

Component WT%

Al	Ti	V
3	95	2.5

Physical Properties	Metric	English	Comments
Density	4.48 g/cc	0.162 lb/in ³	
Mechanical Properties			
Hardness, Brinell	256	256	Estimated from Rockwell C
Hardness, Knoop	278	278	Estimated from Rockwell C
Hardness, Rockwell C	24	24	
Hardness, Vickers	280	280	
Tensile Strength, Ultimate	620 MPa	899000 psi	
Tensile Strength, Yield	500 MPa	725000 psi	
Elongation at Break	15 %	15 %	
Modulus of Elasticity	100 Gpa	14500 ksi	
Compressive Yield Strength	690 MPa	100000 psi	
Notched Tensile Strength	790 MPa	115000 psi	Kt (stress concentration factor) = 6.3
Poisson's Ratio	0.3	0.3	
Charpy Impact	86 J	63.4 ft-lb	V-notch
Fatigue Strength	170 MPa	24700 psi	at 1E+7 cycles. Kt (stress concentration factor) = 1.8
Fatigue Strength	280 MPa	40600 psi	50,000 cycles. cycles. Kt (stress concentration factor) = 1.8
Fatigue Strength	280 MPa	40600 psi	1E+7 cycles, Unnotched
Fatigue Strength	380 MPa	55100 psi	40,000 cycles, Unnotched
Fracture Toughness	100 MPa-m ^{1/2}	91 ksi-in ^{1/2}	KJ/m ² for J(IC)
Shear Modulus	44 GPa	6380 ksi	
Electrical Properties			
Electrical Resistivity	0.000127 ohm-cm	0.000127 ohm-cm	
Thermal Properties			
CTE, linear 20°C	9.61 µm/m-°C	5.34 µin/in-°F	20-95°C
CTE, linear 250°C	9.86 µm/m-°C	5.48 µin/in-°F	20-315°C; 9.67 in range 20-205°C
CTE, linear 500°C	9.97 µm/m-°C	5.54 µin/in-°F	Average over the range 20-540°C
Specific Heat Capacity	0.525 J/g-°C	0.125 BTU/lb-°F	Typical value for titanium alloys.
Thermal Conductivity	8.3 W/m-K	57.6 BTU-in/hr-ft ² -°F	Value at 315° is 11.8 W/m-°C
Melting Point	Max 1700°C	Max 3090 °F	Liquidus
Liquidus	1700 °C	3090 °F	
Beta Transus	935 °C	1720 °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.

MATERIAL NOTES:

Alpha annealed
Subcategory: Alpha/Near Alpha Titanium Alloy; Metal; Nonferrous Metal; Titanium Alloy
Key Words: Ti3Al2.5V; UNS R56320; ASTM Grade 9; Half 6-4; Tubing Alloy
Applications: Excellent cold formability, 20-50% higher tensile properties than C.P. titanium grades. Primarily used in aircraft hydraulic systems