

SPECIFICATIONS

Aerospace	L168 T6511
Commercial	2014A

Aluminium alloy L168 - 2014A is a very high mechanical strength alloy used for critical applications and is the most widely used aluminium bar alloy in the aerospace industry.

It has very good machinability and is thus used for the production of complex machined parts.

CHEMICAL COMPOSITION

BS L168(1978) Alloy L168	
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
Zinc (Zn)	0.25 max
Titanium + Zirconium (Ti+Zr)	0.2 max
Titanium (Ti)	0.15 max
Others (Total)	0.15 max
Chromium (Cr)	0.1 max
Nickel (Ni)	0.1 max
Other (Each)	0.05 max
Aluminium (Al)	Balance

ALLOY DESIGNATIONS

Aluminium alloy BS L168 - 2014A has similarities to the following standard designations and specifications **but may not be a direct equivalent:**

2014, AMS4121

TEMPER TYPES

The most common tempers for L168 - 2014A aluminium are:

- T6 - Solution heat treated and artificially aged
- T6510 - Solution heat treated and stress-relieved by stretching then artificially aged with no straightening after aging
- T6511 - Solution heat treated and stress-relieved by stretching then artificially aged with minor straightening after aging

SUPPLIED FORMS

L168-2014A aluminium is supplied in Bar, Rod and Extruded Sections.

- Bar
- Extrusions

GENERIC PHYSICAL PROPERTIES

Property	Value
Density	2.80 g/cm ³
Melting Point	640 °C
Thermal Expansion	22.8 x10 ⁻⁶ /K
Modulus of Elasticity	73 GPa
Thermal Conductivity	155 W/m.K
Electrical Resistivity	40 % IACS

MECHANICAL PROPERTIES

These Mechanical Properties are for bar in the T6511 temper

Diameter	Proof Strength (Min)	Tensile Strength (Min)	Elongation % (Min)
Up to & incl 2.5	370	415	6
Over 2.5 up to and incl. 10	385	435	6
Over 10 up to and incl. 25	415	460	7
Over 25 up to and incl. 75	440	490	7
Over 75 up to and incl. 100	435	480	7
Over 100 up to and incl. 150	420	465	7
Over 150 up to and incl. 200	390	435	7

CONTACT

Address: Gould Alloys Ltd
Markham Lane
Markham Vale
Chesterfield
S44 5HS
United Kingdom
Tel: +44 (0) 1246 263300
Email: sales@gouldalloys.co.uk
Web: www.gouldalloys.co.uk

REVISION HISTORY

Datasheet Updated 14 January 2019

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