

## Data Sheet

### ALUMINIUM - 6082

Grade 6082 aluminium is a medium strength alloy with a very good corrosion resistance. Additions of magnesium, manganese and silicon enhance the mechanical and corrosion resistance properties of 6082 whilst retaining a good machinability and weldability. With grade 6082 aluminium offering the highest strength of all the 6000 series it is widely regarded as a material for structural type applications.

Further to this strength levels of grade 6082 aluminium have seen it replace 6061 for many applications. Alloy 6082 offers good joining options although it should be noted that mechanical strengths will decrease in the heat affected zone. Grade 6082 also machines very well and produces tight coils of swarf when chip breakers are used.

Key Features:		
Very good corrosion resistance		
Good cold forming properties		
Ease of joining		
Good machinability		
High mechanical strengths		
Related Specifications:		
AA6082	HE30	DIN 3.2315
EN AW-6082	ISO: Al	A96082
Chemical Composition:		
Aluminium	Rem	
Copper	0.10% max	
Manganese	0.4 - 1.0%	
Zinc	0.20% max	
Chromium	0.25% max	
Silicon	0.7 - 1.3%	
Iron	0.50% max	
Magnesium	0.6 - 1.2%	
Titanium	0.10% max	
Total others	0.15 max	

Typical Physical Properties:	
Melting Range	570 - 660°C
Density	2.70 g/cm <sup>3</sup>
Thermal conductivity	184 W/m <sup>2</sup> K
Thermal expansion coefficient (20-200°C)	23 x 10 <sup>-6</sup> /°C
Electrical conductivity	46.6 % IACS
Modulus of elasticity	69 GPa
Electrical resistivity	0.037 microhm m
Fabrication Properties:	
Soldering/ Brazing	Good
Machinability	Good
Manual metal arc welding	Good
Gas-shielded arc welding	Good
Resistance welding	Good
Cold formability	Good

#### Typical Uses:

Grade 6082 has typically been used for packaging containers, foils, collapsible tubes, wide jar closures, printing plates, strip for heat exchangers, boiler making, insulation foils, kitchenware, chemical and food industry equipment containers, automotive trim, light reflectors, architecture, vessels, pipping beer barrels and milk churns. It is also for highly stressed applications including trusses, bridges, cranes and automotive components.