

IBC Advanced Alloys Beralcast® 191 Beryllium-Aluminum Alloy

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

Material Notes:

This alloy consists of 65% Be and 35% Al (by weight) and is used primarily for moderate strength cast electronic and thermal packaging applications. BeAl-191 also provides a unique capability for selected applications in optical systems, where increased stability through the operational temperature range and thermal conductivity are of critical importance. Information provided by IBC Advanced Alloys

Order this product through the following link:

http://www.lookpolymers.com/polymer_IBC-Advanced-Alloys-Beralcast-191-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	196.5 MPa	28500 psi	
Tensile Strength, Yield	137.9 MPa	20000 psi	
Elongation at Break	1.7 %	1.7 %	
Modulus of Elasticity	202 GPa	29300 ksi	in tension
Poissons Ratio	0.20	0.20	
Shear Modulus	84.2 GPa	12200 ksi	Calculated

Thermal Properties	Metric	English	Comments
CTE, linear	13.2 $\mu\text{m}/\text{m}\cdot\text{Å}^\circ\text{C}$	7.33 $\mu\text{in}/\text{in}\cdot\text{Å}^\circ\text{F}$	
	@Temperature 25.0 $\text{Å}^\circ\text{C}$	@Temperature 77.0 $\text{Å}^\circ\text{F}$	
Specific Heat Capacity	1.423 J/g $\cdot\text{Å}^\circ\text{C}$	0.3401 BTU/lb $\cdot\text{Å}^\circ\text{F}$	
Thermal Conductivity	180 W/m-K	1250 BTU-in/hr $\cdot\text{ft}\cdot\text{Å}^\circ\text{F}$	
Melting Point	585 $\text{Å}^\circ\text{C}$	1090 $\text{Å}^\circ\text{F}$	
Liquidus	585 $\text{Å}^\circ\text{C}$	1090 $\text{Å}^\circ\text{F}$	

Component Elements Properties	Metric	English	Comments
Aluminum, Al	26.0 - 35.6 %	26.0 - 35.6 %	
Beryllium, Be	61.1 - 68.6 %	61.1 - 68.6 %	
Cobalt, Co			

Component Elements Properties	$\leq 0.20\%$ Metric	$\leq 0.20\%$ English	Comments
Germanium, Ge	$\leq 0.20\%$	$\leq 0.20\%$	
Iron, Fe	$\leq 0.20\%$	$\leq 0.20\%$	
Silicon, Si	1.65 - 2.5 %	1.65 - 2.5 %	
Silver, Ag	1.65 - 2.35 %	1.65 - 2.35 %	

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

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