Remarks: See §5.4.3, example 2, pages 350 till 355
See §6.2.1, pages 415 till 420

Answer:

a. $\tau = 50\ \text{N/mm}^2$
b. $\tau_{max} = 9{,}1\ \text{N/mm}^2$
d. $\tau_{max} = 59{,}1\ \text{N/mm}^2$ In the top of the cross-section

Explanation:

$V = 30\ \text{kN}$, $M_t = 49{,}5\ \text{kNm}$
$A = 2\pi \cdot (150\ \text{mm})(7\ \text{mm}) = 6{,}60 \times 10^3\ \text{mm}^2$
$I_p = 2\pi \cdot (150\ \text{mm})^3 (7\ \text{mm}) = 148{,}44 \times 10^6\ \text{mm}^4$

a. The shear stress due to the torsional moment is constant:

$$\tau = \frac{(49{,}5 \times 10^6\ \text{Nmm})(150\ \text{mm})}{148{,}44 \times 10^6\ \text{mm}^4} = 50\ \text{N/mm}^2$$

b. Shear stress due to the shear force:
At the left and right side of the profile $\tau = 0$
The shear stress is maximum at the upper and lower side:

$$\tau_{max} = 2\frac{V}{A} = 2 \times \frac{30 \times 10^3\ \text{N}}{6{,}60 \times 10^3\ \text{mm}^2} = 9{,}1\ \text{N/mm}^2$$

(see §5.4.3, example 2)