



Aluminium Alloy - L111 T6511 Bar

SPECIFICATIONS

Commercial	6082 - Obsolete
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Characteristic Properties:

Very good corrosion resistance. Very good weldability (lowered strength values in the weld zone). 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 L111(1971)
Alloy L111

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
Titanium (Ti)	0.2 max
Zinc (Zn)	0.2 max
Copper (Cu)	0.1 max
Nickel (Ni)	0.1 max
Tin (Sn)	0.05 max
Lead (Pb)	0.05 max
Aluminium (Al)	Balance

TEMPER TYPES

The most common temper for L111-6082 aluminium are:

- T4 - Solution heat treated and naturally aged to a substantially stable condition
- T5 - Cooled from an elevated temperature shaping process and artificially aged
- T6 - Solution heat treated and artificially aged
- T6511 - Solution heat treated and stress-relieved by stretching then artificially aged with minor straightening after aging

SUPPLIED FORMS

L111-6082 aluminium is supplied in Bar and Extruded Sections.

- Bar
- Extrusions

GENERIC PHYSICAL PROPERTIES

Property	Value
Density	2710 g/cm ³
Melting Point	650 °C
Thermal Expansion	23.10 x10 ⁻⁶ /K
Modulus of Elasticity	70000 GPa
Thermal Conductivity	167-216 W/m.K

MECHANICAL PROPERTIES

The Mechanical Properties values shown apply to material in the T6511 temper.

In the table, 'Dimension' means diameter or minor sectional dimension.

Dimension (mm)	Proof Strength	Tensile Strength	Elongation
Up to & incl. 20	255 Min	295 Min	7% Min
Over 20 up to & incl. 150	270 Min	310 Min	8% Min
Over 150 up to & incl. 200	240 Min	280 Min	5% Min



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CONTACT

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REVISION HISTORY

Datasheet Updated	14 January 2019
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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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