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/cm³
Melting Point	650 °C
Thermal Expansion	23.4 x10^{-6} /K
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

Address:	Please make contact directly with your local service centre, which can be found via the Locations page of our web site
Web:	www.aalco.co.uk

REVISION HISTORY

Datasheet Updated	13 November 2018

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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.

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