

Component WT%

C Max	Fe Max	H Max	N Max	O Max	Ti
0.1	0.5	0.015	0.05	0.4	99

Physical Properties	Metric	English	Comments
Density	4.51 g/cc	0.163 lb/in ³	
Mechanical Properties			
Hardness, Brinell	265	265	
Hardness, Knoop	296	296	Estimated from Brinell
Hardness, Rockwell B	104	104	
Hardness, Rockwell C	23	23	Estimated from Brinell
Hardness, Vickers	280	280	Estimated from Brinell
Tensile Strength, Ultimate	660 MPa	95700 psi	
Tensile Strength, Yield	590 MPa	85600 psi	
Elongation at Break	20 %	20 %	
Modulus of Elasticity	105 GPa	15200 ksi	Unspecified heat treatment in tension
Compressive Modulus	110 GPa	16000 ksi	Unspecified heat treatment
Notched Tensile Strength	900 MPa	131000 psi	Kt (stress concentration factor) = 3.0
Ultimate Bearing Strength	930 MPa	135000 psi	e/D = 2
Bearing Yield Strength	660 MPa	95700 psi	e/D = 2
Poisson's Ratio	0.34	0.34	
Shear Modulus	39 GPa	5660 ksi	
Electrical Properties			
Electrical Resistivity	6e-005 ohm-cm	6e-005 ohm-cm	
Thermal Properties			
Heat of fusion	325 J/g	140BTU/lb	High purity Ti.
CTE, linear 20°C	8.6 µm/m-°C	4.78 µin/in-°F	20-93°C
CTE, linear 250°C	9.2 µm/m-°C	5.11 µin/in-°F	Unspecified heat treatment. Average over the range 0-315°C
Specific Heat Capacity	0.54 J/g-°C	0.129 BTU/lb-°F	
Thermal Conductivity	16.9 W/m-K	117 BTU-in/hr-ft ² -°F	
Melting Point	Max 1660 °C	Max 3030 °F	Liquidus
Liquidus	1665 °C	3020 °F	
Beta Transus	950°C	1740°F	
Optical Properties			
Emissivity (0-1)	0.3	0.3	High purity Ti at 710°C
Reflection Coefficient, Visible (0-1)	0.56	0.56	High purity Ti; visible light

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:

Subcategory: Metal, Nonferrous Metal; Titanium alloy; Unalloyed/Modified Titanium

Close Analogs: Titanium grades 1,2,3,4,7,11 and 12 are all considered unalloyed and have similar mechanical properties

Key Words: ASTM Grade 4; UNS R50700, C.P. Titanium, C.P. Titanium alloy

Applications: Airframe components, cryogenic vessels, heat exchangers, CPI equipment, condenser tubing, pickling baskets. Sample was annealed 2 hr at 700°C.