Barium Fluoride (BaF2) Windows

- **Wide wavelength range of 0.2-11 μm**
- **Excellent as the sercurity inspection windows**

Barium Fluoride is often suitable for applications in the passive IR band (8 to 14 μm) and is often used as a viewport window for thermal imaging inspection application in electric power facilities and petroleum indutries. For an equivalent thickness the transmission extends approximately 1 micron further into the IR than Calcium Fluoride. Hangzhou Shalom EO also provided the **BaF2 windows** with the protective coatings.

SPECIFICATIONS

Specifications	
Materials	IR grade Barium fluoride crystals
Diameter Range	~ 200mm
Aperture	>90%
Dimension tolerance	+0.0/-0.2mm
Thickness tolerance	+/-0.2mm
Surface Quality	80/50 S/D
Parallelism	1 arc minute
Chamfer	0.3-0.5mmx45degree
Coating	Optional protective coating

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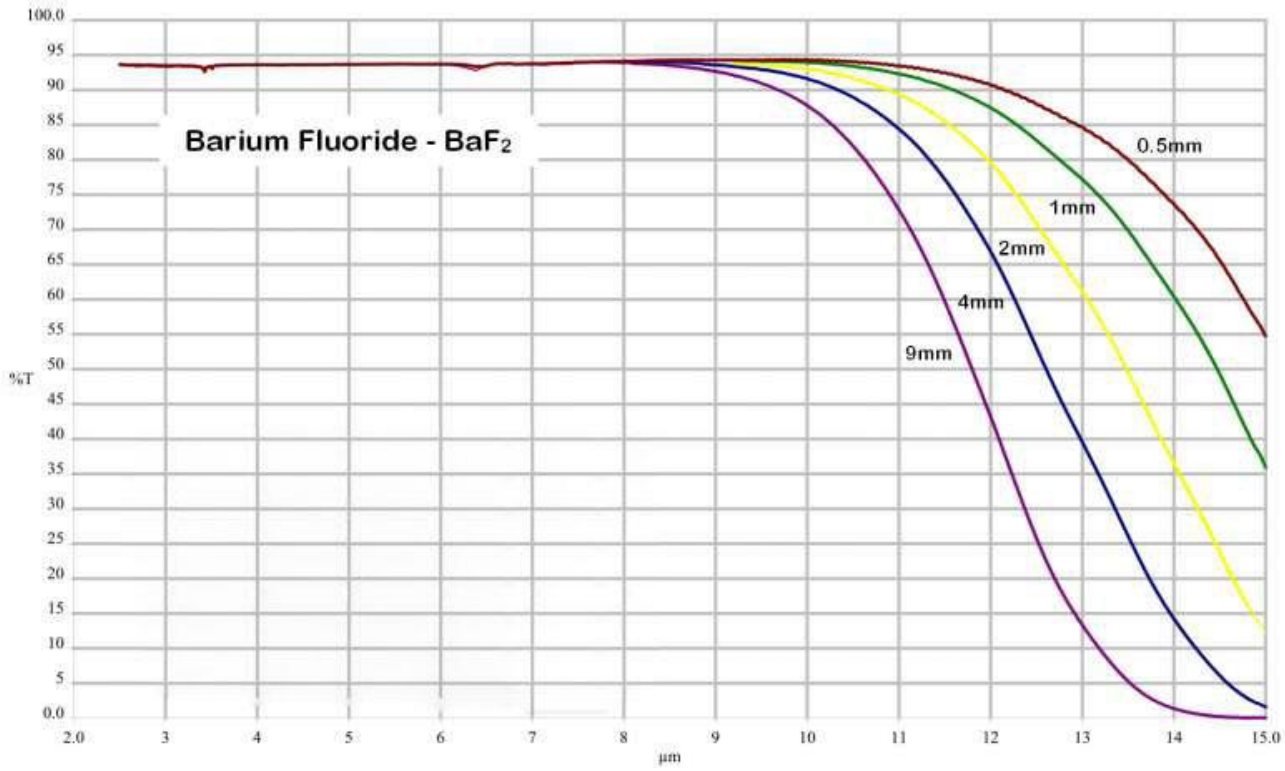
Transmission curve of the BaF2 windows of different thickness



(more information on the page below)

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Basic Properties

Physical and optical properties	
Transmission Range	0.15 to 12 μm
Refractive Index	1.45 at 5 μm (1)
Reflection Loss	6.5% at 5 μm (2 surfaces)
Absorption Coefficient	3.2 x 10-4 cm-1 @ 6 μm
Reststrahlen Peak	47 μm
dn/dT	-15.2 x 10-6/°C (2)
dn/dμ = 0	1.95 μm
Density	4.89 g/cc
Melting Point	1386°C
Thermal Conductivity	11.72 W m-1 K-1 @ 286 K
Thermal Expansion	18.1 x 10-6/°C @ 273 K
Hardness	Knoop 82 with 500g indenter (4)
Specific Heat Capacity	410 J Kg-1 K-1 (3)
Dielectric Constant	7.33 at 1 MHz
Youngs Modulus (E)	53.07 GPa (3)
Shear Modulus (G)	25.4 GPa (3)
Bulk Modulus (K)	56.4 GPa
Elastic Coefficients	C11 = 89.2 C12 = 40.0 C44 = 25.4 (2)
Apparent Elastic Limit	26.9 MPa (300psi) (4)
Poisson Ratio	0.343
Solubility	0.17g/100g water at 23°C
Molecular Weight	175.36
Class/Structure	Cubic CaF2, Fm3m, (111) cleavage

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