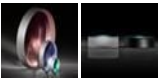


TECHSPEC® 12mm Diameter x -48 FL, VIS-NIR Coated, Plano-Concave Lens



TECHSPEC VIS-NIR Coated Plano-Concave (PCV) Lenses



Stock #45-918 13 In Stock

[Other Coating Options](#)

-

1

+

A\$81<sup>00</sup>

ADD TO CART

| Volume Pricing |                               |
|----------------|-------------------------------|
| Qty 1-9        | A\$81.60 each                 |
| Qty 10-25      | A\$73.20 each                 |
| Qty 26-49      | A\$65.20 each                 |
| Need More?     | <a href="#">Request Quote</a> |

Product Downloads

General

Type:

Plano-Concave Lens

Physical & Mechanical Properties

Diameter (mm):

|                                                                                                                    |                                                       |
|--------------------------------------------------------------------------------------------------------------------|-------------------------------------------------------|
| 12.00 +0.0/-0.025                                                                                                  |                                                       |
| 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"/>                   |
| 4.00                                                                                                               | f#:                                                   |
| 0.13                                                                                                               | Numerical Aperture NA:                                |
| VIS-NIR (400-1000nm)                                                                                               | Coating:                                              |
| 400 - 1000                                                                                                         | Wavelength Range (nm):                                |
| -50.31                                                                                                             | Back Focal Length BFL (mm):                           |
| R <sub>abs</sub> ≤0.25% @ 880nm<br>R <sub>avg</sub> ≤1.25% @ 400 - 870nm<br>R <sub>avg</sub> ≤1.25% @ 890 - 1000nm | Coating Specification:                                |
| 587.6                                                                                                              | Focal Length Specification Wavelength (nm):           |
| ±1                                                                                                                 | Focal Length Tolerance (%):                           |
| -24.81                                                                                                             | Radius R <sub>1</sub> (mm):                           |
| 40-20                                                                                                              | Surface Quality:                                      |
| 5 J/cm² @ 532nm, 10ns                                                                                              | Damage Threshold, By Design: <input type="checkbox"/> |
| 1.5λ                                                                                                               | Power (P-V) @ 632.8nm:                                |
| λ/4                                                                                                                | Irregularity (P-V) @ 632.8nm:                         |

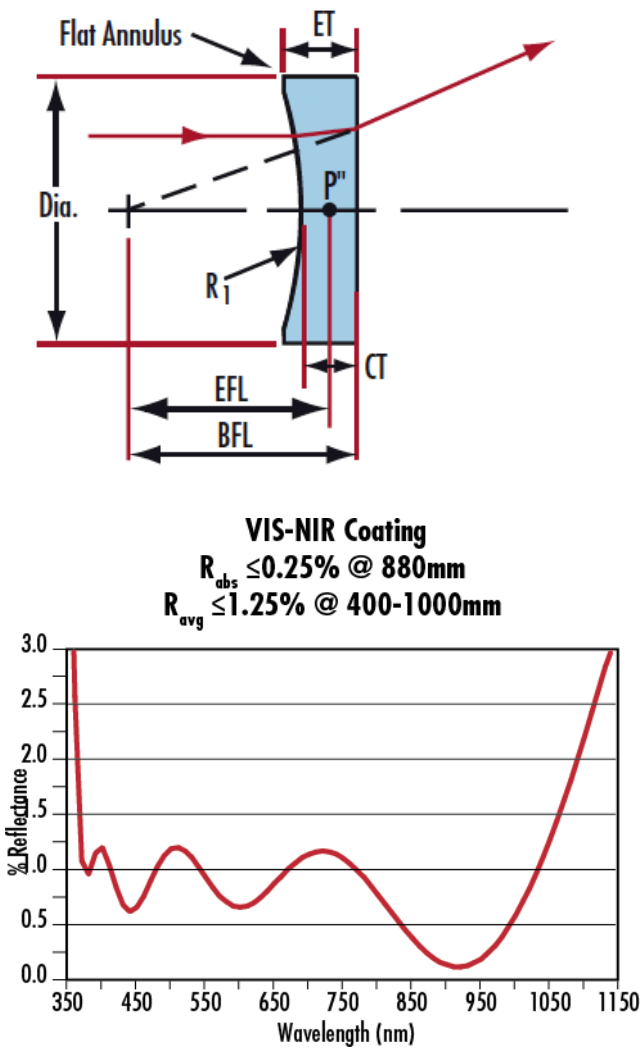
|                       |                             |
|-----------------------|-----------------------------|
| Regulatory Compliance |                             |
| Compliant             | RoHS 2015:                  |
| View                  | Certificate of Conformance: |
| Compliant             | Reach 235:                  |

## 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 Coating Options: [Uncoated](#), [VIS-EXT](#), [MgF2](#), [VIS 0°](#), [YAG-BBAR](#), [NIR I](#), and [NIR II](#)

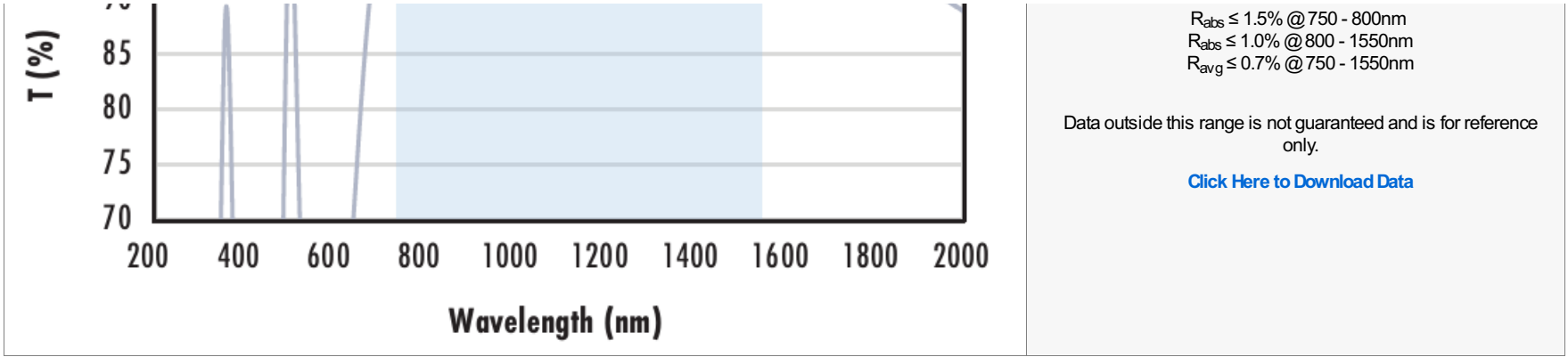
TECHSPEC® VIS-NIR Coated Plano-Concave (PCV) Lenses are designed to bend parallel input rays to diverge from one another on the output side of the lens causing this lens to have a negative focal length. These lenses can be used for balancing aberrations created by other lenses within a system due to their negative spherical aberration. Plano-Concave (PCV) lenses are commonly used in a variety of applications including image reduction, beam expansion and telescopes. TECHSPEC® VIS-NIR Coated Plano-Concave (PCV) Lenses are optimized for transmission (>99%) in the near-infrared. These lenses are also available [Uncoated](#), [VIS-EXT](#), [MgF2](#), [VIS 0°](#), [YAG-BBAR](#), [NIR I](#), or with [NIR II](#) AR coating options.

## Technical Information



| N-BK7                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            |                                                                                                                                                                                                                                                                                                                                                                                                                                       |
|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <div><h3>Uncoated N-BK7 Typical Transmission</h3><p>This graph shows the typical transmission of a 3mm thick, uncoated N-BK7 window. The y-axis represents % Transmittance (T (%)) from 70 to 100, and the x-axis represents Wavelength (nm) from 200 to 2200. The transmission is low (around 70%) at 200 nm, rises sharply to about 92% by 400 nm, and remains relatively stable between 90% and 92% up to 2200 nm.</p></div>                                                                                                                  | <p>Typical transmission of a 3mm thick, uncoated N-BK7 window across the UV - NIR spectra.</p> <p><a href="#">Click Here to Download Data</a></p>                                                                                                                                                                                                                                                                                     |
| <div><h3>N-BK7 with MgF<sub>2</sub> Coating Typical Transmission</h3><p>This graph shows the typical transmission of a 3mm thick N-BK7 window with a MgF<sub>2</sub> coating. The y-axis represents % Transmittance (T (%)) from 70 to 100, and the x-axis represents Wavelength (nm) from 200 to 2200. A blue shaded region indicates the coating design wavelength range from 400 nm to 700 nm, where transmission is maximized at approximately 98%. Outside this range, the transmission decreases, reaching about 90% at 2200 nm.</p></div> | <p>Typical transmission of a 3mm thick N-BK7 window with MgF<sub>2</sub> (400-700nm) coating at 0° AOI.</p> <p>The blue shaded region indicates the coating design wavelength range, with the following specification:</p> <p><math>R_{\text{avg}} \leq 1.75\% @ 400 - 700\text{nm}</math> (N-BK7)</p> <p>Data outside this range is not guaranteed and is for reference only.</p> <p><a href="#">Click Here to Download Data</a></p> |
| <div><h3>N-BK7 with VIS-EXT Coating Typical Transmission</h3><p>This graph shows the typical transmission of a 3mm thick N-BK7 window with a VIS-EXT coating. The y-axis represents % Transmittance (T (%)) from 70 to 100, and the x-axis represents Wavelength (nm) from 200 to 1200. A blue shaded region indicates the coating design wavelength range from 350 nm to 700 nm, where transmission is maximized at approximately 99%. Beyond 700 nm, the transmission decreases significantly, reaching about 78% at 1200 nm.</p></div>        | <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><math>R_{\text{avg}} \leq 0.5\% @ 350 - 700\text{nm}</math></p> <p>Data outside this range is not guaranteed and is for reference only.</p> <p><a href="#">Click Here to Download Data</a></p>                  |





## Coating Curves

### 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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## Compatible Mounts