

## 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

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## REVISION HISTORY

Datasheet Updated 13 November 2018

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