



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)	0.8 - 1.2
Silicon (Si)	0.4 - 0.8
Iron (Fe)	0.7 max
Copper (Cu)	0.15 - 0.4
Chromium (Cr)	0.04 - 0.35
Zinc (Zn)	0.25 max
Manganese (Mn)	0.15 max
Titanium (Ti)	0.15 max
Others (Total)	0.15 max
Other (Each)	0.05 max
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 ³
Thermal Expansion	23.4 x10 ⁻⁶ /K
Melting Point	650 °C
Modulus of Elasticity	70 GPa
Thermal Conductivity	166 W/m.K
Electrical Resistivity	0.040 x10 ⁻⁶ 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



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CONTACT

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REVISION HISTORY

Datasheet Updated	13 November 2018
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