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TECHSPEC® 50mm Dia. x 3mm Thick, Barium Fluoride Window



Stock **#87-702** **14 In Stock**

- 1 + C\$987⁰⁰

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| Volume Pricing | |
|----------------|-------------------------------|
| Qty 1-10 | C\$987.00 each |
| Qty 11-25 | C\$889.00 each |
| Qty 26-49 | C\$840.00 each |
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Product Downloads

General

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

Physical & Mechanical Properties

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

| | |
|----------------------|--|
| 50.00 +0.0/-0.1 | Diameter (mm): |
| 3.00 ±0.1 | Thickness (mm): |
| <3 | Parallelism (arcmin): |
| +0.0/-0.1 | Dimensional Tolerance (mm): |
| Protective as needed | Bevel: |
| 90.00 | Clear Aperture (%): |
| Fine Ground | Edges: |
| 0.34 | Poisson's Ratio: |
| 53 | Young's Modulus (GPa): |
| 82.00 | Knoop Hardness (kg/mm²): |

Optical Properties

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

Material Properties

| | |
|------|---|
| 4.89 | Density (g/cm³): |
| 18.1 | Coefficient of Thermal Expansion CTE (10⁻⁶/°C): |

Environmental & Durability Factors

| | |
|--------------|------------------------------------|
| Maximum: 800 | Operating Temperature (°C): |
|--------------|------------------------------------|

Regulatory Compliance

| | |
|---------------------------|------------------------------------|
| Compliant | RoHS 2015: |
| Compliant | Reach 219: |
| View | Certificate of Conformance: |

Product Details

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

TECHSPEC® Barium Fluoride (BaF₂) 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, BaF₂ windows are the most resistant optical fluoride to high-energy radiation, but feature lower UV transmittance. BaF₂ 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). BaF₂ 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