



ASM Aerospace Specification Metals Inc.



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Titanium Ti-8Al-1Mo-1V (Ti-8-1-1), ST 980°C (1800°F), Aged 595°C

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.

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 ³	

Mechanical Properties

Tensile Strength, Ultimate	<u>1180 MPa</u>	171000 psi	
Tensile Strength, Yield	<u>1070 MPa</u>	155000 psi	
Elongation at Break	<u>17 %</u>	17 %	
Reduction of Area	<u>26 %</u>	26 %	
Modulus of Elasticity	<u>120 GPa</u>	17400 ksi	unspecified heat treatment
Poisson's Ratio	0.32	0.32	duplex annealed
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 $\mu\text{m}/\text{m}\cdot^\circ\text{C}$</u>	4.72 $\mu\text{in}/\text{in}\cdot^\circ\text{F}$	
CTE, linear 250°C	<u>9.2 $\mu\text{m}/\text{m}\cdot^\circ\text{C}$</u>	5.11 $\mu\text{in}/\text{in}\cdot^\circ\text{F}$	
CTE, linear 500°C	<u>10.1 $\mu\text{m}/\text{m}\cdot^\circ\text{C}$</u>	5.61 $\mu\text{in}/\text{in}\cdot^\circ\text{F}$	
Specific Heat Capacity	<u>0.502 J/g$\cdot^\circ\text{C}$</u>	0.12 BTU/lb $\cdot^\circ\text{F}$	
Thermal Conductivity	<u>6 W/m-K</u>	41.6 BTU-in/hr-ft $^2\cdot^\circ\text{F}$	
Melting Point	<u>Max 1540 $^\circ\text{C}$</u>	Max 2800 $^\circ\text{F}$	Liquidus
Liquidus	<u>1540 $^\circ\text{C}$</u>	2800 $^\circ\text{F}$	
Beta Transus	<u>1040 $^\circ\text{C}$</u>	1900 $^\circ\text{F}$	

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. We also ask that you refer to MatWeb's [disclaimer and terms of use](#) regarding this information. MatWeb data and tools provided by [MatWeb, LLC](#).