

TECHSPEC<sup>®</sup> 15mm Dia., 1mm Thick, YAG-BBAR Coated  $\lambda/4$  N-BK7 Window



Stock #23-470 4 In Stock

-

1

+

C\$144<sup>.20</sup>

ADD TO CART

| Volume Pricing |                               |
|----------------|-------------------------------|
| Qty 1-5        | C\$144.20 each                |
| Qty 6-25       | C\$116.20 each                |
| Qty 26-49      | C\$107.80 each                |
| Need More?     | <a href="#">Request Quote</a> |

Product Downloads

|        |           |
|--------|-----------|
| 110.00 | #Sorting: |
|--------|-----------|

General

|                   |       |
|-------------------|-------|
| Protective Window | Type: |
|-------------------|-------|

Physical & Mechanical Properties

|       |                         |
|-------|-------------------------|
| 13.50 | Clear Aperture CA (mm): |
|-------|-------------------------|

|                      |                          |
|----------------------|--------------------------|
| 15.00 +0.00/-0.25    | Diameter (mm):           |
| 1.00 ±0.20           | Thickness (mm):          |
| <1                   | Parallelism (arcmin):    |
| Protective as needed | Bevel:                   |
| 90                   | Clear Aperture (%):      |
| Fine Ground          | Edges:                   |
| 0.21                 | Poisson's Ratio:         |
| 82                   | Young's Modulus (GPa):   |
| 610.00               | Knoop Hardness (kg/mm²): |

| Optical Properties                                                                                                               |                                        |
|----------------------------------------------------------------------------------------------------------------------------------|----------------------------------------|
| YAG-BBAR (500-1100nm)                                                                                                            | Coating:                               |
| N-BK7                                                                                                                            | Substrate: □                           |
| 1.516                                                                                                                            | Index of Refraction (n <sub>d</sub> ): |
| 60-40                                                                                                                            | Surface Quality:                       |
| λ/4                                                                                                                              | Transmitted Wavefront, P-V:            |
| 64.17                                                                                                                            | Abbe Number (v <sub>d</sub> ):         |
| Coating Specification:<br>R <sub>abs</sub> <0.25% @ 532nm R <sub>abs</sub> <0.25% @ 1064nm R <sub>avg</sub> <1.0% @ 500 - 1100nm |                                        |
| 500 - 1100                                                                                                                       | Wavelength Range (nm):                 |
| Damage Threshold, By Design:<br>5 J/cm² @ 532nm, 10ns                                                                            |                                        |

| Material Properties                                                                                       |                  |
|-----------------------------------------------------------------------------------------------------------|------------------|
| 2.51                                                                                                      | Density (g/cm³): |
| Coefficient of Thermal Expansion CTE (10 <sup>-6</sup> /°C):<br>7.1 (-30 to +70°C)<br>8.3 (+20 to +300°C) |                  |

| Regulatory Compliance |                             |
|-----------------------|-----------------------------|
| Compliant             | RoHS 2015:                  |
| View                  | Certificate of Conformance: |
| Compliant             | Reach 235:                  |

## Product Details

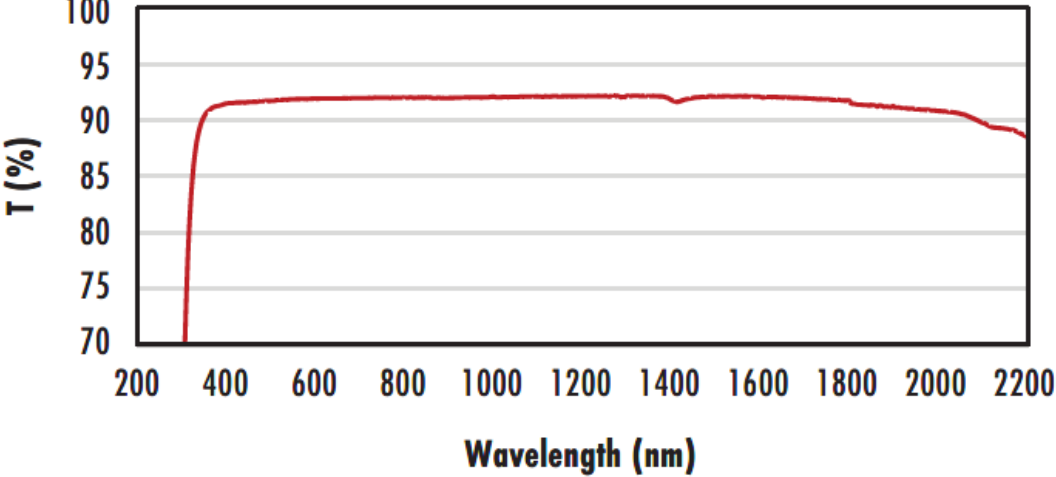
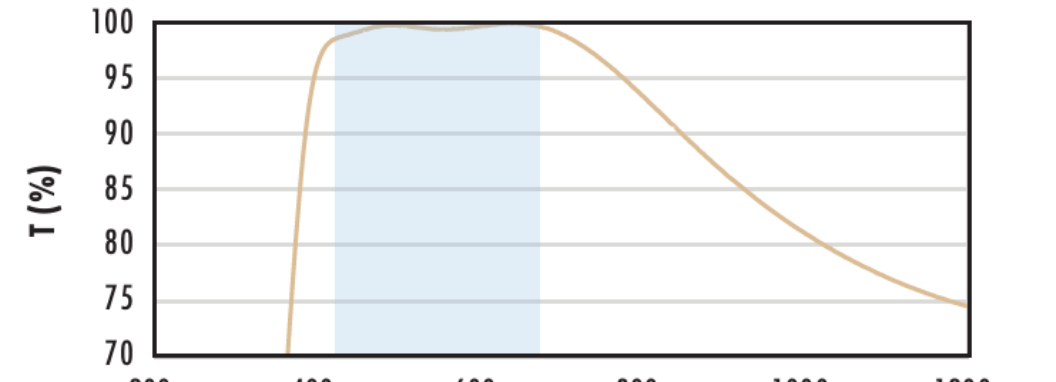
- Circular and Rectangular Sizes from 2mm to 200mm
- 8 Broadband Anti-Reflection Coating Options Available
- World's Largest Selection of Standard N-BK7 Windows
- Also Available with [Ultra-Thin N-BK7 Windows](#)

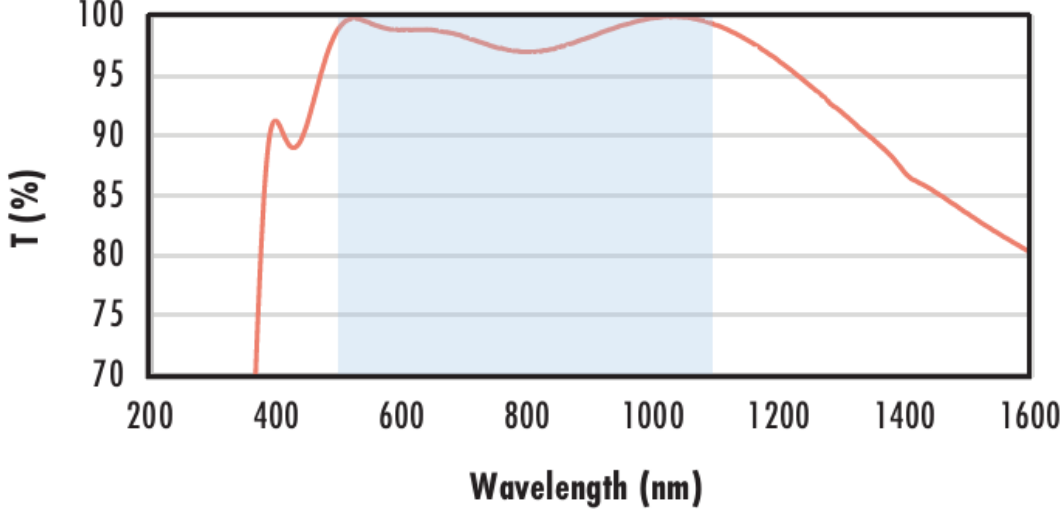
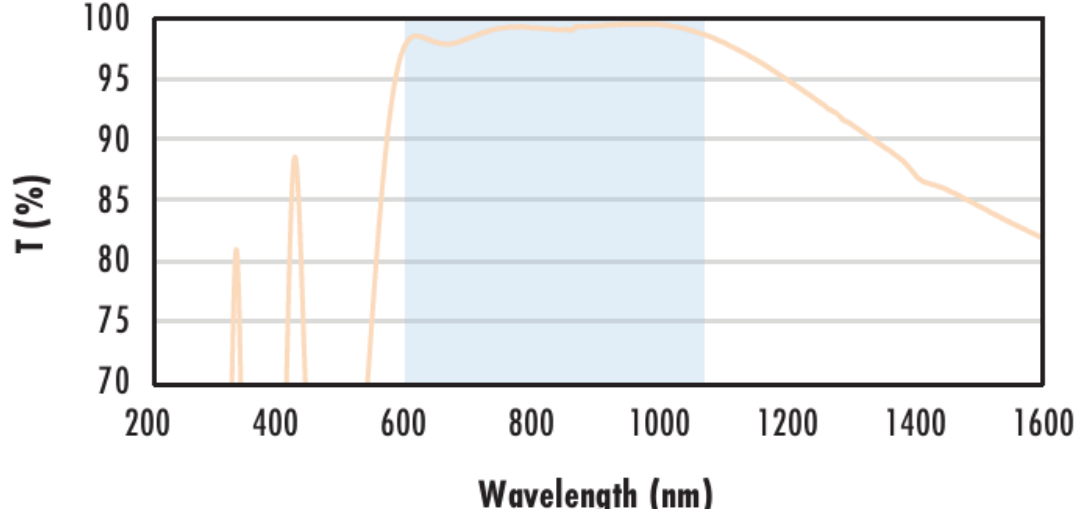
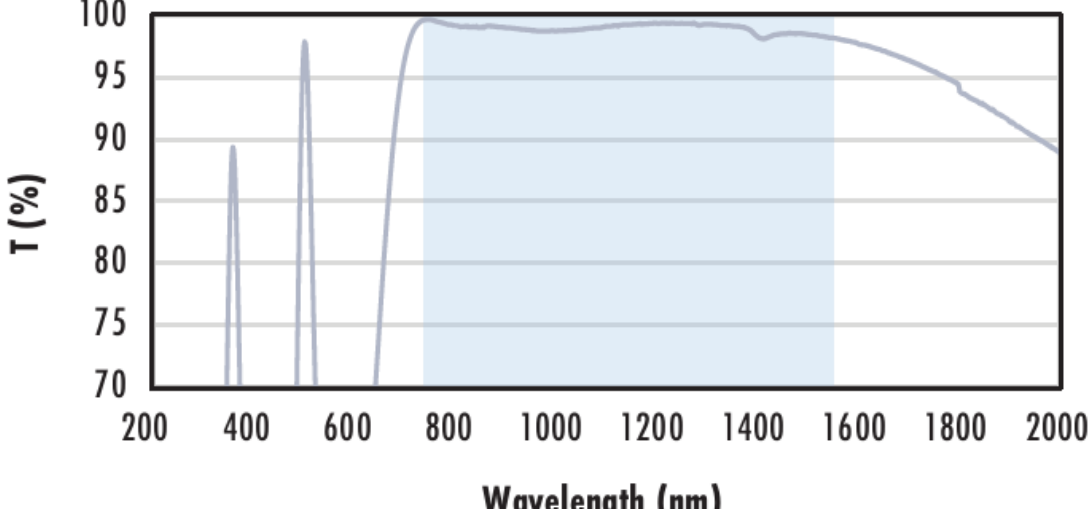
TECHSPEC® λ/4 N-BK7 Precision Windows are ideally suited for industrial and low-power laser applications. The high tolerance design yields minimal beam distortion and scatter. Broadband coating options extend the range of these precision windows through the visible and near-infrared spectra. TECHSPEC® λ/4 N-BK7 Precision Windows are offered in circular and rectangular sizes ranging from 2mm to 200mm.

**Note:** New additions to this product family may be specified with a transmitted wavefront distortion (TWD) specification instead of a surface flatness. For more information on the difference between these two specifications, see our application note on [Understanding Optical Windows](#).

## Technical Information



|                                                                                                                                                               |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                |
|---------------------------------------------------------------------------------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <p><b>Uncoated N-BK7/ Typical Transmission</b></p>                          | <p>Typical transmission of a 3mm thick, uncoated N-BK7 window across the UV- NIR spectra.</p> <p><a href="#">Click Here to Download Data</a></p>                                                                                                                                                                                                                                                                                                                                                                               |
| <p><b>N-BK7 with MgF<sub>2</sub> Coating<br/>Typical Transmission</b></p>  | <p>Typical transmission of a 3mm thick N-BK7 window with MgF2 (400-700nm) coating at 0° AOI.</p> <p>The blue shaded region indicates the coating design wavelength range, with the following specification:</p> <p><math>R_{avg} \leq 1.75\% @ 400 - 700\text{nm}</math> (N-BK7)</p> <p>Data outside this range is not guaranteed and is for reference only.</p> <p><a href="#">Click Here to Download Data</a></p>                                                                                                            |
| <p><b>N-BK7 with VIS-EXT Coating<br/>Typical Transmission</b></p>         | <p>Typical transmission of a 3mm thick N-BK7 window with VIS-EXT (350-700nm) coating at 0° AOI.</p> <p>The blue shaded region indicates the coating design wavelength range, with the following specification:</p> <p><math>R_{avg} \leq 0.5\% @ 350 - 700\text{nm}</math></p> <p>Data outside this range is not guaranteed and is for reference only.</p> <p><a href="#">Click Here to Download Data</a></p>                                                                                                                  |
| <p><b>N-BK7 with VIS-NIR Coating<br/>Typical Transmission</b></p>         | <p>Typical transmission of a 3mm thick N-BK7 window with VIS-NIR (400-1000nm) coating at 0° AOI.</p> <p>The blue shaded region indicates the coating design wavelength range, with the following specification:</p> <p><math>R_{abs} \leq 0.25\% @ 880\text{nm}</math><br/><math>R_{avg} \leq 1.25\% @ 400 - 870\text{nm}</math><br/><math>R_{avg} \leq 1.25\% @ 890 - 1000\text{nm}</math></p> <p>Data outside this range is not guaranteed and is for reference only.</p> <p><a href="#">Click Here to Download Data</a></p> |
| <p><b>N-BK7 with VIS 0° Coating<br/>Typical Transmission</b></p>          | <p>Typical transmission of a 3mm thick N-BK7 window with VIS 0° (425-675nm) coating at 0° AOI.</p> <p>The blue shaded region indicates the coating design wavelength range, with the following specification:</p> <p><math>R_{avg} \leq 0.4\% @ 425 - 675\text{nm}</math></p> <p>Data outside this range is not guaranteed and is for reference only.</p> <p><a href="#">Click Here to Download Data</a></p>                                                                                                                   |

| Wavelength (nm)                                                                                                                                                               |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                |
|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <div><div><div>N-BK7 with YAG-BBAR Coating</div><div>Typical Transmission</div></div></div> | <p>Typical transmission of a 3mm thick N-BK7 window with YAG-BBAR (500-1100nm) coating at 0° AOI.</p> <p>The blue shaded region indicates the coating design wavelength range, with the following specification:</p> <p><math>R_{abs} \leq 0.25\%</math> @ 532nm<br/><math>R_{abs} \leq 0.25\%</math> @ 1064nm<br/><math>R_{avg} \leq 1.0\%</math> @ 500 - 1100nm</p> <p>Data outside this range is not guaranteed and is for reference only.</p> <p><a href="#">Click Here to Download Data</a></p>           |
| <div><div><div>N-BK7 with NIR I Coating</div><div>Typical Transmission</div></div></div>   | <p>Typical transmission of a 3mm thick N-BK7 window with NIR I (600 - 1050nm) coating at 0° AOI.</p> <p>The blue shaded region indicates the coating design wavelength range, with the following specification:</p> <p><math>R_{avg} \leq 0.5\%</math> @ 600 - 1050nm</p> <p>Data outside this range is not guaranteed and is for reference only.</p> <p><a href="#">Click Here to Download Data</a></p>                                                                                                       |
| <div><div><div>N-BK7 with NIR II Coating</div><div>Typical Transmission</div></div></div> | <p>Typical transmission of a 3mm thick N-BK7 window with NIR II (750 - 1550nm) coating at 0° AOI.</p> <p>The blue shaded region indicates the coating design wavelength range, with the following specification:</p> <p><math>R_{abs} \leq 1.5\%</math> @ 750 - 800nm<br/><math>R_{abs} \leq 1.0\%</math> @ 800 - 1550nm<br/><math>R_{avg} \leq 0.7\%</math> @ 750 - 1550nm</p> <p>Data outside this range is not guaranteed and is for reference only.</p> <p><a href="#">Click Here to Download Data</a></p> |

### 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