Potassium Chloride (KCl)

Custom sizes and specifications are available

CRYSTALLOGRAPHIC

Syngony	Cubic
Symmetry Class	m3m
Lattice Constants, Angstrom	a=6.292
	c=a
Cleavability	(100), perfect

OPTICAL

Refractive Index at $\mathbf{n}_e$	1.4930
Refractive Index $\mathbf{n}_{F'} - \mathbf{n}_{C'}$	0.0112
Refractive Index at $\mathbf{n}_{10.6}$	1.4546
Refractive Index $\mathbf{n}_{8.0} - \mathbf{n}_{12.5}$	0.0172
Thermal Coefficient of Refractive Index at 3.39 microns for +/–60 deg C	(-3.28...-3.75) x 10^{-5}
Transmission Range, microns	0.21-21

THERMAL

Thermal Linear Expansion, deg C^{-1} for +/–60 deg C	(34.1...38.3) x 10^{-6}
Thermal Conductivity, W/(m•deg C) at 46 deg C	6.53
Specific Heat Capacity, J/(kg•deg C)	0.695 x 10^3
Melting Point, deg C	776

MECHANICAL

Density, g/cm^3 at 20 deg C	1.98
Mohs Hardness	2
Vickers Microhardness, Pa	15 x 10^7
Constants of Elastic Compliance, Pa^{-1}	S_{11}=26.21 x 10^{-12}
	S_{12}=-3.47 x 10^{-12}
	S_{44}=161.98 x 10^{-12}
Young Modulus (E), Pa	
in <100> direction	3.82 x 10^{10}
in <110> direction	1.68 x 10^{10}
Shear Modulus (G), Pa	
in <100> direction	1.08 x 10^{10}
in <110 direction	0.63 x 10^{10}
Poisson Ratio	0.134

CHEMICAL

Molecular Weight	74.55
Solubility	
in water, gram/100 cm^3	34.7

Refr. Index n vs. Wavelength λ

WAVELENGTH, MICRONS	REFRACTIVE INDEX
0.2	1.7170
0.5	1.4968
1.0	1.4796
2.0	1.4751
3.0	1.4735
4.0	1.4720
5.0	1.4703
6.0	1.4683
7.0	1.4659
8.0	1.4632
9.0	1.4601
10.0	1.4566
11.0	1.4527
12.0	1.4463
12.5	1.4460
15.0	1.4325
20.0	1.3947
30.0	1.2626

Internal Transmittance τ_i (λ) vs. Wavelength λ

WAVELENGTH, MICRONS	INTERNAL TRANSMITTANCE
0.2	0.89
0.5	0.98
1.0	0.98
3.0	0.98
5.0	0.98
6.0	0.98
7.0	0.98
8.0	0.98
9.0	0.98
10.0	0.98
12.0	0.98
15.0	0.95
20.0	0.68

Transmittance τ (λ) vs. Wavelength λ