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

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