

POS. 30: BEAM WEB IN TENSION

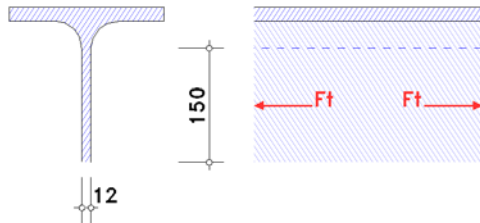
4H-EC3GK version: 1/2012-1k

beam web in tension

Basic component 8

EC 3-1-8 (12.10), NA: Germany

M 1:10.0



beam: web thickness $t_w = 12.0$ mm, steel grade S 275

effective width of beam webs in tension $b_{\text{eff},t,\text{wb}} = 150.0$ mm (i.A. Σ_{Ieff} from Basic component 5)

material safety factor: $\gamma_{M0} = 1.00$

stress:

$$\text{Lk 1 : } F_{t,\text{wb},\text{Ed}} = 100.0 \text{ kN}$$

design resistance

design resistance of beam web in tension

$$F_{t,\text{wb},\text{Rd}} = b_{\text{eff},t,\text{wb}} \cdot t_w \cdot f_{y,\text{wb}} / \gamma_{M0} = 495.0 \text{ kN}$$

verification

$$\text{Lk 1: } F_{\text{Ed}} = 100.0 \text{ kN} < F_{\text{Rd}} = 495.0 \text{ kN} \Rightarrow \text{utilization} = 0.202 < 1 \text{ ok.}$$