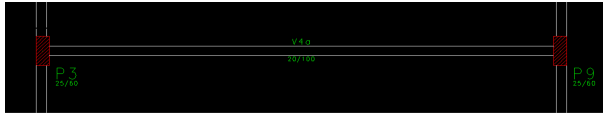


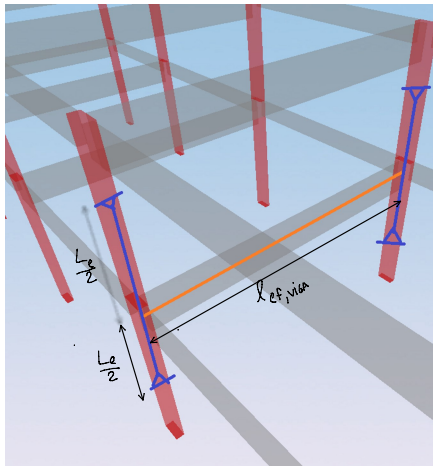
V4



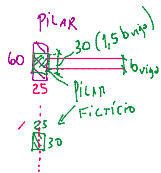
$$l_{ef} = 9,50 + \begin{cases} 0,5 + 2,50 = 12,50 \text{ cm} \\ 0,3 + 1,00 = 30 \text{ cm} \end{cases}$$

$L_{ef, pilar} = 400 \text{ cm}$

$$l_{ef} = 9,50 + 12,5 + 12,5 = 9,75 \text{ m}$$



$$M_{elástico} = M_{eng} \times \left(\frac{n_{pilares}}{n_{viga} + n_{pilares}} \right)$$



$$n_{viga} = \frac{4EI_{viga}}{l_{ef}}$$

$$4 \times \frac{E \times 92 \times 10^3}{9,75} = 6,84 \times 10^3 \text{ E}$$

$$n_{pilares} = 2 \times \left(\frac{3 \times E \times 0,30 \times 0,25^3}{12} \right) = 1,19 \times 10^3 \text{ E}$$

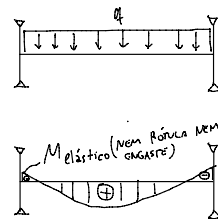
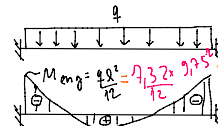
$$M_{elástico} = 57,98 \times \left(\frac{1,17 \times 10^3}{1,17 \times 10^3 + 6,84 \times 10^3} \right) = 8,7 \text{ tf.m}_{//}$$

0,15

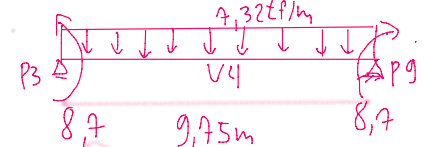
pp viga

$$q_{viga} = \begin{cases} PP = 0,5 + 0,5 \frac{\text{tf}}{\text{m}^2} \times \frac{2 \times 26,35}{9,5} = 3,29 \frac{\text{tf}}{\text{m}} \rightarrow 45\% \\ PERM = 0,13 \frac{\text{tf}}{\text{m}^2} \times \frac{2 \times 26,35}{9,5} = 0,72 \frac{\text{tf}}{\text{m}} \rightarrow 10\% \\ ACID = 0,6 \frac{\text{tf}}{\text{m}^2} \times \frac{2 \times 26,35}{9,5} = 3,33 \frac{\text{tf}}{\text{m}} \rightarrow 45\% \end{cases}$$

$$q = 2,5 \frac{\text{tf}}{\text{m}^2} \times 9,2 \times 1,0 + \frac{(0,5 + 0,13 + 0,60) \times 2 \times 26,35 \text{ m}^2}{9,5 \text{ m}} = 0,5 + 6,82 = 7,32 \frac{\text{tf}}{\text{m}_{//}}$$

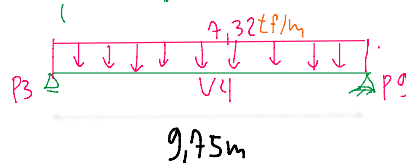


VIGA ISOSTÁTICA
CORRESPONDENTE
A LIGAÇÃO ELÁSTICA



FAZENDO UMA VERIFICAÇÃO COM

"CONTAS DE PADARIA"



$$7,32 \times \frac{9,75^2}{8} = 86,98 \text{ tf.m}$$

