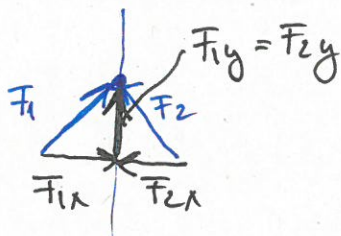
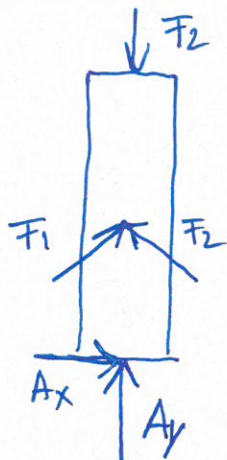


Pluszfeladat - megoldás

Szabadtest ábra. (Csak a függőleges rúd)



$$F_1 = F_2 = 100 \text{ kN}$$

$$F_{1y} = F_1 \cdot \cos 30^\circ = 50\sqrt{3} \text{ kN}$$

$$F_{2x} = F_1 \cdot \sin 30^\circ = 50 \text{ kN}$$

Euroegyensúly:

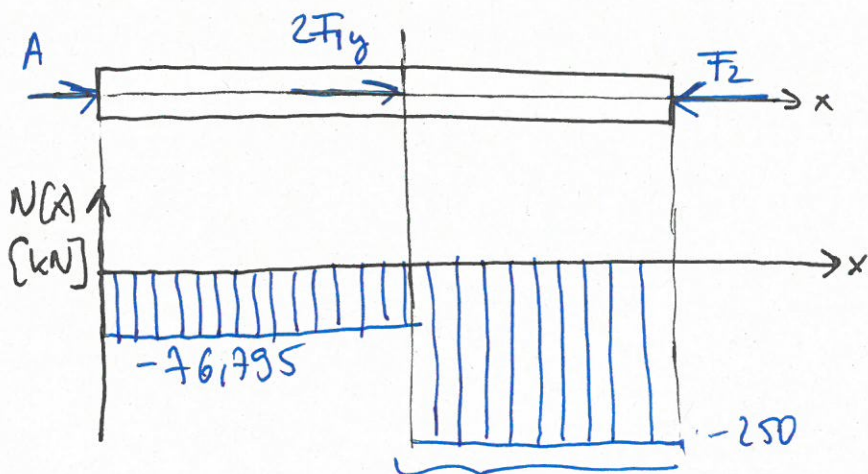
$$y\text{-t}: A_y + 2 F_{1y} - F_2 = 0$$

$$A = F_2 - 2 F_{1y} = 76,795 \text{ kN}$$

$$x\text{-t}: A_x + F_{1x} - F_{2x} = 0$$

$$A_x = 0$$

Ággybeveteli ábra



A "felso" szakasz a veszélyes

$$\sigma_{\max} = \frac{-F_2}{A} = -176,056 \text{ MPa}$$

Elmozdulás

felso' alsó szakasz

$$\Delta l = \Delta l_1 + \Delta l_2$$

$$\Delta l_1 = \frac{N_1 \cdot l_1}{A \cdot E} = \frac{-76,795 \cdot 1 \text{ m}}{14,2 \text{ cm}^2 \cdot 200 \text{ GPa}} = -0,27 \text{ mm}$$

$$\Delta l_2 = \frac{N_2 \cdot l_2}{A \cdot E} = -0,88 \text{ mm}$$

$$\underline{\underline{\Delta l = -1,15 \text{ mm}}}$$