

Cálculo dos Pilares – trecho 5

 cobertura fck = 250.00 kgf/cm²
 Lance 5

 E = 241500 kgf/cm²
 cobr = 2.00 cm

 Peso Espec = 2500.00 kgf/m³

| Dados | | | | | Resultados | | | |
|-------|---------------------|--|--|---|---|--|---|---|
| Pilar | Seção (cm) | lib vínc esb B | Nd máx Nd mín (tf) ni Zr | MBd topo MBd base MHd topo MHd base (kgf.m) | MBsdtopo MBsdcentro MBsdbase MHsdtopo MHsdcentro MHsdbase (kgf.m) | Madtopo Madcentro Madbase MB2d MBcd MH2d MHcd (kgf.m) | Processo de Cálculo | As b(cm ²) As h % armad |
| P23 | 19.00 X 40.00 | 315.00 RR 57.36 315.00 RR 27.25 | 28.75 4.93 0.21 0.00 0.00 | 151 253 526 243 | 151 101 253 504 318 39 | 453 494 453 460 8 125 3 | (*2) Msd(x) = 1063 kgf.m Msd(y) = 318 kgf.m Mrd(x) = 5632 kgf.m Mrd(y) = 1683 kgf.m Mrd/Msd=5.30 | 4.02 2 ø 16.0 8.04 4 ø 16.0 2.1 |
| P24 | 19.00 X 40.00 | 315.00 RR 57.36 315.00 RR 27.25 | 58.30 8.30 0.43 0.00 0.00 | 1 1 939 237 | 1 0 1 936 475 216 | 1206 1206 1206 933 19 254 9 | (*2) Msd(x) = 2159 kgf.m Msd(y) = 475 kgf.m Mrd(x) = 6038 kgf.m Mrd(y) = 1329 kgf.m Mrd/Msd=2.80 | 4.02 2 ø 16.0 8.04 4 ø 16.0 2.1 |
| P25 | 19.00 X 40.00 | 315.00 RR 57.36 315.00 RR 27.25 | 28.88 4.85 0.21 0.00 0.00 | 152 253 522 199 | 152 101 253 510 290 39 | 455 497 455 462 8 126 3 | (*2) Msd(x) = 1068 kgf.m Msd(y) = 290 kgf.m Mrd(x) = 5689 kgf.m Mrd(y) = 1545 kgf.m Mrd/Msd=5.33 | 4.02 2 ø 16.0 8.04 4 ø 16.0 2.1 |
| P27 | 19.00 X 40.00 | 315.00 RR 57.36 315.00 RR 27.25 | 35.17 8.00 0.26 0.00 0.00 | 228 306 736 362 | 191 77 192 736 297 362 | 554 651 554 563 14 153 5 | (*2) Msd(x) = 1305 kgf.m Msd(y) = 297 kgf.m Mrd(x) = 6005 kgf.m Mrd(y) = 1368 kgf.m Mrd/Msd=4.60 | 4.02 2 ø 16.0 8.04 4 ø 16.0 2.1 |
| P28 | 19.00 X 40.00 | 315.00 RR 57.36 315.00 RR 27.25 | 58.51 7.70 0.43 0.00 0.00 | 70 27 974 219 | 70 31 27 958 523 131 | 1141 1180 1184 936 19 255 8 | (*2) Msd(x) = 2166 kgf.m Msd(y) = 523 kgf.m Mrd(x) = 5981 kgf.m Mrd(y) = 1444 kgf.m Mrd/Msd=2.76 | 4.02 2 ø 16.0 8.04 4 ø 16.0 2.1 |
| P29 | | 315.00 RR | 28.56 | 192 | 192 | 450 | (*2) | 4.02 |

| Dados | | | | | Resultados | | | |
|-------|------------------------------------|--|--|---|---|--|--|--|
| Pilar | Seção (cm) | lib vínc esb B lih vínc esb H (cm) | Nd máx Nd mín (tf) ni Zr | MBd topo MBd base MHd topo MHd base (kgf.m) | MBsdtopo MBsdcentro MBsdbase MHsdtopo MHsdcentro MHsdbase (kgf.m) | Madtopo Madcentro Madbase MB2d MBcd MH2d MHcd (kgf.m) | Processo de Cálculo | As b(cm²) As h % armad |
| | 19.00 X 40.00 | 57.36 315.00 RR 27.25 | 5.71 0.21 0.00 0.00 | 161 356 137 | 107 22 356 159 137 | 485 570 457 10 124 3 | Msd(x) = 1058 kgf.m Msd(y) = 159 kgf.m Mrd(x) = 5925 kgf.m Mrd(y) = 892 kgf.m Mrd/Msd=5.60 | 2 ø 16.0 8.04 4 ø 16.0 2.1 |
| P30 | Circ 0.00 X 40.00 0.00 | 315.00 RR 31.50 | 29.40 13.04 0.13 0.00 0.00 | 8791 5685 51 31 | 8791 3516 5685 51 20 31 | 463 232 463 365 42 365 3 | Msd(x) = 9254 kgf.m Msd(y) = 51 kgf.m Mrd(x) = 13596 kgf.m Mrd(y) = 0 kgf.m Mrd/Msd=1.47 | 18.85 6 ø 20.0 1.5 |
| P31 | Circ 0.00 X 40.00 0.00 | 315.00 RR 31.50 | 26.66 11.56 0.12 0.00 0.00 | 10130 6094 660 165 | 10130 4052 6094 660 330 165 | 420 210 420 331 43 331 5 | Msd(x) = 10550 kgf.m Msd(y) = 660 kgf.m Mrd(x) = 13370 kgf.m Mrd(y) = 0 kgf.m Mrd/Msd=1.26 | 18.85 6 ø 20.0 1.5 |

(*) Quantidade de barras alterada pelo usuário (para mais)