

Materials and Manufacturing Cheat Sheet by JekyllOfHearts via cheatography.com/186313/cs/38929/

Component and Material Properties		Effects of changing composition	
		Change	Affected Properties
Chemical	Composition, Phase Transformation, Oxidation and Corrosion	Introduced	
		Compos- ition	Phase Transformation, Oxidation, Corrosion, Melting
Physical	Melting Temper- ature, Solidific- ation Temper- ature, Thermal Properties, Electrical Proper- ties, Magnetic Properties, Density and Colour		Temperature, Solidification Temperature, Thermal Properties, Electrical Properties, Magnetic Properties, Density, Colour, Elasticity Plasticity,
Mechanical	Elasticity Plasticity, Stiffness, Ductile Brittleness, Strength, Hardness & Wear, Creep Durability and Fatigue Durability	Stiffness, Ductility Brittleness, Strength, Hardness & Wear, Creep Durability and Fatigue Durability. Phase Oxidation,	
Dimens- ional	Size Effects, Shape Effects and Surface	Transf- ormation	Corrosion, Thermal Properties, Electrical

Alloys

Alloys are a combination of chemical elements. Usually this is to create a material more suited for a specific need,

Roughness

Phase Transformation

Phase Transformation occur during heating and cooling, as well as when holding at high temperatures in time. Phase transformation has a huge impact on the material properties.

Introduced	·
Composition	Phase Transformation, Oxidation, Corrosion, Melting Temperature, Solidification Temperature, Thermal Properties, Electrical Properties, Magnetic Properties, Density, Colour, Elasticity Plasticity, Stiffness, Ductility Brittleness, Strength, Hardness & Wear, Creep Durability and Fatigue Durability.
Phase Transf- ormation	Oxidation, Corrosion, Thermal Properties, Electrical Properties, Magnetic Properties, Density, Colour, Elasticity Plasticity, Stiffness, Ductility Brittleness, Strength, Hardness & Wear, Creep Durability and Fatigue Durability.



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