

Saint-Gobain Quartzel® Fused Quartz Textiles

Category : Ceramic , Glass , Glass Fiber , Oxide , Silicon Oxide , Other Engineering Material , Composite Fibers

Material Notes:

Quartzel® fiber is produced from quartz crystal that is ground, purified, fiberized by a fusion process. It is homogeneous, non-porous, continuous, amorphous, ultra pure silica glass. It is available in the form of yarn, roving, chopped strands, wool, and felts. It is used in dielectric applications (radomes, circuit boards), thermal applications (high temp insulation for aerospace, asbestos replacement, furnace linings, hot gas filtration), and reinforcement for composites (with resins such as phenolics or epoxies). Information provided by Saint-Gobain Quartz PLC.

Order this product through the following link:

http://www.lookpolymers.com/polymer_Saint-Gobain-Quartzel-Fused-Quartz-Textiles.php

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

Mechanical Properties	Metric	English	Comments
Hardness, Mohs	7.0	7.0	
Tensile Strength, Ultimate	6000 MPa	870000 psi	Virgin Filament
Elongation at Break	7.7 %	7.7 %	Virgin Filament
Modulus of Elasticity	78.0 GPa	11300 ksi	Virgin Filament
Poissons Ratio	0.16	0.16	

Thermal Properties	Metric	English	Comments
CTE, linear	0.540 Åµm/m-Å°C @Temperature 20.0 Å°C	0.300 Åµin/in-Å°F @Temperature 68.0 Å°F	isotropic (axial vs. radial)
Specific Heat Capacity	0.750 J/g-Å°C	0.179 BTU/lb-Å°F	
Thermal Conductivity	1.38 W/m-K	9.58 BTU-in/hr-ftÅ²-Å°F	
Maximum Service Temperature, Air	1050 Å°C	1920 Å°F	
Softening Point	1700 Å°C	3090 Å°F	
Annealing Point	1220 Å°C	2230 Å°F	

Optical Properties	Metric	English	Comments
Refractive Index	1.4585	1.4585	

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	3.74	3.74	
	@Frequency 1e+9 Hz	@Frequency 1e+9 Hz	
Dielectric Strength	37.0 kV/mm	940 kV/in	
Dissipation Factor	0.00020	0.00020	
	@Frequency 1e+9 Hz	@Frequency 1e+9 Hz	

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