

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



Stock **#45-905-INK** [CONTACT US](#)

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1

+

£75<sup>20</sup>

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| Volume Pricing |                               |
|----------------|-------------------------------|
| Qty 1-9        | £75.20 each                   |
| Qty 10-24      | £67.60 each                   |
| Qty 25-99      | £60.00 each                   |
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Prices shown are exclusive of VAT/local taxes

Product Downloads

General

Type:  
Double-Convex Lens

Physical & Mechanical Properties

Diameter (mm):

|                                                                                                                     |                                             |
|---------------------------------------------------------------------------------------------------------------------|---------------------------------------------|
| 50.00                                                                                                               |                                             |
| <1                                                                                                                  | Centering (arcmin):                         |
| Protective as needed                                                                                                | Bevel:                                      |
| 16.00                                                                                                               | Center Thickness CT (mm):                   |
| ±0.10                                                                                                               | Center Thickness Tolerance (mm):            |
| 7.39                                                                                                                | Edge Thickness ET (mm):                     |
| 49.00                                                                                                               | Clear Aperture CA (mm):                     |
| Optical Properties                                                                                                  |                                             |
| 45.30                                                                                                               | Back Focal Length BFL (mm):                 |
| 50.00                                                                                                               | Effective Focal Length EFL (mm):            |
| VIS-NIR (400-1000nm)                                                                                                | Coating:                                    |
| 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:                      |
| N-SF11                                                                                                              | Substrate: □                                |
| 40-20                                                                                                               | Surface Quality:                            |
| 74.78                                                                                                               | Radius R <sub>1</sub> =R <sub>2</sub> (mm): |
| 1.00                                                                                                                | f/#:                                        |
| ±1                                                                                                                  | Focal Length Tolerance (%):                 |
| 0.50                                                                                                                | Numerical Aperture NA:                      |
| 400 - 1000                                                                                                          | Wavelength Range (nm):                      |
| Regulatory Compliance                                                                                               |                                             |
| View                                                                                                                | Certificate of Conformance:                 |

## 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](#).

## Product Details

- AR Coated to Provide <1.25% Reflectance per Surface for 400 - 1000nm
- 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](#), [NIR II](#), [VIS-EXT](#), and [YAG-BBAR](#)

TECHSPEC® VIS-NIR 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® VIS-NIR Coated Double-Convex Lenses are available in a variety of substrates and coating options for the visible and NIR spectra.

## Technical Information



| N-BK7                                                                         |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    |
|-------------------------------------------------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <div><div>Uncoated N-BK7 Typical Transmission</div></div>                     | <div>Typical transmission of a 3mm thick, uncoated N-BK7 window across the UV - NIR spectra.</div> <div><a href="#">Click Here to Download Data</a></div>                                                                                                                                                                                                                                                                                                                                                                                          |
| <div><div>N-BK7 with MgF<sub>2</sub> Coating Typical Transmission</div></div> | <div>Typical transmission of a 3mm thick N-BK7 window with MgF2 (400-700nm) coating at 0° AOI.</div> <div>The blue shaded region indicates the coating design wavelength range, with the following specification:</div> <div><math>R_{avg} \leq 1.75\% @ 400 - 700\text{nm}</math> (N-BK7)</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-EXT Coating Typical Transmission</div></div>         | <div>Typical transmission of a 3mm thick N-BK7 window with VIS-EXT (350-700nm) coating at 0° AOI.</div> <div>The blue shaded region indicates the coating design wavelength range, with the following specification:</div> <div><math>R_{avg} \leq 0.5\% @ 350 - 700\text{nm}</math></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-NIR Coating Typical Transmission</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><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></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> |



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

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

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

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

[Click Here to Download Data](#)



Typical transmission of a 3mm thick N-BK7 window with YAG-BBAR (500-1100nm) coating at 0° AOI.

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

$$R_{\text{abs}} \leq 0.25\% @ 532\text{nm}$$
$$R_{\text{abs}} \leq 0.25\% @ 1064\text{nm}$$
$$R_{\text{avg}} \leq 1.0\% @ 500 - 1100\text{nm}$$

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

[Click Here to Download Data](#)



Typical transmission of a 3mm thick N-BK7 window with NIR I (600 - 1050nm) coating at 0° AOI.

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

$$R_{\text{avg}} \leq 0.5\% \text{ @ } 600 - 1050\text{nm}$$

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

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Typical transmission of a 3mm thick N-BK7 window with NIR II (750 - 1550nm) coating at 0° AOI.

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

$$R_{\text{abs}} \leq 1.5\% \text{ @ } 750 - 800\text{nm}$$
$$R_{\text{abs}} \leq 1.0\% \text{ @ } 800 - 1550\text{nm}$$
$$R_{\text{avg}} \leq 0.7\% \text{ @ } 750 - 1550\text{nm}$$

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

[Click Here to Download Data](#)

Compatible Mounts

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