



## Aluminium Alloy 2014A T651

## Material Data Sheet

### Scope

Aluminium alloy 2014 is a high strength 4 - 5% copper alloy with good machinability.

### Application

This material is used for high strength components in aerospace and for the defence industries.

### Supplied Forms

- Bar
- Plate
- Extrusions

### Temper Types

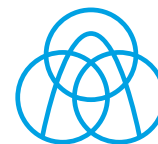
2014 comes in T6, T3, T6511 and T651

### Fabrication

- Solderability: Not recommended
- Weldability - Gas: Not recommended
- Weldability - Arc: Not recommended
- Weldability - Resistance: Excellent
- Brazability: Not recommended
- Anodising: Fair
- Workability - Cold: Good

### Chemical Composition

Element	% Present
Manganese (Mn)	0.4 - 1.2
Iron (Fe)	0 - 0.5
Magnesium (Mg)	0.2 - 0.8
Silicon (Si)	0.5 - 0.9
Copper (Cu)	3.9 - 5
Zinc (Zn)	0 - 0.25
Titanium (Ti)	0 - 0.15
Chromium (Cr)	0 - 0.1
Titanium (Ti) + Zirconium (Zr)	0 - 0.2
Nickel (Ni)	0 - 0.1
Others	0 - 0.15
Aluminium (Al)	Balance



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### Mechanical properties at room temperature

Property	Value
Proof Stress	390 Min MPa
Tensile Strength	440 Min MPa
Hardness Brinell	133 HV

### Reference data for some physical properties (for guidance only)

Property	Value
Density	2.82 Kg/m <sup>3</sup>
Melting Point	535 °C
Thermal Expansion	23 x 10 <sup>-6</sup> /K
Modulus of Elasticity	71 GPa
Thermal Conductivity	138 W/m.K
Electrical Resistivity	0.045 x 10 <sup>-6</sup> Ω .m

### Editor

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### Important Note

Information given in this data sheet about the condition or usability of materials respectively products are no warranty for their properties, but act as a description.

The information, we give on for advice, comply to the experiences of the manufacturer as well as our own. We cannot give warranty for the results of processing and application of the products.