

## Ceradyne Thermo-Sil® UHS 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-UHS-Fused-Silica.php](http://www.lookpolymers.com/polymer_Ceradyne-Thermo-Sil-UHS-Fused-Silica.php)

Physical Properties	Metric	English	Comments
Bulk Density	1.92 - 2.02 g/cc	0.0694 - 0.0730 lb/in <sup>3</sup>	
Water Absorption	8.0 - 12 %	8.0 - 12 %	ASTM C20
Porosity	8.0 - 12 %	8.0 - 12 %	ASTM C20
Crystallinity	<= 0.50 %	<= 0.50 %	

Mechanical Properties	Metric	English	Comments
Modulus of Elasticity	36.5 - 40.0 GPa	5290 - 5800 ksi	
Modulus of Rupture	0.0545 - 0.0579 GPa	7.90 - 8.40 ksi	ASTM C133
Flexural Strength	54.5 - 57.9 MPa	7900 - 8400 psi	
Compressive Strength	172.4 - 241.4 MPa	25000 - 35010 psi	ASTM C133

Thermal Properties	Metric	English	Comments
CTE, linear	0.500 $\mu\text{m}/\text{m}\cdot\text{°C}$	0.278 $\mu\text{in}/\text{in}\cdot\text{°F}$	
	@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	
Thermal Conductivity	1.00 J/g-°C	0.239 BTU/lb-°F	
	@Temperature 20.0 °C	@Temperature 68.0 °F	
Thermal Conductivity	0.750 W/m-K	5.20 BTU-in/hr-ft <sup>2</sup> -°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

Electrical Properties	Metric	English	Comments
Dielectric Constant	3.27 - 3.31	3.27 - 3.31	
Dissipation Factor	0.0010	0.0010	

## Contact Songhan Plastic Technology Co.,Ltd.

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