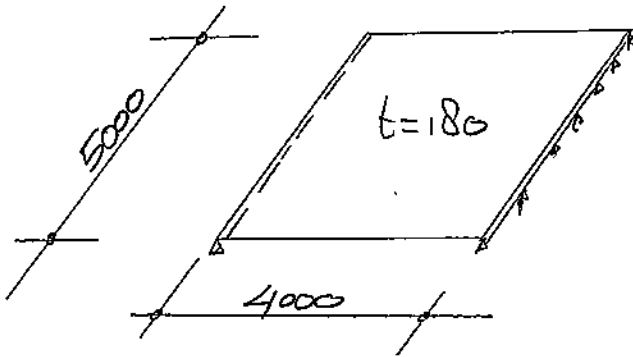


Check calculation plate reinforcement



dead load: $1,00 \text{ kN/m}^2$
 live load: $2,00 \text{ ''}$
 own weight: $0,180 \cdot 24,53 = 4,42 \text{ ''}$

$$M_d = \frac{1}{8} \cdot (5,42 \cdot 1,22 + 2,00 \cdot 1,35) \cdot 4,000^2 = 18,62 \text{ kNm/m'}$$

Calculation reinforcement:

$$c = 25 \text{ mm (XC4)} \sim \bar{\phi} 8-150$$

$$\rightarrow d = 180 - 25 - 4 = 151 \text{ mm}$$

$$A_s = 293 \text{ mm}^2/\text{m' (own calculation)}$$

$$\left[\begin{array}{l} \text{with X Construk: } 3\bar{\phi} 8 + 5\bar{\phi} 6 = 290 \text{ mm}^2/\text{m'} \\ M_{Rd} = 19,74 \text{ kNm/m'} > 18,62 \text{ kNm/m'} \end{array} \right]$$

X FEM 4:

$$\text{node 38: } A_{syb} = 395 \text{ mm}^2/\text{m'}$$

$$m_{yy} = 19,24 \text{ kNm/m'}$$

$$\rightarrow m_{yy} \approx M_d = 18,62 \text{ kNm/m' okay}$$

$$A_{syb} = 395 \text{ mm}^2/\text{m'} \gg A_s = 293 \text{ mm}^2/\text{m'}$$

\Rightarrow what the reason??

Leo Mauritz 29-10-'22