

[See all 87 Products in Family](#)

TECHSPEC® 50mm Dia. x 200mm FL, MgF₂ Coated, Double-Convex Lens



Stock #45-170 **4 In Stock**

[Other Coating Options](#)

1 MRP ₹6,709

Price inclusive of all taxes

ADD TO CART

Volume Pricing	
Qty 1-9	₹6,709 each
Qty 10-24	₹6,053 each
Qty 25-99	₹5,348 each
Need More?	Request Quote

Product Downloads

General

Double-Convex Lens **Type:**

Physical & Mechanical Properties

Diameter (mm):

50.00 +0.0/-0.025

<1 **Centering (arcmin):**

Protective as needed **Bevel:**

5.05 **Center Thickness CT (mm):**

±0.10 **Center Thickness Tolerance (mm):**

2.00 **Edge Thickness ET (mm):**

49.00 **Clear Aperture CA (mm):**

Optical Properties

198.33 **Back Focal Length BFL (mm):**

200.00 **Effective Focal Length EFL (mm):**

MgF₂ (400-700nm) **Coating:**

R_{avg} ≤ 1.75% @ 400 - 700nm **Coating Specification:**

N-BK7 **Substrate:**

40-20 **Surface Quality:**

1.5λ **Power (P-V) @ 632.8nm:**

λ/4 **Irregularity (P-V) @ 632.8nm:**

205.86 **Radius R₁=R₂ (mm):**

4.00 **f#:**

587.6 **Focal Length Specification Wavelength (nm):**

±1 **Focal Length Tolerance (%):**

0.13 **Numerical Aperture NA:**

400 - 700 **Wavelength Range (nm):**

10 J/cm² @ 532nm, 10ns **Damage Threshold, By Design:**

Regulatory Compliance

Compliant **RoHS 2015:**

View **Certificate of Conformance:**

Compliant **Reach 235:**

Japan **Country of Origin:**

Imported By:
Edmund Optics India Private Limited
267, Greystone Building, Second Floor,
6th Cross Rd, Binnamangala,
Stage 1, Indiranagar, Bengaluru,
Karnataka, India 560038
Phone: +91- 80-6845 0000

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

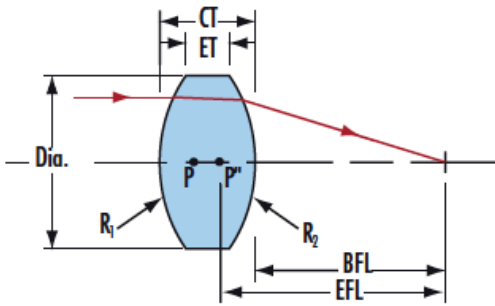
Learn more about our [custom manufacturing capabilities](#) or submit an inquiry [here](#).

Product Details

- AR Coated to Provide <math><1.75\%</math> Reflectance per Surface for 400 - 700nm
- Minimize Aberrations Including Spherical and Coma
- **UV Fused Silica DCX Lenses** Available
- Other Coating Options Available: **Uncoated**, **VIS 0°**, **NIR I**, **NIR II**, **VIS-EXT**, **VIS-NIR**, and **YAG-BBAR**

TECHSPEC® MgF₂ 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® MgF₂ Coated Double-Convex Lenses are available in a variety of substrates and coating options for the visible and NIR spectra.

Technical Information



N-BK7

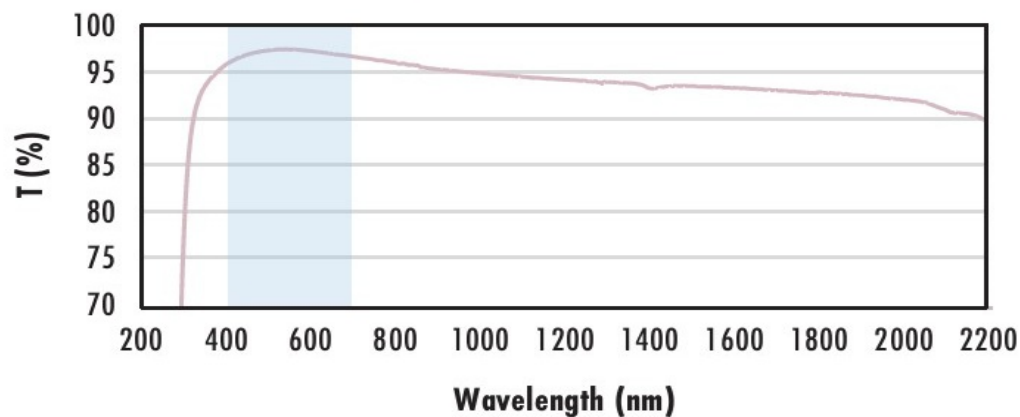
Uncoated N-BK7 Typical Transmission



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

[Click Here to Download Data](#)

N-BK7 with MgF₂ Coating Typical Transmission



Typical transmission of a 3mm thick N-BK7 window with MgF₂ (400-700nm) coating at 0° AOI.

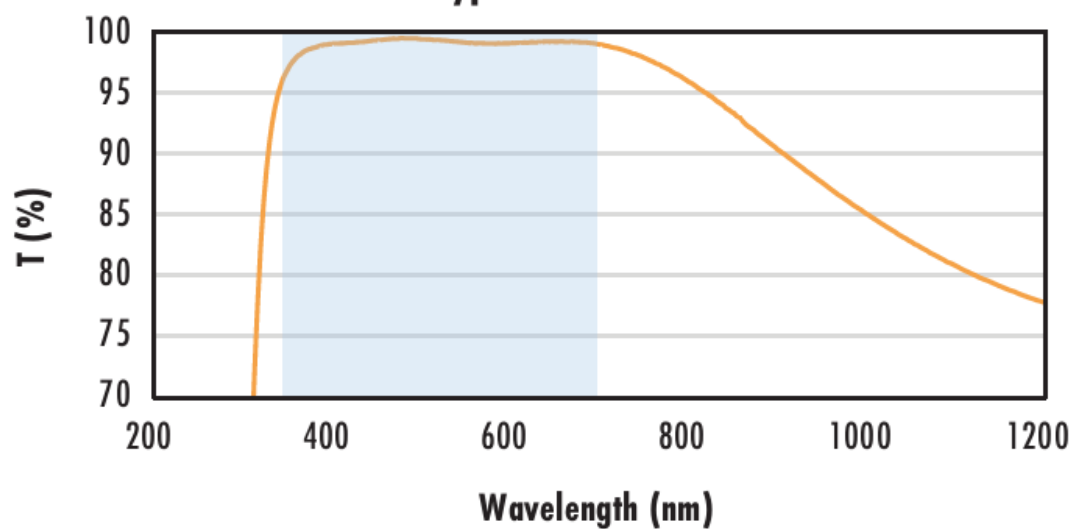
The blue shaded region indicates the coating design wavelength range, with the following specification:

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

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

[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:

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

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

[Click Here to Download Data](#)

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:

$$R_{\text{abs}} \leq 0.25\% @ 880\text{nm}$$

$$R_{\text{avg}} \leq 1.25\% @ 400 - 870\text{nm}$$

$$R_{\text{avg}} \leq 1.25\% @ 890 - 1000\text{nm}$$

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

[Click Here to Download Data](#)

**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.

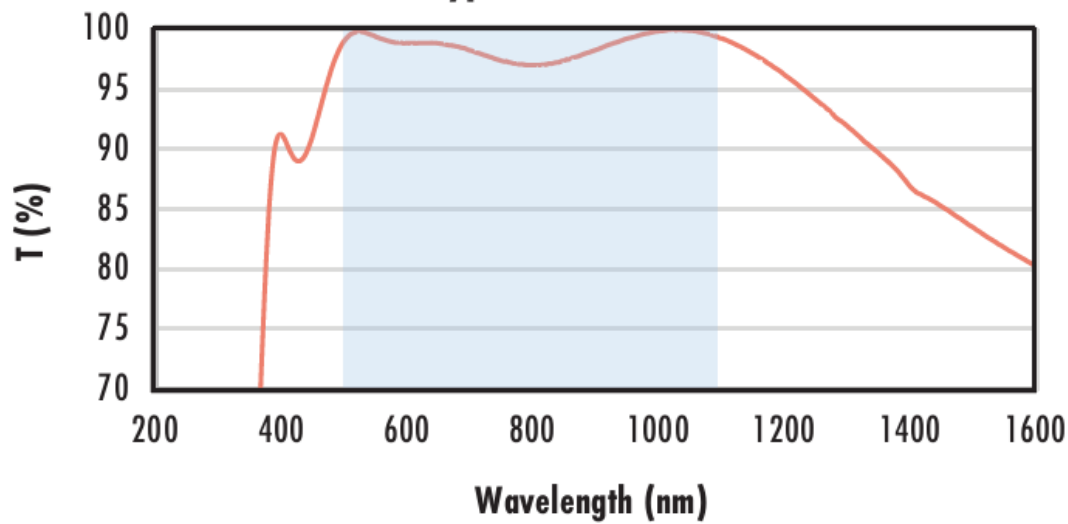
The blue shaded region indicates the coating design wavelength range, with the following specification:

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

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

[Click Here to Download Data](#)

**N-BK7 with YAG-BBAR Coating
Typical Transmission**



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](#)

**N-BK7 with NIR I Coating
Typical Transmission**



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

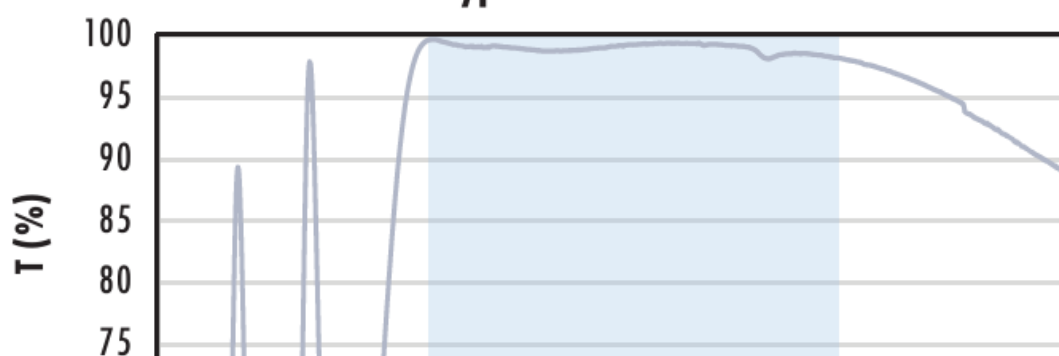
The blue shaded region indicates the coating design wavelength range, with the following specification:

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

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

[Click Here to Download Data](#)

**N-BK7 with NIR II Coating
Typical Transmission**



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:

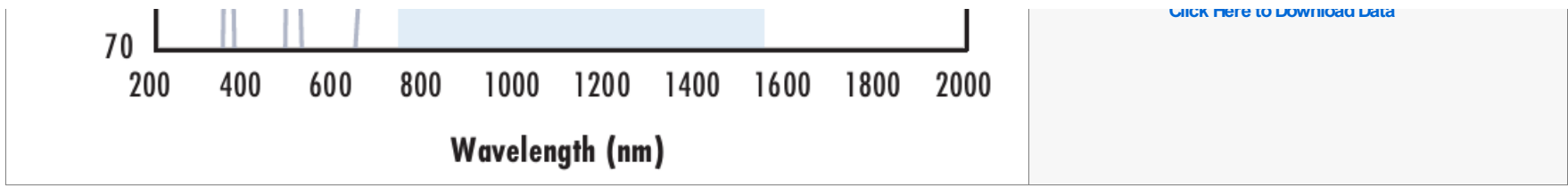
$$R_{\text{abs}} \leq 1.5\% @ 750 - 800\text{nm}$$

$$R_{\text{abs}} \leq 1.0\% @ 800 - 1550\text{nm}$$

$$R_{\text{avg}} \leq 0.7\% @ 750 - 1550\text{nm}$$

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

[Click Here to Download Data](#)



Coating Curves

Compatible Mounts

;