

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 the 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.

Chemical Composition

Aluminium	Rem	Silicon	0.7-1.3%
Copper	0.10% max	Iron	0.50% max
Manganese	0.4-1.0%	Magnesium	0.6-1.2%
Zinc	0.20% max	Titanium	0.10% max
Chromium	0.25% max	Total Others	0.15 max

Related Specifications

AA6082	HE30	DIN 3.2315
EN AW-6082	ISO: Al Si1MgMn	A96082

Key Features

- Very good corrosion resistance
- Good cold forming properties
- Ease of joining
- Good machinability
- High Mechanical strengths

Typical Physical Properties

Melting Range	570-660°C
Density	2.70 g/cm ³
Thermal conductivity	184 W/m ^o K
Thermal expansion coefficient	23 x 10 ⁻⁶
Electrical Conductivity	46.6 IACS
Electrical resistivity	0.037 microhm m
Modulus of elasticity	69 GPa

Fabrication Properties

Cold Formability	Good
Machinability	Good
Soldering	Good
Brazing	Good
Gas Shielded Arc Welding	Good
Manual Metal Arc Welding	Good
Resistance Welding	Good

Typical Applications

Grade 6082 has typically been used for packaging containers, foils, collapsible tubes, radiator 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, piping beer barrels and milk churns. It is also used for highly stressed applications including trusses, bridges, cranes and automotive components.

This technical information is given by Holme Dodsworth Metals without charge and the user shall employ such information at their own discretion and risk. For more detailed technical advice on temper selection, fabrication, joining, machining, physical and mechanical data please contact us as space does not permit the listing of every feature of the material.