

PCC-Advanced Forming Technology 68% AlSiC Metal Matrix Composite

Category : Metal , Metal Matrix Composite

Material Notes:

AlSiC metal matrix composites are formed by pressure infiltrating molten aluminum into silicon carbide preforms. This method of casting is typically used in applications where solution requirements include high strength, lightweight, custom CTE and high thermal conductivity. PCC offers AlSiC with a composition varying between 30% to 74% silicon carbide by volume, depending on the application. This flexible material system allows PCC Composites to produce a part that is tailored to a customer's exact solution requirements. Information provided by PCC-Advanced Forming Technology.

Order this product through the following link:

http://www.lookpolymers.com/polymer_PCC-Advanced-Forming-Technology-68-AlSiC-Metal-Matrix-Composite.php

Physical Properties	Metric	English	Comments
Density	3.03 g/cc	0.109 lb/in ³	

Mechanical Properties	Metric	English	Comments
Hardness, Rockwell B	97	97	
Tensile Strength, Ultimate	207 MPa	30000 psi	
Modulus of Elasticity	223 GPa	32300 ksi	Young's Modulus
Flexural Strength	400 MPa	58000 psi	

Thermal Properties	Metric	English	Comments
CTE, linear	7.40 $\mu\text{m}/\text{m}\cdot\text{C}$	4.11 $\mu\text{in}/\text{in}\cdot\text{F}$	
	@Temperature 20.0 - 50.0 $^{\circ}\text{C}$	@Temperature 68.0 - 122 $^{\circ}\text{F}$	
	7.50 $\mu\text{m}/\text{m}\cdot\text{C}$	4.17 $\mu\text{in}/\text{in}\cdot\text{F}$	
	@Temperature -50.0 - 150 $^{\circ}\text{C}$	@Temperature -58.0 - 302 $^{\circ}\text{F}$	
Thermal Conductivity	175 W/m-K	1210 BTU-in/hr-ft ² - $^{\circ}\text{F}$	
Melting Point	557 - 613 $^{\circ}\text{C}$	1030 - 1140 $^{\circ}\text{F}$	
Solidus	557 $^{\circ}\text{C}$	1030 $^{\circ}\text{F}$	
Liquidus	613 $^{\circ}\text{C}$	1140 $^{\circ}\text{F}$	
Maximum Service Temperature, Air	420 $^{\circ}\text{C}$	788 $^{\circ}\text{F}$	Maximum exposure temp.

Contact Songhan Plastic Technology Co.,Ltd.

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