

Saint-Gobain Vitreosil® CFQ/TSC Optical Fused Quartz

Category : Ceramic , Glass , Oxide , Silicon Oxide

Material Notes:

Vitreosil® CFQ/TSC grades are for use in less demanding applications including viewing windows for use in corrosive and high temperature environments and non-optical components such as spacers, insulators, etc. Vitreosil® optical fused quartz is made by flame fusion of naturally occurring quartz crystal in an oxy-hydrogen flame. Darkens slightly after prolonged UV exposure. Darkens after 107 RAD X-ray or gamma ray exposure. General properties of Fused Silica and Fused quartz: A very wide transmission range from UV to near IR; extremely high optical transmission, excellent resistance to high power laser energy, excellent homogeneity, high temperature resistance, very low thermal expansion (resistance to thermal shock), and chemical inertness. General uses for optical quartz are microlithography optical systems, optical fibers, photomasks, laser optics, LCD displays, light guides, optical, IR , and UV windows, spectrophotometer cells, slides, optical pyrometers, and lamp bodies/components. Information provided by Saint-Gobain Quartz PLC.

Order this product through the following link:

http://www.lookpolymers.com/polymer_Saint-Gobain-Vitreosil-CFQTSC-Optical-Fused-Quartz.php

Physical Properties	Metric	English	Comments
Density	2.20 g/cc	0.0795 lb/in ³	

Mechanical Properties	Metric	English	Comments
Hardness, Knoop	820	820	
Vickers Microhardness	1050 - 1350	1050 - 1350	kg/m ² Vickers DPH
Hardness, Mohs	7.0	7.0	
Tensile Strength, Ultimate	50.0 MPa	7250 psi	
Modulus of Elasticity	72.0 GPa	10400 ksi	
Flexural Strength	65.0 MPa	9430 psi	Bending Strength
Compressive Strength	1100 MPa	160000 psi	
Poissons Ratio	0.16	0.16	
Shear Modulus	31.0 GPa	4500 ksi	
Shear Strength	30.0 MPa	4350 psi	

Thermal Properties	Metric	English	Comments
CTE, linear	0.540 Åµm/m-Å°C @Temperature 0.000 - 1000 Å°C	0.300 Åµin/in-Å°F @Temperature 32.0 - 1830 Å°F	average
Specific Heat Capacity	0.750 J/g-Å°C	0.179 BTU/lb-Å°F	

Thermal Properties	Metric	English	Comments
Thermal Conductivity	1.35 W/m-K	0.75 U-in/hr-ftÂ²-Â°F	
Maximum Service Temperature, Air	1050 Â°C	1920 Â°F	Normal Conditions
	1350 Â°C	2460 Â°F	Extended periods if cycles remain above 300Â°C
	1350 Â°C	2460 Â°F	
	1650 Â°C	3000 Â°F	Quick Immersion
Softening Point	1730 Â°C	3150 Â°F	Varies with thermal history
Annealing Point	1200 Â°C	2190 Â°F	Varies with thermal history
Strain Point	1080 Â°C	1980 Â°F	Varies with thermal history

Optical Properties	Metric	English	Comments
Refractive Index	1.457	1.457	n_{He-Ne}; Temperature Coefficient = 10.0 ppm/K
	@Wavelength 632.8 nm	@Wavelength 632.8 nm	
	1.4667	1.4667	n_g; Temperature Coefficient = 10.6 ppm/K
	@Wavelength 435.83 nm	@Wavelength 435.83 nm	
Transmission, Visible	92 %	92 %	Including Fresnel reflection for 10 mm pathlength
IR Transmittance	92 %	92 %	
	@Wavelength <=2200 nm, Thickness 10.0 mm	@Wavelength <=2200 nm, Thickness 0.394 in	Including Fresnel reflection for 10 mm path length.
UV Transmittance	90 %	90 %	
	@Thickness 10.0 mm, Wavelength 270 nm	@Thickness 0.394 in, Wavelength 270 nm	

Component Elements Properties	Metric	English	Comments
SiO2	>= 99.99 %	>= 99.99 %	

Electrical Properties	Metric	English	Comments
Electrical Resistivity	6.00e+10 ohm-cm	6.00e+10 ohm-cm	
	@Temperature 800 Â°C	@Temperature 1470 Â°F	
Dielectric Constant	3.78	3.78	
	@Frequency 100 -	@Frequency 100 -	

Electrical Properties	2.50e+10 Hz Metric	2.50e+10 Hz English	Comments
Dielectric Strength	37.0 kV/mm	940 kV/in	
Dissipation Factor	0.00010 @Frequency 1e+6 Hz	0.00010 @Frequency 1e+6 Hz	

Descriptive Properties	Value	Comments
Fluorescence	Blue/Violet	254 nm excitation
Granularity	Faint	

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