

# Aluminium



The most common grades of aluminium used are AlCuMgPb F37 and Mg3.

Aluminium is a comparably lightweight metal with a high strength to weight ratio, as well as good resistance to corrosion in most applications.

\*Copper is sometimes added to improve machinability and mechanical strength.

Chemical Content	% by weight
Aluminium	Remainder
Copper	Up to 4.3%*
Magnesium	0.8-1.2%
Iron	< 0.8%
Lead	0.8-1.5%
Manganese	0.4-1.8%

## Physical Properties

Density (kg/m <sup>3</sup> )	2700 - 2850
Melting Point (°C)	550 - 600
Short Term Thermal Stability (°C)	Approx 160
Thermal Expansion Coefficient (K <sup>-1</sup> )	23 x 10 <sup>-6</sup>
Thermal Conductivity (W/m·K)	130 - 160
Thermal Capacity	380
Tensile Strength (Mpa)	120 - 450
Elongation at break	6 - 8%
Elastic Modulus (GPa)	72.5
Hardness (HV)	130
Electrical Conductivity (Ωm)	6.2 x 10 <sup>-8</sup>

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