

2014A Aluminium

Technical Datasheet



Service. Quality. Value.

High Strength Aluminium Alloy

Applications

- Structural applications
- High strength structural components
- Aerospace fittings
- Military vehicles
- Aircraft structures and truck frames

Product Description

Grade 2014A is a high strength aluminium alloy which retains its strength after heat treatment. It is a 4 - 5% copper alloy and is supplied in the fully heat-treated condition (solution heat treated & artificially aged). The material offers very good machinability. 2014A is used widely in the aerospace and defence sector in the manufacture of high strength components. 2014A aluminium alloy is normally stocked in the T651 condition and is produced in extruded bar or profile form.

Availability

Bar, plate

Key features:

- Heat treatable
- Good strength after heat treatment
- Easily plated
- Can be hard anodised

Related Material Specifications

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

Corrosion Resistance

Resistance to atmospheric attack is poor.

Machinability

Very good

Chemical Composition (weight %)

| Weight (%) | Si | Fe | Cu | Zn | Mn | Mg | Ti | Others | Al |
|------------|------|------|------|------|------|------|------|--------|-----|
| min. | 0.50 | | 3.90 | | 0.40 | 0.20 | | | Bal |
| max. | 2.10 | 0.70 | 5.00 | 0.25 | 1.00 | 0.80 | 0.15 | 0.15 | Bal |

Physical Properties

| | |
|-------------------------------|-------------------------|
| Melting Point | 535°C |
| Density | 2.82 g/m ³ |
| Thermal conductivity | 138 W/m.K |
| Thermal expansion coefficient | 23 x10 ⁻⁶ /K |
| Modulus of elasticity | 71 GPa |

Mechanical Properties

| | |
|------------------|---------------|
| Elongation A50mm | 6% min |
| Tensile Strength | 415 MPa (min) |
| Proof Stress | 370 MPa (min) |

* Properties above for material in the T651 condition)

Technical Assistance

Our knowledgeable staff backed up by our resident team of qualified metallurgists and engineers, will be pleased to assist further on any technical topic.

UK Service Centres:

Smiths Belfast **02895 908 897**
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Smiths Bristol **0117 971 2800**
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Quality & Testing:



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