

## TIMET TIMETAL® 62S Titanium Alloy (Ti-6Al-2Fe-0.1Si); Alpha-Beta Forged, RA

Category : Metal , Nonferrous Metal , Titanium Alloy , Beta Titanium Alloy

### Material Notes:

Low Cost, Multipurpose Alloy. Tensile/toughness property data below for Alpha-Beta Forged, RA material. Features: Properties and processing characteristics equivalent to or better than TIMETAL 6-4, but with significantly higher stiffness (elastic modulus). Due to the use of iron as the beta stabilizer, the alloy has lower formulation costs than TIMETAL 6-4. The combination of reasonable cost and excellent mechanical properties make TIMETAL 62S a practical substitute for many engineering materials. Typical heat treatment for this alloy: Mill Anneal at 760°C for 1-2 hrs, air cool. Data provided by TIMET.

Order this product through the following link:

[http://www.lookpolymers.com/polymer\\_TIMET-TIMETAL-62S-Titanium-Alloy-Ti-6Al-2Fe-01Si-Alpha-Beta-Forged-RA.php](http://www.lookpolymers.com/polymer_TIMET-TIMETAL-62S-Titanium-Alloy-Ti-6Al-2Fe-01Si-Alpha-Beta-Forged-RA.php)

Physical Properties	Metric	English	Comments
Density	4.44 g/cc	0.160 lb/in <sup>3</sup>	Typical

Mechanical Properties	Metric	English	Comments
Tensile Strength, Ultimate	986 MPa	143000 psi	Typical Longitudinal
	1014 MPa	147100 psi	Typical Transverse
Tensile Strength, Yield	945 MPa	137000 psi	Longitudinal, typical
	@Strain 0.200 %	@Strain 0.200 %	
	972 MPa	141000 psi	Transverse, typical
	@Strain 0.200 %	@Strain 0.200 %	
Elongation at Break	16 %	16 %	Typical Transverse in 2 in (50 mm)
	18 %	18 %	Typical Longitudinal in 2 in (50 mm)
Reduction of Area	30 %	30 %	Transverse
	37 %	37 %	Longitudinal
Modulus of Elasticity	128 GPa	18600 ksi	Typical
Fracture Toughness	48.0 MPa-m <sup>1/2</sup>	43.7 ksi-in <sup>1/2</sup>	K(IC); L-T Orientation
	52.0 MPa-m <sup>1/2</sup>	47.3 ksi-in <sup>1/2</sup>	K(IC); T-L Orientation
Bend Radius, Minimum	4.5 t	4.5 t	Typical; sheet
	@Thickness 2.00 mm	@Thickness 0.0787 in	

Thermal Properties	Metric	English	Comments
	8.60 µm/m-°C	4.78 µin/in-°F	

CTE linear Thermal Properties	Metric @ Temperature 20.0 °C	English @ Temperature 68.0 °F	Comments
	9.70 $\mu\text{m}/\text{m}\cdot\text{°C}$	5.39 $\mu\text{in}/\text{in}\cdot\text{°F}$	
	@Temperature 250 °C	@Temperature 482 °F	
	10.6 $\mu\text{m}/\text{m}\cdot\text{°C}$	5.89 $\mu\text{in}/\text{in}\cdot\text{°F}$	
	@Temperature 500 °C	@Temperature 932 °F	
Specific Heat Capacity	0.500 J/g-°C	0.120 BTU/lb-°F	
Thermal Conductivity	8.60 W/m-K	59.7 BTU-in/hr-ft <sup>2</sup> -°F	
Beta Transus	1024 °C	1875 °F	

Component Elements Properties	Metric	English	Comments
Aluminum, Al	5.5 - 6.5 %	5.5 - 6.5 %	
Carbon, C	<= 0.080 %	<= 0.080 %	
Hydrogen, H	<= 0.0125 %	<= 0.0125 %	
Iron, Fe	1.3 - 2.0 %	1.3 - 2.0 %	
Nitrogen, N	<= 0.040 %	<= 0.040 %	
Oxygen, O	0.15 - 0.20 %	0.15 - 0.20 %	
Silicon, Si	0.070 - 0.13 %	0.070 - 0.13 %	
Titanium, Ti	90.7 - 93 %	90.7 - 93 %	Calculated as remainder

Electrical Properties	Metric	English	Comments
Electrical Resistivity	0.000163 ohm-cm	0.000163 ohm-cm	

## Contact Songhan Plastic Technology Co.,Ltd.

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