ATI Wah Chang Vanadium

Category : Metal

Material Notes:

Vanadium is widely dispersed in the earths crust occurring in many types of deposits. Most vanadium is currently obtained as a by-product or co product from titanomagnetites, petroleum, uranium ores, and phosphate rock. Table 1 shows the abundance of vanadium in the earths crust relative to some familiar elements.Applications: For many years, the major application for vanadium has been as a micro-alloying element for steel products. Added in amounts between 0.01% to 0.1%, vanadium lowers the ductile to brittle transition temperature of steel and increases toughness. Vanadium is currently being used in the production of high-strength low-alloy (HSLA) steels for applications in the automobile industry and the Alaskan pipeline where high strength to weight ratios are important.Information provided by ATI Wah Chang

Order this product through the following link:
http://www.lookpolymers.com/polymer_ATI-Wah-Chang-Vanadium.php

Physical Properties	Metric	English	Comments
Density	6.12 g/cc	0.221 lb/in³	
Molecular Weight	50.942 g/mol	50.942 g/mol	

Mechanical Properties	Metric	English	Comments
Hardness, Brinell	60	60	Electron beam ingot
Tensile Strength, Ultimate	200 - 241 MPa	29000 - 35000 psi	Annealed Sheet
Tensile Strength, Yield	124 - 172 MPa @Strain 0.200 %	18000 - 25000 psi @Strain 0.200 %	Annealed Sheet
Elongation at Break	35 - 60 %	35 - 60 %	Annealed Sheet, in 2 inches
Modulus of Elasticity	137.9 GPa	20000 ksi	
Poissons Ratio	0.36	0.36	
Shear Modulus	50.7 GPa	7350 ksi	Calculated

Thermal Properties	Metric	English	Comments
CTE, linear	8.30 µm/m-°C @Temperature 23.0 - 100 °C	4.61 µin/in-°F @Temperature 73.4 - 212 °F	
Thermal Conductivity	30.914 W/m-K @Temperature 100 °C	214.53 BTU-in/hr-ft²-°F @Temperature 212 °F	
Melting Point			

Thermal Properties	Metric	English	Comments
	1900 °C	3450 °F	
Boiling Point	3400 °C	6150 °F	

Electrical Properties	Metric	English	Comments
Electrical Resistivity	0.0000248 - 0.0000260 ohm-cm	0.0000248 - 0.0000260 ohm-cm	
Magnetic Susceptibility	1.40e+6	1.40e+6	Paramagnetic
Critical Superconducting Temperature	4.46 K	4.46 K	H.R.E.

Chemical Properties	Metric	English	Comments
Atomic Number	23	23	

Processing Properties	Metric	English	Comments
Recrystallization Temperature	800 - 1010 °C	1470 - 1850 °F	

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