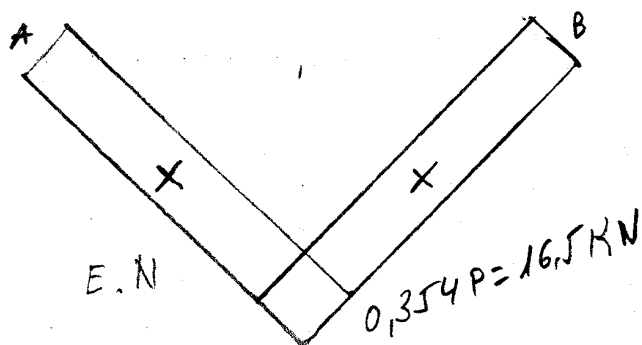


Problema de Elasticidad y Resistencia de Materiales Examen 27/02/01



$$V_A = V_B = \frac{P}{2}; H_A = 0$$

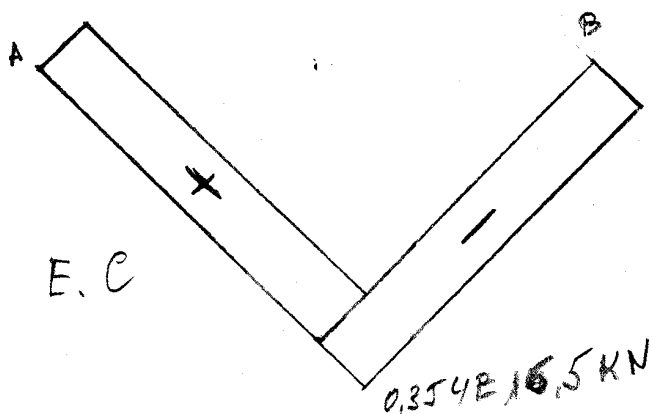
$$N_{AC} = N_{CB} = \frac{P}{4}\sqrt{2} = 0,354P$$

$$C_{AC} = -C_{CB} = \frac{P}{4}\sqrt{2} = 0,354P$$

$$M_{FC} = 2P$$

$$170 \times 10^6 = P \left(\frac{0,354}{53,8 \times 10^{-4}} + \frac{2}{557 \times 10^{-6}} \right)$$

$$P = 46,5 \text{ KN}$$



$$\delta_B = \frac{2}{EI_2} \left(\frac{1}{2} 2P 4\sqrt{2} \frac{2}{3} \right) = \frac{32\sqrt{2}P}{3EI_2}$$

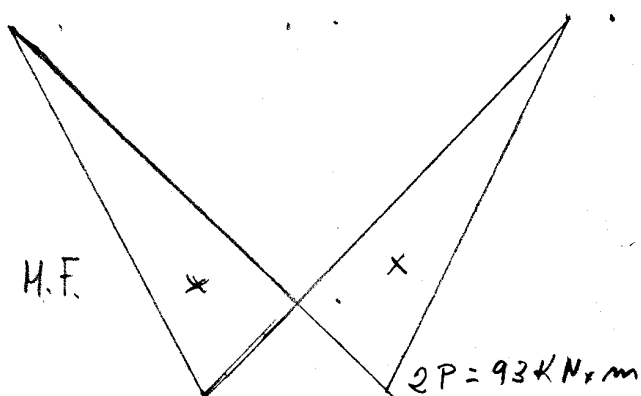
$$\delta_B = 0,902 \times 10^{-6} P; \delta_B = 4,19 \text{ cm}$$

Para F_{max} tendra que producir

en C un momento negativo,
o sea en sentido contrario al indicado

$$170 = 3,06 - 166,9 + F(131,6 + 7181,3)10^3$$

$$F = 45,67 \text{ KN}$$



$$170 = 6,04 - 328 + Q(65,8 + 359,1)10^3$$

$$Q = 134,5; \Delta P = 134,5 - 46,5 = 88 \text{ KN}$$

$$\Delta P = 88 \text{ KN}$$