

Ceradyne Ceralloy® 147-1B Reaction Bonded Silicon Nitride (Si₃N₄)

Category : Ceramic , Nitride

Material Notes:

Ceralloy® 147 Reaction Bonded Silicon Nitride (RBSN) is a high purity grade of silicon nitride. RBSN has excellent thermal shock resistance and outstanding compatibility with non-ferrous molten metals. This lower cost alternative to the fully dense silicon nitride grades can be manufactured to close tolerance without the need for expensive diamond grinding. Features: High Purity Net Shape Fabrication

Applications: Industrial Applications Electrical Insulators Sputtering Targets Information provided by Ceradyne, Inc.

Order this product through the following link:

http://www.lookpolymers.com/polymer_Ceradyne-Ceralloy-147-1B-Reaction-Bonded-Silicon-Nitride-Si3N4.php

Physical Properties	Metric	English	Comments
Porosity	30 %	30 %	
Weibull Modulus	10	10	

Mechanical Properties	Metric	English	Comments
Vickers Microhardness	800	800	HV (0.3); kg/mm ²
Abrasive Hardness	360	360	Abrasive Wear Resistance Parameter
Modulus of Elasticity	175 GPa	25400 ksi	
Flexural Strength	190 MPa	27600 psi	
Poissons Ratio	0.21	0.21	
Fracture Toughness	2.50 MPa-m ^{1/2}	2.28 ksi-in ^{1/2}	
Shear Modulus	72.3 GPa	10500 ksi	Calculated

Thermal Properties	Metric	English	Comments
CTE, linear	3.20 µm/m-°C	1.78 µin/in-°F	
	@Temperature 20.0 - 1000 °C	@Temperature 68.0 - 1830 °F	
Thermal Conductivity	14.0 W/m-K	97.2 BTU-in/hr-ft ² -°F	

Electrical Properties	Metric	English	Comments
Electrical Resistivity	1.00e+14 ohm-cm	1.00e+14 ohm-cm	

Descriptive Properties	Value	Comments
Purity, %	>98	

Descriptive Properties	Value	Comments
Thermal Shock Parameter, °C	330	

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