#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

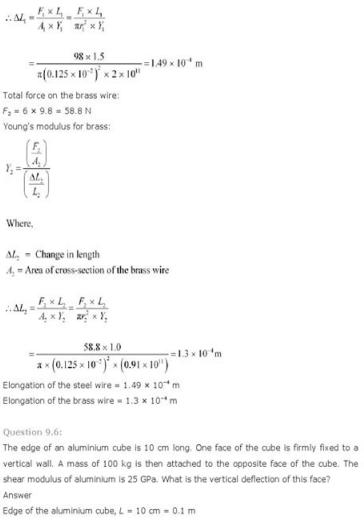
wtf this great ebook for free?!

#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



$$\therefore \Delta L_1 = \frac{F_1 \times L_1}{A_1 \times Y_1} = \frac{F_1 \times L_1}{\pi r_1^2 \times Y_1}$$

$$= \frac{98 \times 1.5}{\pi\left(0.125 \times 10^{-2}\right)^2 \times 2 \times 10^{11}} = 1.49 \times 10^{-4}\ \text{m}$$

Total force on the brass wire:

$F_2 = 6 \times 9.8 = 58.8\ \text{N}$

Young's modulus for brass:

$$Y_2 = \frac{\left(\frac{F_2}{A_2}\right)}{\left(\frac{\Delta L_2}{L_2}\right)}$$

Where,

ΔL_2 = Change in length

A_2 = Area of cross-section of the brass wire

$$\therefore \Delta L_2 = \frac{F_2 \times L_2}{A_2 \times Y_2} = \frac{F_2 \times L_2}{\pi r_2^2 \times Y_2}$$

$$= \frac{58.8 \times 1.0}{\pi \times \left(0.125 \times 10^{-2}\right)^2 \times \left(0.91 \times 10^{11}\right)} = 1.3 \times 10^{-4}\text{m}$$

Elongation of the steel wire = 1.49×10^{-4} m

Elongation of the brass wire = 1.3×10^{-4} m

Question 9.6:

The edge of an aluminium cube is 10 cm long. One face of the cube is firmly fixed to a vertical wall. A mass of 100 kg is then attached to the opposite face of the cube. The shear modulus of aluminium is 25 GPa. What is the vertical deflection of this face?

Answer

Edge of the aluminium cube, L = 10 cm = 0.1 m