



Technocrat Notes AQA AS Physics Definitions - Materials - Definitions

Brittle

Snaps without stretching or bending when subject to stress

Density

Mass per unit volume of the substance

Ductile

Stretches easily without breaking

Elastic Limit

Point beyond which a wire is permanently stretched

Elasticity

Property of a solid that enables it to regain its shape after it has been deformed or distorted

Hooke's Law

The extension of a spring is proportional to the force needed to extend it within the limit of proportionality

Limit of Proportionality

The limit beyond which, when a wire or spring is stretched, extension is no longer proportional to the force that stretches therefore Hooke's law is not obeyed.

Plastic Deformation

Deformation of a solid beyond its elastic limit

Stiffness Constant

Force per unit extension needed to extend a wire or spring

Strain

Extension per unit length of a solid when deformed

Stress

Force per unit area of cross-section in a solid perpendicular to the cross section

Ultimate Tensile Stress

Tensile stress needed to break a solid material

Yield Point

Point at which the stress in a wire suddenly drops when the wire is subjected to increasing strain





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Young's Modulus

Stress/Strain assuming the limit of proportionality has not been exceeded



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