

- CARGA NA LAJE DO FUNDO:

$$\begin{aligned}
 (0,20 \times 1,10 \times 11,50) \times 2 \times 2.500 &= 12.650 \text{ Kgf.} \\
 (0,20 \times 1,10 \times 2,20) \times 2 \times 2.500 &= 2.420 \text{ " } \\
 0,20 \times 0,95 \times 5,30 \times 2.500 &= 2.517 \text{ " } \\
 0,20 \times 1,45 \times 1,40 \times 2.500 &= 1.015 \text{ " } \\
 \hline
 &= 18.602 \text{ Kgf.}
 \end{aligned}$$

- SOBRECARGA NAS PAREDES:

$$34,10 \times 300 \text{ Kgf/m} = 10.230 \text{ Kgf.}$$

- CARGA NA LAJE:

$$q = \frac{18.602 + 10.230}{11,90 \times 2,20} \approx 1.100 \text{ Kgf/m}^2$$

- PESO DE ÁGUA:

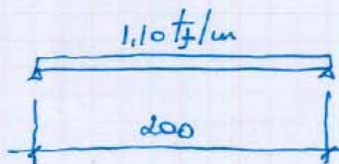
$$\begin{aligned}
 1,80 \times 11,50 \times 1,10 \times 1.000 &= 22.770 \text{ Kgf.} \\
 1,00 \times 0,30 \times 1,45 \times 1.000 &= 435 \text{ " } \\
 \hline
 &= 23.205 \text{ Kgf.}
 \end{aligned}$$

- TENSÃO NA SOLA:

$$q_1 = \frac{18.602 + 10.230 + 23.205}{(11,90 \times 2,20) + (1,40 \times 0,50)} = 1.936 \text{ Kgf/m}^2 \approx 0,20 \text{ Kgf/cm}^2$$

- CÁLCULO DE ESFORÇOS:

1. FUNDO - cheio



$$m = 0,55 \text{ t} \cdot \text{m}/\text{m}$$

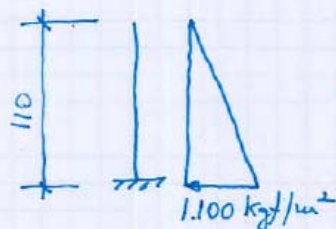
Vazio



$$m \oplus = 0,18 \text{ t} \cdot \text{m}/\text{m}$$

$$m \ominus = 0,37 \text{ "}$$

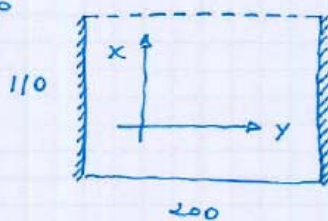
2. PAR. 1 = PAR. 2



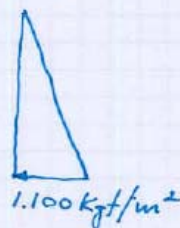
$$m = 0,22 \text{ t} \cdot \text{m}/\text{m}$$

3. PAR. 3

cheio



$$x = 0,55$$



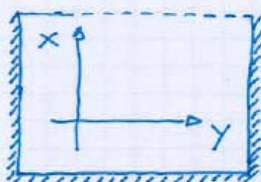
$$M_x = 41 \text{ Kgf} \cdot \text{m}$$

$$M_y = 51 \text{ "}$$

$$M_z = 44 \text{ "}$$

$$X_y = -108 \text{ "}$$

Vazio



$$M_x = 13 \text{ Kgf} \cdot \text{m}$$

$$M_y = 71 \text{ "}$$

$$M_z = 21 \text{ "}$$

$$X_x = -110 \text{ "}$$

$$X_y = -61 \text{ "}$$

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