

[Opmerkingen:](#) Zie §5.4.2, voorbeeld 1, blz. 290 t/m 302

[Antwoorden:](#)

a. $\tau^{(I)} = 5 \text{ N/mm}^2$

b. $\tau^{(II)} = 4 \text{ N/mm}^2$

c. $\tau^{(III)} = 1 \text{ N/mm}^2$

[Toelichting:](#)

$$I_{zz} = 1,89 \times 10^9 \text{ mm}^4$$

Schuifspanning in lijf verloopt parabolisch.

a. $\tau^{(I)} = \frac{(42 \times 10^3 \text{ N})(3,375 \times 10^6 \text{ mm}^3)}{(15 \text{ mm})(1,89 \times 10^9 \text{ mm}^4)} = 5 \text{ N/mm}^2$

b. $\tau^{(II)} = \frac{(42 \times 10^3 \text{ N})(2,7 \times 10^6 \text{ mm}^3)}{(15 \text{ mm})(1,89 \times 10^9 \text{ mm}^4)} = 4 \text{ N/mm}^2$

Schuifspanning in de flenzen verloopt lineair.

c. $\tau^{(III)} = \frac{(42 \times 10^3 \text{ N})(1,35 \times 10^6 \text{ mm}^3)}{(30 \text{ mm})(1,89 \times 10^9 \text{ mm}^4)} = 1 \text{ N/mm}^2$