

TECHSPEC<sup>®</sup> 20mm Dia. x 50mm FL, NIR II, Inked, Double-Convex Lens



Stock **#67-644-INK** [CONTACT US](#)

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-

1

+

A\$97<sup>.60</sup>

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| Qty 1-9        | A\$97.60 each                 |
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General

Type:  
Double-Convex Lens

Physical & Mechanical Properties

Diameter (mm):  
20.00 ±0.025

|                                                                                                                        |                                                       |
|------------------------------------------------------------------------------------------------------------------------|-------------------------------------------------------|
| <1                                                                                                                     | Centering (arcmin):                                   |
| 3.50                                                                                                                   | Center Thickness CT (mm):                             |
| ±0.10                                                                                                                  | Center Thickness Tolerance (mm):                      |
| 1.52                                                                                                                   | Edge Thickness ET (mm):                               |
| 19.00                                                                                                                  | Clear Aperture CA (mm):                               |
| Optical Properties                                                                                                     |                                                       |
| 48.84                                                                                                                  | Back Focal Length BFL (mm):                           |
| 50.00                                                                                                                  | Effective Focal Length EFL (mm):                      |
| NIR II (750-1550nm)                                                                                                    | Coating:                                              |
| R <sub>abs</sub> ≤1.5% @ 750 - 800nm<br>R <sub>abs</sub> ≤1.0% @ 800 - 1550nm<br>R <sub>avg</sub> ≤0.7% @ 750 - 1550nm | Coating Specification:                                |
| N-BK7                                                                                                                  | Substrate: <input type="checkbox"/>                   |
| 40-20                                                                                                                  | Surface Quality:                                      |
| 1.5λ                                                                                                                   | Power (P-V) @ 632.8nm:                                |
| λ/4                                                                                                                    | Irregularity (P-V) @ 632.8nm:                         |
| 51.08                                                                                                                  | Radius R <sub>1</sub> =R <sub>2</sub> (mm):           |
| 2.5                                                                                                                    | f/#:                                                  |
| 587.6                                                                                                                  | Focal Length Specification Wavelength (nm):           |
| ±1.00                                                                                                                  | Focal Length Tolerance (%):                           |
| 0.20                                                                                                                   | Numerical Aperture NA:                                |
| 750 - 1550                                                                                                             | Wavelength Range (nm):                                |
| 8 J/cm <sup>2</sup> @ 1064nm, 10ns                                                                                     | Damage Threshold, By Design: <input type="checkbox"/> |

|                       |                             |
|-----------------------|-----------------------------|
| Regulatory Compliance |                             |
| View                  | Certificate of Conformance: |

## Product Details

- AR Coated to Provide <0.7% Reflectance per Surface for 750 - 1550nm
- Minimize Aberrations Including Spherical and Coma
- [UV Fused Silica DCX Lenses](#) Available
- Other Coating Options Available: [Uncoated](#), [MgF<sub>2</sub>](#), [VIS 0°](#), [NIR I](#), [VIS-EXT](#), [VIS-NIR](#), and [YAG-BBAR](#)

TECHSPEC® NIR II Coated Double-Convex (DCX) Lenses, also referred to as bi-convex lenses, have two positive, symmetrical faces with equal radii on both sides. These lenses are generally recommended for finite imaging applications with a conjugate ratio (ratio between object distance and image distance) between 0.2 and 5. At a conjugate ratio of 1, aberrations such as spherical aberration, chromatic aberration, coma, and distortion are minimized or cancelled due to the symmetric lens design. TECHSPEC® NIR II Coated Double-Convex Lenses are available in a variety of substrates and coating options for the visible and NIR spectra.

## Technical Information



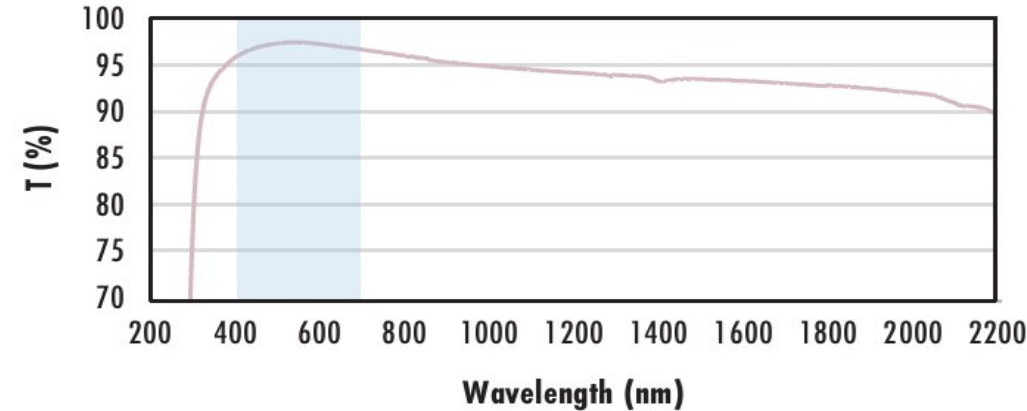
Uncoated N-BK7 Typical Transmission



Typical transmission of a 3mm thick, uncoated N-BK7 window across the UV - NIR spectra.

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N-BK7 with MgF<sub>2</sub> Coating Typical Transmission



Typical transmission of a 3mm thick N-BK7 window with MgF<sub>2</sub> (400-700nm) coating at 0° AOI.

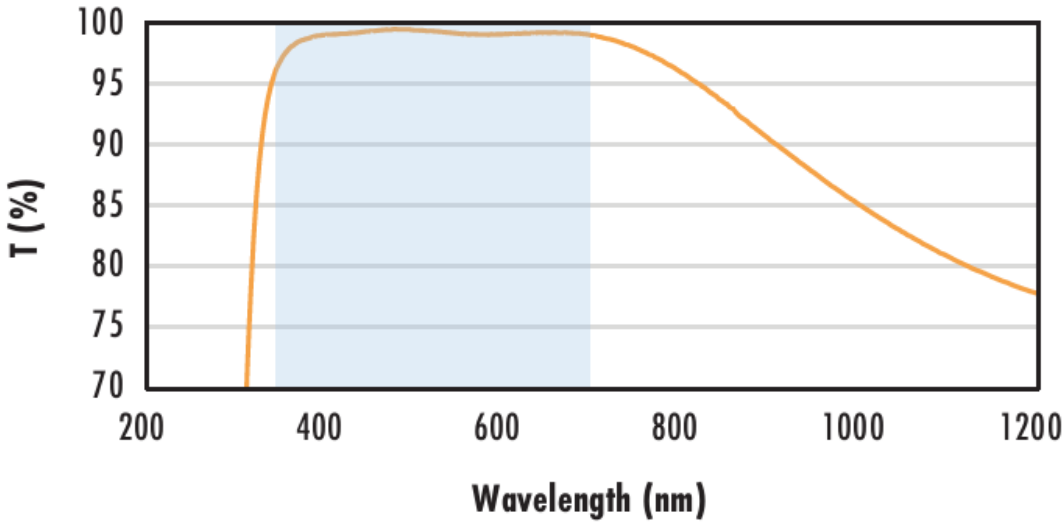
The blue shaded region indicates the coating design wavelength range, with the following specification:

$R_{avg} \leq 1.75\% @ 400 - 700\text{nm}$  (N-BK7)

Data outside this range is not guaranteed and is for reference only.

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N-BK7 with VIS-EXT Coating Typical Transmission



Typical transmission of a 3mm thick N-BK7 window with VIS-EXT (350-700nm) coating at 0° AOI.

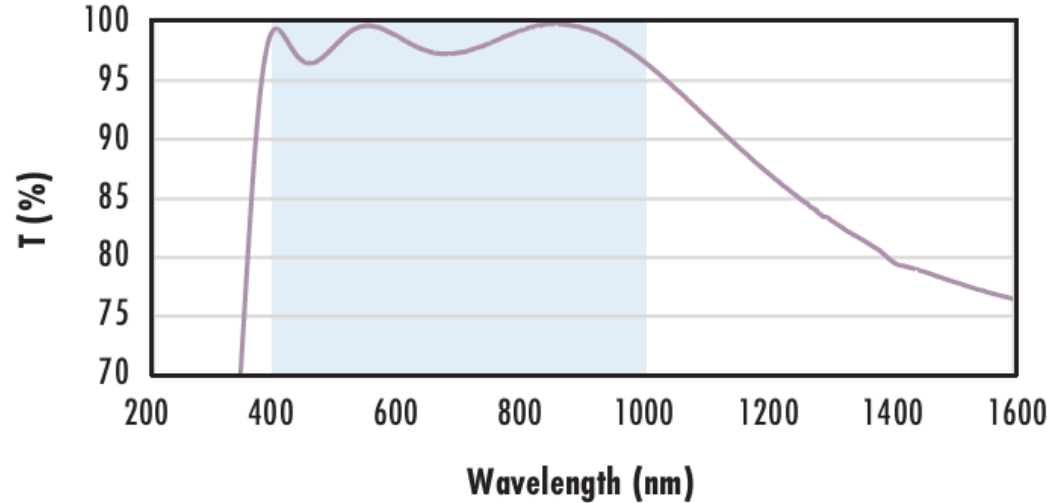
The blue shaded region indicates the coating design wavelength range, with the following specification:

$R_{avg} \leq 0.5\% @ 350 - 700\text{nm}$

Data outside this range is not guaranteed and is for reference only.

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N-BK7 with VIS-NIR Coating Typical Transmission



Typical transmission of a 3mm thick N-BK7 window with VIS-NIR (400-1000nm) coating at 0° AOI.

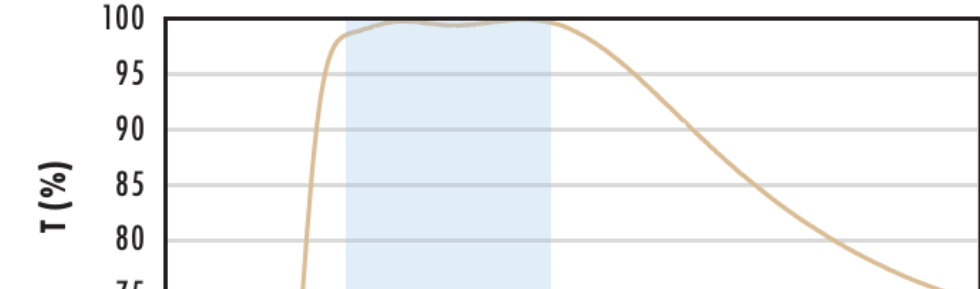
The blue shaded region indicates the coating design wavelength range, with the following specification:

$R_{abs} \leq 0.25\% @ 880\text{nm}$   
 $R_{avg} \leq 1.25\% @ 400 - 870\text{nm}$   
 $R_{avg} \leq 1.25\% @ 890 - 1000\text{nm}$

Data outside this range is not guaranteed and is for reference only.

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N-BK7 with VIS 0° Coating Typical Transmission



Typical transmission of a 3mm thick N-BK7 window with VIS 0° (425-675nm) coating at 0° AOI.

The blue shaded region indicates the coating design wavelength range, with the following specification:

$R_{avg} \leq 0.4\% @ 425 - 675\text{nm}$

Data outside this range is not guaranteed and is for reference only.

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|                                                                           |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                |
|---------------------------------------------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
|                                                                           | <a href="#">Click Here to Download Data</a>                                                                                                                                                                                                                                                                                                                                                                                                                                                                    |
| <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\% @ 532nm</math><br/><math>R_{abs} \leq 0.25\% @ 1064nm</math><br/><math>R_{avg} \leq 1.0\% @ 500 - 1100nm</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 - 1050nm</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 - 800nm</math><br/><math>R_{abs} \leq 1.0\% @ 800 - 1550nm</math><br/><math>R_{avg} \leq 0.7\% @ 750 - 1550nm</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> |

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

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Compatible Mounts