

## Aluminium Alloy 6061 - T6 Extrusions

### SPECIFICATIONS

Commercial	6061
EN	6061

Aluminium alloy 6061 is a medium to high strength heat-treatable alloy with a strength higher than 6005A. It has very good corrosion resistance and very good weldability although reduced strength in the weld zone. It has medium fatigue strength. It has good cold formability in the temper T4, but limited formability in T6 temper. Not suitable for very complex cross sections.

#### Applications

Alloy 6061 is typically used for heavy duty structures in:

- ~ Rail coaches
- ~ Truck frames
- ~ Ship building
- ~ Bridges and Military bridges
- ~ Aerospace applications including helicopter rotor skins
- ~ Tube
- ~ Pylons and Towers
- ~ Transport
- ~ Boilermaking
- ~ Motorboats
- ~ Rivets

### CHEMICAL COMPOSITION

BS EN 573-3:2009  
Alloy 6061

Element	% Present
Magnesium (Mg)	0.80 - 1.20
Silicon (Si)	0.40 - 0.80
Iron (Fe)	0.0 - 0.70
Copper (Cu)	0.15 - 0.40
Chromium (Cr)	0.04 - 0.35
Zinc (Zn)	0.0 - 0.25
Titanium (Ti)	0.0 - 0.15
Manganese (Mn)	0.0 - 0.15
Others (Total)	0.0 - 0.15
Other (Each)	0.0 - 0.05
Aluminium (Al)	Balance

### TEMPER TYPES

The most common temper for 6061 aluminium is:

- T6 - Solution heat treated and artificially aged

### SUPPLIED FORMS

Alloy 6061 is typically supplied as

- Extrusions

### GENERIC PHYSICAL PROPERTIES

Property	Value
Density	2.70 g/cm <sup>3</sup>
Melting Point	650 °C
Thermal Expansion	23.4 x10 <sup>-6</sup> /K
Modulus of Elasticity	70 GPa
Thermal Conductivity	166 W/m.K
Electrical Resistivity	0.040 x10 <sup>-6</sup> Ω .m

### MECHANICAL PROPERTIES

BS EN 755-2:2008

Extrusions

Up to 200mm Dia. & A/F, 5mm WT for Tube and Prof

Property	Value
Proof Stress	240 Min MPa
Tensile Strength	260 Min MPa
Hardness Brinell	95 HB

### WELDABILITY

Weldability – Gas: Good  
Weldability – Arc: Very Good  
Weldability – Resistance: Good  
Brazability: Good  
Solderability: Good

### FABRICATION

Workability – Cold: Good  
Machinability: Acceptable

## CONTACT

**Address:** 180/3, Nagar Kalyan Road, A/P: Bhalawani.  
Tal : Parner, Dist. Ahmednagar - 414103,  
Maharashtra (INDIA).  
**Web:** [www.galaluminium.in](http://www.galaluminium.in)

## REVISION HISTORY

**Datasheet Updated** 01-April-2019

## DISCLAIMER

This Data is indicative only and as such is not to be relied upon in place of the full specification. In particular, mechanical property requirements vary widely with temper, product and product dimensions. All information is based on our present knowledge and is given in good faith. No liability will be accepted by the Company in respect of any action taken by any third party in reliance thereon.

Please note that the 'Datasheet Update' date shown above is no guarantee of accuracy or whether the datasheet is up to date.

The information provided in this datasheet has been drawn from various recognised sources, including EN Standards, recognised industry references (printed & online) and manufacturers' data. No guarantee is given that the information is from the latest issue of those sources or about the accuracy of those sources.

Material supplied by the Company may vary significantly from this data, but will conform to all relevant and applicable standards.

As the products detailed may be used for a wide variety of purposes and as the Company has no control over their use; the Company specifically excludes all conditions or warranties expressed or implied by statute or otherwise as to dimensions, properties and/or fitness for any particular purpose, whether expressed or implied.

Advice given by the Company to any third party is given for that party's assistance only and without liability on the part of the Company. All transactions are subject to the Company's current Conditions of Sale. The extent of the Company's liabilities to any customer is clearly set out in those Conditions; a copy of which is available on request.