

When a machine or a tool is made , the most suitable material must be chosen by considering its properties , which can be classified as mechanical , thermal , electrical and chemical. Ceramic materials are good insulators : hard , resistant and strong , but brittle .The main types of material used in mechanical engineering are metals, polymer materials , Ceramics and Composite materials , The most commonly used materials are metals , which can be divided into ferrous and non- ferrous .PVC or polyvinyl chloride is a type of plastic and is used to insulate wires and cables : Rubber is a polymer and its best property is elasticity , as it returns to its original size and shape after deformation .Non- ferrous metals contain little or no iron The most common non-ferrous metals used in mechanics are copper , . zinc , tin and aluminium