

TECHSPEC<sup>®</sup> 40mm Dia. x 100mm FL, NIR II Coated, Double-Convex Lens



Stock **#33-411** 5 In Stock

☐ [Other Coating Options](#)

-

1

+

€71<sup>.00</sup>

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| Volume Pricing |                               |
|----------------|-------------------------------|
| Qty 1-9        | €71,00 each                   |
| Qty 10-24      | €64,00 each                   |
| Qty 25-99      | €56,50 each                   |
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!

 Prices shown are exclusive of VAT/local taxes

Product Downloads

General

Double-Convex Lens

Type:

Physical & Mechanical Properties

|                   |                                  |
|-------------------|----------------------------------|
| 40.00 +0.0/-0.025 | Diameter (mm):                   |
| <1                | Centering (arcmin):              |
| 8.00              | Center Thickness CT (mm):        |
| ±0.10             | Center Thickness Tolerance (mm): |
| 4.04              | Edge Thickness ET (mm):          |
| 39.00             | Clear Aperture CA (mm):          |

Optical Properties

|                                                                                                                        |                                                       |
|------------------------------------------------------------------------------------------------------------------------|-------------------------------------------------------|
| 97.33                                                                                                                  | Back Focal Length BFL (mm):                           |
| 100.00                                                                                                                 | 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:                         |
| 101.98                                                                                                                 | 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/cm² @ 1064nm, 10ns                                                                                                 | Damage Threshold, Reference: <input type="checkbox"/> |

Regulatory Compliance

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

## 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](#).

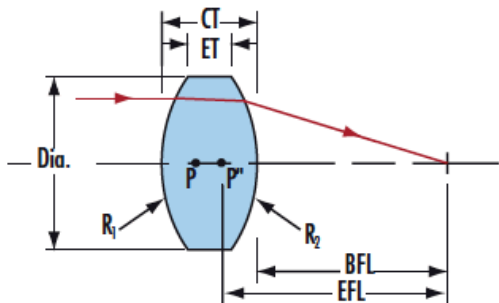
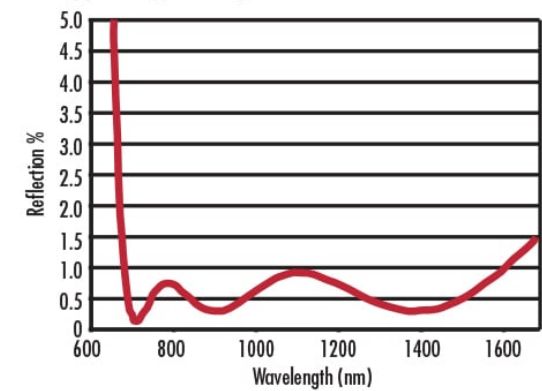
## Product Details

- 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

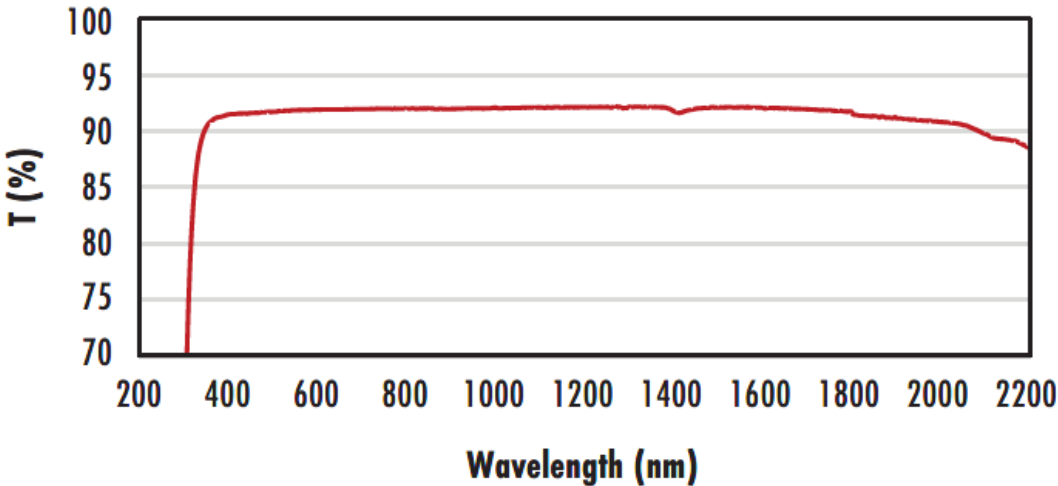
Technical Information

NIR II Coating  
 $R_{avg} \leq 0.7\%$  @ 750 - 1550nm,  $R_{abs} \leq 1.0\%$  @ 800 - 1550nm  
Typ. Energy Density Limit: 8 J/cm<sup>2</sup> @ 1064nm, 10ns



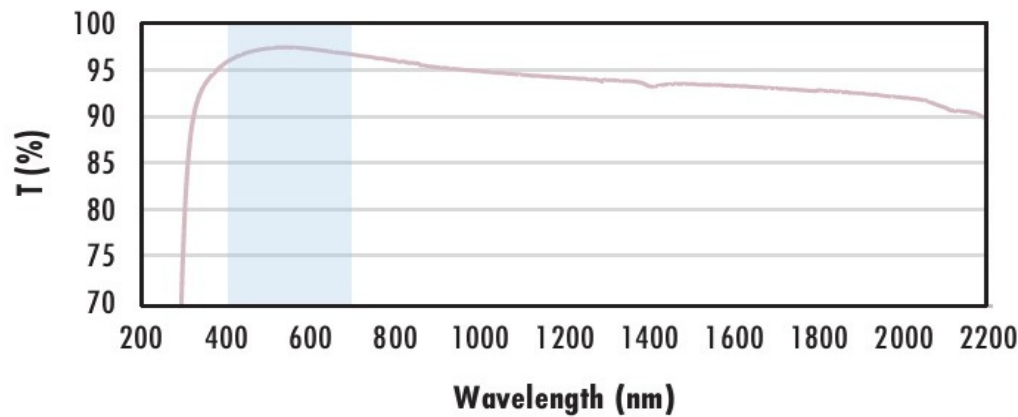
N-BK7

Uncoated N-BK7 Typical Transmission



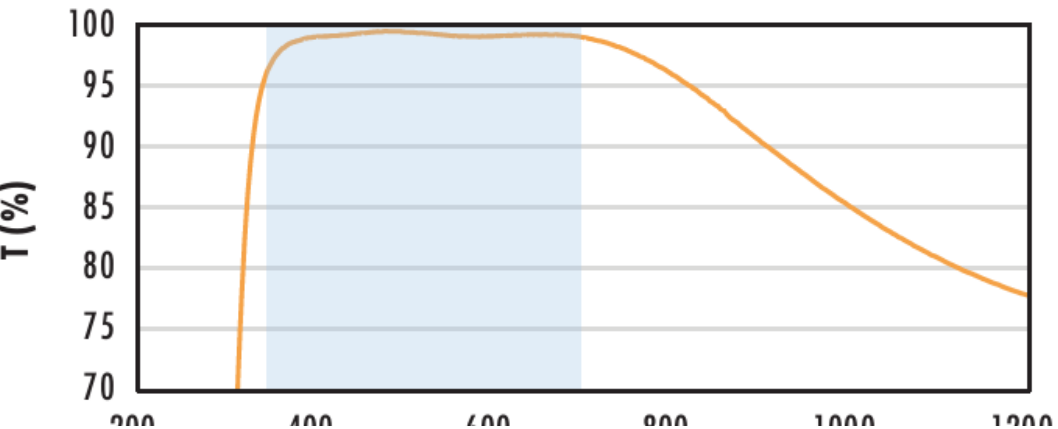
Typical transmission of a 3mm thick, uncoated N-BK7 window across the UV - NIR spectra.  
[Click Here to Download Data](#)

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



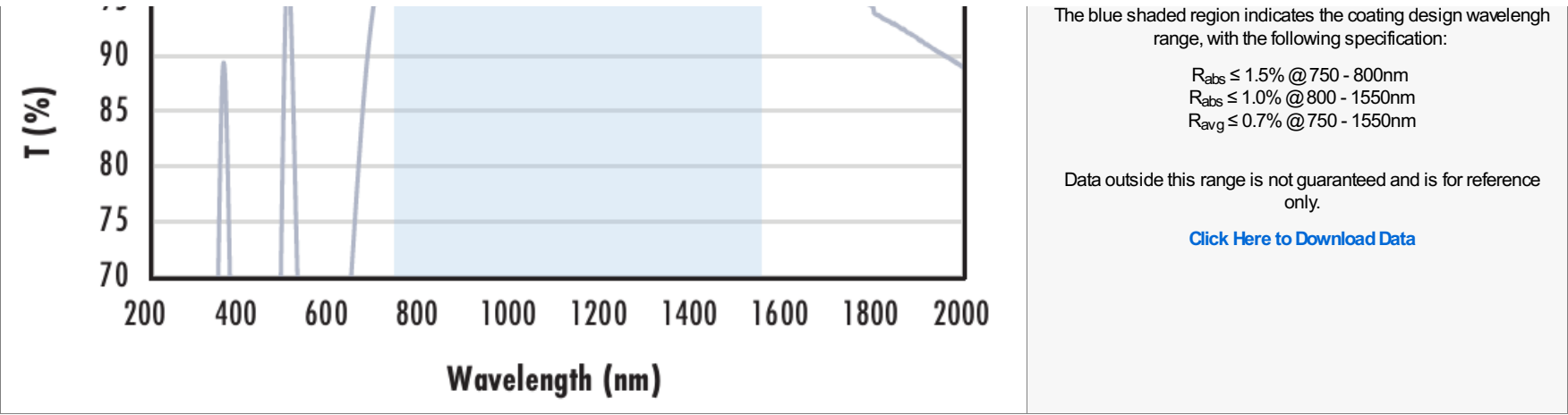
Typical transmission of a 3mm thick N-BK7 window with MgF<sub>2</sub> (400-700nm) coating at 0° AOI.  
The blue shaded region indicates the coating design wavelength range, with the following specification:  
 $R_{avg} \leq 1.75\%$  @ 400 - 700nm (N-BK7)  
Data outside this range is not guaranteed and is for reference only.  
[Click Here to Download Data](#)

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 - 700nm  
Data outside this range is not guaranteed and is for reference only.  
[Click Here to Download Data](#)

| <div>20040060080010001200</div> <div>Wavelength (nm)</div>                                                                                                                                                                                                                                                                                                                                              |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                |
|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <div><div>N-BK7 with VIS-NIR Coating</div><div>Typical Transmission</div><div><div><div><div>100</div><div>95</div><div>90</div><div>85</div><div>80</div><div>75</div><div>70</div></div><div><div><div>200</div><div>400</div><div>600</div><div>800</div><div>1000</div><div>1200</div><div>1400</div><div>1600</div></div></div><div><div><div>Wavelength (nm)</div></div></div></div></div></div>  | <div>Typical transmission of a 3mm thick N-BK7 window with VIS-NIR (400-1000nm) coating at 0° AOI.</div> <div>The blue shaded region indicates the coating design wavelength range, with the following specification:</div> <div><div><div><div><math>R_{abs} \leq 0.25\%</math></div><div>@ 880nm</div></div><div><div><math>R_{avg} \leq 1.25\%</math></div><div>@ 400 - 870nm</div></div><div><div><math>R_{avg} \leq 1.25\%</math></div><div>@ 890 - 1000nm</div></div></div></div> <div>Data outside this range is not guaranteed and is for reference only.</div> <div><a href="#">Click Here to Download Data</a></div> |
| <div><div>N-BK7 with VIS 0° Coating</div><div>Typical Transmission</div><div><div><div><div>100</div><div>95</div><div>90</div><div>85</div><div>80</div><div>75</div><div>70</div></div><div><div><div>200</div><div>400</div><div>600</div><div>800</div><div>1000</div><div>1200</div></div></div><div><div><div>Wavelength (nm)</div></div></div></div></div></div>                                 | <div>Typical transmission of a 3mm thick N-BK7 window with VIS 0° (425-675nm) coating at 0° AOI.</div> <div>The blue shaded region indicates the coating design wavelength range, with the following specification:</div> <div><div><div><math>R_{avg} \leq 0.4\%</math></div><div>@ 425 - 675nm</div></div></div> <div>Data outside this range is not guaranteed and is for reference only.</div> <div><a href="#">Click Here to Download Data</a></div>                                                                                                                                                                      |
| <div><div>N-BK7 with YAG-BBAR Coating</div><div>Typical Transmission</div><div><div><div><div>100</div><div>95</div><div>90</div><div>85</div><div>80</div><div>75</div><div>70</div></div><div><div><div>200</div><div>400</div><div>600</div><div>800</div><div>1000</div><div>1200</div><div>1400</div><div>1600</div></div></div><div><div><div>Wavelength (nm)</div></div></div></div></div></div> | <div>Typical transmission of a 3mm thick N-BK7 window with YAG-BBAR (500-1100nm) coating at 0° AOI.</div> <div>The blue shaded region indicates the coating design wavelength range, with the following specification:</div> <div><div><div><div><math>R_{abs} \leq 0.25\%</math></div><div>@ 532nm</div></div><div><div><math>R_{abs} \leq 0.25\%</math></div><div>@ 1064nm</div></div><div><div><math>R_{avg} \leq 1.0\%</math></div><div>@ 500 - 1100nm</div></div></div></div> <div>Data outside this range is not guaranteed and is for reference only.</div> <div><a href="#">Click Here to Download Data</a></div>      |
| <div><div>N-BK7 with NIR I Coating</div><div>Typical Transmission</div><div><div><div><div>100</div><div>95</div><div>90</div><div>85</div><div>80</div><div>75</div><div>70</div></div><div><div><div>200</div><div>400</div><div>600</div><div>800</div><div>1000</div><div>1200</div><div>1400</div><div>1600</div></div></div><div><div><div>Wavelength (nm)</div></div></div></div></div></div>    | <div>Typical transmission of a 3mm thick N-BK7 window with NIR I (600 - 1050nm) coating at 0° AOI.</div> <div>The blue shaded region indicates the coating design wavelength range, with the following specification:</div> <div><div><div><math>R_{avg} \leq 0.5\%</math></div><div>@ 600 - 1050nm</div></div></div> <div>Data outside this range is not guaranteed and is for reference only.</div> <div><a href="#">Click Here to Download Data</a></div>                                                                                                                                                                   |
| <div><div>N-BK7 with NIR II Coating</div><div>Typical Transmission</div><div><div><div><div>100</div><div>95</div></div><div><div><div>200</div><div>400</div><div>600</div><div>800</div><div>1000</div><div>1200</div><div>1400</div><div>1600</div></div></div><div><div><div>Wavelength (nm)</div></div></div></div></div></div>                                                                    | <div>Typical transmission of a 3mm thick N-BK7 window with NIR II (750 - 1550nm) coating at 0° AOI.</div>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      |



Compatible Mounts