

Problem 504

Check the two systems in the figures against the limit state of elasticity and compare their stress and deformation states. Gravitational forces can be neglected.

Input values:

$$\mathcal{M} = 650 \text{ Nm},$$

$$a = 250 \text{ mm},$$

$$l = 450 \text{ mm},$$

$$\varnothing d_1 = 40 \text{ mm},$$

$$\varnothing d_2 = 30 \text{ mm},$$

$$\varnothing d_3 = 20 \text{ mm},$$

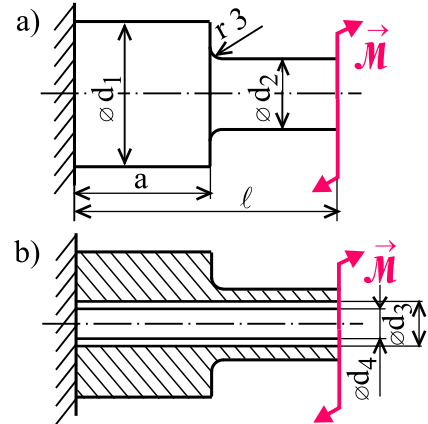
$$\varnothing d_4 = 15 \text{ mm},$$

$$\sigma_K = 350 \text{ MPa},$$

$$\tau_K = \sigma_K/2,$$

$$E = 2 \cdot 10^5 \text{ MPa},$$

$$\mu = 0,3.$$



torsion