

### SPECIFICATIONS

|            |                 |
|------------|-----------------|
| Aerospace  | QQ-A-225/8 T651 |
| Commercial | 6061            |

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). This alloy is selected where a combination of strength, weldability and workability are required.

### CHEMICAL COMPOSITION

| SAE AMS QQ-A-225/8<br>Alloy QQ A 225/8 |             |
|--|-------------|
| 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-225/8 has similarities to the following standard designations and specifications **but may not be a direct equivalent:**

AMS 4113, AMS 4115, Alloy 6061, UNS A96061

### TEMPER TYPES

Alloy QQ-A-225/8 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-225/8 is supplied in bar, rod, wire, tube and extruded sections:

- Bar
- Extrusions

### GENERIC PHYSICAL PROPERTIES

| Property               | Value                        |
|------------------------|------------------------------|
| Density                | 2.70 g/cm <sup>3</sup>       |
| Melting Point          | 650 °C                       |
| Thermal Expansion      | 23.4 x10 <sup>-6</sup> /K    |
| Modulus of Elasticity  | 70 GPa                       |
| Thermal Conductivity   | 166 W/m.K                    |
| Electrical Resistivity | 0.040 x10 <sup>-6</sup> Ω .m |

*'Typical' Physical Properties are given*

### MECHANICAL PROPERTIES

| SAE AMS QQ-A-225/8<br>Bar<br>12.7mm to 203.2mm |             |
|--|-------------|
| Property                                       | Value       |
| Proof Stress                                   | 241 Min MPa |
| Tensile Strength                               | 290 Min MPa |
| Elongation A50 mm                              | 10 Min %    |

*These Mechanical Properties apply to Bar in diameters 12.7mm to 203mm in the T651 temper*

## CONTACT

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## REVISION HISTORY

|                   |                 |
|-------------------|-----------------|
| Datasheet Updated | 14 January 2019 |
|-------------------|-----------------|

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