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TECHSPEC<sup>®</sup> 4.5mm Dia. x 4.5mm FL, VIS 0° Coated, Double-Convex Lens



Stock **#47-895** **8 In Stock**

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-

1

+

₹5,021

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General

Type:

Double-Convex Lens

Physical & Mechanical Properties

Diameter (mm):

4.50 +0.0/-0.025

|                      |                                  |
|----------------------|----------------------------------|
| 30-45, typical       | Centering (arcmin):              |
| Protective as needed | Bevel:                           |
| 2.60                 | Center Thickness CT (mm):        |
| ±0.05                | Center Thickness Tolerance (mm): |
| 1.80                 | Edge Thickness ET (mm):          |
| 4.05                 | Clear Aperture CA (mm):          |

Optical Properties

|                                      |                                                       |
|--------------------------------------|-------------------------------------------------------|
| 3.70                                 | Back Focal Length BFL (mm):                           |
| 4.50                                 | Effective Focal Length EFL (mm):                      |
| VIS 0° (425-675nm)                   | Coating:                                              |
| R <sub>avg</sub> ≤0.4% @ 425 - 675nm | Coating Specification:                                |
| <a href="#">N-LASF44</a>             | Substrate: <input type="checkbox"/>                   |
| 40-20                                | Surface Quality:                                      |
| 1.5λ                                 | Power (P-V) @ 632.8nm:                                |
| λ/4                                  | Irregularity (P-V) @ 632.8nm:                         |
| 6.58                                 | Radius R <sub>1</sub> =R <sub>2</sub> (mm):           |
| 1.00                                 | f/#:                                                  |
| 587.6                                | Focal Length Specification Wavelength (nm):           |
| ±1                                   | Focal Length Tolerance (%):                           |
| 0.50                                 | Numerical Aperture NA:                                |
| 425 - 675                            | Wavelength Range (nm):                                |
| 5 J/cm <sup>2</sup> @ 532nm, 10ns    | Damage Threshold, By Design: <input type="checkbox"/> |

Regulatory Compliance

|                                     |                             |
|-------------------------------------|-----------------------------|
| <a href="#">Compliant</a>           | RoHS 2015:                  |
| <a href="#">View</a>                | Certificate of Conformance: |
| <a href="#">Compliant</a>           | Reach 235:                  |
| Japan                               | Country of Origin:          |
| Edmund Optics India Private Limited | Imported By:                |

Product Details

- AR Coated to Provide <0.4% Reflectance per Surface for 425 - 675nm
  - Minimize Aberrations Including Spherical and Coma
  - [UV Fused Silica DCX Lenses](#) Available
  - Other Coating Options Available: [Uncoated](#), [MgF<sub>2</sub>](#), [NIR I](#), [NIR II](#), [VIS-EXT](#), [VIS-NIR](#), and [YAG-BBAR](#)
- TECHSPEC® VIS 0° 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 0° 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<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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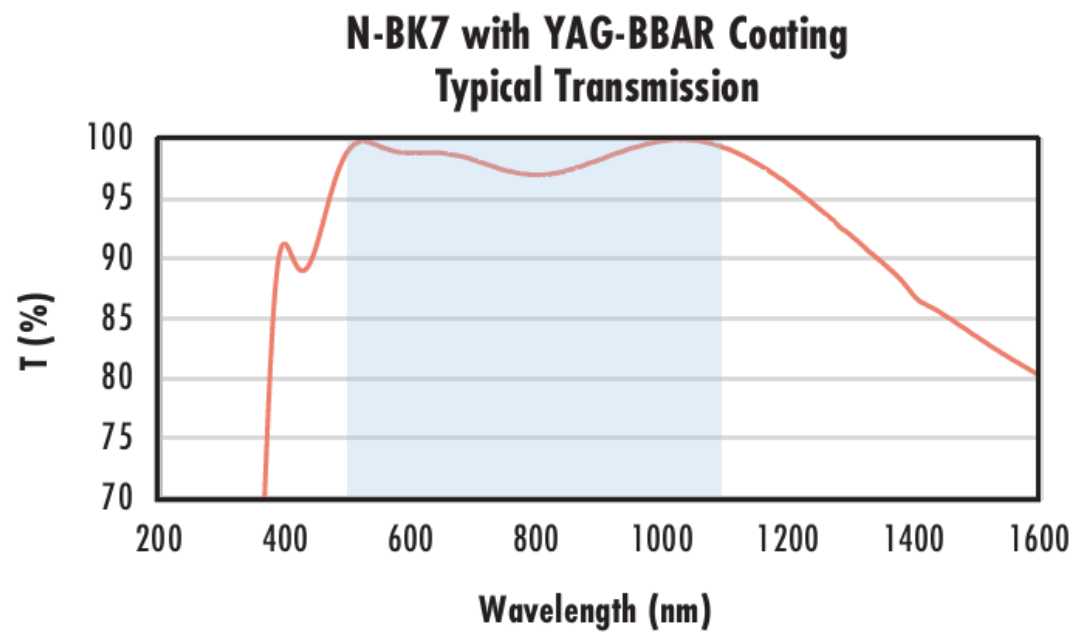
Typical transmission of a 3mm thick N-BK7 window with VIS 0° (425-675nm) coating at 0° AOI.

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

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

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

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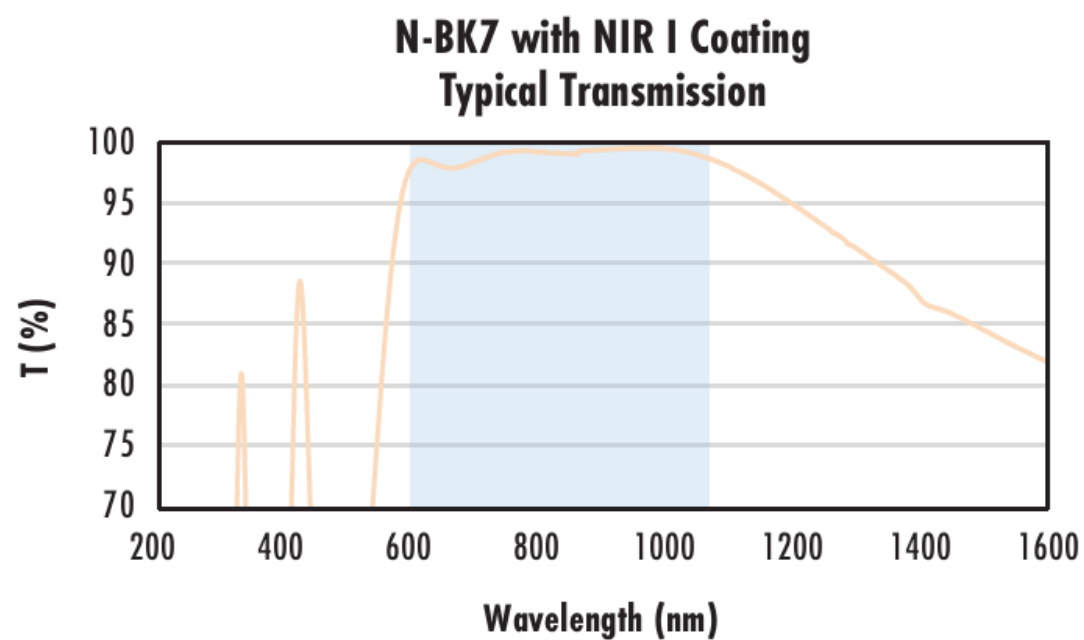
Typical transmission of a 3mm thick N-BK7 window with YAG-BBAR (500-1100nm) coating at 0° AOI.

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

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

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 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.

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# 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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