

Mateck Fused Silica IR Grade (SiO₂)

Category : Ceramic , Oxide , Silicon Oxide

Material Notes:

Optical crystals

Order this product through the following link:

http://www.lookpolymers.com/polymer_Mateck-Fused-Silica-IR-Grade-SiO2.php

Physical Properties	Metric	English	Comments
Density	2.21 g/cc	0.0798 lb/in ³	
	@Temperature 20.0 Â°C	@Temperature 68.0 Â°F	
Solubility	0.00 ppm	0.00 ppm	

Mechanical Properties	Metric	English	Comments
Modulus of Elasticity	73.6 GPa	10700 ksi	
Poissons Ratio	0.17	0.17	
Shear Modulus	31.4 GPa	4550 ksi	

Thermal Properties	Metric	English	Comments
CTE, linear	4.00 Âµm/m-Â°C	2.22 Âµin/in-Â°F	
	@Temperature -50.0 - 50.0 Â°C	@Temperature -58.0 - 122 Â°F	
Specific Heat Capacity	0.728 J/g-Â°C	0.174 BTU/lb-Â°F	
Thermal Conductivity	1.35 W/m-K	9.37 BTU-in/hr-ftÂ²- Â°F	
Melting Point	1900 Â°C	3450 Â°F	

Optical Properties	Metric	English	Comments
Refractive Index	1.4584	1.4584	nd
	1.4601	1.4601	at ne
	1.4131	1.4131	
	@Wavelength 3243.9 nm	@Wavelength 3243.9 nm	
	1.4494	1.4494	
	@Wavelength 1083 nm	@Wavelength 1083 nm	

Optical Properties	Metric	English	Comments
	@Wavelength 404.6 nm	@Wavelength 404.6 nm	
	1.615	1.615	
	@Wavelength 170 nm	@Wavelength 170 nm	
IR Transmittance	87 %	87 %	Internal Transmittance
	@Wavelength 3000 nm	@Wavelength 3000 nm	
	95.5 %	95.5 %	Internal Transmittance
	@Wavelength 2800 nm	@Wavelength 2800 nm	
UV Transmittance	22 %	22 %	Internal Transmittance
	@Wavelength 220 nm	@Wavelength 220 nm	
	52.5 %	52.5 %	Internal Transmittance
	@Wavelength 240 nm	@Wavelength 240 nm	
	99.9 %	99.9 %	Internal Transmittance
	@Wavelength 280 nm	@Wavelength 280 nm	

Descriptive Properties	Value	Comments
Thermal Coefficient of Refractive Index	1E-05	at nc microns for +20 Å°C
Transmission Range (microns)	0.18 - 3.5	

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