

Mateck Potassium Chloride (KCl)

Category : Ceramic , Halide

Material Notes:

Optical crystals

Order this product through the following link:

http://www.lookpolymers.com/polymer_Mateck-Potassium-Chloride-KCl.php

Physical Properties	Metric	English	Comments
Density	1.98 g/cc	0.0715 lb/in ³	
a Lattice Constant	6.292 Å...	6.292 Å...	
c Lattice Constant	6.292 Å...	6.292 Å...	
Molecular Weight	74.55 g/mol	74.55 g/mol	

Mechanical Properties	Metric	English	Comments
Vickers Microhardness	150	150	MPa
Hardness, Mohs	2.0	2.0	
Modulus of Elasticity	16.8 GPa	2440 ksi	in <110> direction
	38.2 GPa	5540 ksi	in <100> direction
Poissons Ratio	0.134	0.134	
Shear Modulus	6.30 GPa	914 ksi	in <110> direction
	10.8 GPa	1570 ksi	in <100> direction

Thermal Properties	Metric	English	Comments
CTE, linear	34.1 - 38.3 Åµm/m-Å°C	18.9 - 21.3 Åµin/in-Å°F	
	@Temperature -60.0 - 60.0 Å°C	@Temperature -76.0 - 140 Å°F	
Specific Heat Capacity	0.695 J/g-Å°C	0.166 BTU/lb-Å°F	
Thermal Conductivity	6.53 W/m-K	45.3 BTU-in/hr-ftÅ²-Å°F	
	@Temperature 46.0 Å°C	@Temperature 115 Å°F	
Melting Point	776 Å°C	1430 Å°F	

Optical Properties	Metric	English	Comments
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Refractive Index Optical Properties	1.4546 Metric	1.4546 English	at n10.6 Comments
	1.493	1.493	at ne
	1.2626	1.2626	
	@Wavelength 30000 nm	@Wavelength 30000 nm	
	1.4325	1.4325	
	@Wavelength 15000 nm	@Wavelength 15000 nm	
	1.4796	1.4796	
	@Wavelength 1000 nm	@Wavelength 1000 nm	
	1.717	1.717	
	@Wavelength 200 nm	@Wavelength 200 nm	
IR Transmittance	68 %	68 %	Internal Transmittance
	@Wavelength 20000 nm	@Wavelength 20000 nm	
	98 %	98 %	Internal Transmittance
	@Wavelength 1000 nm	@Wavelength 1000 nm	
	98 %	98 %	Internal Transmittance
	@Wavelength 12000 nm	@Wavelength 12000 nm	
UV Transmittance	89 %	89 %	Internal Transmittance
	@Wavelength 200 nm	@Wavelength 200 nm	

Descriptive Properties	Value	Comments
Cleavability	(100)	perfect
Constants of Elastic Compliance (Pa ⁻¹)	1.6198E-10	S44
	2.621E-11	S11
	-3.47E-12	S12
Symmetry Class	m3m	
Syngony	cubic	
Thermal Coefficient of Refractive Index	-3.28E-5 to -3.75E-5	at 3.39 microns for $\hat{A}\pm 60\hat{A}^{\circ}\text{C}$
Transmission Range (microns)	0.21 - 21	

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