

Data Sheet

ALUMINIUM - 2014A

Grade 2014A aluminium is a heat treatable high strength alloy with a 4-5% copper addition. Produced in bar and profiles it is supplied in the fully heat-treated condition for the optimum mechanical properties.

Normally stocked in the T6 condition (stress relieved and artificially aged) the 2014A offers a high strength vs. density and is commonly used in the aerospace and defence industries for the manufacture of aircraft structures, and truck frames. The general resistance to atmospheric attack is low, especially in marine environments. To improve the resistance against corrosion 2014A can be hard or protective anodised, coated or if in storage, lightly coat with Lanolin based protective oil.

Key Features:

- Very good machining properties
- Good hard anodising capability
- Easily plated
- Good strength levels after heat treatment

Related Specifications:

2014A	HE15	L168
BS H15	A92014	W Nr.3.1254/3.1255
AlCu4SiMg	AMS 4121	

Chemical Composition:

Aluminium	Rem
Copper	3.9 - 5.0%
Manganese	0.4 - 1.2%
Zinc	0.25% max
Titanium	0.15% max
Chromium	0.1% max
Silicon	0.5 - 0.9%
Iron	0.5% max
Magnesium	0.2 - 0.8%
Titanium	0.1% max
Zirconium + Titanium	0.2% max
Total others	0.15 max

Typical Physical Properties:

Melting Range	530 - 610°C
Density	2.80 g/cm ³
Thermal conductivity	159 W/m ² K
Thermal expansion coefficient (20 - 200°C)	22 x 10 ⁻⁶ /°C
Electrical conductivity	38.3 % IACS
Modulus of elasticity	74 GPa
Electrical resistivity	0.045 microhm m

Fabrication Properties:

Soldering/ Brazing	Not recommended
Machinability	Excellent
Inert gas welding	Not recommended
Resistance welding	Excellent
Cold formability	Fair
Oxygen welding	Not recommended

Typical Uses:

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.