

# Aluminium Alloy QQ-A250/12 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 artificially 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/cm <sup>3</sup>
Melting Point	635 °C
Thermal Expansion	23.5 x10 <sup>-6</sup> /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

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### REVISION HISTORY

Datasheet Updated 19 March 2023

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