

IBC Advanced Alloys Beralcast® 310 Beryllium-Aluminum Alloy

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

Material Notes:

This alloy, a metal matrix composite, consisting of between 60 and 70% Be (by weight) is a wrought product offered by IBC Engineered Materials to be used in the process of manufacturing extrusions for a broad spectrum of industries. BeAl-310 is used primarily for select directional, higher strength applications. Information provided by IBC Advanced Alloys

Order this product through the following link:

http://www.lookpolymers.com/polymer_IBC-Advanced-Alloys-Beralcast-310-Beryllium-Aluminum-Alloy.php

Physical Properties	Metric	English	Comments
Density	2.16 g/cc	0.0780 lb/in ³	

Mechanical Properties	Metric	English	Comments
Tensile Strength, Ultimate	426.1 MPa	61800 psi	
Tensile Strength, Yield	325.4 MPa	47200 psi	
Elongation at Break	13.2 %	13.2 %	Longitudinal
Modulus of Elasticity	202 GPa	29300 ksi	in tension
Compressive Yield Strength	318.5 MPa	46190 psi	
Bearing Yield Strength	566.1 MPa	82110 psi	Pin Type (e/D = 2.0)
Fatigue Strength	220.6 MPa @# of Cycles 1.00e+7	32000 psi @# of Cycles 1.00e+7	Axial (R = -1.0)
Shear Strength	299.9 MPa	43500 psi	Pin Double Shear Strength

Thermal Properties	Metric	English	Comments
CTE, linear	13.2 Åµm/m-Å°C @Temperature 25.0 Å°C	7.33 Åµin/in-Å°F @Temperature 77.0 Å°F	Longitudinal
Specific Heat Capacity	1.423 J/g-Å°C	0.3402 BTU/lb-Å°F	
Thermal Conductivity	180 W/m-K	1250 BTU-in/hr-ftÅ²-Å°F	Longitudinal
Melting Point	585 Å°C	1090 Å°F	
Liquidus	585 Å°C	1090 Å°F	

Component Elements Properties	Metric	English	Comments
Aluminum, Al	26.6 - 38.5 %	26.6 - 38.5 %	
Beryllium, Be	60 - 70 %	60 - 70 %	
Cobalt, Co	<= 0.20 %	<= 0.20 %	
Germanium, Ge	<= 0.20 %	<= 0.20 %	
Iron, Fe	<= 0.20 %	<= 0.20 %	
Silicon, Si	<= 0.25 %	<= 0.25 %	
Silver, Ag	1.5 - 2.5 %	1.5 - 2.5 %	

Electrical Properties	Metric	English	Comments
Electrical Resistivity	0.00000410 ohm-cm	0.00000410 ohm-cm	

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