

Ceramic Process Systems AlSiC-8, 70 vol% SiC

Category : Metal , Metal Matrix Composite

Material Notes:

Aluminum alloy A356.2 used. Hermeticity < 1x10⁹ atm-cc/s He. CPS fabricates AlSiC by preparing an SiC preform which is subsequently infiltrated by molten aluminum metal. After infiltration, components can be plated using conventional plating schemes to allow for assembly and integration operations. The CPS fabrication process provides a material that has a unique combination of physical properties: a compatible CTE, high thermal conductivity, light weight, and tight dimensional tolerance without machining (i.e. net-shape). Information provided by Ceramic Process Systems.

Order this product through the following link:

http://www.lookpolymers.com/polymer_Ceramic-Process-Systems-AlSiC-8-70-vol-SiC.php

Physical Properties	Metric	English	Comments
Density	2.99 g/cc	0.108 lb/in ³	

Mechanical Properties	Metric	English	Comments
Modulus of Elasticity	217.5 GPa	31550 ksi	Young's Modulus
Poissons Ratio	0.154	0.154	
Fracture Toughness	11.67 MPa-m ^{1/2}	10.62 ksi-in ^{1/2}	
Shear Modulus	94.2 GPa	13700 ksi	

Thermal Properties	Metric	English	Comments
CTE, linear	6.60 μm/m-°C	3.67 μin/in-°F	
	@Temperature 30.0 °C	@Temperature 86.0 °F	
	9.00 μm/m-°C	5.00 μin/in-°F	
	@Temperature 250 °C	@Temperature 482 °F	
Specific Heat Capacity	0.741 J/g-°C	0.177 BTU/lb-°F	
Thermal Conductivity	180 W/m-K	1250 BTU-in/hr-ft ² -°F	

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