

Technical drawing of a rectangular concrete slab with two columns. The drawing includes three views: a front elevation, a side elevation, and a top plan view.

**Front Elevation:** Shows the slab with a width of 255 and a height of 100. Two columns are positioned on the slab, with a center-to-center distance of 175. The columns have a diameter of 175 and a height of 270. The slab is labeled N7-6Ø8-c.15 -L=270-272. The columns are labeled P34 and P35.

**Side Elevation:** Shows the slab's thickness of 100 and the column's diameter of 175. The slab is labeled N8-17Ø8-c.15 -L=113-116. The columns are labeled P34 and P35.

**Top Plan View:** Shows the slab's dimensions and the column positions. The slab is labeled N5-6Ø8-c.15 -L=269. The columns are labeled P34 and P35.

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Technical drawings of the P39 lighting fixture, including side and top views, and a detail of the mounting bracket.

**Side View (Left):** Shows the fixture with a height of 107 mm. The mounting bracket is 20 mm high. The base is 100 mm wide. The side view shows a central vertical section with a width of 25 mm and a base width of 100 mm.

**Side View (Right):** Shows the fixture with a height of 30 mm. The mounting bracket is 20 mm high. The base is 100 mm wide. The side view shows a central vertical section with a width of 25 mm and a base width of 100 mm.

**Top View:** Shows the fixture with a width of 100 mm and a height of 80 mm. The base is 100 mm wide. The top view shows a central rectangular section with a width of 25 mm and a height of 80 mm.

**Detail of Mounting Bracket:** Shows the mounting bracket with a width of 40 mm and a height of 20 mm. The bracket is labeled N33-4X1Ø16 and N32-2X1Ø10. The mounting bracket is 30 mm wide. The detail shows a central vertical section with a width of 40 mm and a height of 20 mm.

Technical drawings of two types of roof ventilators, P40 and P48, showing side and top views with dimensions.

**Left Ventilator (P40):**

- Side View:** Shows a trapezoidal base with a height of 20 and a top width of 10. The base is supported by a rectangular foundation. The top section is a cylinder with a diameter of 25. The total height is 30.
- Top View:** Shows a square base with a side length of 13. The base is labeled N1-508-c.15-L=117.

**Right Ventilator (P48):**

- Side View:** Shows a trapezoidal base with a height of 20 and a top width of 10. The base is supported by a rectangular foundation. The top section is a cylinder with a diameter of 25. The total height is 30.
- Top View:** Shows a square base with a side length of 12. The base is labeled N2-608-c.15-L=96.

The technical drawings illustrate the P41 lighting fixture in various views and configurations:

- Side View (Left):** Shows the N20-908-c.15 model with a length of 138-141. The fixture has a central vertical section and two side sections, each labeled 53. The overall width is 116.
- Side View (Right):** Shows the N21-908-c.15 model with a length of 138-141. The fixture has a central vertical section and two side sections, each labeled 54. The overall width is 115.
- Side View (Bottom):** Shows the N18-908-c.15 model with a length of 168. The fixture has a central vertical section and two side sections, each labeled 53. The overall width is 116.
- Top View (Bottom):** Shows the N23-305 model with a length of 88. The fixture is square-shaped with a central square section and four side sections, each labeled 5. The overall width is 145.

| Resumo Aço<br>FUNDAÇÃO | Comp. total<br>(m) | Peso+10%<br>(kg) | Total |
|------------------------|--------------------|------------------|-------|
| Detalhamento fundação  |                    |                  |       |
| CA-50 Ø8               | 652.2              | 283              |       |
| Ø10                    | 170.1              | 115              |       |
| Ø12.5                  | 13.4               | 14               |       |
| Ø16                    | 32.1               | 56               | 468   |
| CA-60 Ø5               | 114.5              | 20               | 20    |
| Total                  |                    |                  | 488   |

1. A resistência característica do concreto a ser empregado neste pavimento é de 30 MPa, slump = 8cm, agregado basalto e deverá ser aferida com a modelagem de corpos de prova para posterior rompimento em laboratório.
2. Deverão ser respeitados os seguintes cobrimentos mínimos de concreto para as armaduras: 2,5 cm para lajes, 3 cm para vigas, 3 cm para pilares e 4,5 cm para sapatas. Em outros casos, conversar com o projetista estrutural.
3. Antes do lançamento do concreto, deverá ser realizada a limpeza das formas e as mesmas devem ser molhadas. Após a concretagem, deverá ser realizada a cura por, pelo menos, 10 dias.
4. A deformação deverá ocorrer nos seguintes prazos: para faces laterais de vigas e sapatas após 3 dias para pilares após 15 dias, para faces inferiores de vigas e lajes após 28 dias. Em outros casos, conversar com o projetista estrutural. O dessecamento dos elementos vigas e lajes biapoiadas deverá ocorrer do centro para a extremidade, em elementos em balanço deverá ocorrer de extremidade livre em direção à extremidade apoiada.
5. Em nenhuma hipótese concretar os elementos sem a vistoria e liberação do responsável pela execução da obra.
6. Todas as normas técnicas deverão ser seguidas na execução dos elementos, sendo que o projetista não se responsabiliza por alterações não comunicadas e aprovadas, por processos construtivos inadequados ou não observância das normas técnicas no momento da execução, bem como todas as patologias decorrentes dessa situação.

## 02/03