

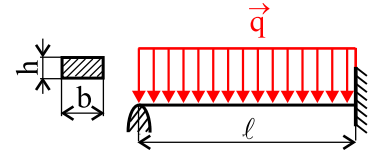
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**Problem 607**

Determine the maximum deflection and the safety factor against the limit state of elasticity of the beam with rectangular cross section according the figure. Gravitational forces can be neglected.

Input values:

$$l = 1,75 \text{ m}, \quad q = 150 \text{ Nm}^{-1}, \quad E = 2 \cdot 10^5 \text{ MPa},$$
$$b = 0,03 \text{ m}, \quad h = 0,02 \text{ m}, \quad \sigma_K = 200 \text{ MPa}$$



flexion

deflection curve

extreme stress

supported beam