

Aluminium Alloy

QQ-A-250 / 4 T351 Plate



SPECIFICATIONS

Aerospace	QQ-A-250/4 T351
Commercial	2024

A medium to high strength alloy with, dependent upon temper, minimum Proof Stress up to 57 ksi / 390 Mpa and minimum Tensile Strength up to 66 ksi / 455 MPa

CHEMICAL COMPOSITION

SAE AMS QQ-A-250/4 Alloy QQ A 250/4	
Element	% Present
Copper (Cu)	3.8 - 4.9
Magnesium (Mg)	1.2 - 1.8
Manganese (Mn)	0.3 - 0.9
Silicon (Si)	0.5 max
Iron (Fe)	0.5 max
Zinc (Zn)	0.25 max
Titanium + Zirconium (Ti+Zr)	0.2 max
Titanium (Ti)	0.15 max
Others (Total)	0.15 max
Chromium (Cr)	0.1 max
Other (Each)	0.05 max
Aluminium (Al)	Balance

ALLOY DESIGNATIONS

Aluminium alloy QQ-A-250/4 has similarities to the following standard designations and specifications **but may not be a direct equivalent:**
AMS 4035, Alloy 2024, UNS A92024

TEMPER TYPES

Alloy QQ-A-250/4 is supplied in a wide range of tempers:

T351 is intended to provide material with low residual stresses and thus minimal distortion during machining, but does not provide optimal corrosion resistance.

- O - Soft
- T3 - Solution heat treated, cold worked and naturally aged
- T42 - Solution heat treated and naturally aged to a substantially stable condition
- T81 - Solution heat treated, cold worked then artificially aged
- T351 - Solution heat treated then stress relieved by stretching. Equivalent to T4 condition.
- T4 - Solution heat treated and naturally aged to a substantially stable condition
- T62 - Solution heat treated then artificially aged by the user
- T851 - Solution heat treated then stress relieved by stretching then artificially aged.
- T361 - Solution heat treated then stress relieved by stretching.
- T72 - Solution heat treated then specially artificially aged for resistance to stress corrosion
- T861

SUPPLIED FORMS

Alloy QQ-A-250/4 T351 is supplied in plate and sheet

- Plate
- Sheet

GENERIC PHYSICAL PROPERTIES

Property	Value
Density	2.79 g/cm ³
Melting Point	640 °C
Thermal Expansion	23.1 x10 ⁻⁶ /K
Modulus of Elasticity	73 GPa
Thermal Conductivity	121-150 W/m.K
Electrical Resistivity	30-40 % IACS

'Typical' Physical Properties are given

MECHANICAL PROPERTIES

The Mechanical Properties given are for Plate in the T351 temper.

Thickness (mm)	Proof Strength (Min)	Tensile strength (Min)	Elongation % (Min)
Over 6.6 up to & incl. 12.6	290	441	12
12.7 up to & incl. 25.4	290	434	8
Over 25.4 up to & incl. 38.1	290	427	7
Over 38.1 up to & incl. 50.8	290	427	6
Over 50.8 up to & incl. 76.2	290	414	4
Over 76.2 up to & incl. 101.6	283	393	4

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REVISION HISTORY

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This Data is indicative only and as such is not to be relied upon in place of the full specification. In particular, mechanical property requirements vary widely with temper, product and product dimensions. All information is based on our present knowledge and is given in good faith. No liability will be accepted by the Company in respect of any action taken by any third party in reliance thereon.

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