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TECHSPEC<sup>®</sup> 10mm Sq., 1mm Thick, VIS-NIR Coated  $\lambda$ /4 N-BK7 Window



Stock **#23-413** 1 In Stock

-

1

+

£80<sup>.80</sup>

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| Volume Pricing |                               |
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| Qty 1-5        | £80.80 each                   |
| Qty 6-25       | £65.20 each                   |
| Qty 26-49      | £60.80 each                   |
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 Prices shown are exclusive of VAT/local taxes

Product Downloads

44.00

#Sorting:

General

Protective Window

Type:

Physical & Mechanical Properties

9.00 x 9.00

Clear Aperture CA (mm):

|                           |                          |
|---------------------------|--------------------------|
| 10.00 x 10.00 +0.00/-0.25 | Dimensions (mm):         |
| 1.00 ±0.20                | Thickness (mm):          |
| 10.00                     | Length (mm):             |
| 10.00                     | Width (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

|                                                                                                                     |                                        |
|---------------------------------------------------------------------------------------------------------------------|----------------------------------------|
| VIS-NIR (400-1000nm)                                                                                                | 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> ):         |
| R <sub>abs</sub> ≤0.25% @ 880nm<br>R <sub>avg</sub> ≤1.25% @ 400 - 870 nm<br>R <sub>avg</sub> ≤1.25% @ 890 - 1000nm | Coating Specification:                 |
| 400 - 1000                                                                                                          | Wavelength Range (nm):                 |

|                       |                              |
|-----------------------|------------------------------|
| 5 J/cm² @ 532nm, 10ns | Damage Threshold, By Design: |
|-----------------------|------------------------------|

Material Properties

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

Regulatory Compliance

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

## Product Details

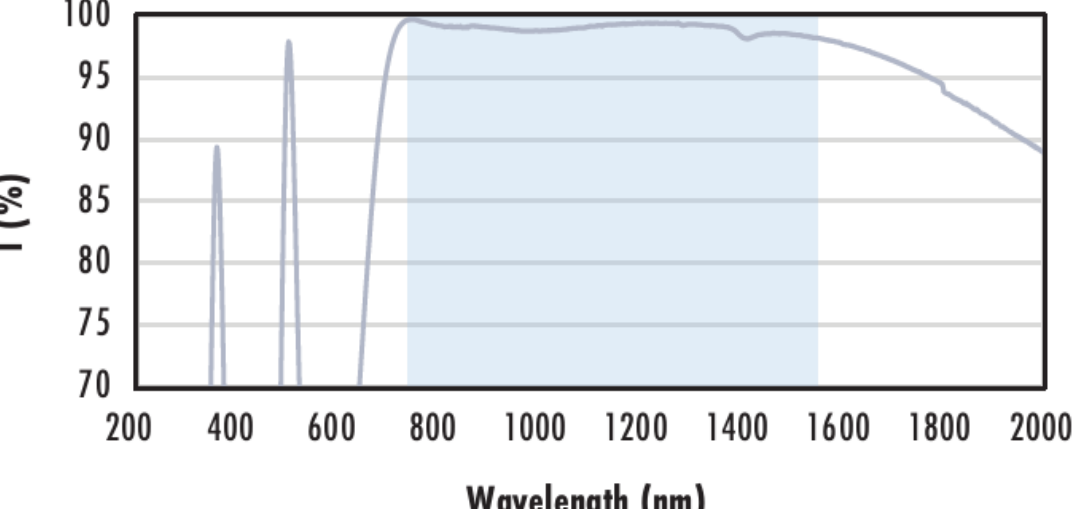
- Circular and Rectangular Sizes from 2mm to 200mm
- 8 Broadband Anti-Reflection Coating Options Available
- World's Largest Selection of Standard N-BK7 Windows
- Also Available with [Ultra-Thin N-BK7 Windows](#)

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

|                                                                                                                                                                                              |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  |
|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| N-BK7                                                                                                                                                                                        |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  |
| <div data-bbox="262 216 1249 736"><h3>Uncoated N-BK7 Typical Transmission</h3></div>                       | <div data-bbox="1333 424 1837 513"><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></div>                                                                                                                                                                                                                                                                                                                                                                                                        |
| <div data-bbox="262 810 1249 1294"><h3>N-BK7 with MgF<sub>2</sub> Coating Typical Transmission</h3></div> | <div data-bbox="1333 899 1837 1151"><p>Typical transmission of a 3mm thick N-BK7 window with MgF<sub>2</sub> (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\% \text{ @ } 400 - 700\text{nm (N-BK7)}</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></div>                                                                                                                    |
| <div data-bbox="262 1329 1249 1917"><h3>N-BK7 with VIS-EXT Coating Typical Transmission</h3></div>       | <div data-bbox="1333 1492 1837 1745"><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\% \text{ @ } 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></div>                                                                                                                                    |
| <div data-bbox="262 1970 1249 2540"><h3>N-BK7 with VIS-NIR Coating Typical Transmission</h3></div>       | <div data-bbox="1333 2086 1837 2407"><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\% \text{ @ } 880\text{nm}</math><br/><math>R_{avg} \leq 1.25\% \text{ @ } 400 - 870\text{nm}</math><br/><math>R_{avg} \leq 1.25\% \text{ @ } 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></div> |
| <div data-bbox="262 2591 1249 2896"><h3>N-BK7 with VIS 0° Coating Typical Transmission</h3></div>        | <div data-bbox="1333 2709 1837 2896"><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\% \text{ @ } 425 - 675\text{nm}</math></p><p>Data outside this range is not guaranteed and is for reference only.</p></div>                                                                                                                                                                                       |

|                                                                                                                                                              |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     |
|--------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
|                                                                             | <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 YAG-BBAR Coating</b><br/><b>Typical Transmission</b></p>  | <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\% @ 532\text{nm}</math><br/><math>R_{abs} \leq 0.25\% @ 1064\text{nm}</math><br/><math>R_{avg} \leq 1.0\% @ 500 - 1100\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 NIR I Coating</b><br/><b>Typical Transmission</b></p>   | <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\% @ 600 - 1050\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 NIR II Coating</b><br/><b>Typical Transmission</b></p>  | <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\% @ 750 - 800\text{nm}</math><br/><math>R_{abs} \leq 1.0\% @ 800 - 1550\text{nm}</math><br/><math>R_{avg} \leq 0.7\% @ 750 - 1550\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> |

Coating Curves

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](#).

