

NUMERICAL ON SIMPLE STRESS & STRAIN

PART- 1

- Find the compressive strain if a metal bar is 150 cm long. When 2.5 kN is applied, its length becomes 148.6 cm.

- Calculate the strain if a metallic bar is 150 cm long. When 2500 kg is applied its length becomes 150.5 cm.

- Find the strain it causes if a load of 300 kg hanging from a rod of 3 metres length and 5 mm diameter extends it by 4 mm.

- 4. A tensile force of 10 kg is applied on a copper wire of diameter 1 cm. So that the length of wire increases by 5 mm. If the original length of wire was 2 metres, find out the strain.

- Calculate the intensity of stress in the material if a copper rod of 40 mm diameter is subjected by tensile load of 4000 Newtons.

- Calculate the intensity of stress if a mild steel rod having a cross sectional area of 40 mm^2 is subjected to the load of 1000 kg .

- Calculate the tensile stress if a square rod of 10 mm side is tested for a tensile load of 1000 kg.

- Calculate the maximum stress if a bar of 9 cm² cross sectional area 300 cm long carries a tensile load of 3500 kg.

- Find out the stress on the rod. if a load of 500 kg is placed on a M.S.rod of dia. 35 mm.

- A metallic bar of 8 cm diameter is under stress carrying a load of 8620 N. Calculate the intensity of stress

- A steel wire 2 mm diameter is loaded in tension with a weight of 20 kg. Find out the stress developed

- A rod having a cross sectional area of 25 mm^2 is subjected to a load of 1500 kg . Find out stress on the rod.

- A square rod of 10 mm side is tested for a tensile load of 2500 kg. Calculate the tensile stress of the rod.