2024 Aluminium Plate

Smiths Advanced Metals

High Fatigue Strength Plate

2024 plate offers good mechanical properties with good machinability

2024 is a high strength aluminium plate product containing 3.8% to 5% copper.

The alloy is one of the strongest commercial aluminium alloys available. Cold formability can be limited when used fully heat treated as can weldability and natural corrosion resistance is generally poor. Therefore, a protective coating is often required. Note that 2024 aluminium alloy is not suitable for fusion welding. We stock 2024 aluminum plates in a wide range of sizes and tempers (including T3 and T351 tempers).

Grades / Specifications

- ABS5032A, AIMS03-02-004
- AMS4037, AMSQQA250/4
- ASTM B209
- BS L100
- BS L97
- BS EN 573, BS EN 485

Cut to bespoke shape service:

We offer a complete plate cutting service using a range of vertical and CNC saws. We cut plates to tight tolerances to match our customers individual requirements up to 330mm thick.

Technical sales support:

Discover more about 2024 aluminium plate and the added value services we offer you to improve your supply chain. Our experienced technical team are available to help you with your individual requirements.

Key Applications

- Aerospace fuselage components
- Structural components
- Military equipment

Benefits

- High fatigue strength
- Higher strength than 2014 or 2017 grades
- Ideal design choice for different applications

Chemical Composition (weight %)

	Si	Fe	Cu	Mn	Mg	Cr	Zn	Ti	Others (ea)	Others (total)	Al
min.			3.80	0.30	1.20						Rem
max.	0.50	0.50	4.90	0.90	1.80	0.10	0.25	0.15	0.05	0.15	

Mechanical Properties (minimum values unless stated)

*Temper	MPa R_m	MPa $R_{p0,2}$	Elongation A (%)	Hardness HBW Typical
T3	420	290	8	120
T351	420	290	8	120

*Examples based on plate thickness of 40 to 80mm.

Properties as per BS EN 485-2

Physical Properties

Temper	T3
Density (g/cm³)	2.77
Melting Range (°C)	500 - 640
Electrical Conductivity (20°C, % IACS)	30
Thermal Conductivity (% IACS)	38.4
Modulus of Elasticity (x10³, N/mm²)	73

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