

TECHSPEC<sup>®</sup> 12.0mm Dia. x 42.0mm FL, VIS-NIR Coated, Plano-Convex Lens



Stock **#45-485** 20+ In Stock

☐ [Other Coating Options](#)

-

1

+

S\$67<sup>.95</sup>

ADD TO CART

| Volume Pricing |                               |
|----------------|-------------------------------|
| Qty 1-9        | S\$67.95 each                 |
| Qty 10-24      | S\$60.86 each                 |
| Qty 25-49      | S\$54.51 each                 |
| Need More?     | <a href="#">Request Quote</a> |

Product Downloads

SPECIFICATIONS

General

Type:

|                                                                                                                    |                                                   |
|--------------------------------------------------------------------------------------------------------------------|---------------------------------------------------|
| Plano-Convex Lens                                                                                                  |                                                   |
| Physical & Mechanical Properties                                                                                   |                                                   |
| 12.00 +0.0/-0.025                                                                                                  | Diameter (mm):                                    |
| <1                                                                                                                 | Centering (arcmin):                               |
| 2.70 ±0.05                                                                                                         | Center Thickness CT (mm):                         |
| 1.85                                                                                                               | Edge Thickness ET (mm):                           |
| 11                                                                                                                 | Clear Aperture CA (mm):                           |
| Protective as needed                                                                                               | Bevel:                                            |
| Optical Properties                                                                                                 |                                                   |
| 42.00 @ 587.6nm                                                                                                    | Effective Focal Length EFL (mm):                  |
| 40.22                                                                                                              | Back Focal Length BFL (mm):                       |
| VIS-NIR (400-1000nm)                                                                                               | Coating:                                          |
| 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:                            |
| N-BK7                                                                                                              | Substrate: <input type="text"/>                   |
| 40-20                                                                                                              | Surface Quality:                                  |
| 1.5λ                                                                                                               | Power (P-V) @ 632.8nm:                            |
| λ/4                                                                                                                | Irregularity (P-V) @ 632.8nm:                     |
| ±1                                                                                                                 | Focal Length Tolerance (%):                       |
| 21.71                                                                                                              | Radius R <sub>1</sub> (mm):                       |
| 3.5                                                                                                                | f/#:                                              |
| 0.14                                                                                                               | Numerical Aperture NA:                            |
| 400 - 1000                                                                                                         | Wavelength Range (nm):                            |
| 5 J/cm <sup>2</sup> @ 532nm, 10ns                                                                                  | Damage Threshold, By Design: <input type="text"/> |
| Regulatory Compliance                                                                                              |                                                   |
| Compliant                                                                                                          | RoHS 2015:                                        |
| View                                                                                                               | Certificate of Conformance:                       |
| Compliant                                                                                                          | Reach 247:                                        |

## 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](#), [MgF<sub>2</sub>](#), [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 [MgF<sub>2</sub>](#), [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

### 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 $MgF_2$ Coating Typical Transmission



Typical transmission of a 3mm thick N-BK7 window with  $MgF_2$  (400-700nm) coating at  $0^\circ$  AOI.

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

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

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  $0^\circ$  AOI.

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

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

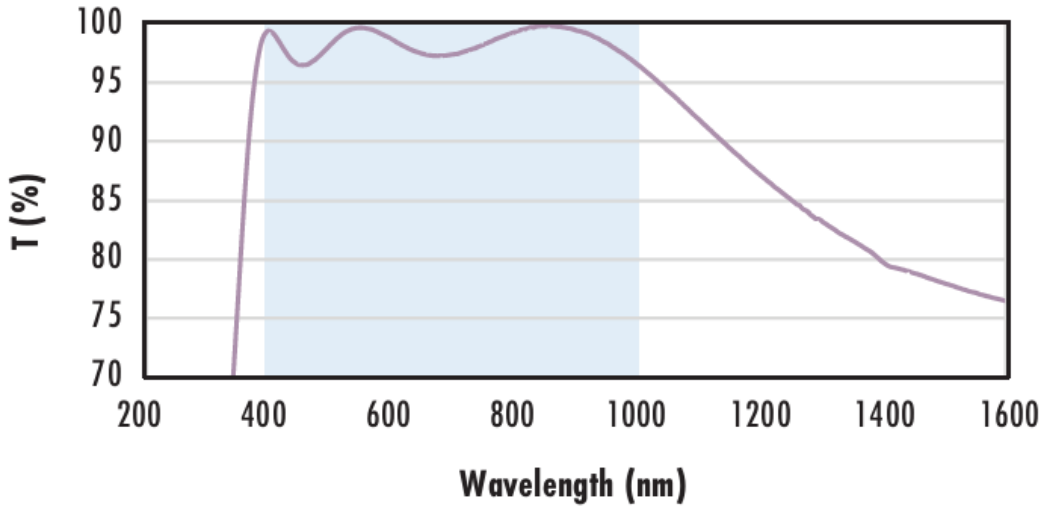
Data outside this range is not guaranteed and is for reference only.

[Click Here to Download Data](#)



[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:

$R_{abs} \leq 0.25\% \text{ @ } 880\text{nm}$   
 $R_{avg} \leq 1.25\% \text{ @ } 400 - 870\text{nm}$   
 $R_{avg} \leq 1.25\% \text{ @ } 890 - 1000\text{nm}$

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.

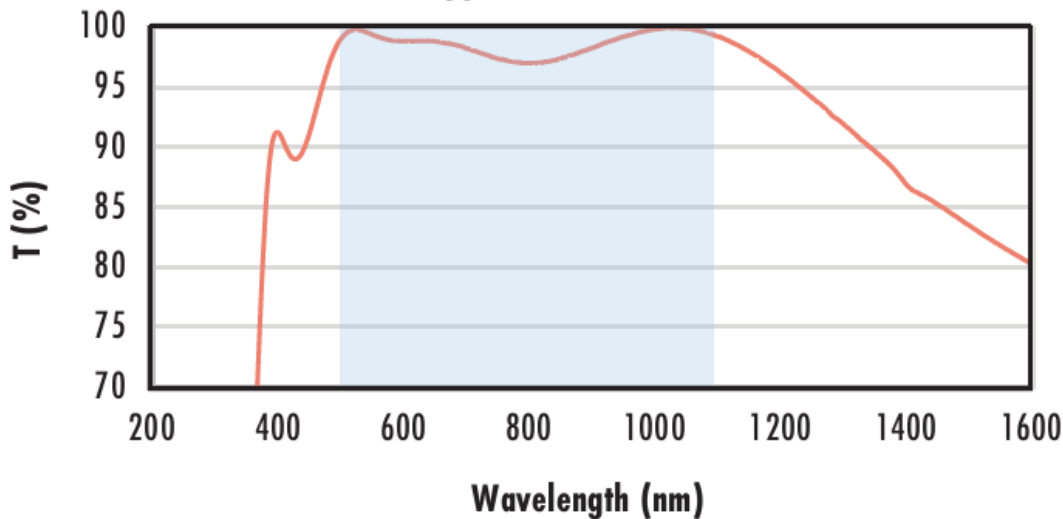
The blue shaded region indicates the coating design wavelength range, with the following specification:

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

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.

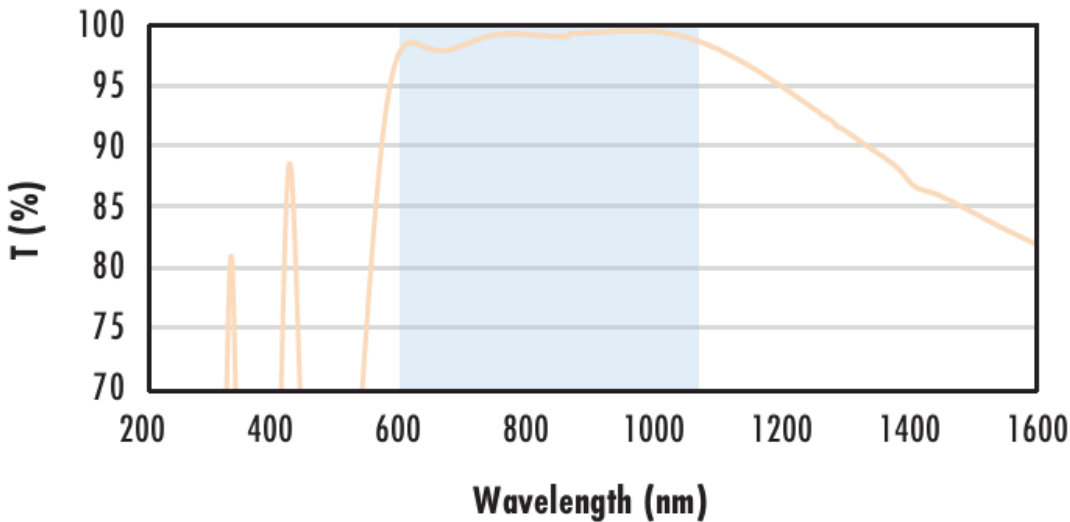
The blue shaded region indicates the coating design wavelength range, with the following specification:

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

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:

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

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



## CUSTOM

Our capabilities include:

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

## COMPATIBLE MOUNTS