

Chapter 8 Problems

help

8.37 Allowable Normal Stress

$$\sigma_{\text{allow}} = \frac{P}{A}; \quad 150(10^6) = \frac{25(10^3)}{\pi d^2}$$

$$d = \sqrt{\frac{25}{150(10^3)\pi}} = 7.28 \text{ mm}$$

Allowable shear stress

$$\tau_{\text{allow}} = \frac{V}{A}; \quad 35(10^3) = \frac{25}{\pi(0.025)h}$$

$$h = \frac{25}{35(10^3)\pi(0.025)} = 9.09 \text{ mm}$$