



## ASM Aerospace Specification Metals Inc.

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### Titanium Ti-8Al-1Mo-1V (Ti-8-1-1), Beta Solution Treated

**Subcategory:** Alpha/Near Alpha Titanium Alloy; Metal; Nonferrous Metal; Titanium Alloy

**Key Words:** Ti8Al1Mo1V, UNS R54810; Ti-811

#### Component Wt. %

Al	8
Mo	1
Ti	90
V	1

#### Material Notes:

Information provided by Allvac and the references. ST 1065°C then quenched.

**Applications:** Fan & compressor blades, discs, spacers, seals, rings. Excellent creep resistance.

Physical Properties	Metric	English	Comments
Density	<u>4.37 g/cc</u>	0.158 lb/in <sup>3</sup>	
<b>Mechanical Properties</b>			
Tensile Strength, Yield	<u>870 MPa</u>	126000 psi	
Modulus of Elasticity	<u>120 GPa</u>	17400 ksi	unspecified heat treatment
Poisson's Ratio	0.32	0.32	duplex annealed
Fracture Toughness	<u>Min 110 MPa-m<sup>1/2</sup></u>	Min 100 ksi-in <sup>1/2</sup>	K(IC)
Shear Modulus	<u>46 GPa</u>	6670 ksi	

#### Electrical Properties

Electrical Resistivity	<u>0.000197 ohm-cm</u>	0.000197 ohm-cm
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#### Thermal Properties

CTE, linear 20°C	<u>8.5 μm/m-°C</u>	4.72 μin/in-°F	
CTE, linear 250°C	<u>9.2 μm/m-°C</u>	5.11 μin/in-°F	
CTE, linear 500°C	<u>10.1 μm/m-°C</u>	5.61 μin/in-°F	
Specific Heat Capacity	<u>0.502 J/g-°C</u>	0.12 BTU/lb-°F	
Thermal Conductivity	<u>6 W/m-K</u>	41.6 BTU-in/hr-ft <sup>2</sup> -°F	
Melting Point	<u>Max 1540 °C</u>	Max 2800 °F	Liquidus
Liquidus	<u>1540 °C</u>	2800 °F	
Beta Transus	<u>1040 °C</u>	1900 °F	

### **References** for this datasheet.

Some of the values displayed above may have been converted from their original units and/or rounded in order to display the information in a consistent format. Users requiring more precise data for scientific or engineering calculations can click on the property value to see the original value as well as raw conversions to equivalent units. We advise that you only use the original value or one of its raw conversions in your calculations to minimize rounding error.