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TECHSPEC® 12.0mm Diameter x -48 FL, NIR I Coated, Plano-Concave Lens



Stock **#49-530** **20+ In Stock**

[Other Coating Options](#)

- 1 + A\$77^{.20}

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Volume Pricing	
Qty 1-9	A\$77.20 each
Qty 10-25	A\$69.20 each
Qty 26-49	A\$61.60 each
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General

Plano-Concave Lens **Type:**

Physical & Mechanical Properties

12.00 +0.0/-0.025 **Diameter (mm):**

Protective as needed	Bevel:
3.50	Center Thickness CT (mm):
±0.05	Center Thickness Tolerance (mm):
<1	Centering (arcmin):
11.00	Clear Aperture CA (mm):
4.12	Edge Thickness ET (mm):

Optical Properties

-48.00	Effective Focal Length EFL (mm):
N-BK7	Substrate: <input type="checkbox"/>
4	f#:
0.13	Numerical Aperture NA:
NIR I (600-1050nm)	Coating:
600 - 1050	Wavelength Range (nm):
-50.31	Back Focal Length BFL (mm):
$R_{avg} \leq 0.5\% @ 600 - 1050nm$	Coating Specification:
587.6	Focal Length Specification Wavelength (nm):
±1	Focal Length Tolerance (%):
-24.81	Radius R₁ (mm):
40-20	Surface Quality:
$7 J/cm^2 @ 1064nm, 10ns$	Damage Threshold, By Design: <input type="checkbox"/>
1.5λ	Power (P-V) @ 632.8nm:
λ/4	Irregularity (P-V) @ 632.8nm:

Regulatory Compliance

Compliant	RoHS 2015:
View	Certificate of Conformance:
Compliant	Reach 235:

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
- Designed for 0° Angle of Incidence
- Various Coating Options: [Uncoated](#), [VIS-EXT](#), [MgF₂](#), [VIS 0°](#), [VIS-NIR](#), [YAG-BBAR](#), and [NIR II](#)

TECHSPEC® NIR I Coated Plano-Concave (PCV) Lenses are designed to bend parallel input rays to diverge from one another on the output side of the lens causing this lens to have a negative focal length. These lenses can be used for balancing aberrations created by other lenses within a system due to their negative spherical aberration. Plano-Concave (PCV) lenses are commonly used in a variety of applications including image reduction, beam expansion and telescopes. TECHSPEC® NIR I Coated Plano-Concave (PCV) Lenses offer optimal performance in the 600nm to 1050nm range. These lenses are also available [Uncoated](#), [VIS-EXT](#), [MgF₂](#), [VIS 0°](#), [VIS-NIR](#), [YAG-BBAR](#), or with [NIR II](#) AR coating options.

Technical Information



N-BK7	
<h3>Uncoated N-BK7 Typical Transmission</h3>	<p>Typical transmission of a 3mm thick, uncoated N-BK7 window across the UV - NIR spectra.</p> <p>Click Here to Download Data</p>
<h3>N-BK7 with MgF₂ Coating Typical Transmission</h3>	<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>
<h3>N-BK7 with VIS-EXT Coating Typical Transmission</h3>	<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> <p>Data outside this range is not guaranteed and is for reference only.</p> <p>Click Here to Download Data</p>
<h3>N-BK7 with VIS-NIR Coating Typical Transmission</h3>	<p>Typical transmission of a 3mm thick N-BK7 window with VIS-NIR (400-1000nm) coating at 0° AOI.</p> <p>The blue shaded region indicates the coating design wavelength range, with the following specification:</p> <p>$R_{avg} \leq 0.25\% @ 880\text{nm}$</p>



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

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.

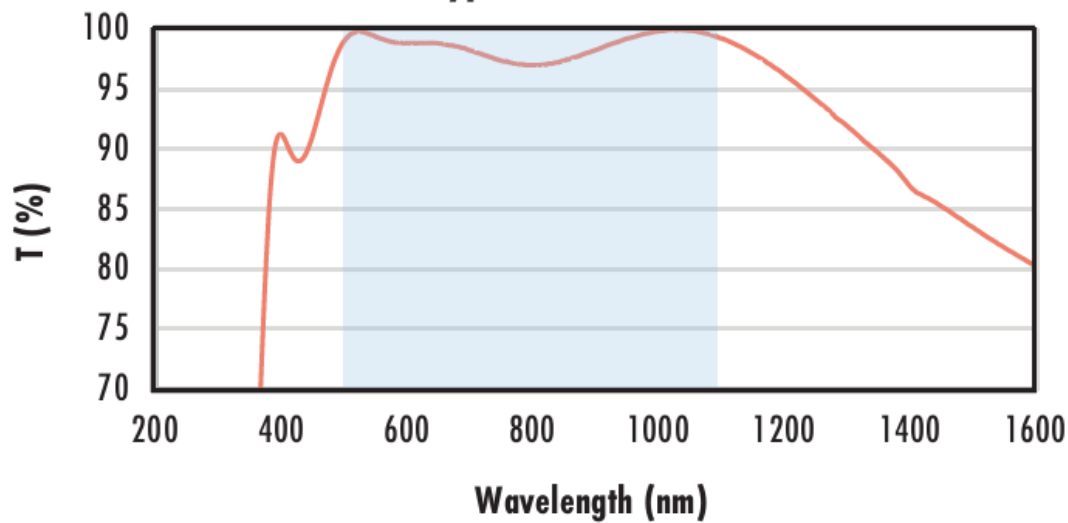
The blue shaded region indicates the coating design wavelength range, with the following specification:

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

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.

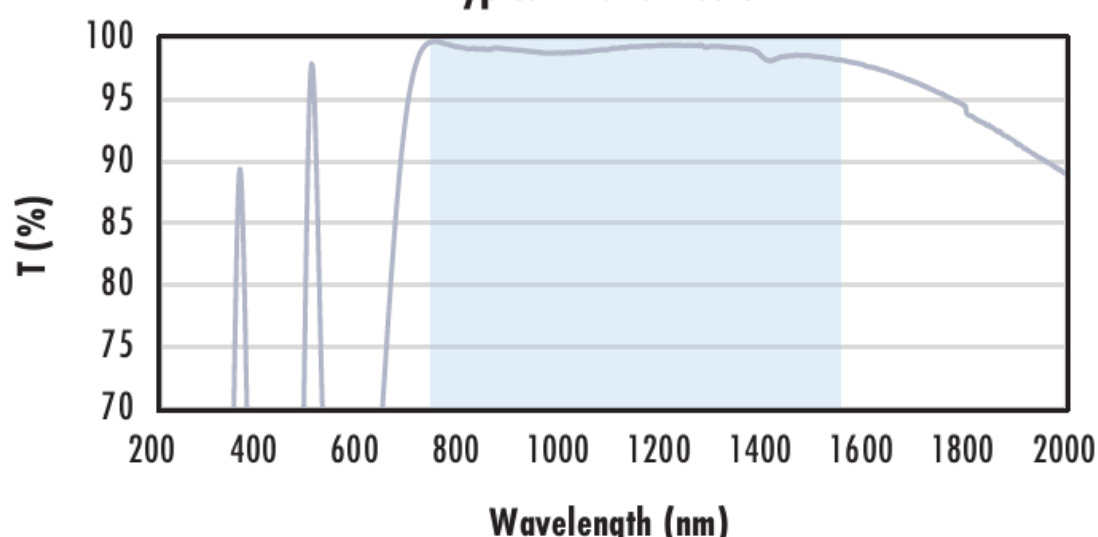
The blue shaded region indicates the coating design wavelength range, with the following specification:

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

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](#)

Compatible Mounts
