



## Aluminium Alloy - L93 (AMS 4029) Plate

### SPECIFICATIONS

Commercial	2014A
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#### Applications:

High strength structural components for aircraft , military vehicles and bridges, weapons manufacture, structural applications.

#### Characteristics:

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

### CHEMICAL COMPOSITION

BS 2L93(1971) Alloy L93	
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
Titanium + Zirconium (Ti+Zr)	0.2 max
Zinc (Zn)	0.2 max
Nickel (Ni)	0.2 max
Chromium (Cr)	0.1 max
Tin (Sn)	0.05 max
Lead (Pb)	0.05 max
Aluminium (Al)	Balance

### ALLOY DESIGNATIONS

Aluminium alloy L93 - 2014A is covered by Standard BS EN 2100 and has similarities to the following standard designations and specifications **but may not be a direct equivalent:**

2014 / 2014A                      AMS 4029

### TEMPER TYPES

The most common tempers for L93 - 2014A aluminium are:

- T4 - Solution heat treated and naturally aged to a substantially stable condition
- T6 - Solution heat treated and artificially aged
- T651 - Solution heat treated, stress relieved by stretching then artificially aged

### SUPPLIED FORMS

L93-2014A aluminium is supplied in Plate

- Plate

### GENERIC PHYSICAL PROPERTIES

Property	Value
Density	2800 g/cm <sup>3</sup>
Melting Point	640 °C
Thermal Expansion	22.8 x10 <sup>-6</sup> /K
Modulus of Elasticity	73000 GPa
Thermal Conductivity	134 - 135 W/m.K

### MECHANICAL PROPERTIES

These Mechanical Properties apply to plate in the T651 temper

Thickness (mm)	Proof strength (Min)	Tensile Strength (Min)	Elongation % (Min)
Over 6 up to & incl. 12.5	410	460	7
Over 12.5 up to & incl. 25	410	460	6
Over 25 up to & incl. 40	400	450	5
Over 40 up to & incl. 63	390	430	5
Over 63 up to & incl. 90	390	430	4
Over 90 up to & incl. 115	370	420	4
Over 115 up to & incl. 140	350	410	4



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### CONTACT

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### REVISION HISTORY

Datasheet Updated	09 January 2014
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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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