

TECHSPEC<sup>®</sup> 10mm Dia., 0.5mm Thick, Uncoated, Sapphire Window



Stock **#17-221** 20+ In Stock

-

1

+

€49<sup>44</sup>

ADD TO CART

| Volume Pricing |                               |
|----------------|-------------------------------|
| Qty 1-24       | €49,44 each                   |
| Qty 25-50      | €37,60 each                   |
| Qty 51-99      | €37,08 each                   |
| Need More?     | <a href="#">Request Quote</a> |

Prices shown are exclusive of VAT/local taxes

Product Downloads

SPECIFICATIONS

General

Protective Window

Type:

| Physical & Mechanical Properties                                                                                          |                                                  |
|---------------------------------------------------------------------------------------------------------------------------|--------------------------------------------------|
| Protective as needed                                                                                                      | Bevel:                                           |
| ≥90                                                                                                                       | Clear Aperture (%):                              |
| 10.00 ±0.05                                                                                                               | Diameter (mm):                                   |
| 0.50 ±0.05                                                                                                                | Thickness (mm):                                  |
| Fine Ground                                                                                                               | Edges:                                           |
| 1,900.00                                                                                                                  | Knoop Hardness (kg/mm²):                         |
| ≤3.5                                                                                                                      | Parallelism (arcmin):                            |
| 0.27                                                                                                                      | Poisson's Ratio:                                 |
| 435                                                                                                                       | Young's Modulus (GPa):                           |
| Optical Properties                                                                                                        |                                                  |
| 72.24                                                                                                                     | Abbe Number (ν <sub>d</sub> ):                   |
| Random                                                                                                                    | Axis Orientation:                                |
| 0.008 for Visible Light Orthogonal to Optical Axis                                                                        | Birefringence (n <sub>o</sub> -n <sub>e</sub> ): |
| Uncoated                                                                                                                  | Coating:                                         |
| 1.77                                                                                                                      | Index of Refraction (n <sub>d</sub> ):           |
| Sapphire (Al <sub>2</sub> O <sub>3</sub> )                                                                                | Substrate:                                       |
| 2λ (typical)                                                                                                              | Surface Flatness (P-V):                          |
| 80-50                                                                                                                     | Surface Quality:                                 |
| 330 - 5500                                                                                                                | Wavelength Range (nm):                           |
| Material Properties                                                                                                       |                                                  |
| Coefficient of Thermal Expansion CTE (10 <sup>-6</sup> /°C):<br>5.4 (Parallel to C-Axis)<br>4.3 (Perpendicular to C-Axis) |                                                  |
| 3.97                                                                                                                      | Density (g/cm³):                                 |
| Regulatory Compliance                                                                                                     |                                                  |
| Compliant                                                                                                                 | RoHS 2015:                                       |
| View                                                                                                                      | Certificate of Conformance:                      |
| Compliant                                                                                                                 | Reach 247:                                       |

## 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 (Al2O3) 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



## CUSTOM

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](#).

## COMPATIBLE MOUNTS

