Aluminium Alloy
6106 - T6 Extrusions

Amari ireland Ltd

SPECIFICATIONS

Commercial	6106
EN	6106

Aluminium alloy 6106 is an extrusion alloy designed to provide optimum combination of mechanical properties, complexity of shape, minimum section thickness and good surface finish together with the good resistance, weldability and formability associated with the 6000 series alloys. Very complex shapes are possible which are not obtainable with stronger alloys such as 6182.
(6000 series alloys achieve their properties by thermal treatment which can be adjusted to provide combinations of strength and formability conditions with good corrosion resistance and weldability. Because the properties are obtained by thermal treatment, fusion welding reduces the non-welded properties by up to 50%.)

Applications
Alloy 6106 is typically used for:
~ Structural applications
~ Ladders, pylons and towers
~ Railway Rolling Stock
~ Marine applications
~ Automotive structures

CHEMICAL COMPOSITION

BS EN 573-3:2009
Alloy 6106

Element	% Present
Magnesium (Mg)	0.40 - 0.80
Silicon (Si)	0.30 - 0.60
Iron (Fe)	0.0 - 0.35
Manganese (Mn)	0.05 - 0.20
Copper (Cu)	0.0 - 0.25
Chromium (Cr)	0.0 - 0.20
Others (Total)	0.0 - 0.15
Zinc (Zn)	0.0 - 0.10
Titanium (Ti)	0.0 - 0.10
Other (Each)	0.0 - 0.05
Aluminium (Al)	Balance

ALLOY DESIGNATIONS

TEMPER TYPES

The most common temper for 6106 aluminium is:

- T6 - Solution heat treated and artificially aged

SUPPLIED FORMS

- Extrusions

GENERIC PHYSICAL PROPERTIES

Property	Value
Density	2.70 g/cm³
Melting Point	655 °C
Thermal Expansion	23.4 x10^{-6} /K
Modulus of Elasticity	69.5 GPa
Thermal Conductivity	192 W/m.K
Electrical Resistivity	0.035 x10^{-6} Ω .m

MECHANICAL PROPERTIES

BS EN 755-2:2008
Profiles only
Up to 10mm Wall Thickness

Property	Value
Proof Stress	200 Min MPa
Tensile Strength	250 Min MPa
Elongation A50 mm	6 Min %
Hardness Brinell	75 HB
Elongation A	8 Min %

Above readings refer to profiles in the T6 condition only.

WELDABILITY

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

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FABRICATION

Workability – Cold: Acceptable, but limited in T6 temper
Machinability: Good

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.amari-ireland.com

REVISION HISTORY

Datasheet Updated	13 November 2018

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