

Ceradyne Ceralloy® 147-1E Silicon Nitride

Category : Ceramic , Nitride

Material Notes:

Ceralloy® 147 Hot Pressed Silicon Nitride (HPSN) can be formulated into a variety of compositions having minimal densification aids. These HPSN compositions offer the highest strength of Ceradynes silicon nitrides. Finished components are machined at Ceradynes precision diamond grinding facility. Applications: wear components, semi conductor components. Information provided by Ceradyne Company

Order this product through the following link:

http://www.lookpolymers.com/polymer_Ceradyne-Ceralloy-147-1E-Silicon-Nitride.php

Physical Properties	Metric	English	Comments
Density	3.10 g/cc	0.112 lb/in ³	
Weibull Modulus	18	18	

Mechanical Properties	Metric	English	Comments
Vickers Microhardness	1800	1800	0.3
Modulus of Elasticity	310 GPa	45000 ksi	
Flexural Strength	700 MPa @Temperature 23.0 °C	102000 psi @Temperature 73.4 °F	
Poissons Ratio	0.27	0.27	
Fracture Toughness	5.00 MPa-m ^{1/2}	4.55 ksi-in ^{1/2}	
Shear Modulus	122 GPa	17700 ksi	calculated
Abrasion	1030	1030	Abrasive Wear Resistance Parameter

Thermal Properties	Metric	English	Comments
CTE, linear	3.20 µm/m-°C @Temperature 20.0 - 1000 °C	1.78 µin/in-°F @Temperature 68.0 - 1830 °F	
Thermal Conductivity	42.0 W/m-K	291 BTU-in/hr-ft ² -°F	

Electrical Properties	Metric	English	Comments
Electrical Resistivity	1.00e+14 ohm-cm	1.00e+14 ohm-cm	
Dielectric Constant	9.0	9.0	

Descriptive Properties	Value	Comments
Purity, %	>98.5	
Thermal Shock Parameter	540°C	

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