Aluminium Alloy
L112 T6

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/cm³
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/mm2
Elongation A	8 Min %
0.2% Proof Stress	255 Min N/mm2

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

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CONTACT

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REVISION HISTORY

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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.

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