

①: M24-8-8

$$v: u_c = \frac{53}{2 \times 135,5} = 0,196$$

$$t = 20 \text{ S235} \leftrightarrow \sqrt[20]{180 \times 180 \times 10 \text{ S235}}$$

$$\Delta 0,5 \sqrt[20]{6 \sqrt[6]{6}}$$

$$\Delta 0,5 \quad u_c = \frac{53 \times 100}{180 \times 2 \times 5 \times 200} = 0,015$$

②: M24-8-8 in verticaal sluisgal $\varnothing 26 \times 50$

$$H: u_c = \frac{70}{135,5} = 0,517$$

$$\text{laastangbe } t = 20 \text{ S235} \leftrightarrow \sqrt[20]{100 \times 100 \times 5 \text{ S355}}$$

$$t=5: u_c = \frac{3/2 \times \sqrt[3]{90 \cdot 10^3}}{4 \times 5 \times 120 \times 355} = 0,275$$

$$\Delta 0,5: u_c = \frac{90 \cdot 10^3}{4 \times 120 \times 5 \times 207} = 0,102$$

Ring $\varnothing 910 - 666 \times 25 \text{ S355}$

$$M_d \approx 1/8 \times 4 \times 70 \times (150 + 660) \cdot 10^3 = 28,4 \text{ kNm}$$

$$u_c = \frac{28,4 \cdot 10^6}{1/6 \times 25 \times 150^2 \times 355} = 0,854$$

involced buis wand
niet meegenomen

①: halve ringen $t = 15 \text{ s355}$

$$u_c = \frac{1/4 \times 375 \times 0,66 \cdot 10^6}{2 \times 1/6 \times 15 \times 300^2 \times 355} = 0,388$$

$$\Delta \delta : \quad u_c = \frac{375 \cdot 10^3}{(\frac{3}{2} \times 17,5 + 100 + \frac{3}{2} \times 17,5) \times 2 \times 8 \times 260} = 0,592$$

(200)

$$\Delta \delta \quad u_c = \frac{375 \cdot 10^3}{4 \times 100 \times 8 \times 260} = 0,451$$

(100)

② $\Delta \delta 5 \quad u_c = \frac{375 \cdot 10^3}{6 \times 150 \times 5 \times 207} = 0,403$

ring "boven" $\varnothing 910 \times 666 \times 25 \text{ s355}$

$$M_d \approx \frac{1}{8} \times \frac{375}{2} \times 0,81 = 19 \text{ kNm}$$

$$u_c = \frac{19 \cdot 10^6}{1/6 \times 150^2 \times 25 \times 355} = 0,571$$