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## TECHSPEC® 50.8mm Dia. x 3mm Thick, Barium Fluoride Window



Stock #18-363 **10 In Stock**

⊖ 1 ⊕ C\$987.<sup>00</sup>

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### Product Downloads

#### General

Protective Window **Type:**  
Crystal **Type of Window:**

#### Physical & Mechanical Properties

45.72 **Clear Aperture CA (mm):**

50.80 +0.0/-0.1	<b>Diameter (mm):</b>
3.00 ±0.1	<b>Thickness (mm):</b>
<3	<b>Parallelism (arcmin):</b>
+0.0/-0.1	<b>Dimensional Tolerance (mm):</b>
Protective as needed	<b>Bevel:</b>
90.00	<b>Clear Aperture (%):</b>
Fine Ground	<b>Edges:</b>
0.34	<b>Poisson's Ratio:</b>
53	<b>Young's Modulus (GPa):</b>
82.00	<b>Knoop Hardness (kg/mm<sup>2</sup>):</b>

## Optical Properties

Uncoated	<b>Coating:</b>
Barium Fluoride (BaF <sub>2</sub> )	<b>Substrate:</b> <input type="checkbox"/>
1.48	<b>Index of Refraction (n<sub>d</sub>):</b>
60-40	<b>Surface Quality:</b>
81.78	<b>Abbe Number (v<sub>d</sub>):</b>
200 - 12000	<b>Wavelength Range (nm):</b>
λ/2	<b>Surface Flatness (P-V):</b>

## Material Properties

4.89	<b>Density (g/cm<sup>3</sup>):</b>
18.1	<b>Coefficient of Thermal Expansion CTE (10<sup>-6</sup>/°C):</b>

## Environmental & Durability Factors

Maximum: 800	<b>Operating Temperature (°C):</b>
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## Regulatory Compliance

<a href="#">View</a>	<b>Certificate of Conformance:</b>
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## Product Details

- Excellent Transmission from 200nm - 12μm
- Resistant to High-Energy Radiation
- Provide High Transmission without AR Coatings

TECHSPEC® Barium Fluoride (BaF<sub>2</sub>) Windows can be used in a variety of applications, such as infrared spectroscopy, due to their wide broadband transmission that extends from the deep ultraviolet to the long-wave infrared. Barium fluoride's low index of refraction of 1.48 provides high transmission without the need for anti-reflection coatings. Barium fluoride windows can be used up to 800°C in a dry environment, but prolonged exposure to moisture can degrade transmission in the ultraviolet range. While barium fluoride windows are less resistant to water than calcium fluoride, BaF<sub>2</sub> windows are the most resistant optical fluoride to high-energy radiation, but feature lower UV transmittance. BaF<sub>2</sub> has a Knoop hardness of 82.

**Note:** These optical windows are very sensitive to thermal shock.

Barium fluoride is a fast scintillator and can be used to detect X-rays, gamma rays, or other high energy particles such as 511 keV gamma photons in Positron Emission Tomography (PET). BaF<sub>2</sub> can also be used to detect high-energy neutrons and separate them from simultaneously occurring gamma photons using pulse shape discrimination techniques.

## Technical Information



### Special Handling

These optics require special handling to avoid damage and ensure long-term performance. Proper handling, cleaning, and storage are essential to maintain optical quality. Explore our [Optics Cleaning Resources](#) for step-by-step guides and best practices. For personalized assistance, [Email us](#) or [Chat](#) with our technical support team.



Component Handling Tools

### Compatible Mounts