



Aluminium Alloy - QQ-A-250/11 T651 Plate

SPECIFICATIONS

Commercial	6061
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A medium strength aerospace aluminium alloy with, depending upon temper, Yield Strength of up to 35 ksi (240 MPa) and Tensile Strength of 42 ksi (290 MPa)

CHEMICAL COMPOSITION

SAE AMS QQ-A-250/11 Alloy QQ A250/11	
Element	% Present
Magnesium (Mg)	0.8 - 1.2
Silicon (Si)	0.4 - 0.8
Iron (Fe)	0.7 max
Copper (Cu)	0.15 - 0.4
Chromium (Cr)	0.04 - 0.35
Zinc (Zn)	0.25 max
Manganese (Mn)	0.15 max
Titanium (Ti)	0.15 max
Others (Total)	0.15 max
Other (Each)	0.05 max
Aluminium (Al)	Balance

ALLOY DESIGNATIONS

Aluminium alloy QQ-A-250/11 has similarities to the following standard designations and specifications **but may not be a direct equivalent:**

Alloy 6061, UNS A96061, ASTM B209, AMS 4026, AMS 4027

TEMPER TYPES

Alloy QQ-A-250/11 is supplied in a wide range of tempers:

- O - Soft
- T4 - Solution heat treated and naturally aged to a substantially stable condition
- T42 - Solution heat treated and naturally aged to a substantially stable condition
- T451 - Solution heat treated then stress relieved by stretching. Equivalent to T4.
- 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

SUPPLIED FORMS

Alloy QQ-A-250/11 T651 is supplied in plate and sheet

- Plate
- Sheet

GENERIC PHYSICAL PROPERTIES

Property	Value
Density	2.7 g/cm ³
Melting Point	650 °C
Thermal Expansion	23.4 x10 ⁻⁶ /K
Modulus of Elasticity	70 GPa
Thermal Conductivity	166 W/m.K
Electrical Resistivity	0.04 x10 ⁻⁶ Ω .m

'Typical' Physical Properties are shown



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MECHANICAL PROPERTIES

The Mechanical Properties give are for T651 Plate.

Thickness (mm)	Proof strength (Min)	Tensile Strength (Min)	Elongation % (Min)
Over 6.3 up to & incl. 12.6	241	290	10
12.7 up to & incl. 25.4	241	290	9
Over 25.4 up to & incl. 50.8	241	290	8
Over 50.8 up to & incl. 76.2	241	290	6
Over 76.2 up to & incl. 101.6	241	290	6

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REVISION HISTORY

Datasheet Updated 17 January 2014

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.

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