

Mateck Zinc Sulfide Cleartran (ZnS)

Category : Ceramic , Sulfide/Chalcogenide , Other Engineering Material , Semiconductor

Material Notes:

Optical Crystals

Order this product through the following link:

http://www.lookpolymers.com/polymer_Mateck-Zinc-Sulfide-Cleartran-ZnS.php

Physical Properties	Metric	English	Comments
Density	4.09 g/cc @Temperature 20.0 °C	0.148 lb/in ³ @Temperature 68.0 °F	
Solubility	0.000065 ppm	0.000065 ppm	
Molecular Weight	97.43 g/mol	97.43 g/mol	

Mechanical Properties	Metric	English	Comments
Vickers Microhardness	14.7	14.7	MPa
Modulus of Elasticity	74.5 GPa	10800 ksi	
Poissons Ratio	0.28	0.28	
Shear Modulus	29.1 GPa	4220 ksi	Calculated

Thermal Properties	Metric	English	Comments
CTE, linear	6.50 μm/m-°C @Temperature -60.0 - 60.0 °C	3.61 μin/in-°F @Temperature -76.0 - 140 °F	
Specific Heat Capacity	0.515 J/g-°C	0.123 BTU/lb-°F	
Thermal Conductivity	27.2 W/m-K @Temperature 38.0 °C	189 BTU-in/hr-ft ² -°F @Temperature 100 °F	

Optical Properties	Metric	English	Comments
Refractive Index	2.20084	2.20084	at n10.0
	2.44915	2.44915	at n0.4678
	2.15252 @Wavelength 13000 nm	2.15252 @Wavelength 13000 nm	
	2.24661	2.24661	

Optical Properties	Metric	English	Comments
	2.31669	2.31669	
	@Wavelength 780 nm	@Wavelength 780 nm	
	2.48918	2.48918	
	@Wavelength 435.8 nm	@Wavelength 435.8 nm	
Transmission, Visible	60 %	60 %	Internal Transmittance
	@Wavelength 500 nm	@Wavelength 500 nm	
IR Transmittance	5.0 %	5.0 %	Internal Transmittance
	@Wavelength 15000 nm	@Wavelength 15000 nm	
	70 %	70 %	Internal Transmittance
	@Wavelength 10000 nm	@Wavelength 10000 nm	
UV Transmittance	9.0 %	9.0 %	Internal Transmittance
	@Wavelength 350 nm	@Wavelength 350 nm	

Descriptive Properties	Value	Comments
Syngony	cubic	
Thermal Coefficient of Refractive Index	5.43E-05	at 0.6328 microns
Transmission Range (microns)	0.37 - 14	

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