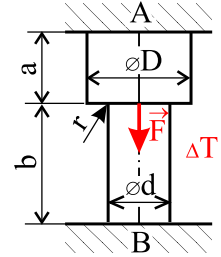


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**Problem 414**

The bar in the figure is without any significant clearance or interference located between two (rigid) plates of the base and welded to both of them in the points A and B. It is loaded by the force  $\vec{F}$  and by temperature increase of  $\Delta T$ . Evaluate the safety factor against the limit state of elasticity. The geometry, loads and material characteristics (yield stress  $\sigma_K$  and Young's modulus  $E$ ) are known. Gravitational forces can be neglected.



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Solutions      simple tension loaded bars