Aluminium Alloy

2014A - T651

MG METALS

Product Information

Aluminium alloy 2014A is a high strength alloy which contains 4-5% copper and is supplied in the fully heat treated condition (solution heat treated and artificially aged).

Alloy 2014A has very good machinability and is used in the aerospace and defence industry due to its high strength.

Typical Applications

- High strength applications
- Aerospace
- Defence
- Automotive and F1
- Structural components

Available Forms

- Plate
- Round Bar
- Flat Bar

Related Specification

- L168
- HE15
- HP15
- A92014
- AlCu4SiMg

Temper Types

T3	Solution heat treated, cold worked and naturally aged.
T6	Solution heat treated and artificially aged.
T651	Solution heat treated, stress relieved by stretching then artificially aged.
T6511	Solution heat treated and stress relieved by stretching then artificially aged with minor straightening after ageing – Equivalent to T4 condition.

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Chemical Composition

	Mn	Fe	Mg	Si	Cu	Zn	Ti	Cr	Ti+Zr	Ni	Others	Al
Min.	0.40	–	0.20	0.50	3.90	–	–	–	–	–	–	Bal
Max.	1.20	0.50	0.80	0.90	5.00	0.25	0.15	0.10	0.20	0.10	0.15	Bal

Typical Physical and Mechanical Properties	Typical Values
Density	2.82 g/cm^3
Melting point	535˚c
Modulus of elasticity	71 GPa
Thermal conductivity	138 W/m.k
Tensile strength	460 MPa Min
Proof stress	400 MPa Min
Hardness Brinell	138 HB
Elongation A	6% Min

Weldability

Aluminium alloy 2014A has excellent weldability for resistance, spot and beam welding.

2014A is not recommended for brazing and soldering, oxygen or inert gas methods.