

PCC-Advanced Forming Technology 30% 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 can be tailored to 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-30-AlSiC-Metal-Matrix-Composite.php

Physical Properties	Metric	English	Comments
Density	2.81 g/cc	0.102 lb/in ³	

Mechanical Properties	Metric	English	Comments
Tensile Strength, Ultimate	449 MPa	65100 psi	
Modulus of Elasticity	110 GPa	16000 ksi	
Fracture Toughness	20.0 MPa-m ^{1/2}	18.2 ksi-in ^{1/2}	

Thermal Properties	Metric	English	Comments
CTE, linear	14.0 µm/m-°C	7.78 µin/in-°F	
	@Temperature 20.0 - 30.0 °C	@Temperature 68.0 - 86.0 °F	
Thermal Conductivity	165 W/m-K	1150 BTU-in/hr-ft ² -°F	
Melting Point	557 - 596 °C	1030 - 1100 °F	
Solidus	557 °C	1030 °F	
Liquidus	596 °C	1100 °F	

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