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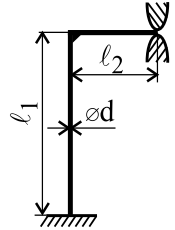
### Problem 613

Determine the safety factor of the frame against the limit state of elasticity. The frame is heated by  $60^\circ\text{C}$  against the assembly temperature, the coefficient of thermal expansion  $\alpha = 12 \cdot 10^{-6} \text{ K}^{-1}$ . Gravitational forces can be neglected.

Input values:

$$l_1 = 1,5 \text{ m}, \quad l_2 = 1 \text{ m}, \quad \varnothing d = 40 \text{ mm},$$

$$E = 2 \cdot 10^5 \text{ MPa}, \quad \sigma_K = 300 \text{ MPa}$$



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[Solutions](#)

[angular beams](#)

[procedure of solving supported beams](#)