

PHYSICAL MATERIAL PROPERTIES

Key Revision Facts: GCSE Technology

Physical properties:

Absorbency

Absorbency is used to describe material resistant to moisture.

Density

The density of a material is its mass per unit volume.

Fusibility

The ease at which the material can be joined together or the amount of heat required to melt a material.

Conductivity

Conductivity is the measure of how easily electric charge or heat can pass through a material. A conductor is a material that gives very little resistance to the flow of an electric current or thermal energy.

Working Properties:

Strength

Strength is a material's resistance to plastic deformation. For example, It is not easy to deform steel plastically, but it is effortless to deform plastic plastically because steel's strength is higher than that of plastic.

Hardness

Hardness is a material's resistance to any type of deformation, i.e., scratching, bending, compressing. It's easier to make a scratch in plastic than steel because steel is harder.

Toughness

Toughness is the energy absorbed by a material before failure. A ceramic plate can be broken very easily because it is not so tough. But it requires so much energy to break a steel plate because steel is very much tougher.

Malleability

Malleability is the ability to bend or shape a material easily malleable, e.g., sheet metal such as steel or silver is malleable and can be hammered

Ductility and Elasticity

Elasticity, the ability of a deformed material body to return to its original shape and size when the forces causing the deformation are removed

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VERSION INFORMATION

Date	Arthur	Comment
13-Mar-2021	Andrew Seaford	Initial release.