



ASM Aerospace Specification Metals Inc.



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Titanium Ti-15V-3Cr-3Al-3Sn ST 790°C, Aged 480°C

**Subcategory:** Beta Titanium Alloy; Metal; Nonferrous Metal; Titanium Alloy

**Key Words:** Titanium Ti-15-3

**Component**    **Wt. %**

Al	3
Cr	3
Sn	3
Ti	76
V	15

**Material Notes:**

ST=solution Treated

Physical Properties	Metric	English	Comments
Density	<u>4.76 g/cc</u>	0.172 lb/in <sup>3</sup>	

**Mechanical Properties**

Hardness, Vickers	370	370	
Tensile Strength, Ultimate	<u>1380 MPa</u>	200000 psi	
Tensile Strength, Yield	<u>1250 MPa</u>	181000 psi	
Elongation at Break	<u>6 %</u>	6 %	
Modulus of Elasticity	<u>100 GPa</u>	14500 ksi	Sample was ST 790°C, Aged 510°C
Ultimate Bearing Strength	<u>2270 MPa</u>	329000 psi	e/D = 2
Bearing Yield Strength	<u>1910 MPa</u>	277000 psi	e/D = 2
Poisson's Ratio	0.33	0.33	Typical for beta titanium alloy.
Fracture Toughness	<u>44 MPa-m<sup>1/2</sup></u>	40 ksi-in <sup>1/2</sup>	K(IC)
Shear Modulus	<u>37.6 GPa</u>	5450 ksi	Calculated from typical values.

**Electrical Properties**

Electrical Resistivity	<a href="#">0.00014 ohm-cm</a>	0.00014 ohm-cm
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### Thermal Properties

CTE, linear 20°C	<a href="#">8.5 <math>\mu\text{m}/\text{m}\cdot^\circ\text{C}</math></a>	4.72 $\mu\text{in}/\text{in}\cdot^\circ\text{F}$	20-95°C
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CTE, linear 250°C	<a href="#">9.1 <math>\mu\text{m}/\text{m}\cdot^\circ\text{C}</math></a>	5.06 $\mu\text{in}/\text{in}\cdot^\circ\text{F}$
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CTE, linear 500°C	<a href="#">9.8 <math>\mu\text{m}/\text{m}\cdot^\circ\text{C}</math></a>	5.44 $\mu\text{in}/\text{in}\cdot^\circ\text{F}$
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Specific Heat Capacity	<a href="#">0.5 J/g<math>\cdot^\circ\text{C}</math></a>	0.12 BTU/lb $\cdot^\circ\text{F}$	at 20°C. Value at 400°C is 0.649 J/g $\cdot^\circ\text{C}$
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Thermal Conductivity	<a href="#">8.08 W/m-K</a>	56.1 BTU-in/hr-ft $^2\cdot^\circ\text{F}$
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Beta Transus	<a href="#">760 <math>^\circ\text{C}</math></a>	1400 $^\circ\text{F}$
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### 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.