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



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

£564.⁰⁰

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Volume Pricing	
Qty 1-10	£564.00 each
Qty 11-25	£508.00 each
Qty 26-49	£480.00 each
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! Prices shown are exclusive of VAT/local taxes

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	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/mm ²):

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/cm ³):
18.1	Coefficient of Thermal Expansion CTE (10 ⁻⁶ /°C):

Environmental & Durability Factors

Maximum: 800	Operating Temperature (°C):
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Regulatory Compliance

View	Certificate of Conformance:
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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 (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