

Answer:- 01

Whenever a load is applied onto a body the type of load (normal load or shear load) changes as we consider different cross section of the body. In normal stress we consider the cross section of the body that is perpendicular to the direction of the external force applied which give rise to normal stress inside the body. In shear stress we consider the section where the external load applied is parallel to the cross-section of the body. Shear stress is an internal resisting force per unit area of the "PARALLEL surface" (cross section) onto which the force is being applied. It is denoted using " τ ". Shear stress developed whenever there is a shear strain. Shear strain is defined as $\theta/\Delta x$ which equals $\tan \theta$. Whenever there is shearing a shear force will develop to counter acts its effect (i.e shear strain). Below you can see the shear strain is develop and the shear force develop is

$$\tau = F/A$$

Normal stresses :-

A normal stress is a stress that occurs when a member is loaded by an axial force. The value of the normal force for any prismatic section is simply the force divided by the cross section area. A normal stress will occur when a member is placed in tension or compression.

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Module :- 9th Semester

Instructor :- Mr. Marwan Raza

Subject :- Mechanics of material

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