

Materion AlBeMet® AM 162 HIP'd Billet, Annealed

Category : Metal , Metal Matrix Composite , Nonferrous Metal , Beryllium Alloy

Material Notes:

This is a powder metallurgical product produced by gas atomization available as rod, bar, tube and sheet. These shapes are derived by consolidating the Al/Be powder by hot isostatic pressing (HIP) and cold isostatic pressing (CIP) followed by extrusion or sheet rolling processes. The material is also available as an investment casting under the name AlBeCast. Used for heat sinks and structural parts in aircraft and satellite avionics because of its low density, high modulus, high thermal conductivity, low CTE, thermal stability and isotropic properties. Please note that there are health hazards associated with beryllium, especially when present as airborne particles generated during processing. As with any material, be aware of hazards and take steps to reduce exposure to a safe level. Information provided by Brush Wellman. Brush Engineered Materials Inc. changed its name to Materion Corporation in March 2011.

Order this product through the following link:

http://www.lookpolymers.com/polymer_Materion-AlBeMet-AM-162-HIPd-Billet-Annealed.php

Physical Properties	Metric	English	Comments
Density	2.071 g/cc	0.07482 lb/in ³	

Mechanical Properties	Metric	English	Comments
Tensile Strength, Ultimate	>= 262 MPa	>= 38000 psi	Minimum
	307 MPa	44500 psi	Typical
Tensile Strength, Yield	>= 193 MPa	>= 28000 psi	Minimum
	226 MPa	32800 psi	Typical
Elongation at Break	>= 2.0 %	>= 2.0 %	Minimum
	5.0 %	5.0 %	Typical
Modulus of Elasticity	193 GPa	28000 ksi	
Poissons Ratio	0.17	0.17	
Shear Modulus	82.0 GPa	11900 ksi	calculated

Thermal Properties	Metric	English	Comments
CTE, linear	13.91 Åµm/m-Å°C	7.728 Åµin/in-Å°F	
	@Temperature 25.0 Å°C	@Temperature 77.0 Å°F	
Specific Heat Capacity	1.56 J/g-Å°C	0.373 BTU/lb-Å°F	
	@Temperature 20.0 Å°C	@Temperature 68.0 Å°F	

Thermal Properties	Metric	English	Comments
Melting Point	1082 °C	1980 °F	

Component Elements Properties	Metric	English	Comments
Aluminum, Al	38 %	38 %	As remainder
Beryllium, Be	60 - 64 %	60 - 64 %	
Carbon, C	0.00 - 0.10 %	0.00 - 0.10 %	
Other, each	0.00 - 0.20 %	0.00 - 0.20 %	
Oxygen, O	0.00 - 1.0 %	0.00 - 1.0 %	

Electrical Properties	Metric	English	Comments
Electrical Resistivity	0.00000350 ohm-cm @Temperature 20.0 °C	0.00000350 ohm-cm @Temperature 68.0 °F	

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