

Problem 410

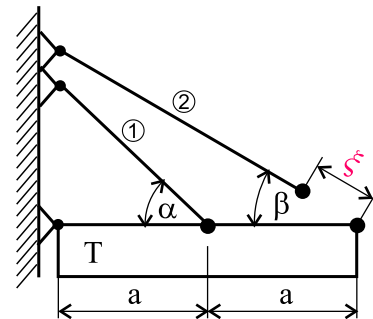
Determine the stresses created in the homogeneous bars of the same cross section S which support the rigid body T (the deformation and gravitational forces of the body can be neglected). The bar 2 was made ξ shorter than the corresponding nominal dimension. All the bars are of the same material.

Input values:

$$S = 700 \text{ mm}^2, \quad a = 500 \text{ mm} \quad E = 2,2 \cdot 10^5 \text{ MPa},$$

$$\alpha = 45^\circ, \quad \beta = 30^\circ, \quad \xi = 0,5 \text{ mm},$$

$$\sigma_K = 350 \text{ MPa}.$$



tension

systems with bars