

Properties of materials:

- **Density (densidad):** The density of a substance is its mass per unit volume. It gives an idea of the weight of a material.
- **Hardness (dureza):** Resistance to scratching and pressure; opposite to 'soft'.
- **Strength (resistencia):** Amount of force needed to break a material usually by pushing or pulling down.
- **Toughness (tenacidad)** Resistance to breaking by cracking; opposite to 'brittle'.
- **Stiffness (rigidez):** Amount of force needed to change the shape of a material, opposite to flexible.
- **Elasticity (elasticidad):** Ability to return its original shape when a force is removed e.g. rubber band.
- **Plasticity (plasticidad):** Ability to retain the new shape when a force is removed e.g. plasticene.
- **Absorbency (absorción de agua):** Ability of a material to soak up a liquid. The opposite to waterproof.
- **Ductility (ductilidad):** The ability of a material to change shape (deform) usually by stretching along its length
- **Malleability (maleabilidad):** It is the ability of a material to bend or be hammered into other shapes without breaking
- **Electric conductivity (conductividad eléctrica):** It is a material's ability to conduct an electric current.
- **Thermal conductivity (conductividad térmica):** It is the property of a material to conduct heat
- **Anisotropy (anisotropía):** is the property of being directionally dependent, like wood.
- **Resistance to chemical attack and oxidation (resistencia química /resistencia a la oxidación):** It is the ability of a material not to be degraded by chemical and atmospheric agents.
- **Resistance to biological attacks (resistencia biológica):** It is the property of a material to resist the attacks of living beings, both animals and fungi or bacteria.
- **Availability (disponibilidad):** Easy of getting.
- **UV Resistance and sunlight resistance (resistencia a la luz y a los rayos ultravioletas):** Ability to resist sunlight without degradation.
- **Price (precio):** The cheaper, the better.
- **Workability (facilidad de trabajo):** It is important to know if simple tools are needed and if it is easy to cut, paste and shape.
- **Beauty and design (belleza y diseño).**
- **Combustibility (combustibilidad):** It is a measure of how easily a material will burn.

Materials Properties

Chemical Properties:

Composition
Chemical resistance
Biological resistance
UV Resistance

Physical Properties:

Density
Thermal and electric
Conductivity
Absorvency
Combustibility
Anysotropy

Mechanical Properties:

Hardness
Strenght
Toughness
Stiffness
Elasticity
Plasticity
Ductility
Malleability

Dimensional Properties:

Size
Shape

Other Properties:

Price
Availability
Workability
Beauty