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TECHSPEC® 12.0mm Dia. x 48.0mm FL, VIS-NIR Coated, Plano-Convex Lens



Stock **#45-486** [CONTACT US](#)

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1 MRP ₹5,045

Price inclusive of all taxes

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Volume Pricing

| | |
|------------|-------------------------------|
| Qty 1-9 | ₹5,045 each |
| Qty 10-24 | ₹4,516 each |
| Qty 25-49 | ₹4,036 each |
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Product Downloads

General

Plano-Convex Lens **Type:**

Physical & Mechanical Properties

Diameter (mm):

12.00 +0.0/-0.025

Centering (arcmin):
<1

Center Thickness CT (mm):
2.50 ±0.05

Edge Thickness ET (mm):
1.76

Clear Aperture CA (mm):
11

Bevel:
Protective as needed

Optical Properties

Effective Focal Length EFL (mm):
48.00 @ 587.6nm

Back Focal Length BFL (mm):
46.36

Coating:
VIS-NIR (400-1000nm)

Coating Specification:
R_{abs} ≤ 0.25% @ 880nm
R_{avg} ≤ 1.25% @ 400 - 870nm
R_{avg} ≤ 1.25% @ 890 - 1000nm

Substrate:
N-BK7

Surface Quality:
40-20

Power (P-V) @ 632.8nm:
1.5λ

Irregularity (P-V) @ 632.8nm:
λ/4

Focal Length Tolerance (%):
±1

Radius R₁ (mm):
24.82

f#:
4.00

Numerical Aperture NA:
0.13

Wavelength Range (nm):
400 - 1000

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

Regulatory Compliance

RoHS 2015:
Compliant

Reach 219:
Compliant

Certificate of Conformance:
[View](#)

Country of Origin:
Japan

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

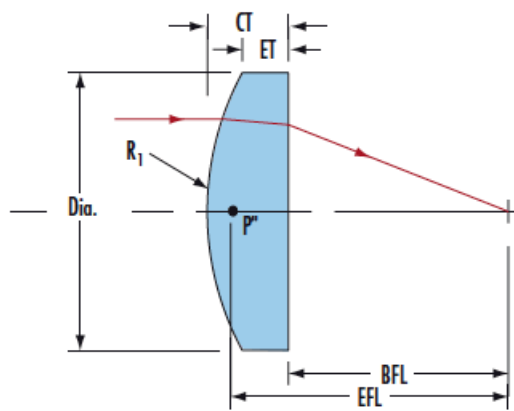
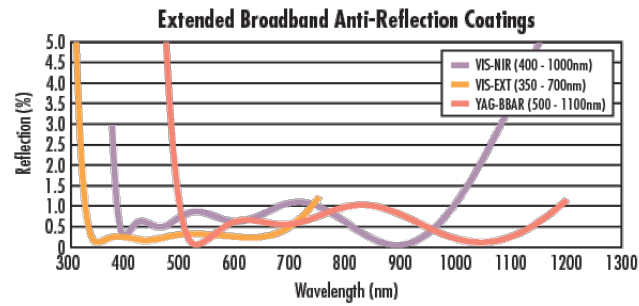
- AR Coated to Provide <1.25% Reflectance per Surface for 400 - 1000nm
- <0.25% Reflectance @ 880nm
- Designed for 0° Angle of Incidence

• Various PCX Coating Options: **Uncoated**, **MgF₂**, **VIS 0°**, **NIR I**, **NIR II**, **VIS-EXT**, and **YAG-BBAR**

TECHSPEC® VIS-NIR Coated Plano-Convex (PCX) Lenses have a positive focal length, making them ideal for collecting and focusing light in imaging applications. They are also useful in a variety of applications involving emitters, detectors, lasers, and fiber optics. Plano-Convex lenses are ideal for a multitude of optics and photonics applications, including biotech instruments such as DNA sequencers and polymerase chain reaction (PCR) testing platforms. TECHSPEC® VIS-NIR Coated Plano-Convex (PCX) Lenses are available in a wide variety of diameters and focal lengths. Identical designs of these PCX lenses are also offered **uncoated** or with broadband anti-reflective (BBAR) coatings, which include **MgF₂**, **VIS 0°**, **NIR I**, **NIR II**, **VIS-EXT**, and **YAG-BBAR**.

These coated lenses are optimized for a wide range of optics and photonics applications, including biotech instruments such as DNA sequencers and polymerase chain reaction (PCR) testing platforms.

Technical Information



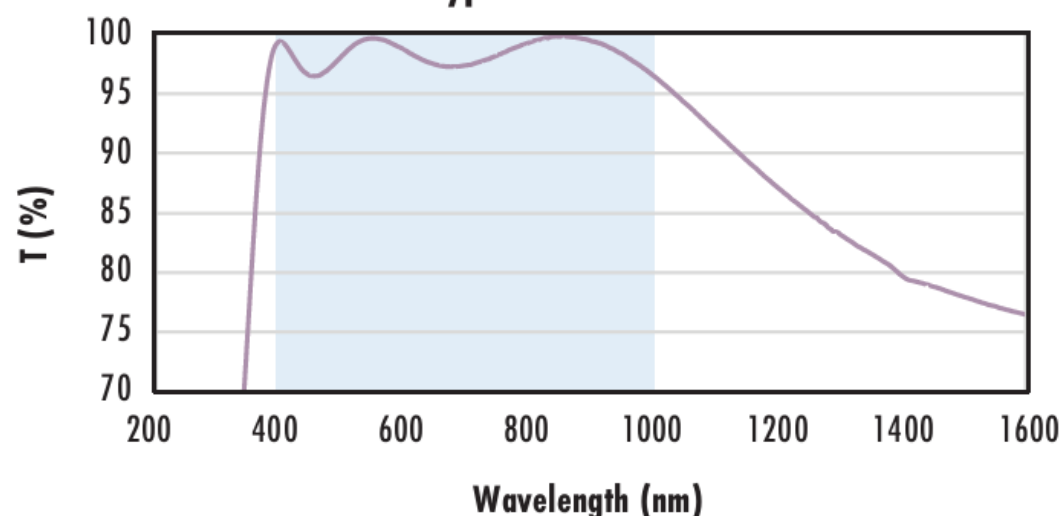
| N-BK7 | |
|---|--|
| <p>Uncoated N-BK7 Typical Transmission</p> <p>The graph shows the typical transmission of a 3mm thick, uncoated N-BK7 window. The Y-axis is T (%) from 70 to 100, and the X-axis is Wavelength (nm) from 200 to 2200. The transmission is high, starting at ~70% at 200 nm and rising to ~92% by 400 nm, remaining stable until 2000 nm, then slightly decreasing to ~88% at 2200 nm.</p> | <p>Typical transmission of a 3mm thick, uncoated N-BK7 window across the UV - NIR spectra.</p> <p>Click Here to Download Data</p> |
| <p>N-BK7 with MgF₂ Coating Typical Transmission</p> <p>The graph shows the typical transmission of a 3mm thick N-BK7 window with MgF₂ (400-700nm) coating at 0° AOI. The Y-axis is T (%) from 70 to 100, and the X-axis is Wavelength (nm) from 200 to 2200. A blue shaded region indicates the coating design wavelength range from approximately 350 nm to 750 nm. Transmission is ~70% at 200 nm, rises to ~95% at 400 nm, and remains high until 2000 nm, then drops to ~88% at 2200 nm.</p> | <p>Typical transmission of a 3mm thick N-BK7 window with MgF₂ (400-700nm) coating at 0° AOI.</p> <p>The blue shaded region indicates the coating design wavelength range, with the following specification:</p> <p>$R_{avg} \leq 1.75\% @ 400 - 700\text{nm}$ (N-BK7)</p> <p>Data outside this range is not guaranteed and is for reference only.</p> <p>Click Here to Download Data</p> |
| <p>N-BK7 with VIS-EXT Coating Typical Transmission</p> <p>The graph shows the typical transmission of a 3mm thick N-BK7 window with VIS-EXT (350-700nm) coating at 0° AOI. The Y-axis is T (%) from 85 to 100, and the X-axis is Wavelength (nm) from 200 to 2200. A blue shaded region indicates the coating design wavelength range from approximately 300 nm to 750 nm. Transmission is ~85% at 200 nm, rises to ~98% at 350 nm, and remains high until 700 nm, then drops to ~85% at 2200 nm.</p> | <p>Typical transmission of a 3mm thick N-BK7 window with VIS-EXT (350-700nm) coating at 0° AOI.</p> <p>The blue shaded region indicates the coating design wavelength range, with the following specification:</p> <p>$R_{avg} \leq 0.5\% @ 350 - 700\text{nm}$</p> |



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.

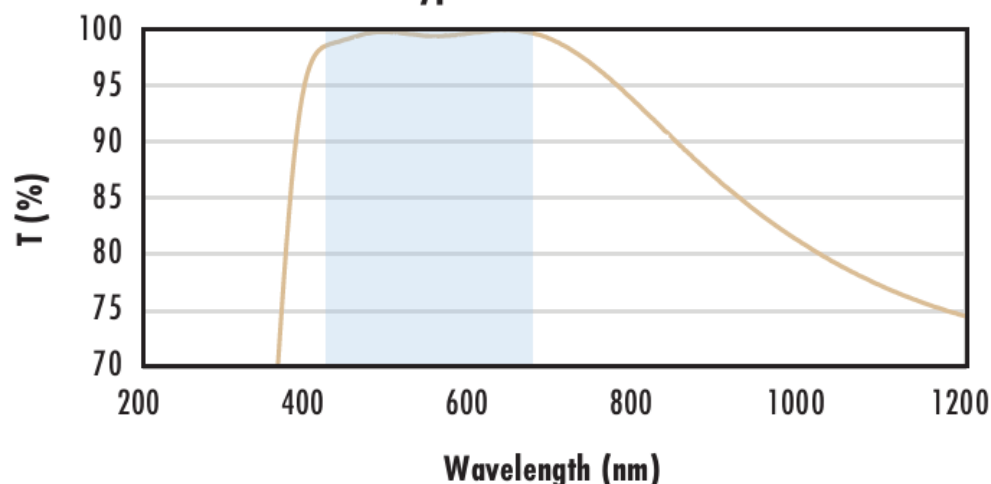
The blue shaded region indicates the coating design wavelength range, with the following specification:

$R_{abs} \leq 0.25\%$ @ 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.

[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.

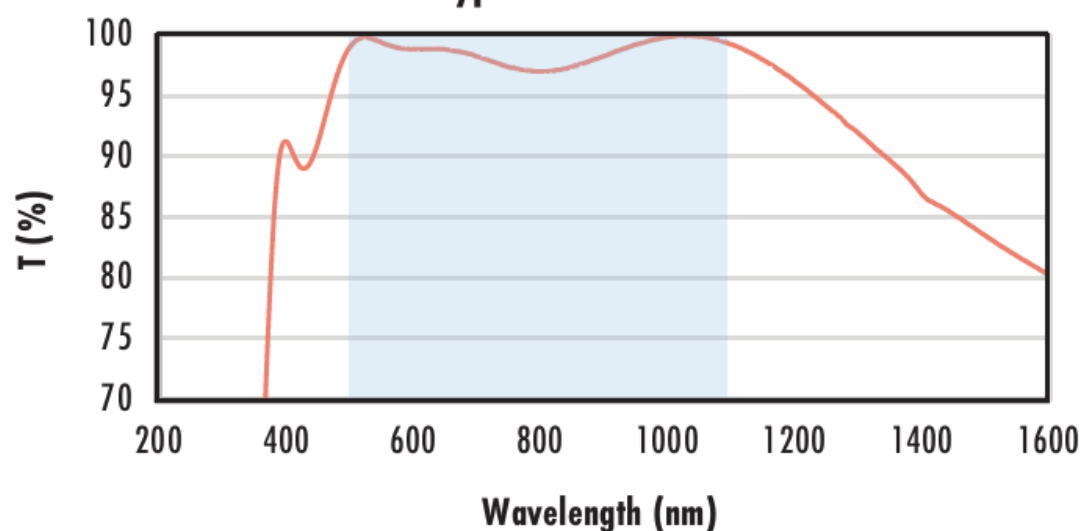
The blue shaded region indicates the coating design wavelength range, with the following specification:

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

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.

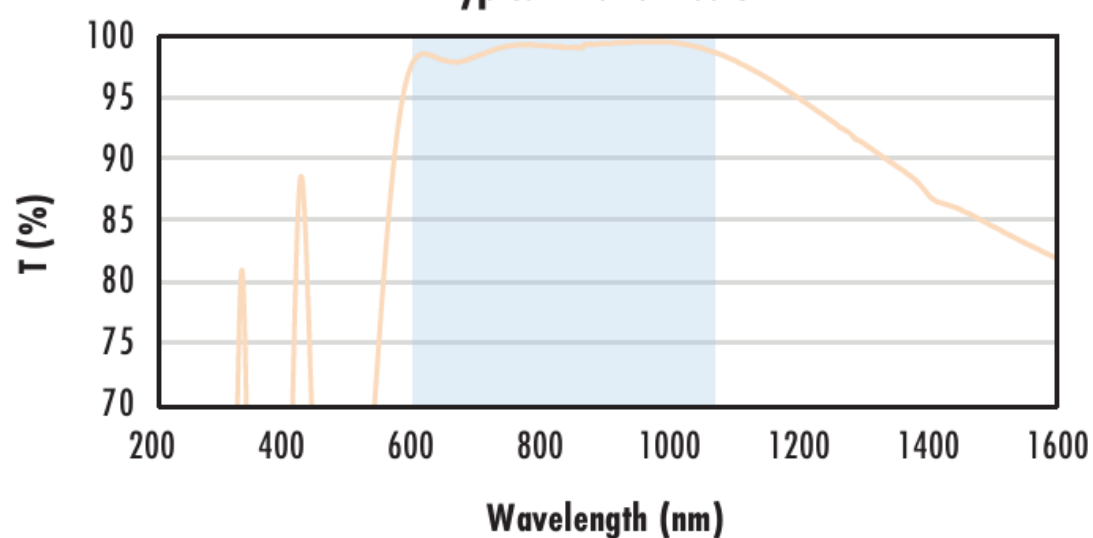
The blue shaded region indicates the coating design wavelength range, with the following specification:

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

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.

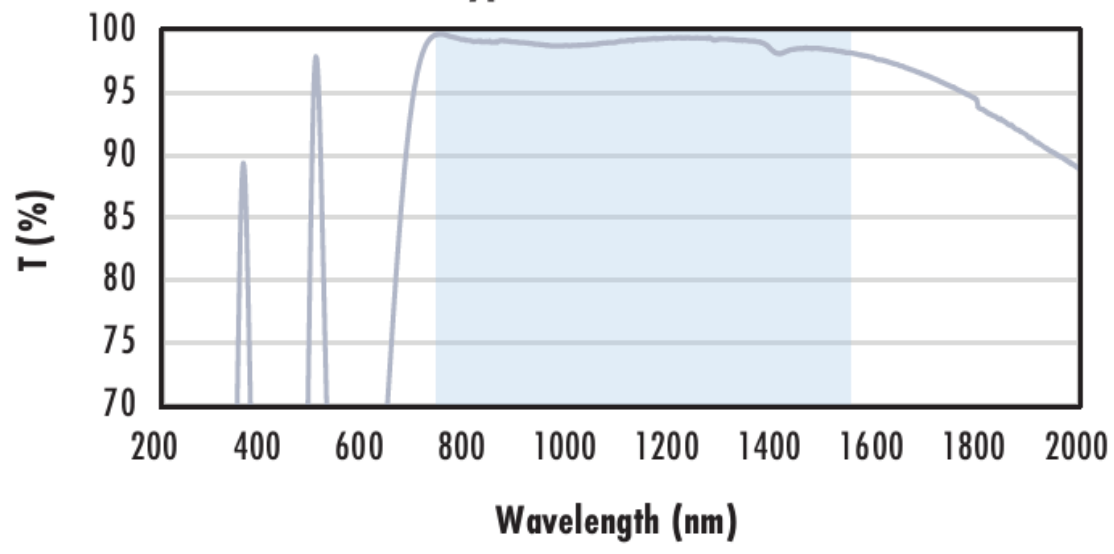
The blue shaded region indicates the coating design wavelength range, with the following specification:

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

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:

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

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

[Click Here to Download Data](#)

Coating Curves

Compatible Mounts