Aluminium Alloy - L102 T4511 Bar

SPECIFICATIONS

Commercial	2014A - Obsolete

Applications:
High strength structural components: aircraft (e.g. fittings and wheels), military vehicles and bridges, forgings for trucks and machinery (hydraulic etc.). weapons manufacture, structural applications.

Characteristic Properties:
Heat treatable alloy. High mechanical strength slightly higher than 2011 and 2017A.

CHEMICAL COMPOSITION

BS L102(1971)
Alloy L102

Element	% Present
Copper (Cu)	3.9 - 5
Manganese (Mn)	0.4 - 1.2
Silicon (Si)	0.5 - 0.9
Magnesium (Mg)	0.2 - 0.8
Iron (Fe)	0.5 max
Nickel (Ni)	0.2 max
Zinc (Zn)	0.2 max
Titanium + Zirconium (Ti+Zr)	0.2 max
Chromium (Cr)	0.1 max
Lead (Pb)	0.05 max
Tin (Sn)	0.05 max
Aluminium (Al)	Balance

ALLOY DESIGNATIONS

Aluminium alloy BS L102 - 2014A is covered by standard BS EN 2L102 (1971)

TEMPER TYPES

The most common tempers for L102 - 2014A aluminium are:

- T6 - Solution heat treated and artificially aged
- T4 - Solution heat treated and naturally aged to a substantially stable condition
- T4511 - Solution heat treated and stress-relieved by stretching. Equivalent to T4 condition.

SUPPLIED FORMS

L102 2014A T4511 is supplied as Bar

- Bar

GENERIC PHYSICAL PROPERTIES

Property	Value
Density	2800 g/cm³
Melting Point	640 °C
Thermal Expansion	22.8 x10^{-6} /K
Modulus of Elasticity	73000 GPa
Thermal Conductivity	134 W/m.K

MECHANICAL PROPERTIES

The following Mechanical Properties relate to T4511 temper material in various diameters:

Thickness (mm)	Proof Strength	Tensile Strength	Elongation
Up to & incl. 10	235 Min	370 Min	11% Min
Over 10 up to & incl. 20	260 Min	400 Min	11% Min
Over 20 up to & incl. 75	270 Min	410 Min	14% Min
Over 75 up to & incl. 150	260 Min	400 Min	12% Min
Over 150 up to & incl. 200	230 Min	370 Min	8% Min

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CONTACT

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REVISION HISTORY

Datasheet Updated	14 January 2019

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.

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