Aluminium Alloy
QQ-A-250/12 T651 Plate

SPECIFICATIONS

Commercial	7075

A high strength aerospace aluminium alloy with, depending upon temper, Yield Strength of up to 54ksi (370 MPa) and Tensile Strength of up to 67 ksi (460 MPa)

CHEMICAL COMPOSITION

SAE AMS QQ-A-250/12
Alloy QQ A 250/12

Element	% Present
Zinc (Zn)	5.1 - 6.1
Magnesium (Mg)	2.1 - 2.9
Copper (Cu)	1.2 - 2
Iron (Fe)	0.5 max
Silicon (Si)	0.4 max
Manganese (Mn)	0.3 max
Chromium (Cr)	0.18 - 0.28
Titanium (Ti)	0.2 max
Others (Total)	0.15 max
Other (Each)	0.05 max
Aluminium (Al)	Balance

ALLOY DESIGNATIONS

Aluminium alloy QQ-A-250/12 has similarities to the following standard designations and specifications **but may not be a direct equivalent:**
AMS 4044, Alloy 7075, UNS A97075

TEMPER TYPES

Alloy QQ-A-250/12 is supplied in a wide range of tempers:

- O - Soft
- T351 - Solution heat treated then stress relieved by stretching. Equivalent to T4 condition.
- T6 - Solution heat treated and artificially aged
- T62 - Solution heat treated then artificially aged by the user
- T651 - Solution heat treated, stress relieved by stretching then artificially aged
- T6510 - Solution heat treated and stress-relieved by stretching then artificially aged with no straightening after aging
- T73 - Solution heat treated then specially artificially aged for resistance to stress corrosion
- T7351 - Solution heat treatment then specially artifically aged for resistance to stress corrosion.

SUPPLIED FORMS

Alloy QQ-A-250/12 T651 is supplied in sheet and plate

- Sheet
- Plate

GENERIC PHYSICAL PROPERTIES

Property	Value
Density	2.81 g/cm³
Melting Point	635 °C
Thermal Expansion	23.5 x10^{-6} /K
Modulus of Elasticity	72 GPa
Thermal Conductivity	134-160 W/m.K
Electrical Resistivity	40 % IACS

'Typical' Physical Properties are given

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MECHANICAL PROPERTIES

The Mechanical Properties given are for Plate in the T651 temper

Thickness (mm)	Proof Strength (Min)	Tensile Strength (Min)	Elongation % (Min)
Over 6.3 up to & incl. 12.6	462	538	9
12.7 up to & incl. 25.4	469	538	7
Over 25.4 up to & incl. 50.8	462	531	6
Over 50.8 up to & incl. 63.5	441	524	5
Over 63.5 up to & incl. 76.2	421	496	5
Over 76.2 up to & incl. 88.9	400	490	5
Over 88.9 up to & incl. 101.6	372	462	3

CONTACT

Address: (incorporated in the USA)
Tel: +44 (0)1371 811 642
Email: info@aerometalsalliance.com

REVISION HISTORY

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DISCLAIMER

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.

Please note that the 'Datasheet Update' date shown above is no guarantee of accuracy or whether the datasheet is up to date.

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Material supplied by the Company may vary significantly from this data, but will conform to all relevant and applicable standards.

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