

Opmerkingen: Zie §2.2.1, blz. 17 t/m 19

Zie §2.3, blz. 22 t/m 23

Zie §2.6, blz. 32 en verder

Antwoorden:

a. $N^{(AC)} = -70 \text{ kN}$

b. $N^{(BC)} = -140 \text{ kN}$

c. $u_{C;\text{vert}} = 5,6 \text{ mm } (\downarrow)$

d. $A_h = 49,5 \text{ kN } (\rightarrow) \quad A_v = 49,5 \text{ kN } (\uparrow)$

$B_h = 0 \quad B_v = 140 \text{ kN } (\uparrow)$

$C_h = 49,5 \text{ kN } (\leftarrow)$

Toelichting:

a. $N^{(AC)} = \frac{(-3,96 \text{ mm})(50 \times 10^3 \text{ kN})}{2000\sqrt{2} \text{ mm}} = -70 \text{ kN}$

b. $\sum F_{\text{vert}}(\downarrow) = 0 \Rightarrow N^{(BC)} + \frac{1}{2}\sqrt{2} \cdot N^{(AC)} + (189,5 \text{ kN}) = 0$
 $N^{(BC)} = -(189,5 \text{ kN}) - \frac{1}{2}\sqrt{2} \cdot (-70 \text{ kN}) = -140 \text{ kN}$

c. $\Delta \ell^{(BC)} = \frac{(-140 \text{ kN})(2000 \text{ mm})}{50 \times 10^3 \text{ kN}} = -5,6 \text{ mm}$

$\Rightarrow u_{C;\text{vert}} = 5,6 \text{ mm } (\downarrow)$