

Potassium Bromide (KBr)

Custom sizes and specifications are available

CRYSTALLOGRAPHIC

Syngony	Cubic
Symmetry Class	m3m
Lattice Constants, Angstrom	a=6.598
	c=a
Cleavability	(100), perfect

OPTICAL

Refractive Index at n_e	1.5639
Refractive Index $n_F - n_C$	0.0617
Refractive Index at $n_{10.6}$	1.5251
Refractive Index $n_{8.0} - n_{12.5}$	0.0099
Thermal Coefficient of Refractive Index at 3.39 microns for +/-60 deg C	$(-3.95...-4.29) \times 10^{-5}$
Transmission Range, microns	0.21-28

THERMAL

Thermal Linear Expansion, deg C ⁻¹ for +/-60 deg C	$(36.6...39.6) \times 10^{-6}$
Thermal Conductivity, W/(m•deg C) at 46 deg C	4.81
Specific Heat Capacity, J/(kg•deg C)	0.4522×10^3
Melting Point, deg C	728

MECHANICAL

Density, g/cm ³ at 20 deg C	2.75
Mohs Hardness	1.5
Vickers Microhardness, Pa	10×10^7
Constants of Elastic Compliance, Pa ⁻¹	$S_{11}=30.29 \times 10^{-12}$ $S_{12}=-4.18 \times 10^{-12}$ $S_{44}=194.92 \times 10^{-12}$

Young Modulus (E), Pa	
in <100> direction	3.30×10^{10}
in <110> direction	1.38×10^{10}
Shear Modulus (G), Pa	
in <100> direction	0.90×10^{10}
in <110 direction	0.51×10^{10}
Poisson Ratio	0.138

CHEMICAL

Molecular Weight	119.01
Solubility in water, gram/100 cm ³	53.48

Refr. Index n vs. Wavelength λ

WAVELENGTH, MICRONS	REFRACTIVE INDEX
0.2	2.0995
0.5	1.5700
1.0	1.5444
2.0	1.5383
3.0	1.5357
4.0	1.5346
5.0	1.5334
6.0	1.5319
7.0	1.5303
8.0	1.5285
9.0	1.5265
10.0	1.5242
11.0	1.5217
12.0	1.5204
15.0	1.5127
20.0	1.4924
30.0	1.4253

Internal Transmittance $\tau_i(\lambda)$ vs. Wavelength λ

WAVELENGTH, MICRONS	INTERNAL TRANSMITTANCE
0.2	0.48
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	0.98
20.0	0.92
30.0	0.26

