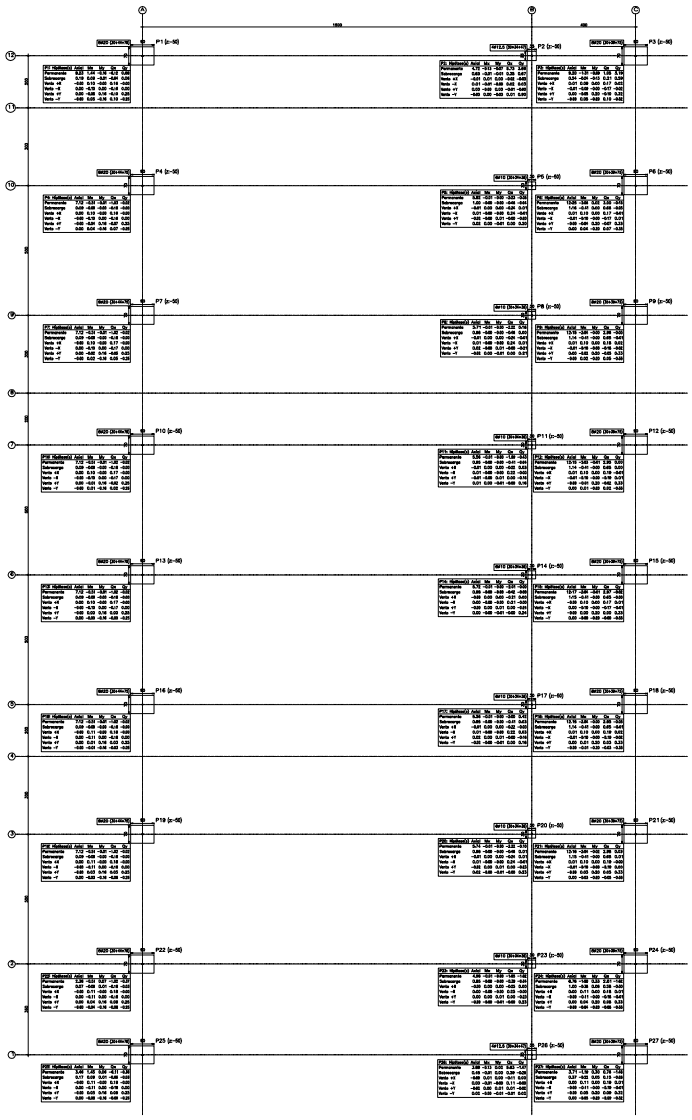


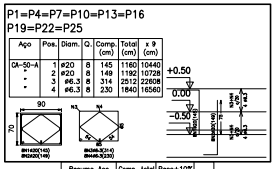
| COR | DO | LAYER |
|---|---|---|
| PENA Nº | | |
| 1 | 7 | 0.15 |
| 2 | 7 | 0.20 |
| 3 | 7 | 0.30 |
| 4 | 7 | 0.40 |
| 5 | 7 | 0.50 |
| 6 | 7 | 0.60 |
| 7 | 7 | 0.80 |

ESPESSURA

| Elemento | Pos. | Diam. | Q. | Comp. (cm) | Total (cm) | CA-50-A (kg) | CA-60-B (kg) |
|---|---|---|---|---|---|---|---|
| P1=P4=P7=P10=P13=P16=P19=P22=P25 | 1 | ø20 | 8 | 145 | 1160 | 28.7 | |
| | 2 | ø20 | 8 | 149 | 1192 | 29.5 | |
| | 3 | ø6.3 | 8 | 314 | 2512 | 9.9 | |
| | 4 | ø6.3 | 8 | 230 | 1840 | 4.5 | |
| | | | | Total=1256 | (kg) | 72.6 | 682.2 |
| P2 | 5 | ø10 | 6 | 90 | 540 | 3.4 | |
| | 6 | ø5 | 6 | 52 | 312 | | 0.5 |
| | | | | Total=1256 | | 3.7 | 0.5 |
| | | | | ø5: | | 0.0 | 0.6 |
| | | | | ø6.3: | | 196.2 | 0.0 |
| | | | | ø10: | | 3.7 | 0.0 |
| | | | | ø20: | | 472.3 | 0.0 |
| | | | | Total: | | 672.3 | 0.6 |

P1=P4=P7=P10=P13=P16
P19=P22=P25

| Aço | Pos. | Diam. | Q. | Comp. (cm) | Total (cm) | x 9 (cm) |
|---|---|---|---|---|---|---|
| CA-50-A | 1 | ø20 | 8 | 145 | 1160 | 10440 |
| " | 2 | ø20 | 8 | 149 | 1192 | 10728 |
| " | 3 | ø6.3 | 8 | 314 | 2512 | 22608 |
| " | 4 | ø6.3 | 8 | 230 | 1840 | 16560 |

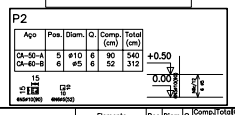



| Resumo Aço Piso 2 Pilares | Comp. total (m) | Peso+10% (kg) | Total |
|---|---|---|---|
| CA-50-A ø6.3 | 783.4 | 213 | |
| ø10 | 5.4 | 4 | |
| ø20 | 419.8 | 1142 | 1359 |
| CA-60-B ø5 | 3.1 | 1 | 1 |
| Total | | | 1360 |

Pilares que terminam em
Piso 2
Concreto: C25, em geral
Aço: CA-50-A e CA-60-B
Escala: 1:50

P2

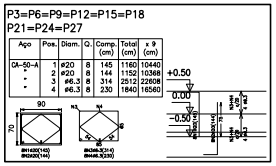
| Aço | Pos. | Diam. | Q. | Comp. (cm) | Total (cm) |
|---|---|---|---|---|---|
| CA-50-A | 5 | ø10 | 6 | 90 | 540 |
| CA-60-B | 6 | ø5 | 6 | 52 | 312 |




| Elemento | Pos. | Diam. | Q. | Comp. (cm) | Total (cm) | CA-50-A (kg) | CA-60-B (kg) |
|---|---|---|---|---|---|---|---|
| P3=P6=P9=P12=P15=P18=P21=P24=P27 | 1 | ø20 | 8 | 145 | 1160 | 28.7 | |
| | 2 | ø20 | 8 | 144 | 1152 | 28.5 | |
| | 3 | ø6.3 | 8 | 314 | 2512 | 9.9 | |
| | 4 | ø6.3 | 8 | 230 | 1840 | 4.5 | |
| | | | | Total=1256 | (kg) | 71.7 | |
| | | | | | | 673.3 | |
| | | | | ø6.3: | | 196.2 | 0.0 |
| | | | | ø20: | | 566.1 | 0.0 |
| | | | | Total: | | 672.3 | 0.0 |

P3=P6=P9=P12=P15=P18
P21=P24=P27

| Aço | Pos. | Diam. | Q. | Comp. (cm) | Total (cm) | x 9 (cm) |
|---|---|---|---|---|---|---|
| CA-50-A | 1 | ø20 | 8 | 145 | 1160 | 10440 |
| " | 2 | ø20 | 8 | 144 | 1152 | 10368 |
| " | 3 | ø6.3 | 8 | 314 | 2512 | 22608 |
| " | 4 | ø6.3 | 8 | 230 | 1840 | 16560 |

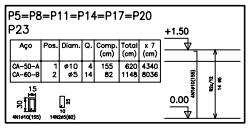



Pilares que terminam em
Piso 2
Concreto: C25, em geral
Aço: CA-50-A e CA-60-B
Escala: 1:50

| Elemento | Pos. | Diam. | Q. | Comp. (cm) | Total (cm) | CA-50-A (kg) | CA-60-B (kg) |
|---|---|---|---|---|---|---|---|
| P2=P5=P8=P11=P14=P17=P20=P23 | 1 | ø10 | 4 | 155 | 620 | 3.8 | |
| | 2 | ø5 | 14 | 82 | 1148 | | 1.8 |
| | | | | Total=1152 | (cm) | 4.3 | 2.0 |
| | | | | | (kg) | 30.1 | 14.0 |
| P26 | 3 | ø10 | 4 | 155 | 620 | 3.8 | |
| | 4 | ø5 | 14 | 52 | 728 | | 1.1 |
| | | | | Total=876 | | 4.3 | 1.3 |
| | | | | ø5: | | 0.0 | 15.2 |
| | | | | ø10: | | 34.4 | 0.0 |
| | | | | Total: | | 34.4 | 15.2 |

P5=P8=P11=P14=P17=P20
P23

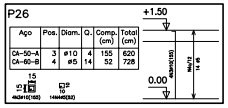
| Aço | Pos. | Diam. | Q. | Comp. (cm) | Total (cm) | x 7 (cm) |
|---|---|---|---|---|---|---|
| CA-50-A | 1 | ø10 | 4 | 155 | 620 | 4340 |
| CA-60-B | 2 | ø5 | 14 | 82 | 1148 | 8036 |




Pilares que terminam em
Piso 3
Concreto: C25, em geral
Aço: CA-50-A e CA-60-B
Escala: 1:50

P26

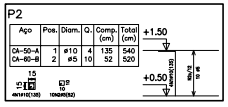
| Aço | Pos. | Diam. | Q. | Comp. (cm) | Total (cm) |
|---|---|---|---|---|---|
| CA-50-A | 3 | ø10 | 4 | 155 | 620 |
| CA-60-B | 4 | ø5 | 14 | 52 | 728 |




| Elemento | Pos. | Diam. | Q. | Comp. (cm) | Total (cm) | CA-50-A (kg) | CA-60-B (kg) |
|---|---|---|---|---|---|---|---|
| P2 | 1 | ø10 | 4 | 135 | 540 | 3.4 | |
| | 2 | ø5 | 10 | 52 | 520 | | 0.8 |
| | | | | Total=1060 | | 3.7 | 0.8 |
| P3=P6=P9=P12=P15=P18=P21=P24=P27 | 3 | ø10 | 4 | 139 | 620 | 3.9 | |
| | 4 | ø10 | 4 | 105 | 420 | 2.6 | |
| | 5 | ø5 | 14 | 62 | 868 | | 1.4 |
| | | | | Total=1060 | | 7.2 | 1.5 |
| | | | | (kg) | | 21.8 | 4.5 |
| | | | | ø5: | | 0.0 | 5.9 |
| | | | | ø10: | | 26.3 | 0.0 |
| | | | | Total: | | 26.3 | 5.9 |

P2

| Aço | Pos. | Diam. | Q. | Comp. (cm) | Total (cm) |
|---|---|---|---|---|---|
| CA-50-A | 1 | ø10 | 4 | 135 | 540 |
| CA-60-B | 2 | ø5 | 10 | 52 | 520 |

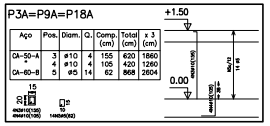



Pilares que terminam em
Piso 3
Concreto: C25, em geral
Aço: CA-50-A e CA-60-B
Escala: 1:50

| Resumo Aço Piso 3 Pilares | Comp. total (m) | Peso+10% (kg) | Total |
|---|---|---|---|
| CA-50-A ø10 | 86.2 | 60 | 60 |
| CA-60-B ø5 | 118.9 | 21 | 21 |
| Total | | | 81 |

P3A=P9A=P18A

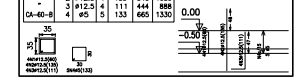
| Aço | Pos. | Diam. | Q. | Comp. (cm) | Total (cm) | x 3 (cm) |
|---|---|---|---|---|---|---|
| CA-50-A | 3 | ø10 | 4 | 155 | 620 | 1860 |
| " | 4 | ø10 | 4 | 105 | 420 | 1260 |
| CA-60-B | 5 | ø5 | 14 | 62 | 868 | 2604 |




| Elemento | Pos. | Diam. | Q. | Comp. (cm) | Total (cm) | CA-50-A (kg) | CA-60-B (kg) |
|---|---|---|---|---|---|---|---|
| P2=P5=P8=P11=P14=P17=P20=P23 | 1 | ø10 | 4 | 60 | 240 | 1.5 | |
| | 2 | ø10 | 6 | 120 | 720 | 4.5 | |
| | 3 | ø10 | 6 | 102 | 612 | 3.8 | |
| | 4 | ø5 | 6 | 112 | 672 | | 1.7 |
| | 5 | ø5 | 6 | 39 | 234 | | 0.6 |
| | | | | Total=2478 | | 9.8 | 2.3 |
| | | | | (kg) | | 61.5 | 14.4 |
| P26=P29=P32 | 6 | ø5 | 6 | 60 | 360 | 2.3 | |
| | 7 | ø10 | 6 | 120 | 720 | 4.5 | |
| | 8 | ø10 | 6 | 102 | 612 | 3.8 | |
| | 9 | ø5 | 6 | 112 | 672 | | 1.7 |
| | 10 | ø5 | 6 | 39 | 234 | | 0.6 |
| | | | | Total=3198 | | 11.7 | 2.9 |
| | | | | (kg) | | 81.9 | 11.9 |
| | | | | ø5: | | 0.0 | 14.1 |
| | | | | ø10: | | 81.9 | 0.0 |
| | | | | ø12.5: | | 26.4 | 0.0 |
| | | | | Total: | | 108.5 | 14.1 |

P2=P26

| Aço | Pos. | Diam. | Q. | Comp. (cm) | Total (cm) | x 7 (cm) |
|---|---|---|---|---|---|---|
| CA-50-A | 1 | ø12.5 | 4 | 60 | 240 | 480 |
| " | 2 | ø12.5 | 4 | 135 | 540 | 1080 |
| " | 3 | ø12.5 | 4 | 111 | 444 | 888 |
| CA-60-B | 4 | ø5 | 5 | 133 | 665 | 1330 |

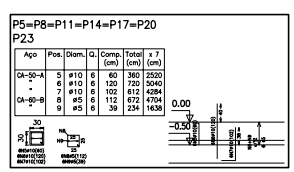



| Resumo Aço Piso 1 Pilares | Comp. total (m) | Peso+10% (kg) | Total |
|---|---|---|---|
| CA-50-A ø10 | 118.4 | 82 | |
| ø12.5 | 24.5 | 26 | 108 |
| CA-60-B ø5 | 76.7 | 13 | 13 |
| Total | | | 121 |

Pilares que terminam em
Piso 1
Concreto: C25, em geral
Aço: CA-50-A e CA-60-B
Escala: 1:50

P5=P8=P11=P14=P17=P20
P23

| Aço | Pos. | Diam. | Q. | Comp. (cm) | Total (cm) | x 7 (cm) |
|---|---|---|---|---|---|---|
| CA-50-A | 5 | ø10 | 6 | 60 | 360 | 2520 |
| " | 6 | ø10 | 6 | 120 | 720 | 5040 |
| " | 7 | ø10 | 6 | 102 | 612 | 4284 |
| CA-60-B | 8 | ø5 | 6 | 112 | 672 | 4704 |
| " | 9 | ø5 | 6 | 39 | 234 | 1638 |




| Resumo Aço Piso 1 ao 3 Pilares | Comp. total (m) | Peso+10% (kg) | Total |
|---|---|---|---|
| CA-50-A ø6.3 | 800.6 | 218 | |
| ø10 | 210.0 | 145 | |
| ø12.5 | 24.5 | 26 | |
| ø20 | 419.8 | 1142 | 1531 |
| CA-60-B ø5 | 204.8 | 35 | 35 |
| Total | | | 1566 |

OBSERVAÇÕES
- **Medidas das cotas em cm (exceto onde indicado)**
- **Verificar medidas no obra**
- **Molhar as formas antes da concretagem**
- **Usar espaçadores para garantir recobrimento do aço**
- **Nas armações negativas das lajes – usar "caranguejos"**
- **Cura mínima = 7 dias**
- **Descimbramento(formas) = mínimo de 28 dias**
- **Todas as peças de concreto em contato com o solo devem ser executadas sobre lastro de concreto magro e/ e=5cm**
- **Em caso de dúvidas, contactar o Calculista**

| | | | |
|---|---|---|---|
| Classe de Agress.: C II | Es(5600 f'ck): | Agreg. Graúdo: Brita 0 | |
| CONCRETO( Fck): 25 MPa | AÇO: CA 50 | SLUMP (mm): 100+-10 | |
| Fator A/C (max.):< 0.60 | FORMAS: C. Res. | ADITIVO: | |

| Nº | DATA | DESCRIÇÃO | VISTO |
|---|---|---|---|
| | | | |

QUADRO DE REVISÕES

PROJETO EXECUTIVO DE ESTRUTURA

CLIENTE
Universidade Federal dos Vales do Jequitinhonha e Mucuri

ENDEREÇO DA OBRA
CAMPUS JK DIAMANTINA / MG

RESPONSÁVEL TÉCNICO

CONTEÚDO

ARMAÇÃO DE PILARES
PLANTA DE CARGAS_FUNDAÇÃO

EMISSÃO INICIAL - 22/05/2018

REVISÃO
R00

ARQUIVO
ESTRUTURAL COMPOSTBAAR

FOLHA
03/07

AS INFORMAÇÕES CONTIDAS NESTE PROJETO NÃO PODEM SER REPRODUZIDAS SEM A AUTORIZAÇÃO DO AUTOR DE ACORDO COM A LEI DE DIREITOS AUTORAIS - Nº 5.988/73