

SPECIFICATIONS

Commercial	6082
------------	------

Applications:

Packaging: containers, foils, collapsible tubes, radiator tubes, wide jar closures, printing plates (offset). Strip for heat exchanger, boilermaking. Insulation foils. Kitchenware. Chemical and food industry equipment, containers. Automotive trim, light reflectors. Architecture. Vessels, piping.

Characteristic Properties:

Very good corrosion resistance. Very good weldability (lowered strength values in the zone of welding). Good machinability. Good cold formability in T4 temper after a stabilizing heat treatment. Heat treatable medium high strength construction. Alloy with a strength somewhat higher than 6061. Medium high fatigue strength. Not suitable for complex sections.

CHEMICAL COMPOSITION

BS L112(1971)
Alloy L112

Element	% Present
Silicon (Si)	0.7 - 1.3
Magnesium (Mg)	0.5 - 1.2
Manganese (Mn)	0.4 - 1
Iron (Fe)	0.5 max
Chromium (Cr)	0.25 max
Zinc (Zn)	0.2 max
Titanium (Ti)	0.2 max
Copper (Cu)	0.1 max
Nickel (Ni)	0.1 max
Lead (Pb)	0.05 max
Tin (Sn)	0.05 max
Aluminium (Al)	Balance

Heat Treatment:

Forging Stock: Cast billets & slabs for hot working & extruded bars, sections and hot rolled plate for forging shall be supplied non heat treated.

Forgings: Unless otherwise agreed in accordance with BS L100, Forgings shall be supplied solution treated and precipitation treated.

Forgings shall be heat treated as follows:

Solution treat by heating uniformly at a temperature between 510-540C and quenching in water at a temperature not exceeding 70C.

TEMPER TYPES

The most common temper for L112-6082 aluminium forging stock is:

- T6 - Solution heat treated and artificially aged

SUPPLIED FORMS

L112-6082 T6 aluminium is supplied as forging stock from cast billet, extrusions or rolled plate

- Forgings
- Bar
- Castings
- Extrusions
- Plate

GENERIC PHYSICAL PROPERTIES

Property	Value
Density	2.71 g/cm ³
Melting Point	650 °C
Thermal Expansion	23.10 x10 ⁻⁶ /K
Thermal Conductivity	167-216 W/m.K
Modulus of Elasticity	70 GPa

Precipitation treat by heating uniformly at a temperature between 165-195C for 3-12 hours.

This specification cover forging stock and forgings of aluminium-magnesium-silicon-manganese alloy, solution treated and precipitation treated, suitable for welding.

The titanium value shown in the Chemical Composition applies to titanium and/or other grain elements.

MECHANICAL PROPERTIES

BS L112(1971)
Forging Stock

Property	Value
Hardness Brinell	90 Min HB
Tensile Strength	295 Min N/mm ²
Elongation A	8 Min %
0.2% Proof Stress	255 Min N/mm ²

The values shown in the Mechanical Properties apply to test samples in all sizes prepared by forging, which represent extruded forging stock, which represent extruded forging stock and forgings made from cast billets, hot rolled plate & extruded stock) & to test samples in sizes up to & incl 20mm prepared by machining, which represents extruded forging stock.

Different values, applicable to machined test samples in additional sizes for extruded forging stock are shown in the specification

CONTACT

Address: (incorporated in the USA)
Tel: +44 (0)1371 811 642
Email: info@aerometalsalliance.com

REVISION HISTORY

Datasheet Updated 08 July 2016

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.