

Calculamos  $Q_x$  y  $M_x$  en: (FÓRMULAS)

$$\left. \begin{aligned} Q_{Ad} &= R_{AV}; M_A = \emptyset \\ Q_{Ciz} &= R_{AV}; M_C = R_{AV} \cdot a \end{aligned} \right\} \text{I}$$

$$\left. \begin{aligned} Q_{Cd} &= Q_{Ciz} - P_1 \\ Q_D &= Q_{Cd} \end{aligned} \right\} \text{II}$$

$$M_D = R_{AV} \cdot b - P_1(b-a)$$

$$Q_E = R_{AV} - P_1 - q(c-b)$$

$$M_E = R_{AV} \cdot c - P_1(c-a) - q(c-b)^2/2$$

$$Q_{Fiz} = Q_E; Q_{Fd} = Q_E - P_2 \cdot \sec \alpha_2$$

$$M_F = R_{AV} \cdot d - P_1(d-a) - q(c-b)(d-b - \frac{c-b}{2})$$

$$Q_{Biz} = -R_{BV}; M_B = \emptyset$$

La fuerza normal es constante entre  $A$  y  $F_{iz}$ .

Ponemos valores:

$$Q_{Ad} = 29,6 \text{ kN}; Q_{Ciz} = Q_{Ad}; Q_{Cd} = 29,6 \text{ kN} - 20 \text{ kN} = 9,6 \text{ kN}$$

$$M_C = 29,6 \text{ kN} \cdot 1 \text{ m} = 29,6 \text{ kNm}; Q_D = Q_{Cd};$$

$$M_D = 29,6 \text{ kN} \cdot 1,5 \text{ m} - 20 \text{ kN} \cdot 0,5 \text{ m} = 34,4 \text{ kNm};$$

SECCIÓN CRÍTICA ENTRE  $D$  y  $E$ . III

$$M_E = M_D - q(c-b)^2/2 + Q_D \cdot (c-b) = 34,4 \text{ kNm} - 8 \frac{\text{kN}}{\text{m}} \cdot 1,5^2 \text{ m}^2/2 +$$

$$+ 9,6 \text{ kN} \cdot 1,5 \text{ m} = 39,8 \text{ kNm}; Q_{Fiz} = Q_E = 9,6 \text{ kN} - 8 \frac{\text{kN}}{\text{m}} \cdot 1,5 \text{ m} =$$

$$= -2,4 \text{ kN}; Q_{Fd} = -R_{BV} = -28,39 \text{ kN}; M_F = -R_B \cdot 1,3 \text{ m} =$$

$$= +28,39 \text{ kN} \cdot 1,3 \text{ m} = 36,91 \text{ kNm}$$

$$x_0 = b + 9,6 \text{ kN} / 8 \frac{\text{kN}}{\text{m}} = 1,5 \text{ m} + \frac{9,6}{8} \text{ m} = 2,7 \text{ m}$$