

## ATI Wah Chang TI-3Al-2.5V

Category : Metal , Nonferrous Metal , Titanium Alloy

**Material Notes:**

Ti-3Al-2.5V has proved to be a sufficiently malleable material for tube manufacture. It can be cold worked by standard tube making processes, is weldable and can be strength-ended by cold working and subsequent heat treatment to a wide range of strengths and ductilities. Information provided by ATI Wah Chang

Order this product through the following link:

[http://www.lookpolymers.com/polymer\\_ATI-Wah-Chang-TI-3Al-25V.php](http://www.lookpolymers.com/polymer_ATI-Wah-Chang-TI-3Al-25V.php)

Physical Properties	Metric	English	Comments
Density	4.48 g/cc	0.162 lb/in <sup>3</sup>	

Mechanical Properties	Metric	English	Comments
Tensile Strength, Ultimate	490 MPa	71000 psi	Annealed
	@Temperature 249 °C	@Temperature 480 °F	
	565 MPa	82000 psi	
	@Temperature 149 °C	@Temperature 300 °F	Annealed
	621 MPa	90000 psi	
	@Temperature 23.0 °C	@Temperature 73.4 °F	
	717 MPa	104000 psi	Cold Worked
	@Temperature 249 °C	@Temperature 480 °F	
	786 MPa	114000 psi	Cold Worked
	@Temperature 149 °C	@Temperature 300 °F	
	896 MPa	130000 psi	
	@Temperature 23.0 °C	@Temperature 73.4 °F	
Tensile Strength, Yield	379 MPa	55000 psi	Annealed
	@Temperature 249 °C	@Temperature 480 °F	
	455 MPa	66000 psi	
	@Temperature 149 °C	@Temperature 300 °F	Annealed
	496 MPa	72000 psi	
	@Temperature 23.0 °C	@Temperature 73.4 °F	
	586 MPa	85000 psi	Cold Worked
	@Temperature 249 °C	@Temperature 480 °F	

Mechanical Properties	Metric <sup>Pa</sup>	English <sup>psi</sup>	Comments
	@Temperature 149 °C	@Temperature 300 °F	Cold Worked
	758 MPa	110000 psi	
	@Temperature 23.0 °C	@Temperature 73.4 °F	
Elongation at Break	15 %	15 %	in 50 mm, Cold Worked
	@Temperature 250 °C	@Temperature 482 °F	
	17 %	17 %	in 50 mm, Cold Worked
	@Temperature 150 °C	@Temperature 302 °F	
	19 %	19 %	
	@Temperature 23.0 °C	@Temperature 73.4 °F	
	23 %	23 %	in 50 mm, Annealed
	@Temperature 250 °C	@Temperature 482 °F	
	25 %	25 %	in 50 mm, Annealed
	@Temperature 150 °C	@Temperature 302 °F	
	29 %	29 %	
	@Temperature 23.0 °C	@Temperature 73.4 °F	
Modulus of Elasticity	96.53 GPa	14000 ksi	
	@Temperature 788 °C	@Temperature 1450 °F	
	103.4 GPa	15000 ksi	
	@Temperature 23.0 °C	@Temperature 73.4 °F	
Poissons Ratio	0.30	0.30	
Shear Modulus	42.7 - 44.8 GPa	6200 - 6500 ksi	

Thermal Properties	Metric	English	Comments
CTE, linear	9.54 $\mu\text{m}/\text{m}\cdot\text{°C}$	5.30 $\mu\text{in}/\text{in}\cdot\text{°F}$	
	@Temperature 20.0 °C	@Temperature 68.0 °F	
Melting Point	1700 °C	3090 °F	
Beta Transus	935 °C	1720 °F	

Component Elements Properties	Metric	English	Comments
Aluminum, Al	3.0 %	3.0 %	

Titanium Ti Component Elements Properties	94.5 % Metric	94.5 % English	Comments
Vanadium, V	2.5 %	2.5 %	

Electrical Properties	Metric	English	Comments
Electrical Resistivity	0.000126 ohm-cm	0.000126 ohm-cm	

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