SPRICKVIDD LÅNGTIDSLAST **EK2**

$$\sigma_{slmax} := \sigma_s(x) \cdot \frac{\left(h - x - t_s - \dfrac{\phi_s}{2}\right)}{d - x} \qquad \sigma_{slmax} = 267.7$$

$A := 2.5 \cdot (h - d)$ $\qquad B := \dfrac{h - x}{3}$ $\qquad C := \dfrac{h}{2}$ $\qquad D := (A \ B \ C)$ $\qquad def := min(D)$ $\qquad def = 42.2$ $\qquad$ mm

$A = 111.3$ $\qquad\qquad B = 42.2$ $\qquad\quad C = 85.0$

Armeringsinnehåll

$$\rho_r := \frac{A_s}{b(h) \cdot def} \qquad\qquad \rho_r = 0.0144$$

$k_t := 0.4$ $\qquad$ Långtidslast

$f_{ctk} = 1.80$ $\qquad$ $f_{cteff} := f_{ctm}$ $\qquad$ $f_{cteff} = 2.56$ $\qquad$ $\sigma_{slmax} = 267.7$ $\qquad$ $E_{sk} = 200 \times 10^3$

$$k_t \cdot \frac{f_{cteff} \cdot \left(1 + \alpha_{spr} \cdot \rho_r\right)}{\rho_r} = 77.9$$

Spricköppningstöjning $\qquad \varepsilon_{smred} := \dfrac{\sigma_{slmax} - k_t \cdot \dfrac{f_{cteff} \cdot \left(1 + \alpha_{spr} \cdot \rho_r\right)}{\rho_r}}{E_{sk}}$ $\qquad \varepsilon_{smred} = 948.720 \times 10^{-6}$

$$\varepsilon_{smred} := if\left(\varepsilon_{smred} < 0.6 \cdot \frac{\sigma_{slmax}}{E_{sk}}, 0.6 \cdot \frac{\sigma_{slmax}}{E_{sk}}, \varepsilon_{smred}\right) \qquad \varepsilon_{smred} = 948.720 \times 10^{-6}$$

Sprickavstånd $\qquad \chi_1 = 0.8$

$c := t_s$ $\qquad k_1 := \chi_1$ $\qquad k_2 := 0.5$ $\qquad k_3 := 7 \cdot \dfrac{\phi_s}{c}$ $\qquad k_4 := 0.425$

$c = 40$ $\qquad k_1 = 0.8$ $\qquad\qquad\qquad k_3 = 1.58$

$\phi_s = 9$ $\qquad S_{rm} := k_3 \cdot c + k_1 \cdot k_2 \cdot \dfrac{k_4 \cdot \phi_s}{\rho_r}$ $\qquad\qquad S_{rm} = 169.5$ $\qquad$ mm

$5 \cdot \left(c + \dfrac{\phi_s}{2}\right) = 222.5$ $\qquad 1.3 \cdot (h - x) = 164.4$

$$S_{rm} := if\left[s > 5 \cdot \left(c + \frac{\phi_s}{2}\right), 1.3 \cdot (h - x), S_{rm}\right] \qquad\qquad S_{rm} = 169.5 \qquad \text{mm}$$

$M = 18$ $\qquad M_{cr} = 11$

Sprickvidd $\qquad\qquad \varepsilon_{cs} = 0$ $\qquad\qquad w_k := \varepsilon_{smred} \cdot S_{rm}$

$$w_{kl} := if\left(\sigma_{cluk} \geq 0, w_k, 0\right) \qquad\qquad w_{kl} = 0.161 \qquad \text{mm}$$

BÖJDIMENSIONERING ALLMÄNT