

Ceradyne Thermo-Sil® Castable 120 Fused Silica

Category : Ceramic , Oxide , Silicon Oxide

Material Notes:

Fused Silica is an excellent thermal insulator with an extremely low coefficient of thermal expansion. It is excellent for thermal shock applications. The key characteristics of this material are: High Thermal Shock Resistance Radio wave, IR & Microwave Transparent

Information provided by Ceradyne Company

Order this product through the following link:

http://www.lookpolymers.com/polymer_Ceradyne-Thermo-Sil-Castable-120-Fused-Silica.php

Physical Properties	Metric	English	Comments
Bulk Density	1.856 g/cc	0.06705 lb/in ³	
Water Absorption	13 - 15 %	13 - 15 %	ASTM C20
Porosity	13 - 15 %	13 - 15 %	ASTM C20
Crystallinity	<= 2.0 %	<= 2.0 %	

Mechanical Properties	Metric	English	Comments
Modulus of Rupture	0.00830 - 0.0103 GPa	1.20 - 1.49 ksi	ASTM C133
Flexural Strength	8.30 - 10.3 MPa	1200 - 1490 psi	
Compressive Strength	27.6 - 41.4 MPa	4000 - 6000 psi	ASTM C133

Thermal Properties	Metric	English	Comments
CTE, linear	0.800 $\mu\text{m}/\text{m}\cdot\text{°C}$	0.444 $\mu\text{in}/\text{in}\cdot\text{°F}$	
	@Temperature 20.0 °C	@Temperature 68.0 °F	
Specific Heat Capacity	1.00 J/g-°C	0.239 BTU/lb-°F	
	@Temperature 20.0 °C	@Temperature 68.0 °F	
Thermal Conductivity	0.620 W/m-K	4.30 BTU-in/hr-ft ² -°F	
Shrinkage	0.2 %	0.2 %	
	@Temperature 1100 °C	@Temperature 2010 °F	

Optical Properties	Metric	English	Comments
IR Transmittance	90 %	90 %	transparent; thickness not quantified
UV Transmittance	90 %	90 %	transparent; thickness not quantified

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