

Grupa A1

Zad. 2

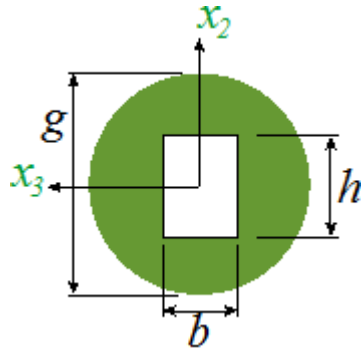
$$E := 18 \text{ GPa} \quad L := 8 \text{ m} \quad b := 9 \text{ cm} \quad h := 7 \text{ cm} \quad g := 16 \text{ cm}$$

$$\text{Sch} := 1 \quad \mu := \text{mb}_{\text{Sch}} \quad L_w := \mu \cdot L$$

$$\text{mb} := \begin{pmatrix} 2 \\ 1 \\ \frac{\pi}{z} \\ 0.5 \end{pmatrix}$$

$$z := 4.493409$$

$$\text{mb}_3 = 0.699156$$



$$b_1 := b - 2g \quad h_1 := h - 2 \cdot g$$

$$J_3 := \frac{-b \cdot h^3}{12} + \frac{\pi g^4}{64} = 2.959741 \times 10^3 \cdot \text{cm}^4$$

$$J_2 := \frac{-b^3 \cdot h}{12} + \frac{\pi g^4}{64} = 2.791741 \times 10^3 \cdot \text{cm}^4$$

$$J := \min(J_2, J_3) = 2791.740877 \cdot \text{cm}^4$$

$$P_{kr} := \frac{\pi^2 E \cdot J}{L_w^2} = 19.37 \cdot \text{kN}$$

