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TECHSPEC<sup>®</sup> 12mm Dia. x 18mm FL, NIR I, Inked, Double-Convex Lens



Stock **#49-475-INK** [CONTACT US](#)

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-

1

+

₹5,735

Price inclusive of all taxes

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| Volume Pricing |                               |
|----------------|-------------------------------|
| Qty 1-9        | ₹5,735 each                   |
| Qty 10-24      | ₹5,151 each                   |
| Qty 25-99      | ₹4,594 each                   |
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General

Type:

Double-Convex Lens

Physical & Mechanical Properties

Diameter (mm):

|                                             |                                       |
|---------------------------------------------|---------------------------------------|
| 12.00 ±0.025                                |                                       |
| Centering (arcmin):                         | <1                                    |
| Bevel:                                      | Protective as needed                  |
| Center Thickness CT (mm):                   | 3.48                                  |
| Center Thickness Tolerance (mm):            | ±0.05                                 |
| Edge Thickness ET (mm):                     | 1.42                                  |
| Clear Aperture CA (mm):                     | 11.00                                 |
| Optical Properties                          |                                       |
| Back Focal Length BFL (mm):                 | 16.81                                 |
| Effective Focal Length EFL (mm):            | 18.00                                 |
| Coating:                                    | NIR I (600-1050nm)                    |
| Coating Specification:                      | R <sub>avg</sub> ≤0.5% @ 600 - 1050nm |
| Substrate:                                  | N-BK7                                 |
| Surface Quality:                            | 40-20                                 |
| Power (P-V) @ 632.8nm:                      | 1.5λ                                  |
| Irregularity (P-V) @ 632.8nm:               | λ/4                                   |
| Radius R <sub>1</sub> =R <sub>2</sub> (mm): | 18.01                                 |
| f##:                                        | 1.5                                   |
| Focal Length Specification Wavelength (nm): | 587.6                                 |
| Numerical Aperture NA:                      | 0.33                                  |
| Wavelength Range (nm):                      | 600 - 1050                            |
| Damage Threshold, By Design:                | 7 J/cm <sup>2</sup> @ 1064nm, 10ns    |
| Regulatory Compliance                       |                                       |
| Certificate of Conformance:                 | View                                  |
| Country of Origin:                          | Japan                                 |
| Imported By:                                | Edmund Optics India Private Limited   |

## 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

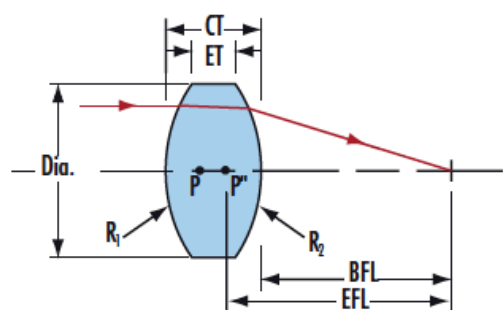
Learn more about our [custom manufacturing capabilities](#) or submit an inquiry [here](#).

## Product Details

- AR Coated to Provide <0.5% Reflectance per Surface for 600 - 1050nm
- Minimize Aberrations Including Spherical and Coma
- [UV Fused Silica DCX Lenses](#) Available
- Other Coating Options Available: [Uncoated](#), [MgF<sub>2</sub>](#), [VIS 0°](#), [NIR II](#), [VIS-EXT](#), [VIS-NIR](#), and [YAG-BBAR](#)

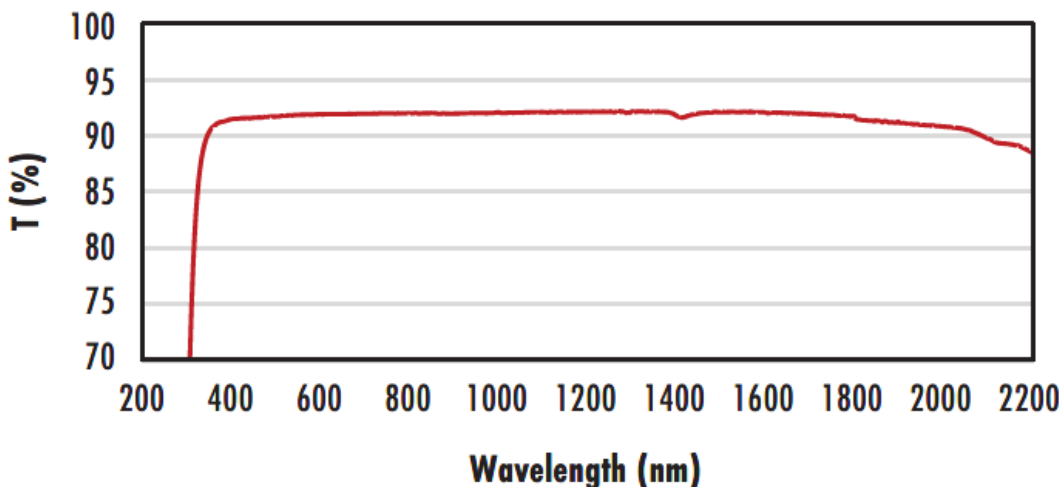
TECHSPEC® NIR I Coated Double-Convex (DCX) Lenses, also referred to as bi-convex lenses, have two positive, symmetrical faces with equal radii on both sides. These lenses are generally recommended for finite imaging applications with a conjugate ratio (ratio between object distance and image distance) 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 I Coated Double-Convex Lenses are available in a variety of substrates and coating options for the visible and NIR spectra.

Technical Information



N-BK7

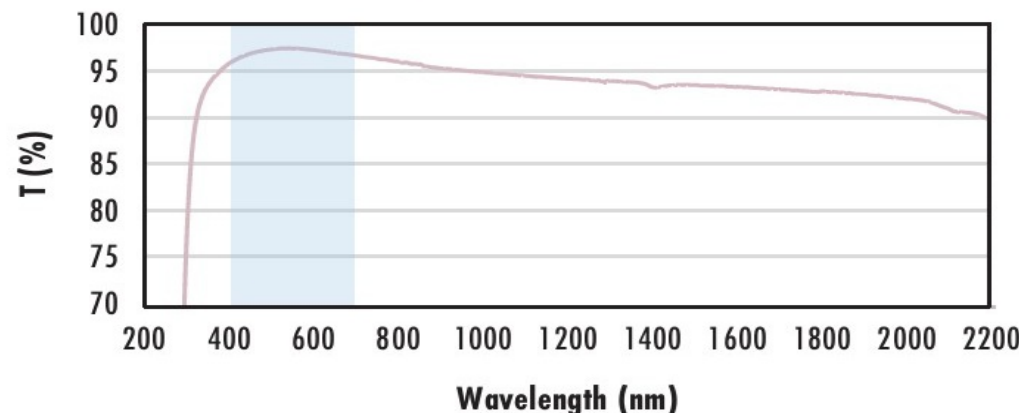
Uncoated N-BK7 Typical Transmission



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

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N-BK7 with  $MgF_2$  Coating  
Typical Transmission



Typical transmission of a 3mm thick N-BK7 window with  $MgF_2$  (400-700nm) coating at 0° AOI.

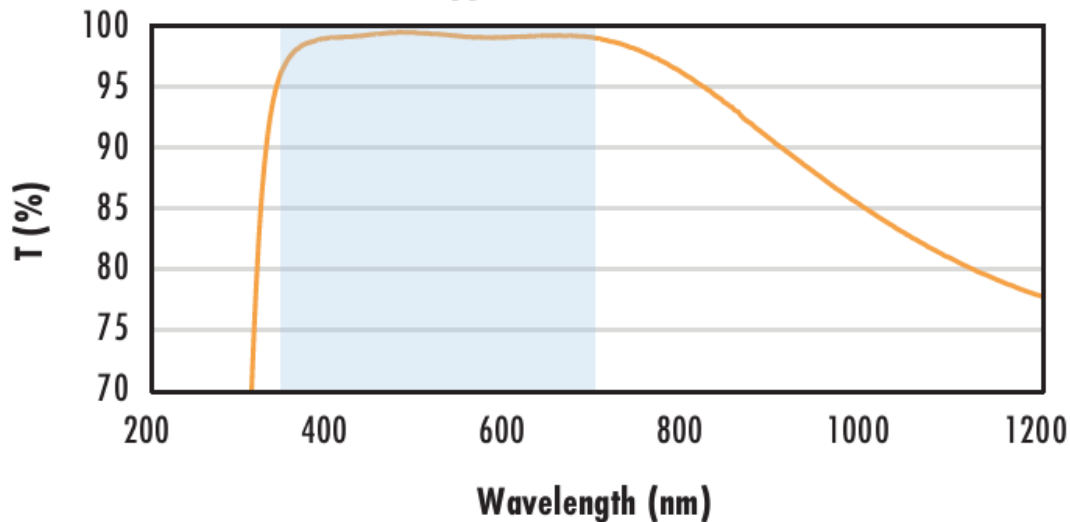
The blue shaded region indicates the coating design wavelength range, with the following specification:

$R_{avg} \leq 1.75\% @ 400 - 700nm$  (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.

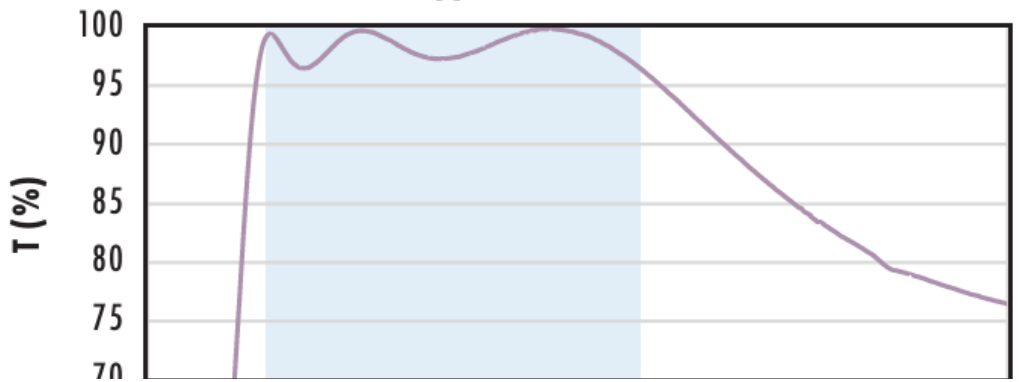
The blue shaded region indicates the coating design wavelength range, with the following specification:

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

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

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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:

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

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

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|                                                                                                                                                                                                                                                                                                                                                                                         |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      |
|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <div><div></div><div>2004006008001000120014001600</div><div>Wavelength (nm)</div></div>                                                                                                                                                                                                                                                                                                 |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      |
| <div><div>N-BK7 with VIS 0° Coating</div><div>Typical Transmission</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>200</div><div>400</div><div>600</div><div>800</div><div>1000</div><div>1200</div></div></div><div>Wavelength (nm)</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><math>R_{avg} \leq 0.4\% @ 425 - 675nm</math></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><div>N-BK7 with YAG-BBAR Coating</div><div>Typical Transmission</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>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>Wavelength (nm)</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><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></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><div>N-BK7 with NIR I Coating</div><div>Typical Transmission</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>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>Wavelength (nm)</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><math>R_{avg} \leq 0.5\% @ 600 - 1050nm</math></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><div>N-BK7 with NIR II Coating</div><div>Typical Transmission</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>200</div><div>400</div><div>600</div><div>800</div><div>1000</div><div>1200</div><div>1400</div><div>1600</div><div>1800</div><div>2000</div></div></div><div>Wavelength (nm)</div></div> | <div><div>Typical transmission of a 3mm thick N-BK7 window with NIR II (750 - 1550nm) coating at 0° AOI.</div><div>The blue shaded region indicates the coating design wavelength range, with the following specification:</div><div><div><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></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> |

