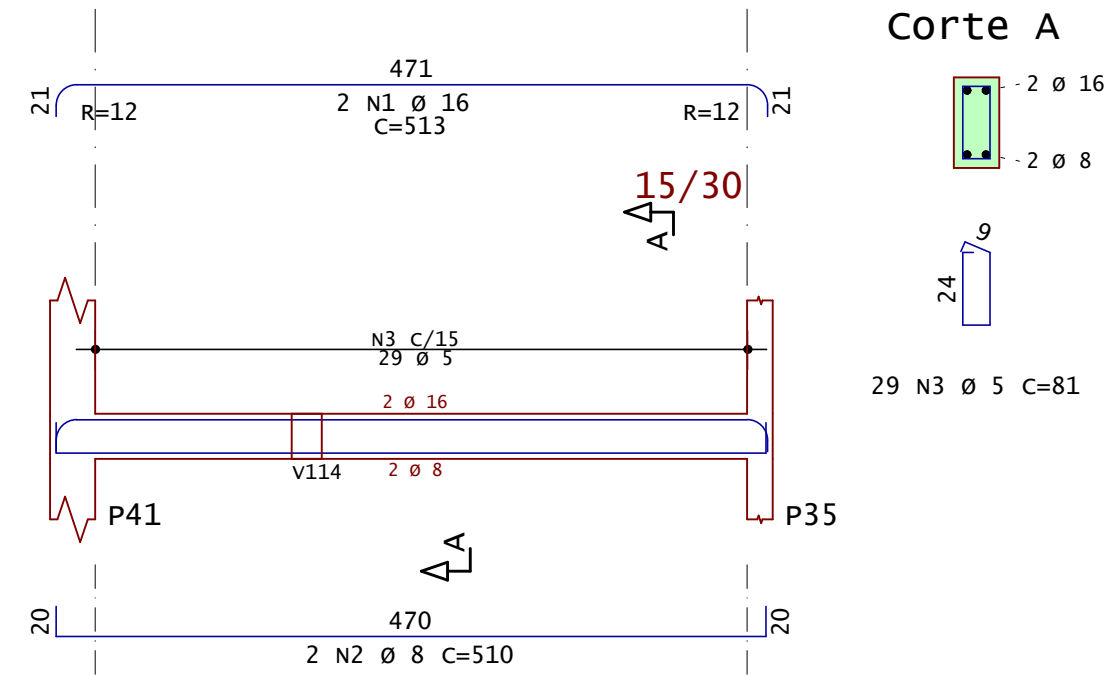
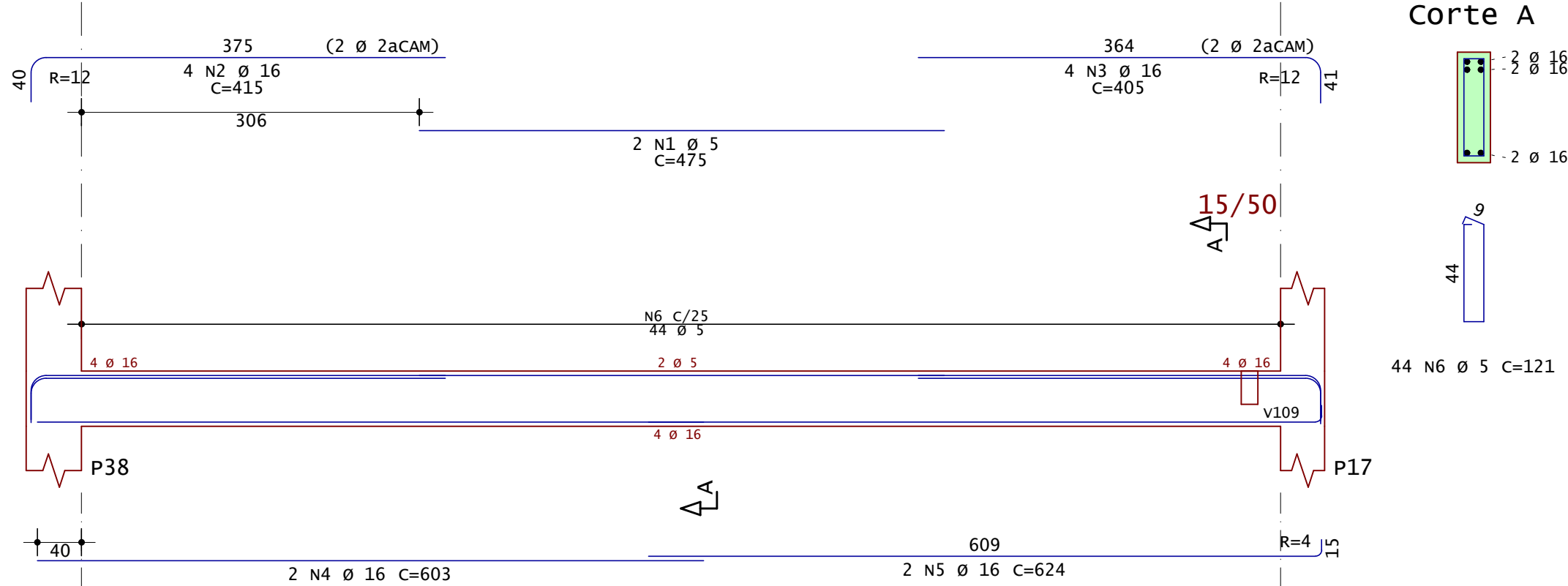


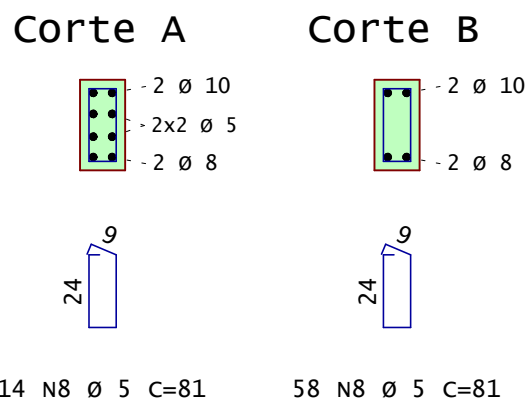
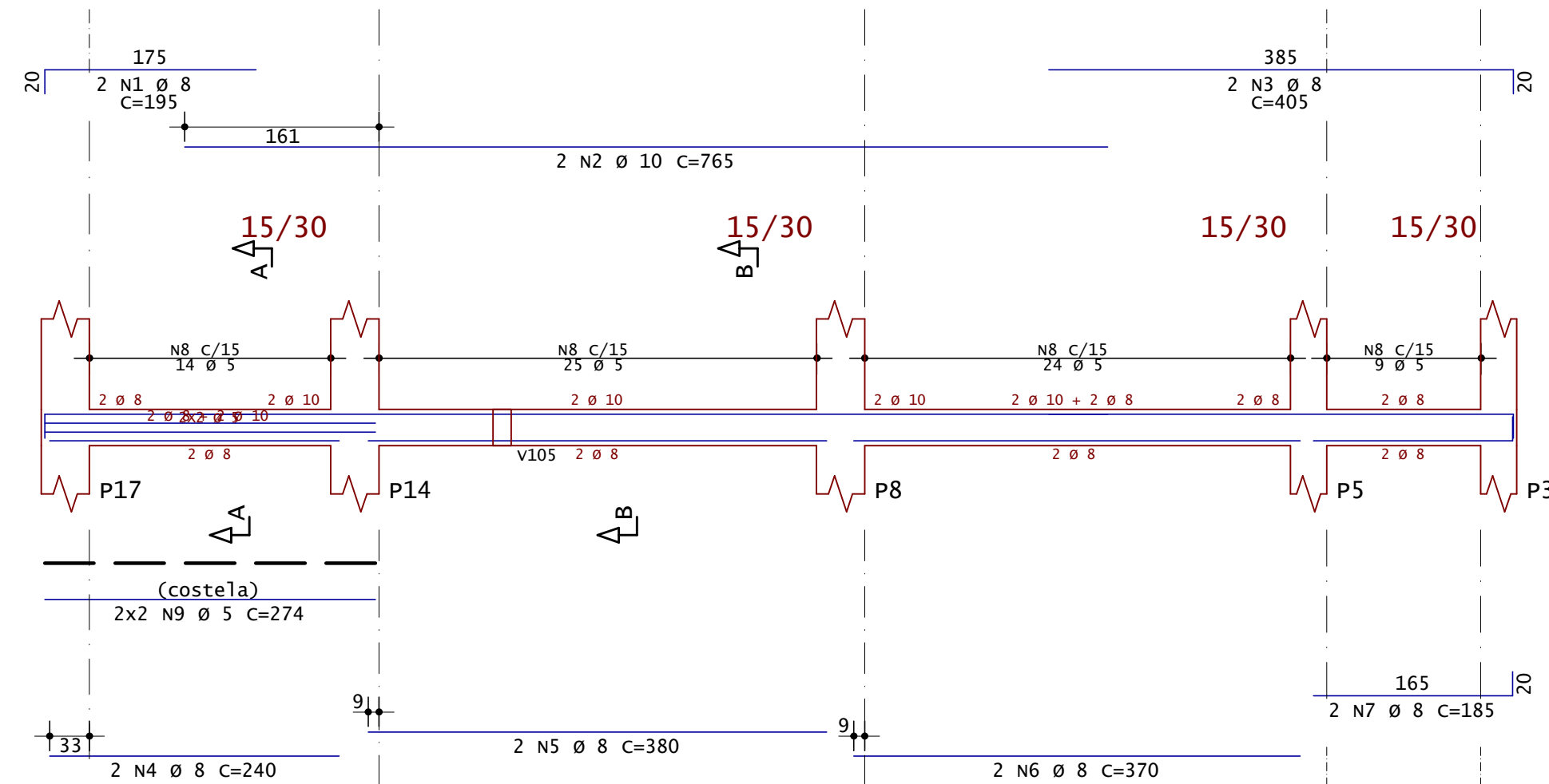
## v128



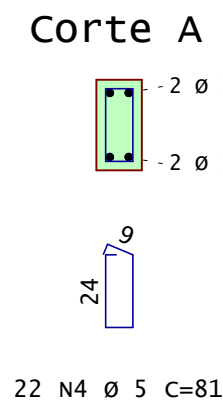
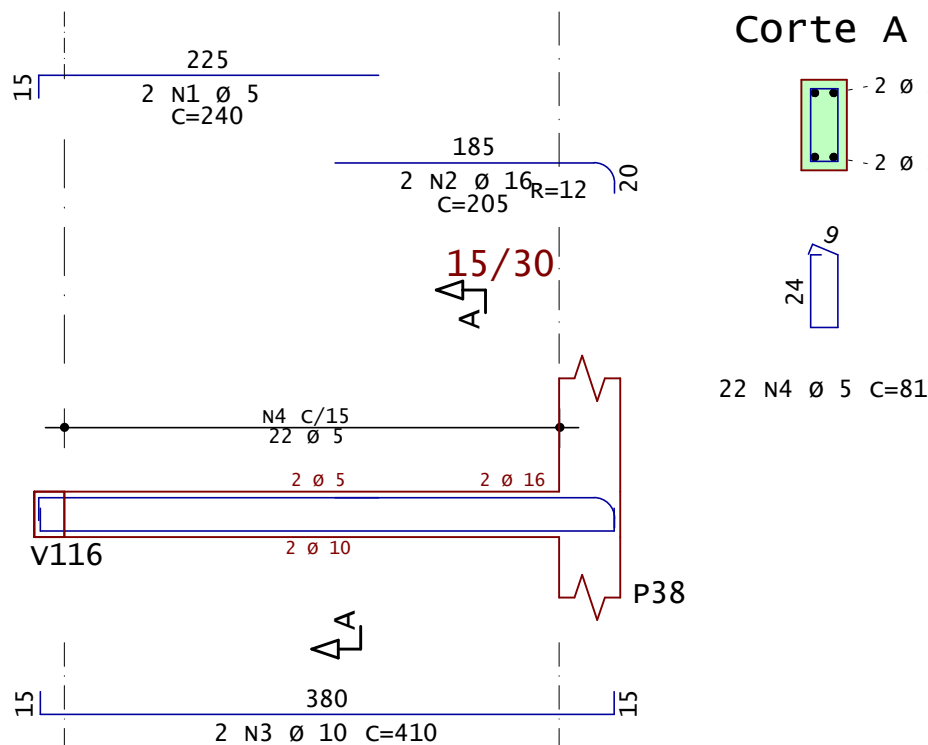
## v129



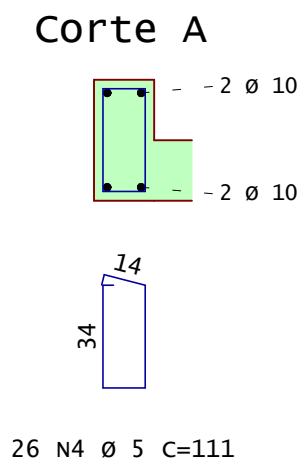
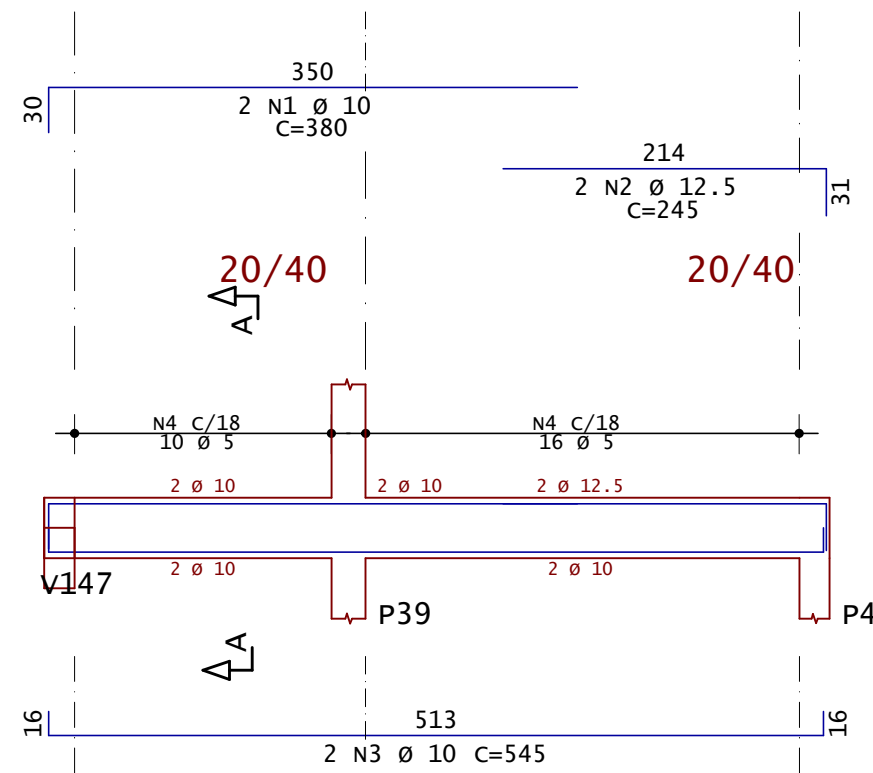
## v130



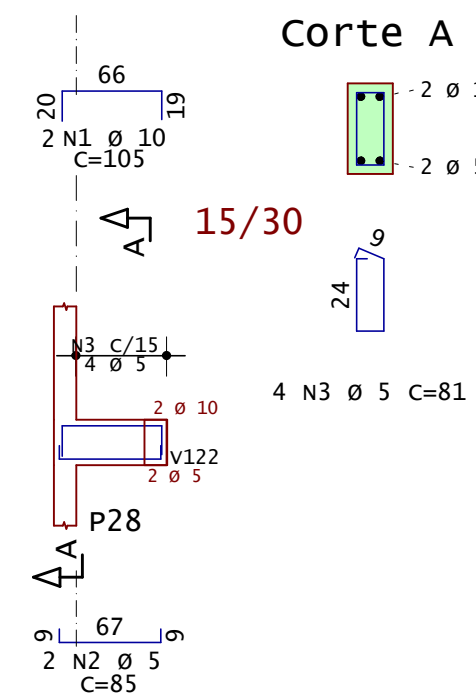
## v131



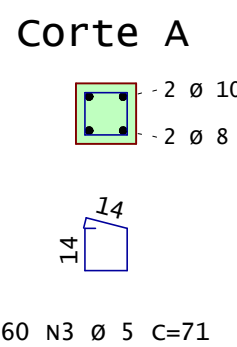
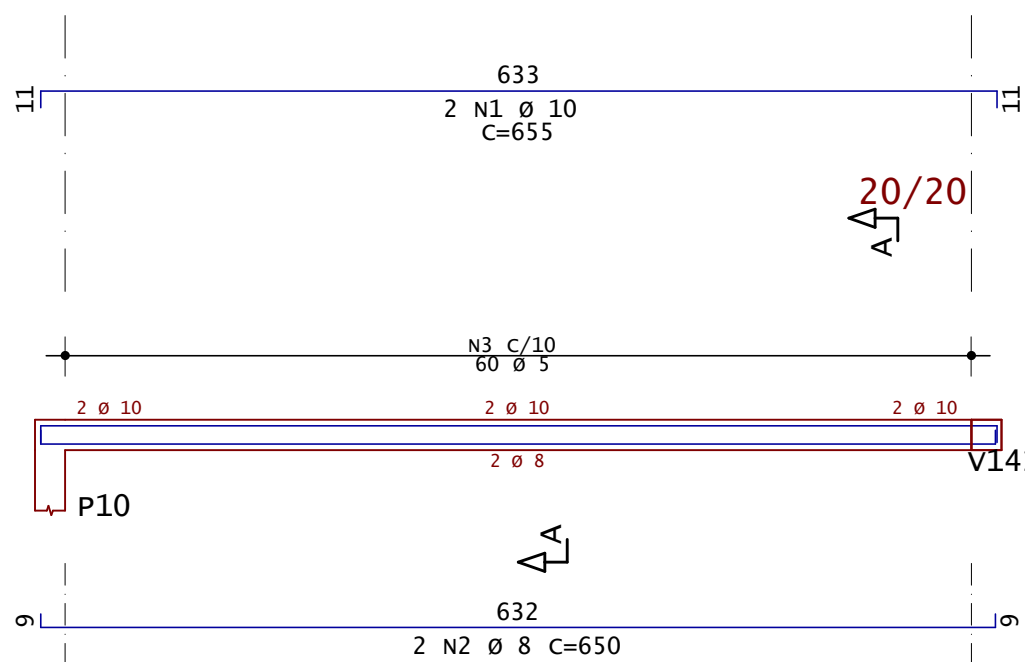
## v132



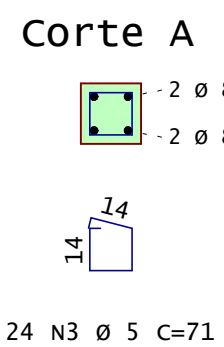
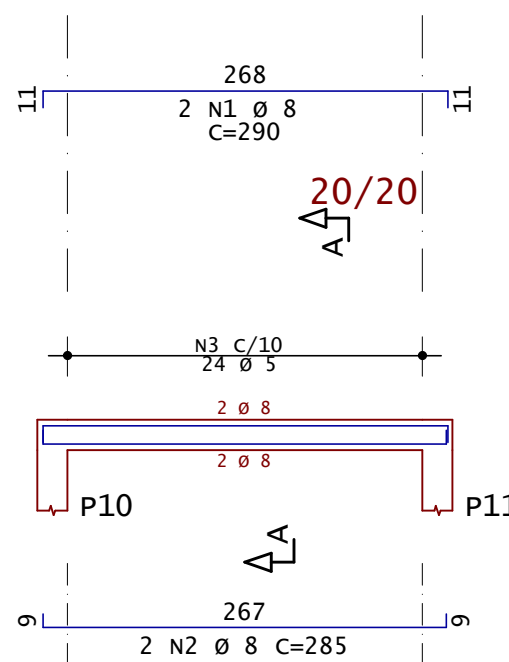
## v133



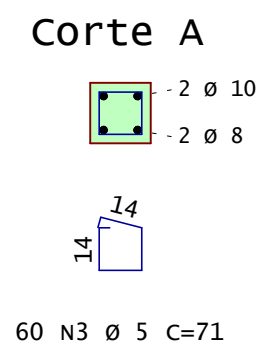
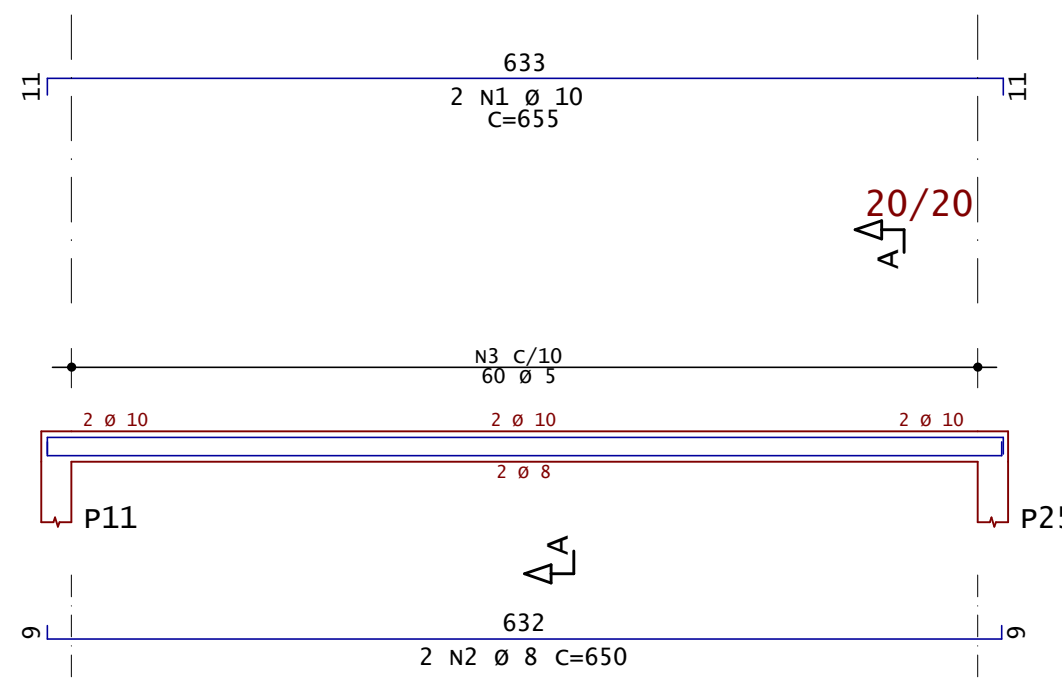
## v134



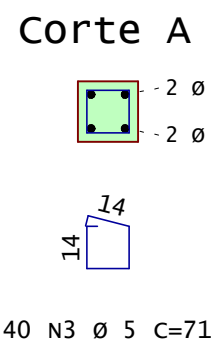
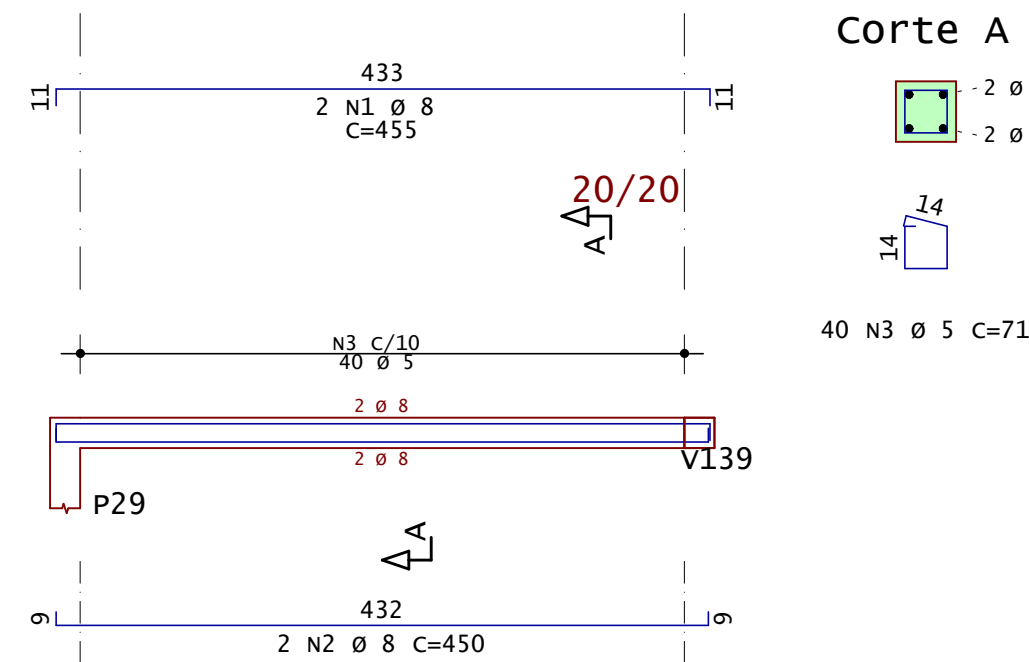
## v135



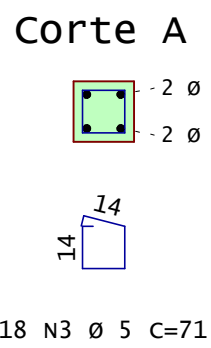
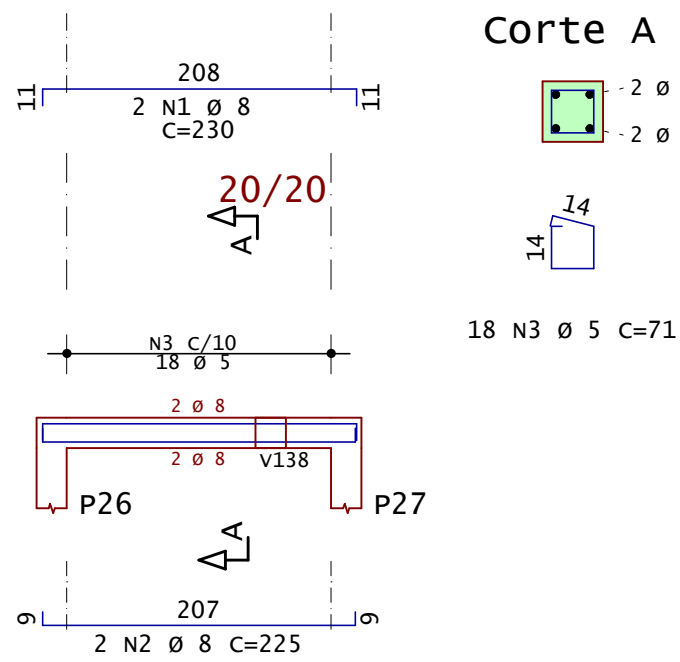
## v137



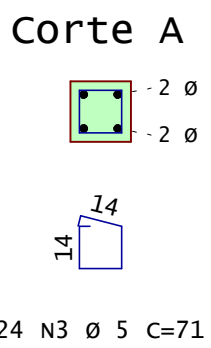
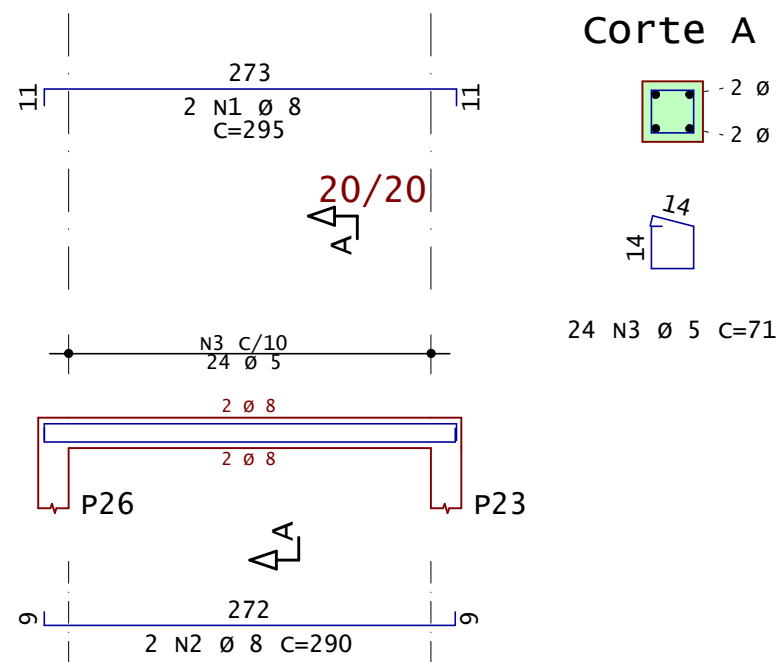
## v138



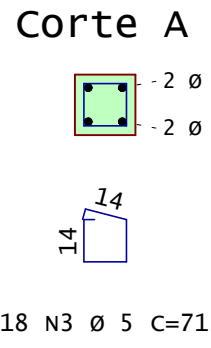
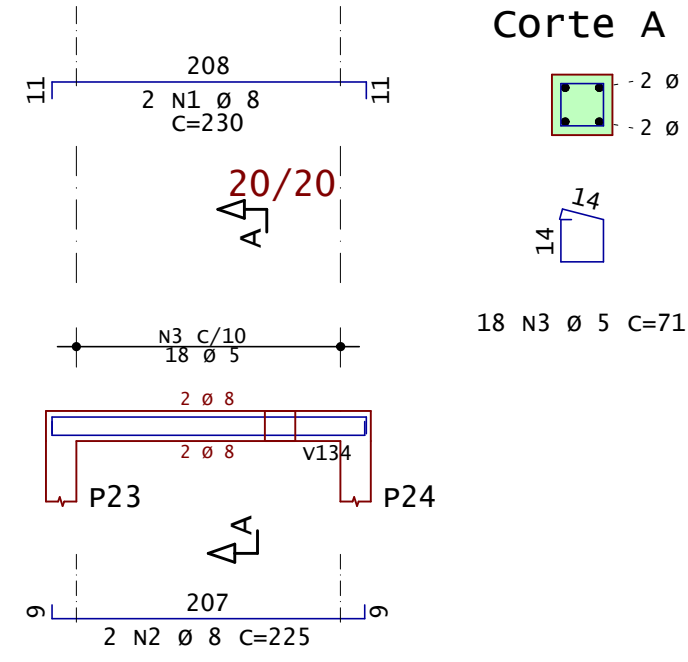
## v139



## v140



## v141



|      | AÇO | POS | BIT  | QUANT | COMPRIMENTO |       |
|------|-----|-----|------|-------|-------------|-------|
|      |     |     |      |       | UNIT        | TOTAL |
|      |     |     | mm   |       | cm          | cm    |
| V128 | 50A | 1   | 16   | 2     | 513         | 1026  |
|      | 50A | 2   | 8    | 2     | 510         | 1020  |
|      | 60A | 3   | 5    | 29    | 81          | 2349  |
| V129 | 60A | 1   | 5    | 2     | 475         | 950   |
|      | 50A | 2   | 16   | 4     | 415         | 1660  |
|      | 50A | 3   | 16   | 4     | 405         | 1620  |
|      | 50A | 4   | 16   | 2     | 603         | 1206  |
|      | 50A | 5   | 16   | 2     | 624         | 1248  |
|      | 60A | 6   | 5    | 44    | 121         | 5324  |
| V130 | 50A | 1   | 8    | 2     | 195         | 390   |
|      | 50A | 2   | 10   | 2     | 765         | 1530  |
|      | 50A | 3   | 8    | 2     | 405         | 810   |
|      | 50A | 4   | 8    | 2     | 240         | 480   |
|      | 50A | 5   | 8    | 2     | 380         | 760   |
|      | 50A | 6   | 8    | 2     | 370         | 740   |
|      | 50A | 7   | 8    | 2     | 185         | 370   |
|      | 60A | 8   | 5    | 72    | 81          | 5832  |
|      | 60A | 9   | 5    | 4     | 274         | 1096  |
| V131 | 60A | 1   | 5    | 2     | 240         | 480   |
|      | 50A | 2   | 16   | 2     | 205         | 410   |
|      | 50A | 3   | 10   | 5     | 410         | 820   |
|      | 60A | 4   | 5    | 22    | 81          | 1782  |
| V132 | 50A | 1   | 10   | 2     | 380         | 760   |
|      | 50A | 2   | 12.5 | 2     | 245         | 490   |
|      | 50A | 3   | 10   | 2     | 545         | 1090  |
|      | 60A | 4   | 5    | 26    | 111         | 2886  |
| V133 | 50A | 1   | 10   | 2     | 105         | 210   |
|      | 60A | 2   | 5    | 2     | 85          | 170   |
|      | 60A | 3   | 5    | 4     | 81          | 324   |
| V134 | 50A | 1   | 10   | 2     | 655         | 1310  |
|      | 50A | 2   | 8    | 2     | 650         | 1300  |
|      | 60A | 3   | 5    | 60    | 71          | 4260  |
| V135 | 50A | 1   | 8    | 2     | 290         | 580   |
|      | 50A | 2   | 8    | 2     | 285         | 570   |
|      | 60A | 3   | 5    | 24    | 71          | 1704  |
| V137 | 50A | 1   | 10   | 2     | 655         | 1310  |
|      | 50A | 2   | 8    | 2     | 650         | 1300  |
|      | 60A | 3   | 5    | 60    | 71          | 4260  |
| V138 | 50A | 1   | 8    | 2     | 455         | 910   |
|      | 50A | 2   | 8    | 2     | 450         | 900   |
|      | 60A | 3   | 5    | 40    | 71          | 2840  |
| V139 | 50A | 1   | 8    | 2     | 230         | 460   |
|      | 50A | 2   | 8    | 2     | 225         | 450   |
|      | 60A | 3   | 5    | 18    | 71          | 1278  |
| V140 | 50A | 1   | 8    | 2     | 295         | 590   |
|      | 50A | 2   | 8    | 2     | 290         | 580   |
|      | 60A | 3   | 5    | 24    | 71          | 1704  |
| V141 | 50A | 1   | 8    | 2     | 230         | 460   |
|      | 50A | 2   | 8    | 2     | 225         | 450   |
|      | 60A | 3   | 5    | 18    | 71          | 1278  |

| RESUMO DE AÇO |       |       |         |
|---------------|-------|-------|---------|
| AÇO           | BIT   | COMPR | PESO    |
|               | mm    | m     | kgf     |
| 60A           | 5     | 385   | 59      |
| 50A           | 8     | 131   | 52      |
| 50A           | 10    | 70    | 43      |
| 50A           | 12.5  | 5     | 5       |
| 50A           | 16    | 72    | 113     |
| Peso Total    | 60A = |       | 59 kgf  |
| Peso Total    | 50A = |       | 213 kgf |

Site com:  
- Modelos 3D  
- Arquivos de obra  
- Todos os documentos  
do projeto



ANDRÉ RODRIGUES

Engenheiro Estrutural

(83) 9 9644 2240

@anderodrigueseng

anderodrigues.eng.br

contato@anderodrigues.eng.br

|          |                                     |                                                                                                                  |
|----------|-------------------------------------|------------------------------------------------------------------------------------------------------------------|
| CLIENTE: | MAXWELL DE OLIVEIRA                 | DESENHO Nº:14                                                                                                    |
| OBRA:    | RESIDÊNCIA UNIFAMILIAR              |                                                                                                                  |
| TÍTULO:  | Detalhamento:<br>- VIGAS / BALDRAME | OBS:<br>Concreto:<br>fck: 25 MPa<br>ECS: 24150 MPa<br>Atente-se aos<br>cobrimentos<br>Leia o Memorial Descritivo |
| DATA:    | 02/08/2021                          | ESCALA: INDICADA                                                                                                 |