

Ceradyne Thermo-Sil® Isomolded™ 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-Isomolded-Fused-Silica.php

Physical Properties	Metric	English	Comments
Bulk Density	2.00 - 2.04 g/cc	0.0723 - 0.0737 lb/in³	
Water Absorption	3.0 - 4.0 %	3.0 - 4.0 %	ASTM C20
Porosity	7.0 - 8.0 %	7.0 - 8.0 %	ASTM C20
Crystallinity	<= 2.0 %	<= 2.0 %	

Mechanical Properties	Metric	English	Comments
Modulus of Elasticity	34.5 GPa	5000 ksi	
Modulus of Rupture	0.0103 - 0.0124 GPa	1.49 - 1.80 ksi	ASTM C133
Flexural Strength	10.3 - 12.4 MPa	1490 - 1800 psi	
Compressive Strength	69.0 - 82.8 MPa	10000 - 12000 psi	ASTM C133

Thermal Properties	Metric	English	Comments
CTE, linear	0.600 µm/m-°C	0.333 µin/in-°F	
	@Temperature 20.0 °C	@Temperature 68.0 °F	
Specific Heat Capacity	0.630 J/g-°C	0.151 BTU/lb-°F	
	@Temperature 800 °C	@Temperature 1470 °F	
	1.00 J/g-°C	0.239 BTU/lb-°F	
	@Temperature 20.0 °C	@Temperature 68.0 °F	
Thermal Conductivity	0.840 W/m-K	5.83 BTU-in/hr-ft²-°F	
Shrinkage	0.0 %	0.0 %	
	@Temperature 1100 °C	@Temperature 2010 °F	

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

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