

Poco Graphite SUPERSiC® Si Silicon Carbide

Category : Ceramic , Carbide

Material Notes:

The SUPERSiC Material System allows customization of basic silicon carbide. Select from groups of infiltration materials, cleaning options, coating materials and thicknesses to optimize material for specific applications. POCO's unique conversion process produces the highest quality silicon carbide products available on the market today. This process starts with graphite material specially designed and manufactured for use as the precursor in the conversion process. Near net parts are machined in graphite, purified, and subjected to a proprietary conversion process which substitutes pure silicon atoms for carbon atoms. The result is SUPERSiC, POCO's high purity silicon carbide.

Order this product through the following link:

http://www.lookpolymers.com/polymer_Poco-Graphite-SUPERSiC-Si-Silicon-Carbide.php

Physical Properties	Metric	English	Comments
Bulk Density	2.93 g/cc	0.106 lb/in ³	
Apparent Bulk Density	3.01 g/cc	0.109 lb/in ³	
Open Porosity	0.50 %	0.50 %	
Porosity	4.0 %	4.0 %	

Mechanical Properties	Metric	English	Comments
Hardness, Knoop	1643	1643	[kg/mm ²]
Tensile Strength	124 MPa	18000 psi	
Modulus of Elasticity	338 GPa	49000 ksi	
Flexural Strength	223 MPa	32300 psi	
Poissons Ratio	0.17	0.17	
Fracture Toughness	2.63 MPa-m ^{1/2}	2.39 ksi-in ^{1/2}	
Shear Modulus	138 GPa	20000 ksi	Dynamic

Thermal Properties	Metric	English	Comments
CTE, linear	2.40 µm/m-°C	1.33 µin/in-°F	
Thermal Conductivity	220 W/m-K	1530 BTU-in/hr-ft ² -°F	

Electrical Properties	Metric	English	Comments
Electrical Resistivity	0.400 ohm-cm	0.400 ohm-cm	

Descriptive Properties	Value	Comments
Total Impurity Level (ppm), Max	10	

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