



SNS COLLEGE OF TECHNOLOGY,

(An Autonomous Institution)

Coimbatore- 35

DEPARTMENT OF MECHATRONICS ENGINEERING

19MCT102 – ENGINEERING MATERIALS



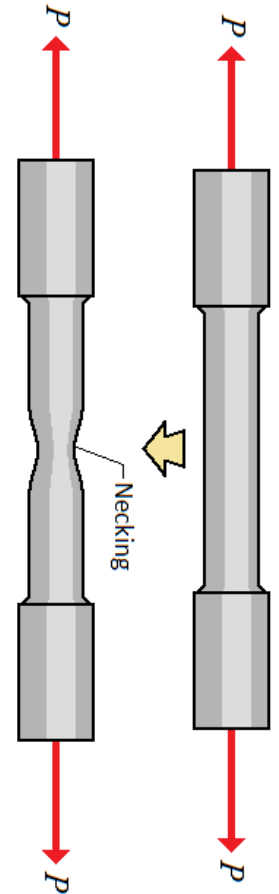
Tensile strength

- Tensile strength is a measurement of the force required to pull something such as rope, wire, or a structural beam to the point where it breaks.
- The tensile strength of a material is the maximum amount of tensile stress that it can take before failure, for example breaking.
- There are three typical definitions of tensile strength:

Yield strength - The stress a material can withstand without permanent deformation. This is not a sharply defined point. Yield strength is the stress which will cause a permanent deformation of 0.2% of the original dimension.

Ultimate strength - The maximum stress a material can withstand.

Breaking strength - The stress coordinate on the stress-strain curve at the point of rupture.



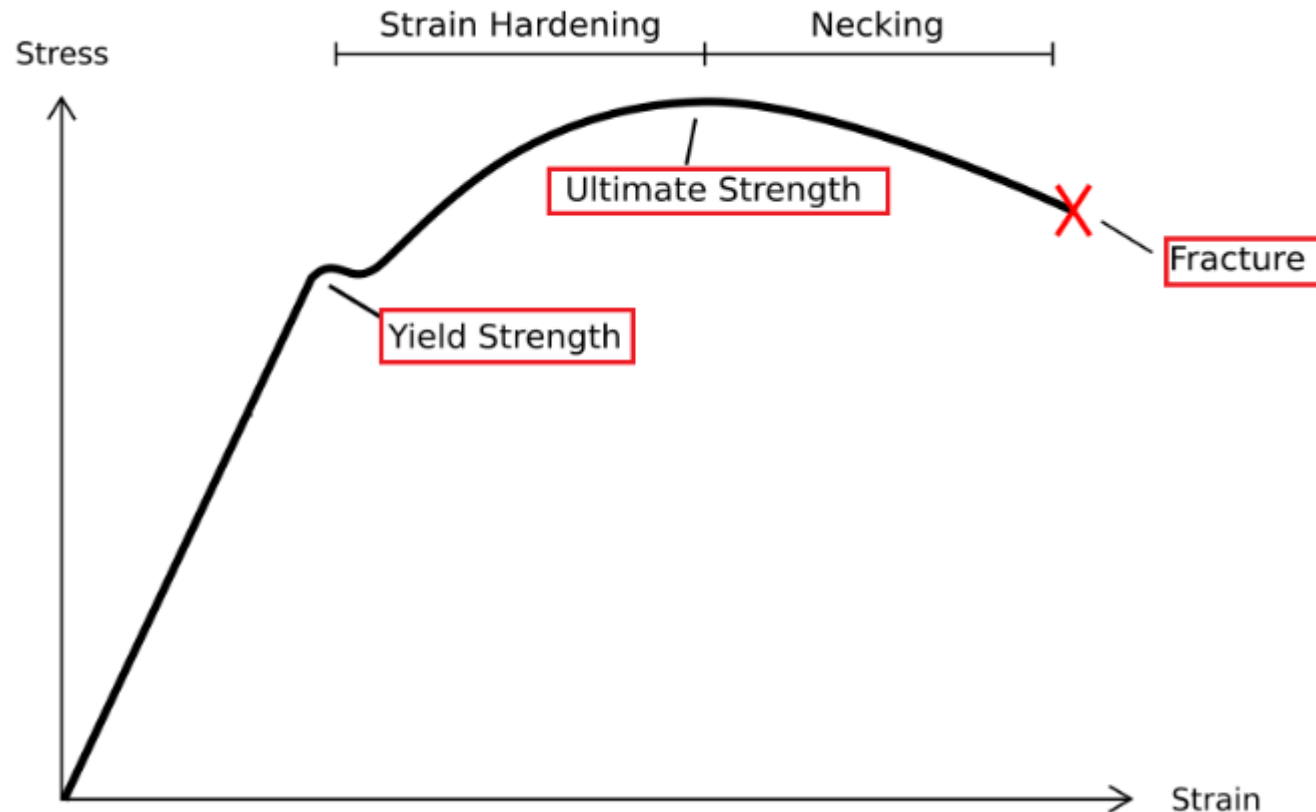


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Toughness

It is the ability of a material to absorb energy and plastically deform without fracturing. One definition of material toughness is the amount of energy per unit volume that a material can absorb before rupturing.

