

Toelaatbare paalbelasting.

Palen: Stalen buispalen ϕ 219 mm.

$$P_{r; \max; \text{punt}} = \frac{1}{2} \cdot \alpha_p \cdot \beta \cdot s \cdot \left(\frac{q_{cI \text{ gem}} + q_{cII \text{ gem}}}{2} + q_{cIII \text{ gem}} \right)$$

$$q_{cI \text{ gem}} = 6800 \text{ kN/m}^2$$

$$q_{cII \text{ gem}} = 5000 \text{ kN/m}^2$$

$$q_{cIII \text{ gem}} = 2400 \text{ kN/m}^2$$

$$P_{r; \max; \text{punt}} = \frac{1}{2} \cdot 1.0 \cdot 1.0 \cdot 1.0 \cdot \left(\frac{6800 + 5000}{2} + 2400 \right)$$

$$P_{r; \max; \text{punt}} = 4150 \text{ kN/m}^2$$

$$P_{r; \max; \text{schacht}; z} = \alpha_s \cdot q_{c; z; a}$$

$$\alpha_s = 0.01$$

$$q_{c; z; a} = 2400$$

$$P_{r; \max; \text{schacht}; z} = 0.01 \cdot 2400 = 24 \text{ kN/m}^2$$

$$F_{r \max i} = \frac{1}{4} \cdot \pi \cdot 0.219^2 \cdot 4150 + 1.5 \cdot \pi \cdot 0.219 \cdot 24 = 157.3 \text{ kN}$$

$$F_{r \max \text{ rep}} = \xi \cdot F_{r \max i}$$

$$= 0.75 \cdot 157.3 = 118.0 \text{ kN}$$

$$F_d = 118.0 / 1.25 = 94.4 \text{ kN.}$$

Aanhouden $F_d = 90 \text{ kN}$

$$F_{\text{rep}} = 70 \text{ kN}$$