

#Jenny



Finally I get this ebook, thanks for all these I can get now!

#Rio



Cool! I'am really happy

#Markus Jensen



I did not think that this would work, my best friend showed me this website, and it does! I get my most wanted eBook

#Hun Tsu



wtf this great ebook for free?!

#Che Salsa



My friends are so mad that they do not know how I have all the high quality ebook which they do not!

#Diego Butler



so many fake sites. this is the first one which worked! Many thanks

SOLUTION

(a) Solid shaft: $c = \frac{d}{2} = 38 \text{ mm} = 0.038 \text{ m}$

$$J = \frac{\pi}{2} c^4 = \frac{\pi}{2} (0.038)^4 = 3.2753 \times 10^{-6} \text{ m}^4$$
$$\tau = \frac{Tc}{J} = \frac{(4.6 \times 10^3)(0.038)}{3.2753 \times 10^{-6}} = 53.4 \times 10^6 \text{ Pa}$$

$\tau = 53.4 \text{ MPa} \blacktriangleleft$

(b) Hollow shaft: $c_2 = \frac{d_2}{2} = 0.038 \text{ m}$

$$c_1 = \frac{1}{2} d_1 = 12 \text{ mm} = 0.012 \text{ m}$$
$$J = \frac{\pi}{2} (c_2^4 - c_1^4) = \frac{\pi}{2} (0.038^4 - 0.012^4) = 3.2428 \times 10^{-6} \text{ m}^4$$
$$\tau = \frac{Tc}{J} = \frac{(4.6 \times 10^3)(0.038)}{3.2428 \times 10^{-6}} = 53.9 \times 10^6 \text{ Pa}$$

$\tau = 53.9 \text{ MPa} \blacktriangleleft$

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