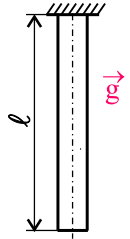

Problem 402

Determine the elongation of the homogeneous prismatic bar loaded by gravitational forces.

Input values:

$$\begin{aligned} l &= 2 \text{ m}, & E &= 2 \cdot 10^5 \text{ MPa}, \\ \varnothing d &= 40 \text{ mm}, & \sigma_K &= 300 \text{ MPa}, \\ g &= 10 \text{ ms}^{-2}, & \rho &= 7,8 \cdot 10^3 \text{ kgm}^{-3}. \end{aligned}$$



tension

elongation

volume forces