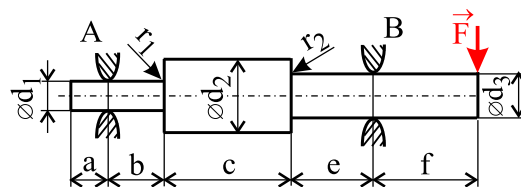

Problem 602

We require the bar in the figure to be in an elastic state with a sufficient safety factor, and the slope in the support B must not exceed the value of α . The bar is made of the steel according the Czech standard CSN 411600. Check and modify if needed.

Input values:

$$\begin{aligned} a &= 100 \text{ mm}, & b &= 150 \text{ mm}, & \phi d_1 &= 50 \text{ mm}, & \phi d_2 &= 85 \text{ mm}, \\ c &= 350 \text{ mm}, & e &= 220 \text{ mm}, & \phi d_3 &= 60 \text{ mm}, & F &= 6500 \text{ N}, \\ f &= 750 \text{ mm}, & r_1 &= 3 \text{ mm}, & r_2 &= 2 \text{ mm}, & E &= 2 \cdot 10^5 \text{ MPa}, \\ \alpha &= 0,5^\circ \end{aligned}$$



flexion

supported beam