

CeramTec SL 200 BG Silicon Nitride, Si3N4-Y2O3

Category : Ceramic , Nitride

Material Notes:

SL 200 BG is a silicon nitride ceramic used to make welding rollers, pins, and components, gas nozzles, and forming tools. Silicon nitrides are ideal for components working under mechanical loads and engine parts, even and especially at elevated temperatures. Their property profile includes: extremely high strength, good crack resistance, outstanding wear resistance, good heat conductivity, very low heat expansion, and good resistance to sudden changes in temperature. Due to these properties and its low weight, silicon nitride is a material for the highest demands.

Order this product through the following link:

http://www.lookpolymers.com/polymer_CeramTec-SL-200-BG-Silicon-Nitride-Si3N4-Y2O3.php

Physical Properties	Metric	English	Comments
Density	3.21 g/cc	0.116 lb/in ³	DIN EN 623-2
Water Absorption	0.00 %	0.00 %	Open Porosity; DIN EN 623-2
Permeability	0.00	0.00	%, Gas
Weibull Modulus	16	16	DINV ENV 843-5

Mechanical Properties	Metric	English	Comments
Vickers Microhardness	1650	1650	HV1; DINV ENV 843-4
Tensile Modulus	310 GPa	45000 ksi	Young's; DINV ENV 843-2
Flexural Strength	850 MPa	123000 psi	DIN EN 843-1
Compressive Strength	3000 MPa	435000 psi	DIN 51067T1
Poissons Ratio	0.26	0.26	DINV ENV 843-2
Fracture Toughness	7.00 MPa-m ^{1/2}	6.37 ksi-in ^{1/2}	K _{IC} (SEVNB); DIN CEN/TS 14425-1
Shear Modulus	123 GPa	17800 ksi	Calculated

Thermal Properties	Metric	English	Comments
CTE, linear	3.20 μm/m-°C	1.78 μin/in-°F	DIN EN 821-1
	@Temperature 20.0 - 400 °C	@Temperature 68.0 - 752 °F	
	4.30 μm/m-°C	2.39 μin/in-°F	DIN EN 821-1
	@Temperature 20.0 - 1000 °C	@Temperature 68.0 - 1830 °F	

Specific Heat Capacity Thermal Properties	0.700 J/g-°C Metric	0.167 BTU/lb-°F English	DIN EN 821-3 Comments
Thermal Conductivity	21.0 W/m-K	146 BTU-in/hr-ft ² -°F	DIN EN 821-2
Maximum Service Temperature, Air	1300 °C	2370 °F	
Maximum Service Temperature, Inert	1600 °C	2910 °F	

Electrical Properties	Metric	English	Comments
Volume Resistivity	1.00e+14 ohm-cm	1.00e+14 ohm-cm	IEC 672-1
Dielectric Constant	8.0	8.0	IEC 672-1
	@Frequency 1.00e+6 Hz	@Frequency 1.00e+6 Hz	
Dielectric Strength	19.0 kV/mm	483 kV/in	IEC 672-1
Dielectric Loss Index	0.0040	0.0040	IEC 672-1
	@Frequency 1.00e+9 Hz	@Frequency 1.00e+9 Hz	

Descriptive Properties	Value	Comments
Ra = Arithmetic Mean Roughness Value (µm)	<0.1	
Thermal Shock Resistance R1 (K)	569	calculated; R1 = [s ² (1-µ)] / (a·E)

Contact Songhan Plastic Technology Co.,Ltd.

Website : www.lookpolymers.com

Email : sales@lookpolymers.com

Tel : +86 021-51131842

Mobile : +86 13061808058

Skype : lookpolymers

Address : United North Road 215,Fengxian District, Shanghai City,China