

[See all 389 Products in Family](#)

TECHSPEC® 50mm Dia., 1mm Thick, NIR II AR Coated Sapphire Window



Stock #25-424 **2 In Stock**

- 1 + MRP ₹48,776

i Price inclusive of all taxes

ADD TO CART

Volume Pricing	
Qty 1-24	₹48,776 each
Qty 25-50	₹37,491 each
Qty 51-99	₹36,726 each
Need More?	Request Quote

Product Downloads

General

Protective Window **Type:**

Physical & Mechanical Properties

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

50.00 ±0.05 **Diameter (mm):**

1.00 ±0.05	Thickness (mm):
≤3.5	Parallelism (arcmin):
Protective as needed	Bevel:
≥90	Clear Aperture (%):
Fine Ground	Edges:
0.27	Poisson's Ratio:
435	Young's Modulus (GPa):
1,900.00	Knoop Hardness (kg/mm²):

Optical Properties

NIR II (750-1550nm)	Coating:
Sapphire (Al ₂ O ₃)	Substrate: □
1.77	Index of Refraction (n_d):
80-50	Surface Quality:
72.24	Abbe Number (v_d):
0.008 for Visible Light Orthogonal to Optical Axis	Birefringence (n_o-n_e):
Random	Axis Orientation:
R _{abs} ≤1.5% @ 750 - 800nm R _{abs} ≤1.0% @ 800 - 1550nm R _{avg} ≤0.7% @ 750 - 1550nm	Coating Specification:
750 - 1550	Wavelength Range (nm):
2λ (typical)	Surface Flatness (P-V):

Material Properties

3.97	Density (g/cm³):
5.4 (Parallel to C-Axis) 4.3 (Perpendicular to C-Axis)	Coefficient of Thermal Expansion CTE (10⁻⁶/°C):

Regulatory Compliance

Compliant	RoHS 2015:
View	Certificate of Conformance:
Compliant	Reach 235:
Switzerland	Country of Origin:
Edmund Optics India Private Limited 267, Greystone Building, Second Floor, 6th Cross Rd, Binnamangala, Stage 1, Indiranagar, Bengaluru, Karnataka, India 560038 Phone: +91- 80-6845 0000	Imported By:

Need different specs or modifications?

Edmund Optics offers comprehensive custom manufacturing services for optical and imaging components tailored to your specific application requirements. Whether in the prototyping phase or preparing for full-scale production, we provide flexible solutions to meet your needs. Our experienced engineers are here to assist—from concept to completion.

Our capabilities include:

- Custom dimensions, materials, coatings, and more
- High-precision surface quality and flatness
- Tight tolerances and complex geometries
- Scalable production—from prototype to volume

Learn more about our [custom manufacturing capabilities](#) or submit an inquiry [here](#).

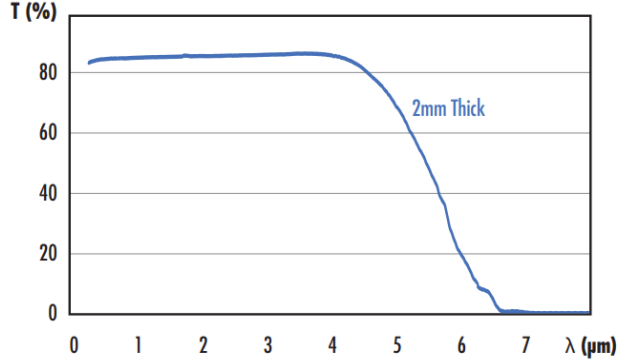
Product Details

- Features Extreme Surface Hardness Chemical Resistance
- Transmits Wavelengths Ranging From UV to Mid-Infrared
- Thinner and Stronger than Standard Glass Windows
- Anti-Reflection Coating Options Covering 350 - 5000nm Available

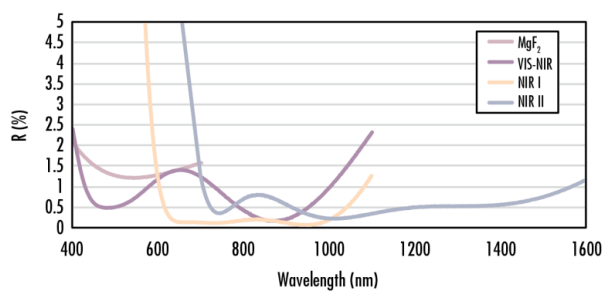
TECHSPEC® Sapphire Windows are manufactured from single crystal sapphire, making them ideal for demanding applications (such as laser systems) because of their extreme surface hardness, high thermal conductivity, high dielectric constant and resistance to common chemical acids and alkalis. Sapphire is the second hardest crystal next to [diamond](#) and, because of their structural strength, sapphire windows can be made much thinner than other common windows with improved transmittance. Chemically, sapphire is single crystal aluminum oxide (Al_2O_3) and is useful in a transmission range from UV to mid-infrared or 330 - 5500nm when uncoated. TECHSPEC® Sapphire Windows are available with anti-reflection (AR) coatings to improve performance in the visible, NIR, and IR spectra with coating options covering 350 - 5000nm.

Technical Information

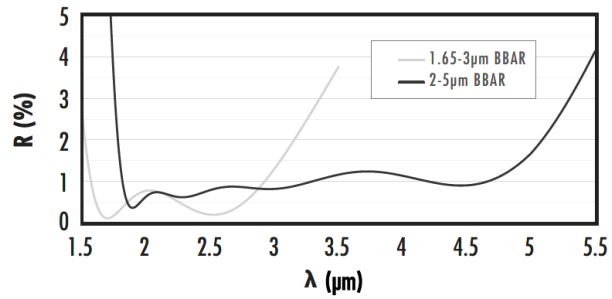
Sapphire Typical Transmission



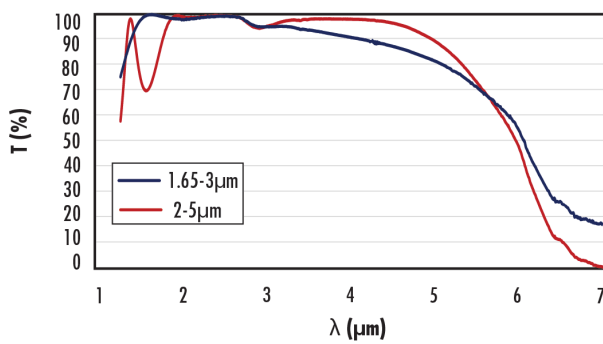
Standard Visible & NIR AR Coatings on Sapphire



Infrared BBAR Coatings on Sapphire



Infrared AR Coated Sapphire Windows
1mm Thickness



Compatible Mounts