

### Problem 405

How can be the interference  $\Delta R$  of two thin-walled tubes forced on each other, if the safety factor against the limit state of elasticity should be at least 2.

The inner tube is made of yellow brass

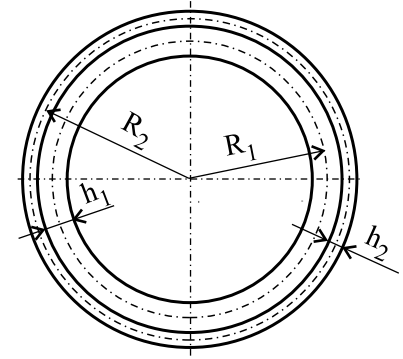
( $\sigma_K^{(1)} = 130 \text{ MPa}$ ,  $E^{(1)} = 10^5 \text{ MPa}$ ),

the outer one of steel ( $\sigma_K^{(2)} = 245 \text{ MPa}$ ,  $E^{(2)} = 2,1 \cdot 10^5 \text{ MPa}$ ).

Input values:

$R_1 = 200 \text{ mm}$ ,  $h_1 = 20 \text{ mm}$

$R_2 = 215 \text{ mm}$ ,  $h_2 = 10 \text{ mm}$ .



tension

curvature of the centreline