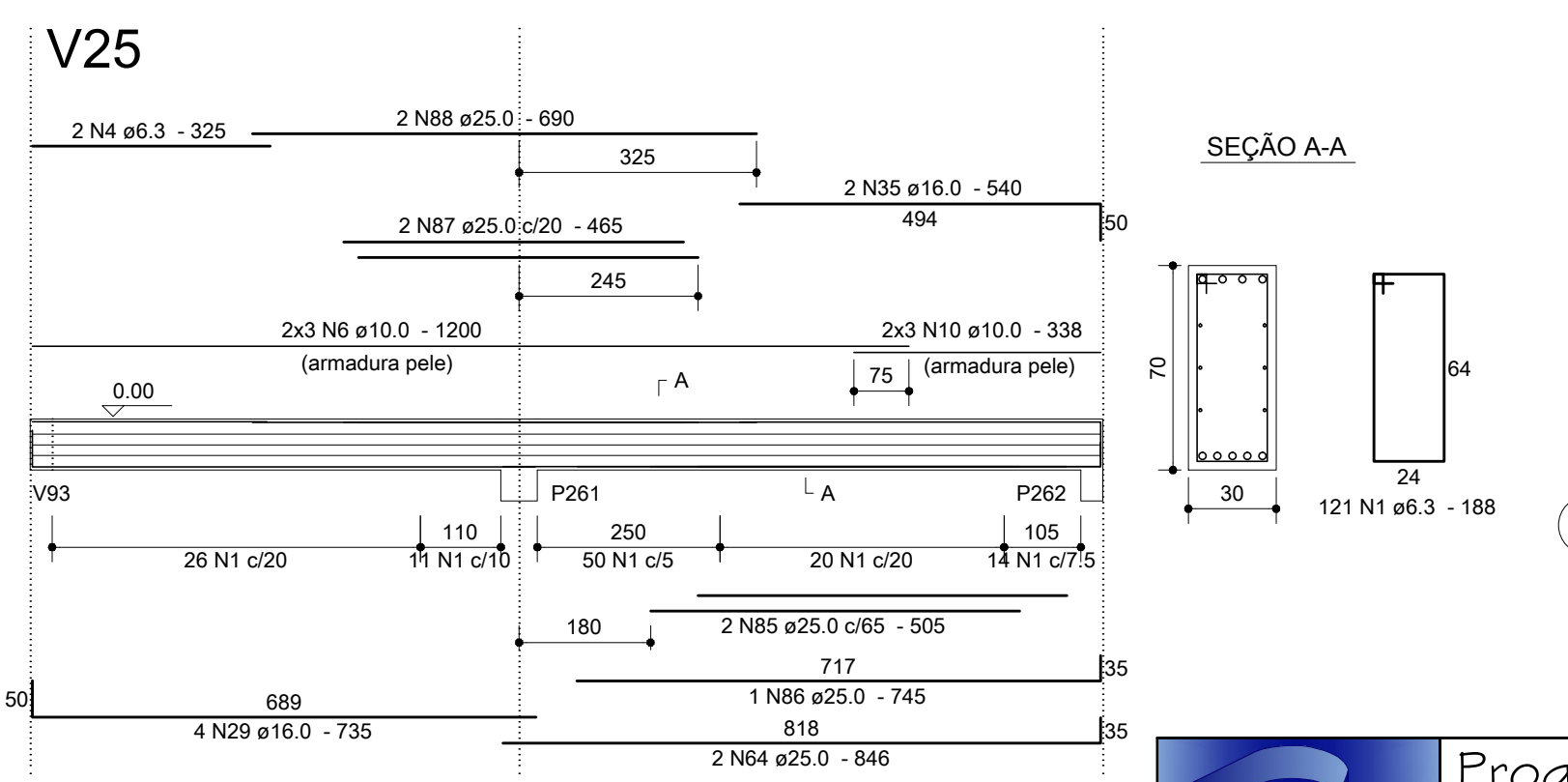
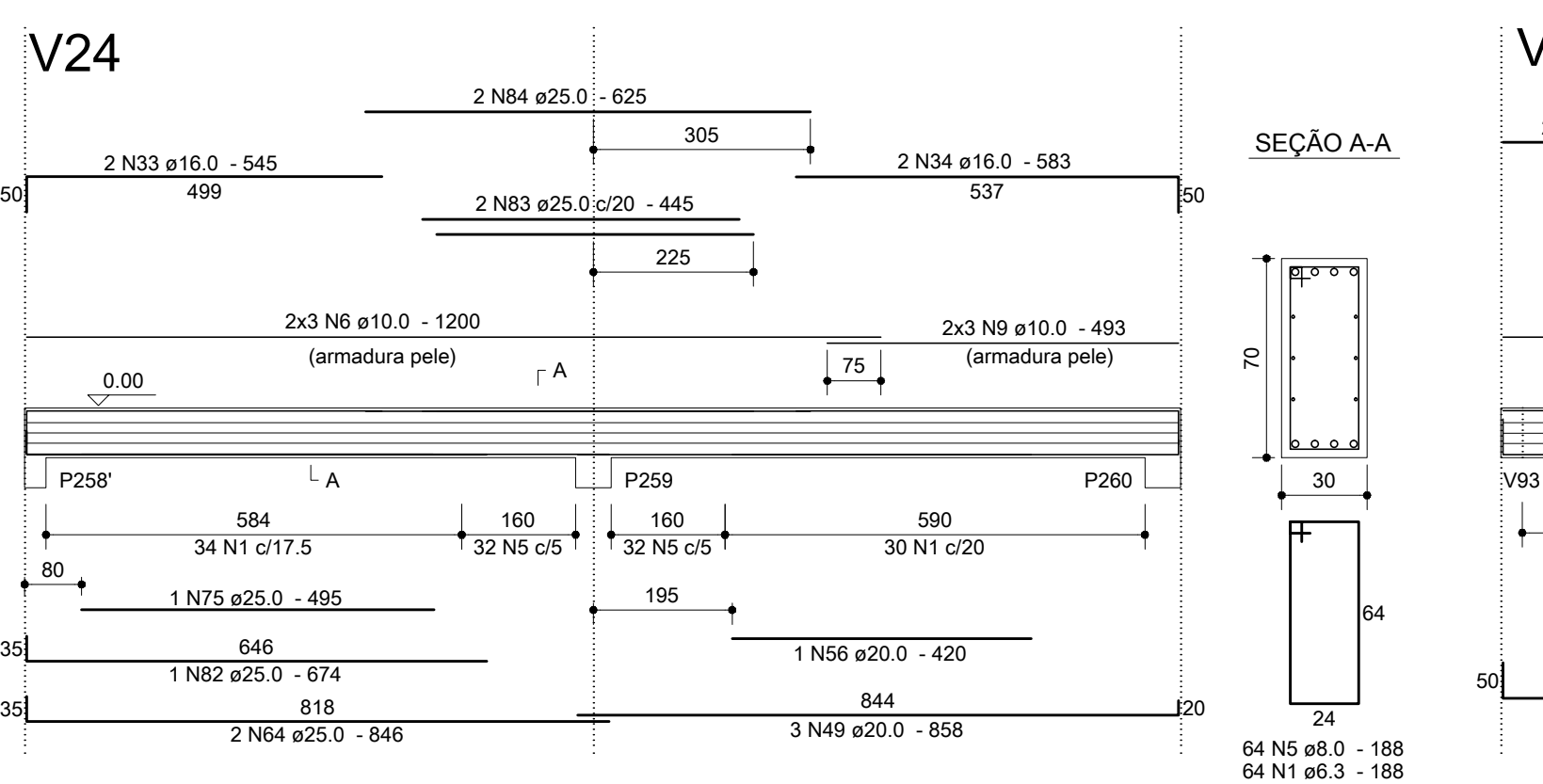
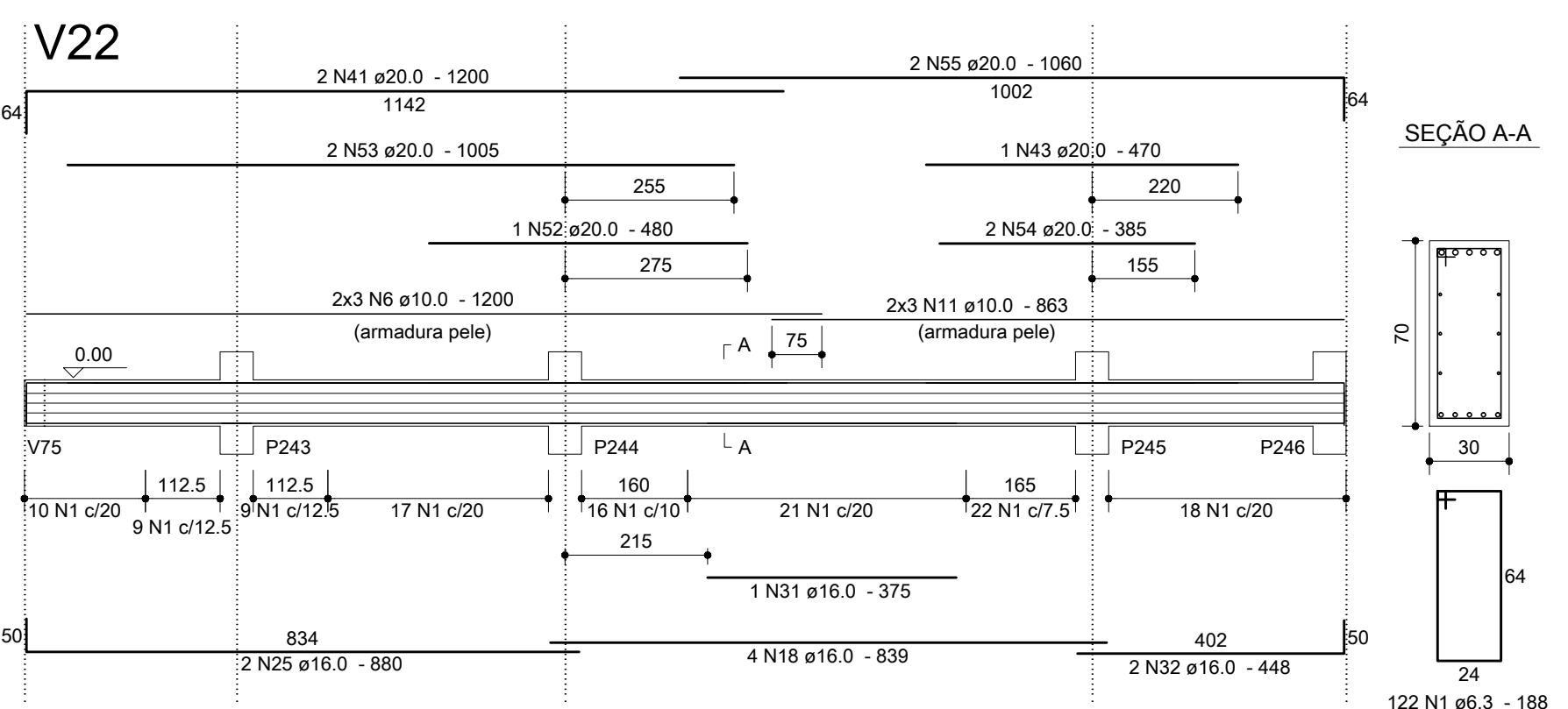
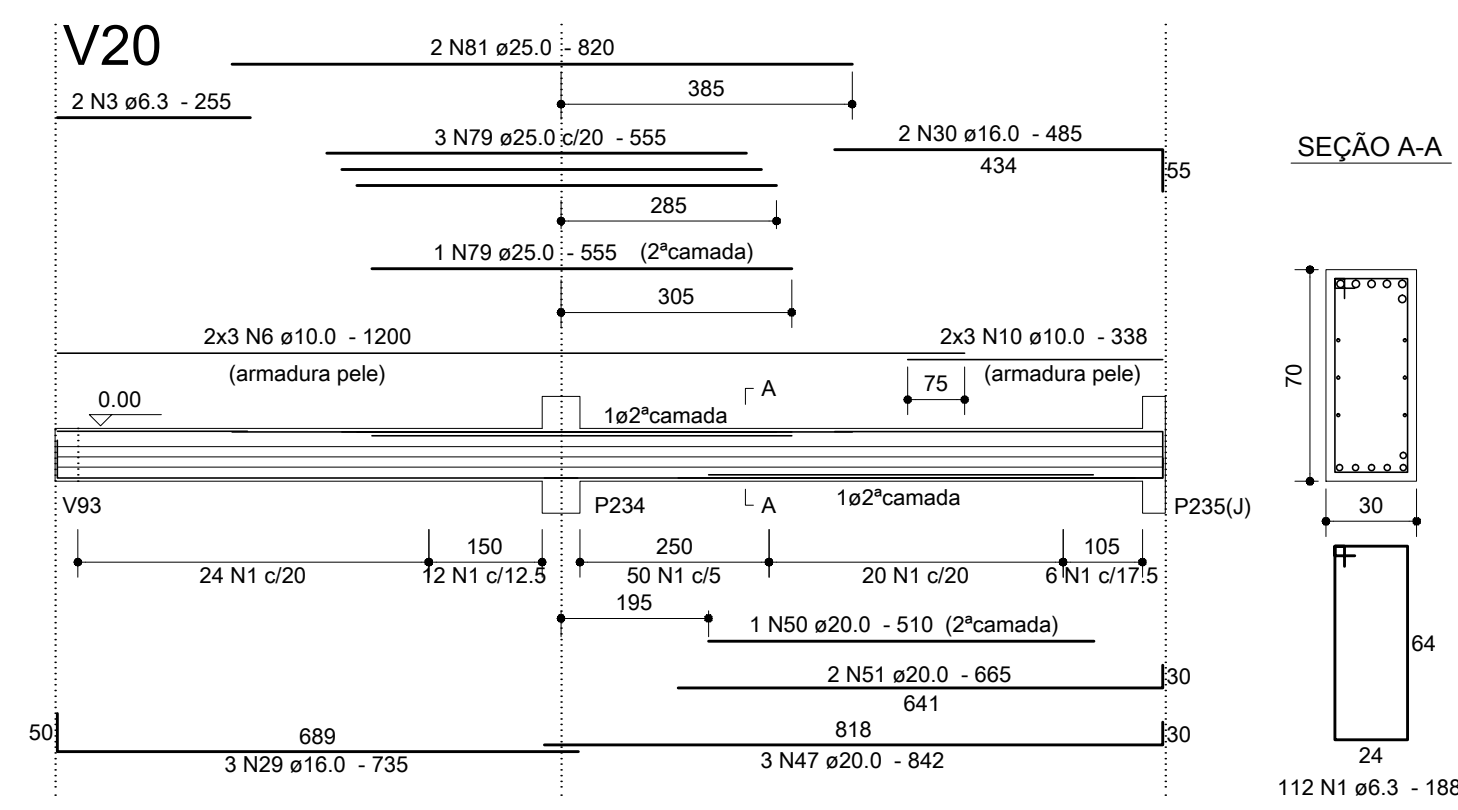
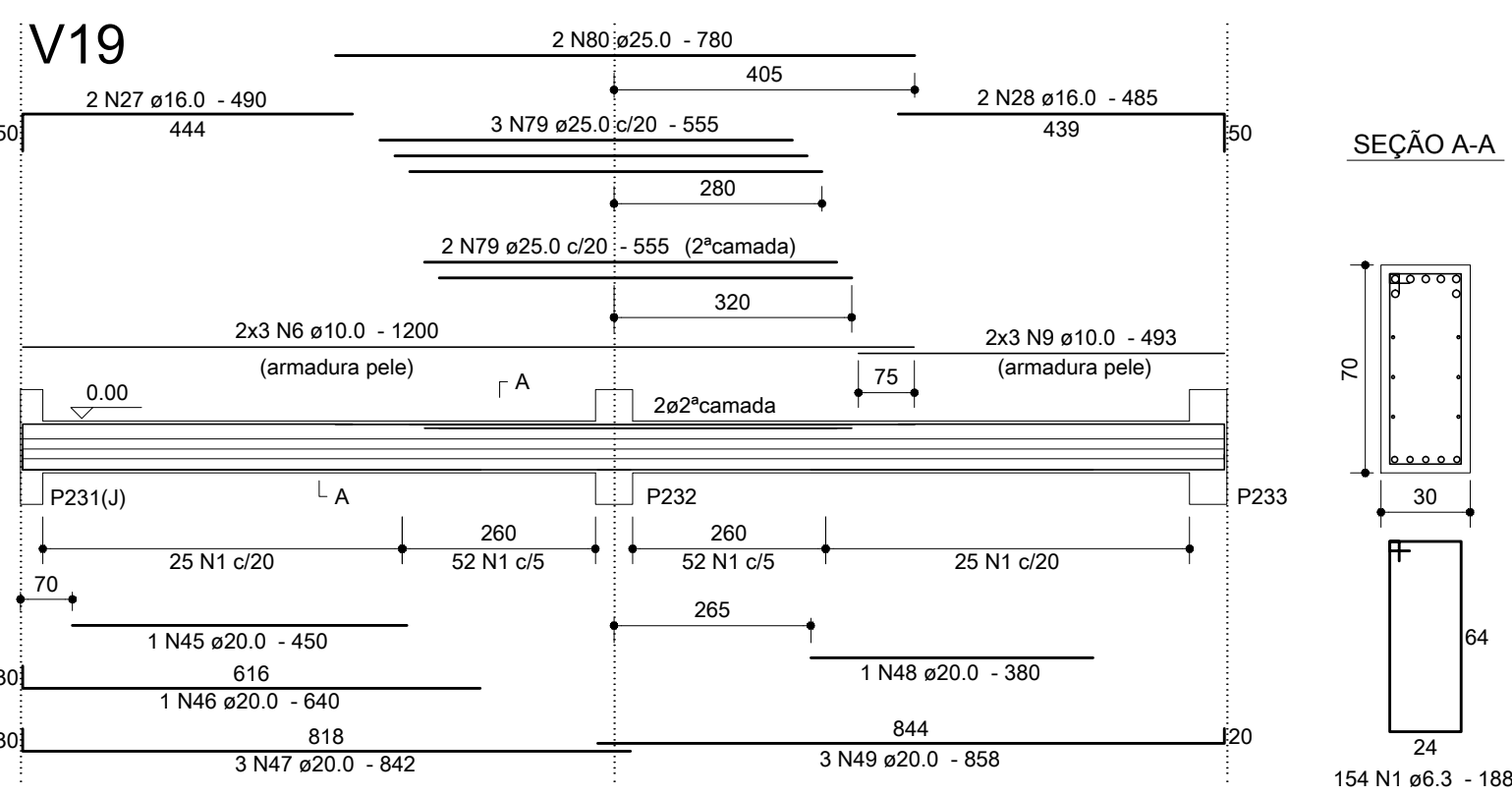
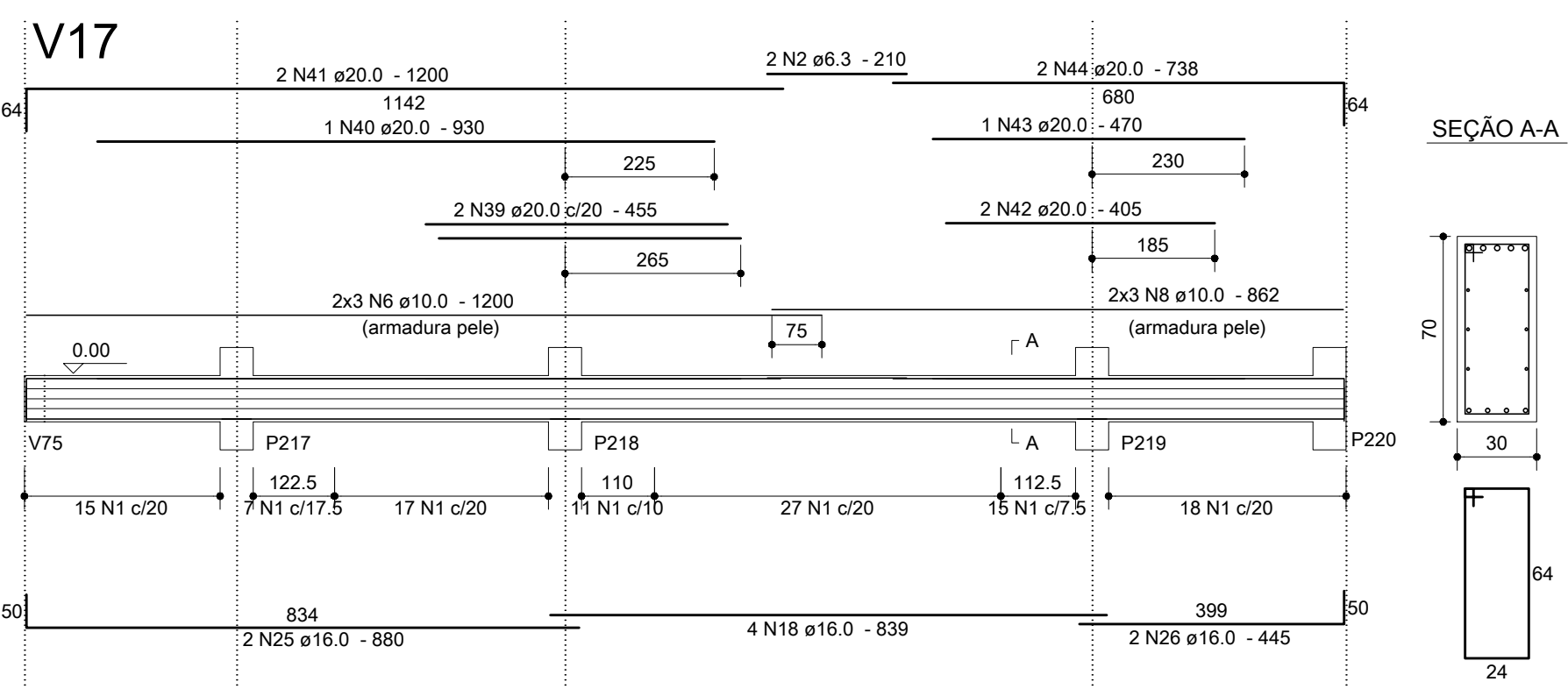
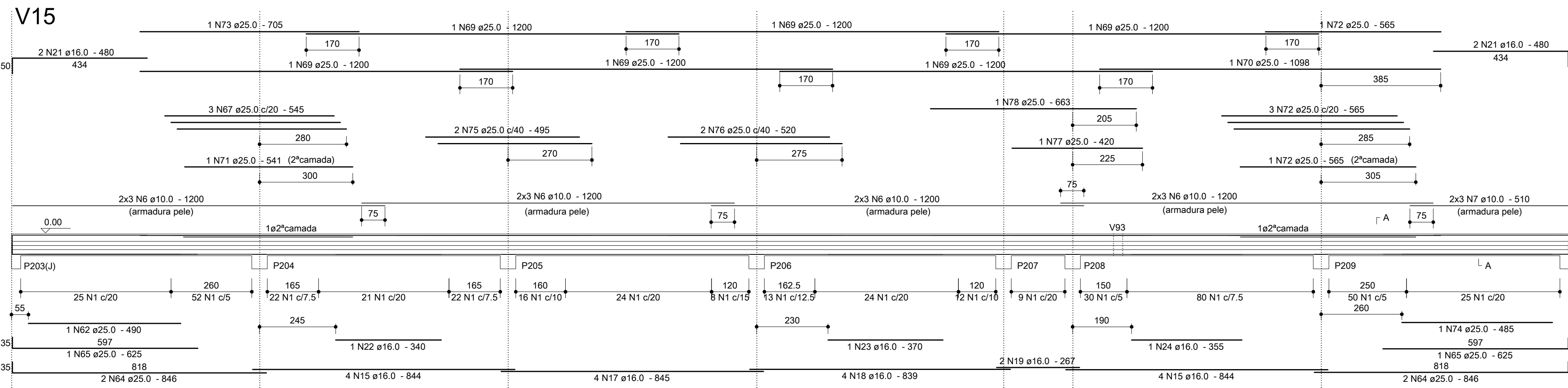
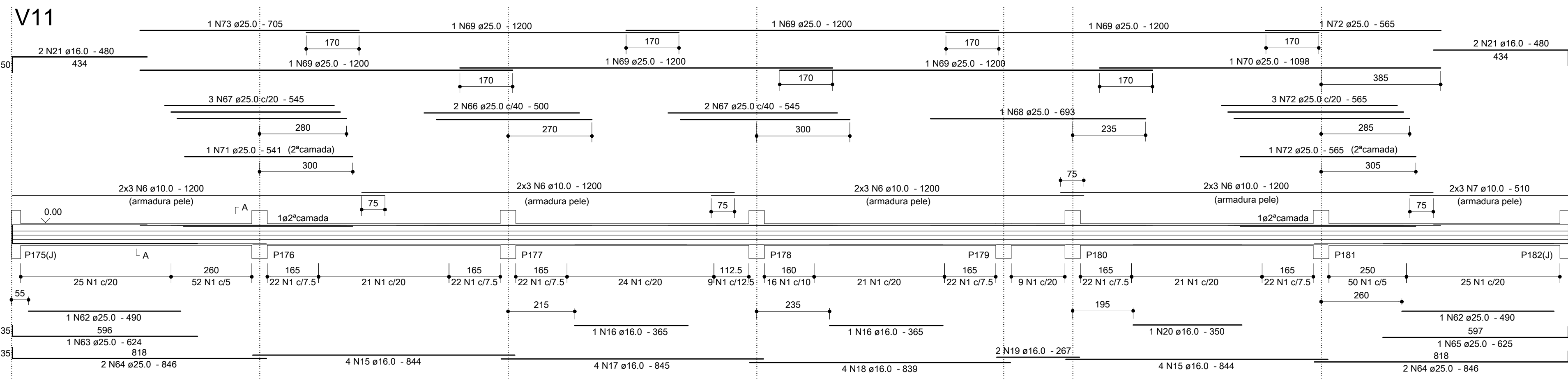
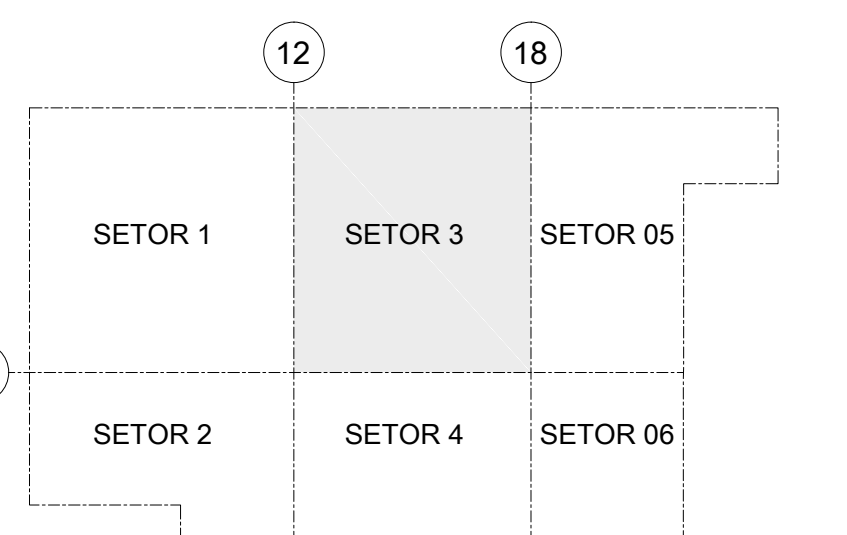




| Relação do Aço                                    |    |      |      |      |         |  |
|---------------------------------------------------|----|------|------|------|---------|--|
| V11, V15, V17, V19, V20, V22, V24, V25, V27, V77. |    |      |      |      |         |  |
| AÇO                                               | N  | DIAM | Q    | UNIT | C.TOTAL |  |
| CA50                                              | 1  | 6,3  | 1638 | 188  | 30784   |  |
|                                                   | 2  | 6,3  |      | 210  | 420     |  |
|                                                   | 3  | 6,3  |      | 255  | 510     |  |
|                                                   | 4  | 6,3  | 2    | 325  | 650     |  |
|                                                   | 5  | 8,0  | 64   | 188  | 12032   |  |
|                                                   | 6  | 10,0 | 84   | 1200 | 100800  |  |
|                                                   | 7  | 10,0 | 12   | 6    | 510     |  |
|                                                   | 8  | 10,0 | 6    | 862  | 5172    |  |
|                                                   | 9  | 10,0 | 12   | 493  | 5916    |  |
|                                                   | 10 | 10,0 | 12   | 338  | 4056    |  |
|                                                   | 11 | 10,0 | 6    | 863  | 5178    |  |
|                                                   | 12 | 10,0 | 6    | 1197 | 7182    |  |
|                                                   | 13 | 10,0 | 6    | 573  | 3438    |  |
|                                                   | 14 | 12,5 | 3    | 967  | 1334    |  |
|                                                   | 15 | 16,0 | 16   | 844  | 13504   |  |
|                                                   | 16 | 16,0 | 2    | 365  | 730     |  |
|                                                   | 17 | 16,0 | 8    | 845  | 6760    |  |
|                                                   | 18 | 16,0 | 16   | 839  | 13424   |  |
|                                                   | 19 | 16,0 | 4    | 267  | 1068    |  |
|                                                   | 20 | 16,0 | 3    | 350  | 350     |  |
|                                                   | 21 | 16,0 | 8    | 480  | 3840    |  |
|                                                   | 22 | 16,0 | 1    | 340  | 340     |  |
|                                                   | 23 | 16,0 | 1    | 370  | 370     |  |
|                                                   | 24 | 16,0 | 1    | 355  | 355     |  |
|                                                   | 25 | 16,0 | 4    | 880  | 3520    |  |
|                                                   | 26 | 16,0 | 2    | 445  | 890     |  |
|                                                   | 27 | 16,0 | 2    | 490  | 980     |  |
|                                                   | 28 | 16,0 | 2    | 485  | 970     |  |
|                                                   | 29 | 16,0 | 7    | 735  | 5145    |  |
|                                                   | 30 | 16,0 | 2    | 485  | 970     |  |
|                                                   | 31 | 16,0 | 1    | 375  | 375     |  |
|                                                   | 32 | 16,0 | 2    | 448  | 896     |  |
|                                                   | 33 | 16,0 | 2    | 545  | 1090    |  |
|                                                   | 34 | 16,0 | 2    | 583  | 1166    |  |
|                                                   | 35 | 16,0 | 2    | 540  | 1080    |  |
|                                                   | 36 | 16,0 | 2    | 418  | 836     |  |
|                                                   | 37 | 16,0 | 2    | 615  | 1230    |  |
|                                                   | 38 | 16,0 | 1    | 1666 | 1666    |  |
|                                                   | 39 | 20,0 | 2    | 455  | 910     |  |
|                                                   | 40 | 20,0 | 1    | 930  | 930     |  |
|                                                   | 41 | 20,0 | 4    | 1200 | 4800    |  |
|                                                   | 42 | 20,0 | 2    | 405  | 810     |  |
|                                                   | 43 | 20,0 | 2    | 470  | 940     |  |
|                                                   | 44 | 20,0 | 2    | 738  | 1476    |  |
|                                                   | 45 | 20,0 | 1    | 450  | 450     |  |
|                                                   | 46 | 20,0 | 1    | 640  | 640     |  |
|                                                   | 47 | 20,0 | 6    | 842  | 5052    |  |
|                                                   | 48 | 20,0 | 1    | 380  | 380     |  |
|                                                   | 49 | 20,0 | 6    | 858  | 5148    |  |
|                                                   | 50 | 20,0 | 1    | 510  | 510     |  |
|                                                   | 51 | 20,0 | 2    | 665  | 1330    |  |
|                                                   | 52 | 20,0 | 1    | 480  | 480     |  |
|                                                   | 53 | 20,0 | 2    | 1005 | 2010    |  |
|                                                   | 54 | 20,0 | 2    | 385  | 770     |  |
|                                                   | 55 | 20,0 | 2    | 1060 | 2120    |  |
|                                                   | 56 | 20,0 | 2    | 420  | 420     |  |
|                                                   | 57 | 20,0 | 2    | 495  | 990     |  |
|                                                   | 58 | 20,0 | 3    | 853  | 2559    |  |
|                                                   | 59 | 20,0 | 2    | 355  | 710     |  |
|                                                   | 60 | 20,0 | 1    | 400  | 400     |  |
|                                                   | 61 | 20,0 | 2    | 695  | 1390    |  |
|                                                   | 62 | 25,0 | 3    | 490  | 1470    |  |
|                                                   | 63 | 25,0 | 1    | 624  | 624     |  |
|                                                   | 64 | 25,0 | 12   | 846  | 10152   |  |
|                                                   | 65 | 25,0 | 3    | 625  | 1875    |  |
|                                                   | 66 | 25,0 | 2    | 500  | 1000    |  |
|                                                   | 67 | 25,0 | 8    | 545  | 4360    |  |
|                                                   | 68 | 25,0 | 3    | 693  | 2079    |  |
|                                                   | 69 | 25,0 | 12   | 1200 | 14400   |  |
|                                                   | 70 | 25,0 | 2    | 1098 | 2196    |  |
|                                                   | 71 | 25,0 | 2    | 541  | 1082    |  |
|                                                   | 72 | 25,0 | 10   | 565  | 5650    |  |
|                                                   | 73 | 25,0 | 2    | 705  | 1410    |  |
|                                                   | 74 | 25,0 | 1    | 485  | 485     |  |
|                                                   | 75 | 25,0 | 3    | 495  | 1485    |  |
|                                                   | 76 | 25,0 | 2    | 520  | 1040    |  |
|                                                   | 77 | 25,0 | 1    | 420  | 420     |  |
|                                                   | 78 | 25,0 | 1    | 663  | 663     |  |
|                                                   | 79 | 25,0 | 9    | 555  | 4995    |  |
|                                                   | 80 | 25,0 | 2    | 760  | 1520    |  |
|                                                   | 81 | 25,0 | 2    | 820  | 1640    |  |
|                                                   | 82 | 25,0 | 1    | 674  | 674     |  |
|                                                   | 83 | 25,0 | 2    | 445  | 890     |  |
|                                                   | 84 | 25,0 | 2    | 625  | 1250    |  |
|                                                   | 85 | 25,0 | 2    | 505  | 1010    |  |
|                                                   | 86 | 25,0 | 1    | 745  | 745     |  |
|                                                   | 87 | 25,0 | 2    | 465  | 930     |  |
|                                                   | 88 | 25,0 | 2    | 690  | 1380    |  |

### Resumo dos Materiais

| AÇO                | DIAM   | C.TOTAL<br>(m)                                      | PESO<br>(kg) |
|--------------------|--------|-----------------------------------------------------|--------------|
| CA50               | 6.3    | 3095.3                                              | 757.4        |
|                    | 8.0    | 120.4                                               | 47.5         |
|                    | 10.0   | 1378.7                                              | 850          |
|                    | 12.5   | 13.4                                                | 12.9         |
|                    | 16.0   | 612.3                                               | 966.3        |
|                    | 20.0   | 352.3                                               | 868.7        |
|                    | 25.0   | 640.8                                               | 2469.2       |
| PESO TOTAL<br>(kg) |        | Vol. concreto = 48.32 m³<br>Área formas = 373.75 m² |              |
| CA50               | 5971.9 |                                                     |              |



Anotações:

**DIÂMETRO (D) DOS PINOS DE  
DORNO PARA GANCHOS**

| BITOLA (Ø)       | CA50 | CA60 |
|------------------|------|------|
| <20mm            | 5x2  | 6x2  |
| ≥20mm            | 8x2  |      |
| estribo<br>≤10mm | 3x2  | 3x2  |

NR-618 2003 (Itens 9.4.2.3 e 9.4.6.1)

**ESPACADOR PARA CAMADAS  
SEÇÃO TRANSVERSAL**

Estribo

Espaçador  
Ø20.0mm

SEMI SEÇÃO

Acço  
Z<sup>a</sup> G

Acço  
Z<sup>a</sup> G

|        |
|--------|
| Notas: |
|--------|

01 NBR6118:2007 – Classe de Agressividade Ambiental = II,  
02 NBR6118:2007 – Concreto com  $f_{ck}=25\text{MPa}$  – Aço CA-50.  
03 NBR6118:2007 – Cobrimento para vigas, em todas as faces: 3,0cm.  
04 Unidades: diâmetro do aço em milímetro; espaçamento e comprimento em centímetro;

|         |          |                  |          |
|---------|----------|------------------|----------|
|         |          |                  |          |
|         |          |                  |          |
|         |          |                  |          |
|         |          |                  |          |
|         |          |                  |          |
|         |          |                  |          |
|         |          |                  |          |
|         |          |                  |          |
|         |          |                  |          |
| 00      | 05/07/12 | Emissão inicial. | Dionísio |
| REVISÃO | DATA     | MODIFICAÇÕES     | RESP.    |

|                                                                     |                                             |  |                 |                             |
|---------------------------------------------------------------------|---------------------------------------------|--|-----------------|-----------------------------|
| CIENTE:                                                             | PÁTIOMIX LINHARES SHOPPING CENTER SPE S.A.  |  | DESENHO:        | 407-arm03_24-r0.dwg         |
| OBRA:                                                               | SHOPPING PÁTIOMIX LINHARES<br>Linhares - ES |  | ESCALA:         | seções: 1:25<br>vigas: 1:10 |
| PROJETO ESTRUTURAL<br><br>TETO DO SUBSOLO - VIGAS - SETOR 3 - 02/05 |                                             |  | DATA - REVISÃO: | 05/07/12 - R0               |
|                                                                     |                                             |  | PROJETO:        | E407                        |
|                                                                     |                                             |  | ARMAÇÕES        | ARMOS-24                    |