

Mateck Silicon (Si)

Category : Pure Element

Material Notes:

Optical crystals

Order this product through the following link:

http://www.lookpolymers.com/polymer_Mateck-Silicon-Si.php

Physical Properties	Metric	English	Comments
Density	2.329 g/cc	0.08414 lb/in ³	
Solubility	0.00 ppm	0.00 ppm	
a Lattice Constant	5.43089 Å...	5.43089 Å...	
Molecular Weight	28.09 g/mol	28.09 g/mol	

Mechanical Properties	Metric	English	Comments
Hardness, Mohs	7.0	7.0	
Modulus of Elasticity	18.9 GPa	2740 ksi	
Poissons Ratio	0.266	0.266	
Shear Modulus	79.9 GPa	11600 ksi	

Thermal Properties	Metric	English	Comments
CTE, linear	2.55 Åµm/m-Å°C	1.42 Åµin/in-Å°F	
	@Temperature 25.0 Å°C	@Temperature 77.0 Å°F	
Specific Heat Capacity	0.712 J/g-Å°C	0.170 BTU/lb-Å°F	
Thermal Conductivity	159 W/m-K	1100 BTU-in/hr-ftÅ²-Å°F	
Melting Point	1412 Å°C	2574 Å°F	

Optical Properties	Metric	English	Comments
Refractive Index	3.426	3.426	at n5.0
	3.436	3.436	at n3.0
	3.422	3.422	
	@Wavelength 9000 nm	@Wavelength 9000 nm	

Optical Properties	3.426 Metric	3.426 English	Comments
	@Wavelength 5000 nm	@Wavelength 5000 nm	
	3.484	3.484	
	@Wavelength 1500 nm	@Wavelength 1500 nm	

Descriptive Properties	Value	Comments
Symmetry Class	m3m Fd3m	
Syngony	cubic	
Thermal Coefficient of Refractive Index	0.00015	
Transmission Range (microns)	1.2 - 10	
	50 - 100	

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