TIMET TIMETAL® 3-2.5 Titanium Alloy (Ti-3Al-2.5V; ASTM Grade 9) Annealed

Category : Metal , Nonferrous Metal , Titanium Alloy , Alpha/Near Alpha Titanium Alloy

Material Notes:

Cold Workable Medium Strength Alloy. UTS, TYS, Elongation, R.A. and bend radius data below are specific to annealed material; other specific condition entries are also available in MatWeb.Features: Cold formable and weldable, this alloy is used primarily for honeycomb foil and hydraulic tubing applications. Industrial applications such as pressure vessels and piping also utilize this alloy. Available with palladium stabilization to enhance corrosion resistance. The alloy is cold formable and easily welded, such like the commercially pure grades of titanium. Yet the alloys offer nearly double the strength over TIMETAL 50A. It is ASME Boiler and Pressure Vessel code approved. It offers the highest structural efficiency of any of the common engineering metals approved by ASME. The alloy is available in all common product forms including billet, bar, plate, sheet, strip, tubing and pipe. It is nonmagnetic.Typical heat treatment for this alloy: Stress Relief: 316-649°C for .5-3 hrs, air cool. Anneal: 649-760°C for 1-3 hrs, air cool. Solution treat: 871-927°C for .25-1 hrs, water quench. Aging: 482-538°C for 2-8 hrs, air cool.Data provided by TIMET.

Order this product through the following link:
http://www.lookpolymers.com/polymer_TIMET-TIMETAL-3-25-Titanium-Alloy-Ti-3Al-25V-ASTM-Grade-9-Annealed.php

Physical Properties	Metric	English	Comments
Density	4.51 g/cc	0.163 lb/in³	Typical

Mechanical Properties	Metric	English	Comments
Tensile Strength, Ultimate	>= 620 MPa	>= 89900 psi	
Tensile Strength, Yield	>= 483 MPa	>= 70100 psi	
Elongation at Break	>= 15 %	>= 15 %	
Reduction of Area	>= 30 %	>= 30 %	
Modulus of Elasticity	105 - 120 GPa	15200 - 17400 ksi	Typical
Poissons Ratio	0.30	0.30	Typical
Shear Modulus	43.0 - 45.0 GPa	6240 - 6530 ksi	
Bend Radius, Minimum	5.0 - 6.0 t	5.0 - 6.0 t	

Thermal Properties	Metric	English	Comments
CTE, linear	9.61 µm/m-°C @Temperature 20.0 - 95.0 °C	5.34 µin/in-°F @Temperature 68.0 - 203 °F	
Thermal Conductivity	8.30 W/m-K @Temperature 20.0 - 95.0 °C	57.6 BTU-in/hr-ft²-°F @Temperature 68.0 - 203 °F	

Thermal Properties	Metric	English	Comments
Liquidus	1700 °C	3090 °F	
Beta Transus	935 °C	1720 °F	

Component Elements Properties	Metric	English	Comments
Aluminum, Al	2.5 - 3.5 %	2.5 - 3.5 %	
Carbon, C	<= 0.080 %	<= 0.080 %	
Hydrogen, H	<= 0.015 %	<= 0.015 %	
Iron, Fe	<= 0.25 %	<= 0.25 %	
Nitrogen, N	<= 0.030 %	<= 0.030 %	
Oxygen, O	<= 0.15 %	<= 0.15 %	
Titanium, Ti	92.6 - 95.5 %	92.6 - 95.5 %	Calculated as remainder
Vanadium, V	2.0 - 3.0 %	2.0 - 3.0 %	

Electrical Properties	Metric	English	Comments
Electrical Resistivity	0.000127 ohm-cm	0.000127 ohm-cm	

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