

Philadelphia University
Faculty of Engineering
Dep. Of Mechanical Engineering
Quiz:1 .B,2^dsem. 2015
Solid Mech.

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Find the minimum diameter of a steel wire, which is used to raise a load of 4000 N if the stress in the wire is not to exceed 95 Mpa.

$$\sigma = \frac{P}{A} \Rightarrow 95 \times 10^6 = \frac{4000}{\frac{\pi D^2}{4}} \Rightarrow D = 7,32 \text{ mm}$$