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Titanium Ti-6Al-2Sn-4Zr-2Mo (Ti-6-2-4-2), Sheet

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

Key Words: Ti6Al2Sn4Zr2Mo, Ti-6242; Ti-6-2-4-2; UNS R54620

Component	Wt. %
Al	6
Mo	2
Ti	88
Zr	4

Material Notes:

Unspecified heat treatment. Alpha Alloy. Silicon is often added to improve creep resistance (See Ti-6242S).

Applications: High-temp jet engines. Blades, discs, spacers, seals. High performance automotive valves.

Physical Properties	Metric	English	Comments
Density	<u>4.54 g/cc</u>	0.164 lb/in ³	

Mechanical Properties

Hardness, Brinell	318	318	Estimated from Rockwell C
Hardness, Knoop	346	346	Estimated from Rockwell C
Hardness, Rockwell C	34	34	Estimated from similar material
Hardness, Vickers	333	333	Estimated from Rockwell C
Tensile Strength, Ultimate	<u>1010 MPa</u>	146000 psi	
Tensile Strength, Yield	<u>990 MPa</u>	144000 psi	
Elongation at Break	<u>3 %</u>	3 %	

Modulus of Elasticity	120 GPa	17400 ksi	In T
Compressive Yield Strength	1080 MPa	157000 psi	0.2 % Permane
Compressive Modulus	130 GPa	18900 ksi	
Poisson's Ratio	0.32	0.32	duplex an
Fracture Toughness	148 MPa-m^{1/2}	135 ksi-in ^{1/2}	Plane-
Shear Modulus	45.5 GPa	6600 ksi	Calo
Shear Strength	690 MPa	100000 psi	Ultimate shear st

Electrical Properties

Electrical Resistivity	0.00019 ohm-cm	0.00019 ohm-cm
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Thermal Properties

CTE, linear 20°C	7.7 μm/m-°C	4.28 μin/in-°F	20-
CTE, linear 250°C	8.1 μm/m-°C	4.5 μin/in-°F	Average over the range 20-
CTE, linear 500°C	8.1 μm/m-°C	4.5 μin/in-°F	Average over the range 20-
Specific Heat Capacity	0.46 J/g-°C	0.11 BTU/lb-°F	
Thermal Conductivity	7.1 W/m-K	49.3 BTU-in/hr-ft ² -°F	
Melting Point	Max 1700 °C	Max 3090 °F	Liquidus; Estimated from similar ma
Liquidus	1700 °C	3090 °F	Estimated from similar ma
Beta Transus	990 °C	1810 °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. If you require more precise data for scientific or engineering calculations you 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.