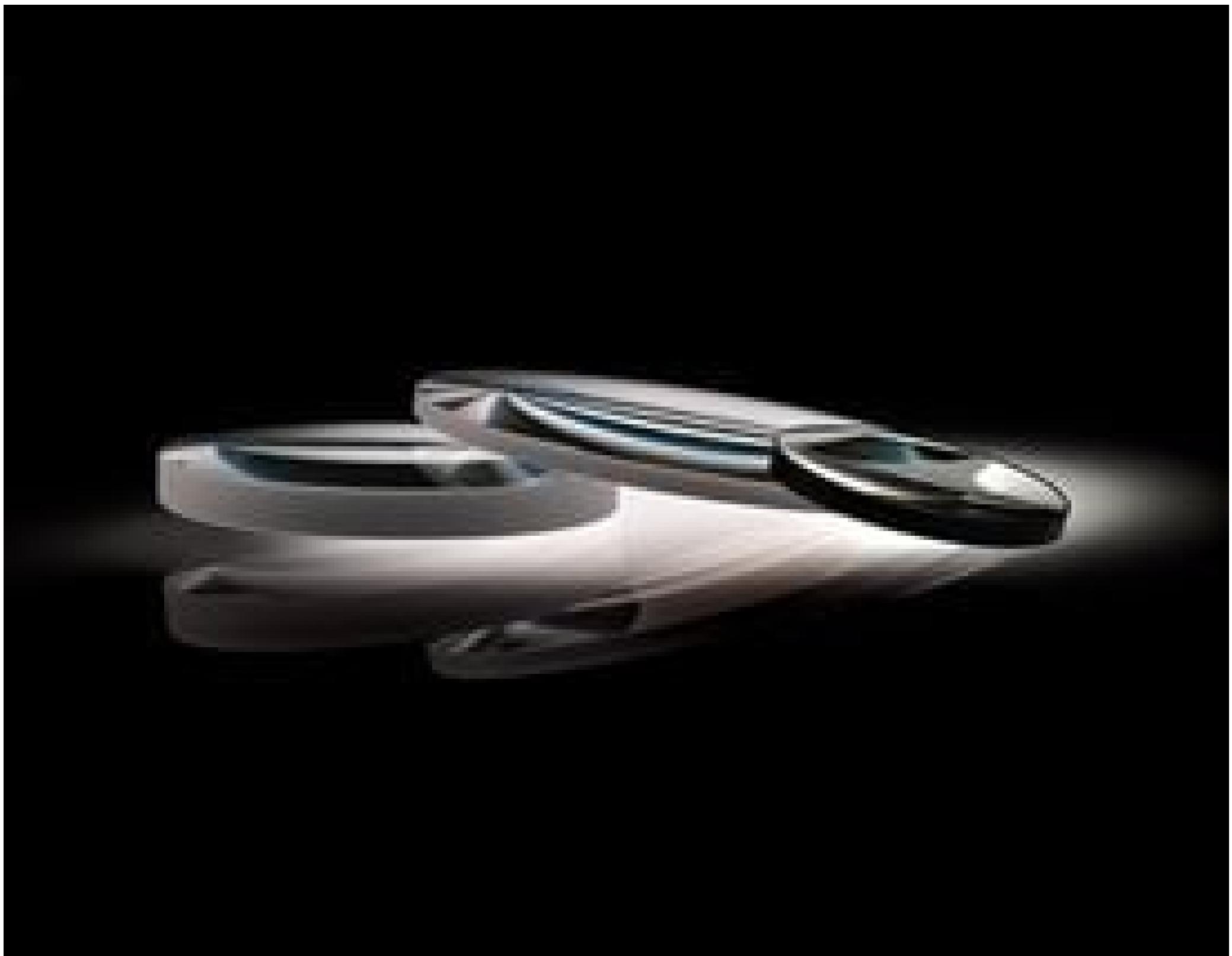


**TECHSPEC® 50mm Dia. x 50mm FL, NIR I Coated, Double-Convex Lens**Stock #49-508 **5 In Stock** [Other Coating Options](#)   A\$120<sup>00</sup>**ADD TO CART**

Volume Pricing	
Qty 1-9	A\$120.00 each
Qty 10-24	A\$108.00 each
Qty 25-99	A\$96.00 each
Need More?	<a href="#">Request Quote</a>

## Product Downloads

**SPECIFICATIONS****General**

Type:

## Physical & Mechanical Properties

Diameter (mm):	50.00 +0.0/-0.025
Centering (arcmin):	<1
Bevel:	Protective as needed
Center Thickness CT (mm):	16.00
Center Thickness Tolerance (mm):	±0.10
Edge Thickness ET (mm):	7.39
Clear Aperture CA (mm):	49.00

## Optical Properties

Back Focal Length BFL (mm):	45.30
Effective Focal Length EFL (mm):	50.00
Coating:	NIR I (600-1050nm)
Coating Specification:	$R_{avg} \leq 0.5\% @ 600 - 1050nm$
Substrate:	<input checked="" type="checkbox"/> N-SF11
Surface Quality:	40-20
Power (P-V) @ 632.8nm:	1.5λ
Irregularity (P-V) @ 632.8nm:	λ/4
Radius R <sub>1</sub> =R <sub>2</sub> (mm):	74.78
f#:	1.00
Focal Length Specification Wavelength (nm):	587.6
Numerical Aperture NA:	0.50
Wavelength Range (nm):	600 - 1050
Damage Threshold, By Design:	<input checked="" type="checkbox"/> 7 J/cm <sup>2</sup> @ 1064nm, 10ns

## Regulatory Compliance

RoHS 2015:	<input checked="" type="checkbox"/> Compliant
Certificate of Conformance:	<a href="#">View</a>
Reach 235:	<input checked="" type="checkbox"/> Compliant

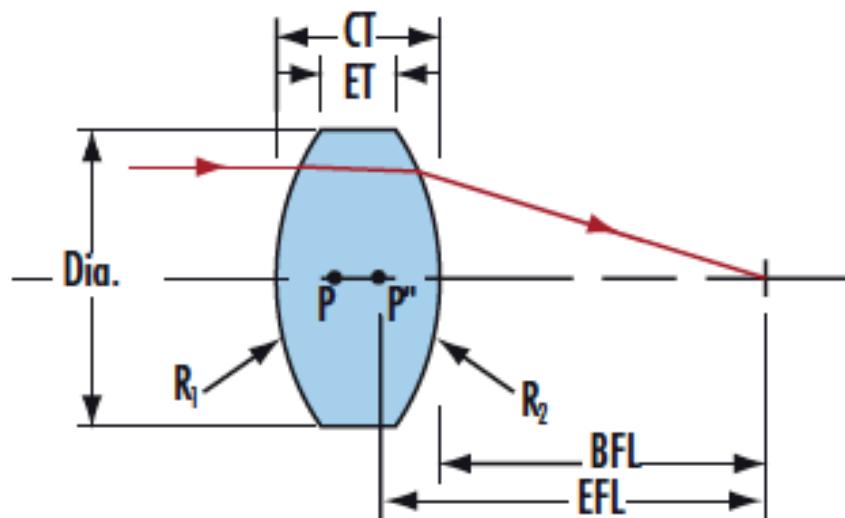
## PRODUCT DETAILS

- AR Coated to Provide <0.5% Reflectance per Surface for 600 - 1050nm
- Minimize Aberrations Including Spherical and Coma

- UV Fused Silica DCX Lenses** Available
- Other Coating Options Available: [Uncoated](#), [MgF<sub>2</sub>](#), [VIS 0°](#), [NIR II](#), [VIS-EXT](#), [VIS-NIR](#), and [YAG-BBAR](#)

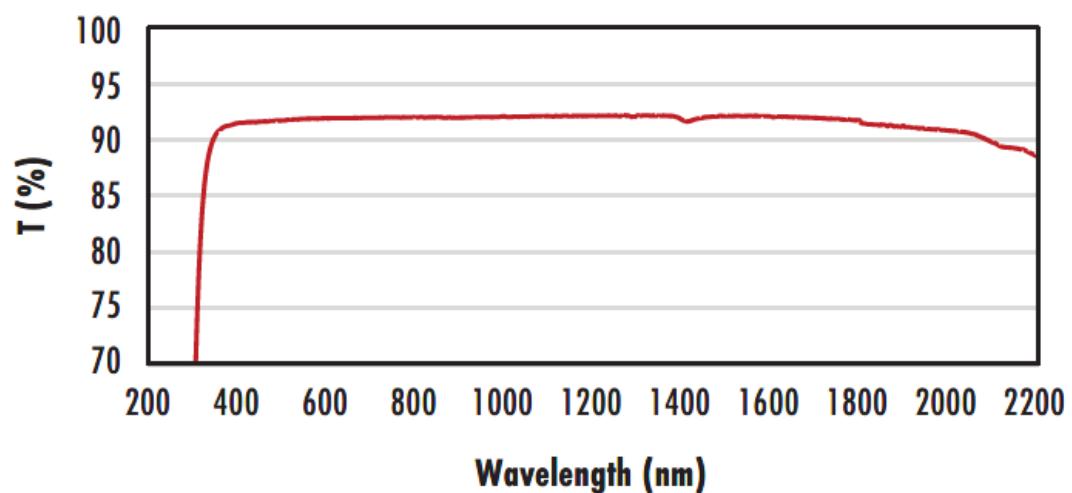
TECHSPEC® NIR I Coated Double-Convex (DCX) Lenses, also referred to as bi-convex lenses, have two positive, symmetrical faces with equal radii on both sides. These lenses are generally recommended for finite imaging applications with a conjugate ratio (ratio between object distance and image distance) 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® NIR I Coated Double-Convex Lenses are available in a variety of substrates and coating options for the visible and NIR spectra.

## TECHNICAL INFORMATION



N-BK7

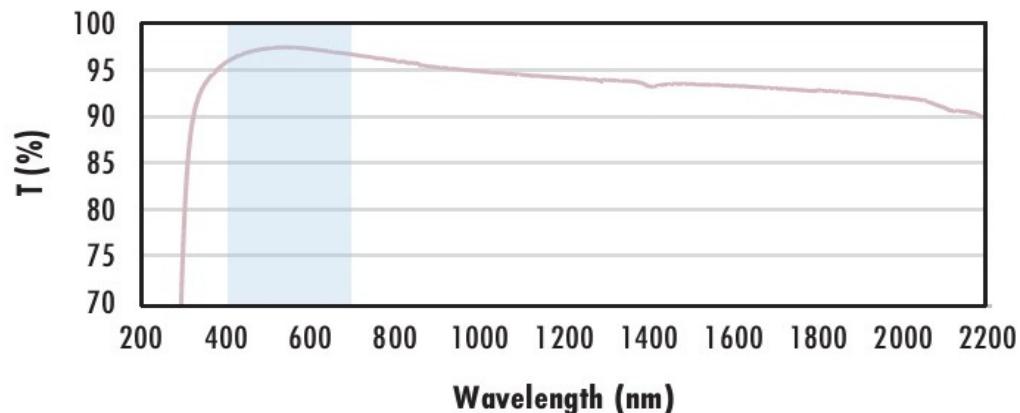
### Uncoated N-BK7 Typical Transmission



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

[Click Here to Download Data](#)

### N-BK7 with $\text{MgF}_2$ Coating Typical Transmission



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

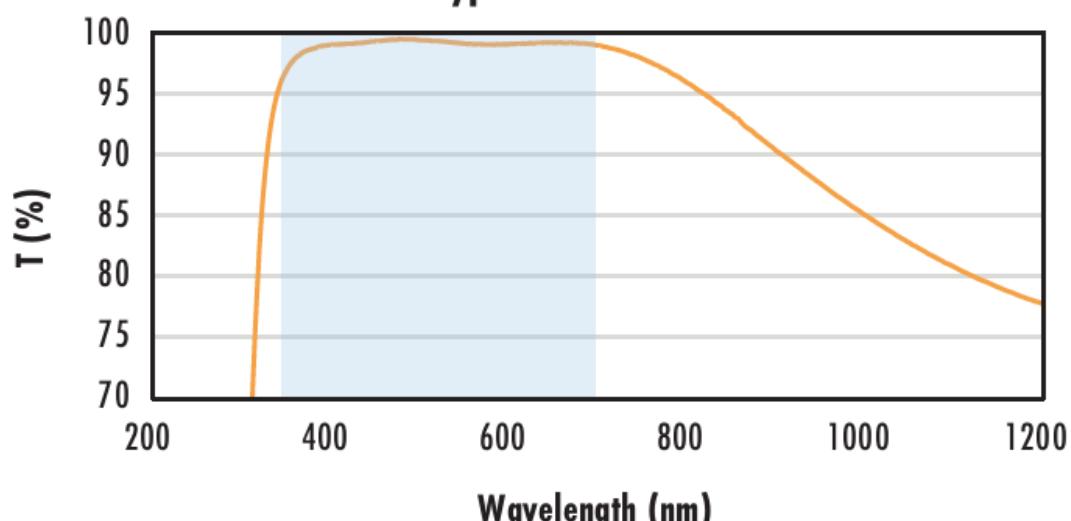
The blue shaded region indicates the coating design wavelength range, with the following specification:

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

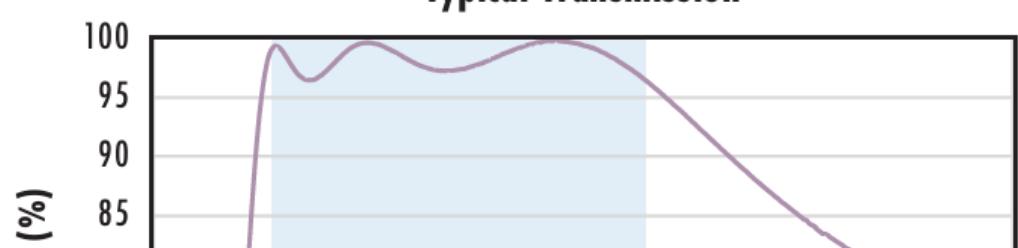
The blue shaded region indicates the coating design wavelength range, with the following specification:

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

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

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### N-BK7 with VIS-NIR Coating Typical Transmission



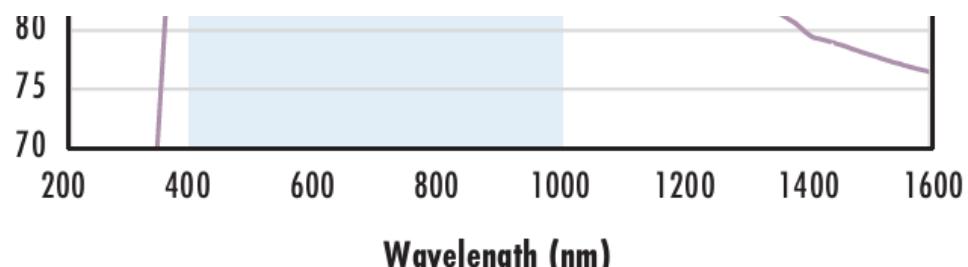
Typical transmission of a 3mm thick N-BK7 window with VIS-NIR (400-1000nm) coating at 0° AOI.

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

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

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

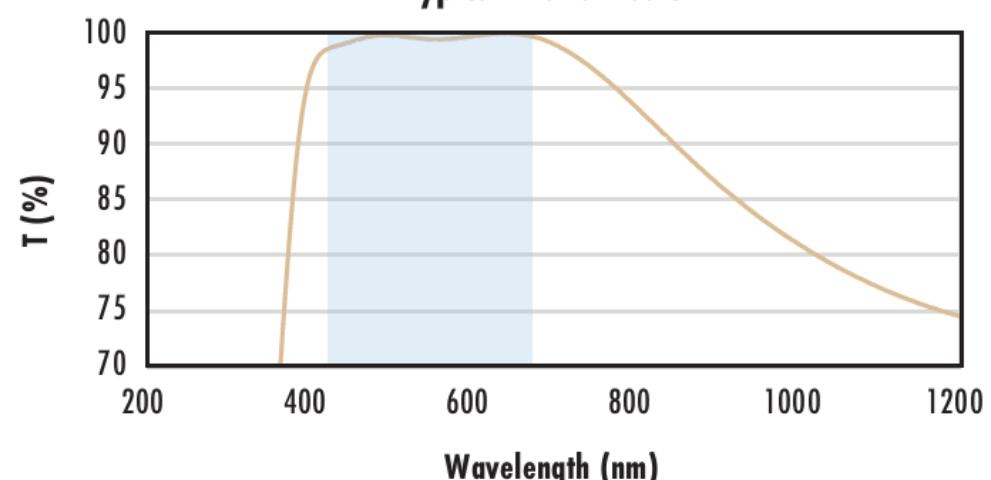
$R_{\text{avg}} \leq 1.25\% @ 890 - 1000\text{nm}$



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.

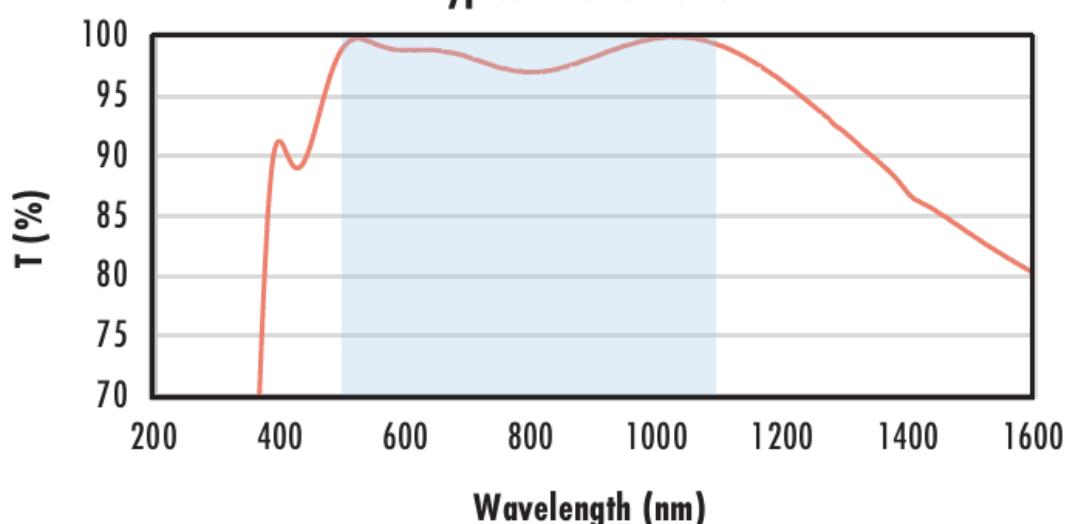
The blue shaded region indicates the coating design wavelength range, with the following specification:

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

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:

$$R_{abs} \leq 0.25\% @ 532nm$$

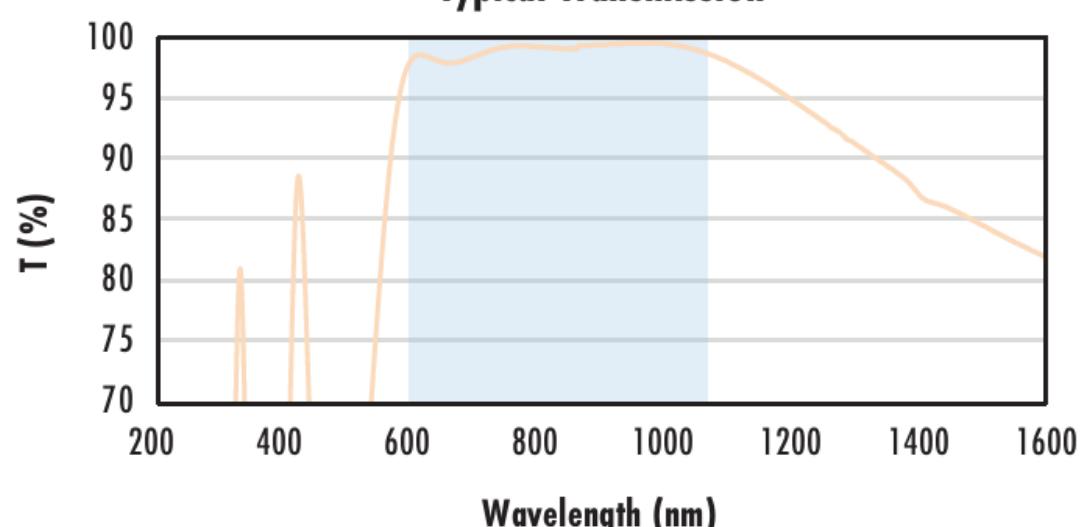
$$R_{abs} \leq 0.25\% @ 1064nm$$

$$R_{avg} \leq 1.0\% @ 500 - 1100nm$$

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.

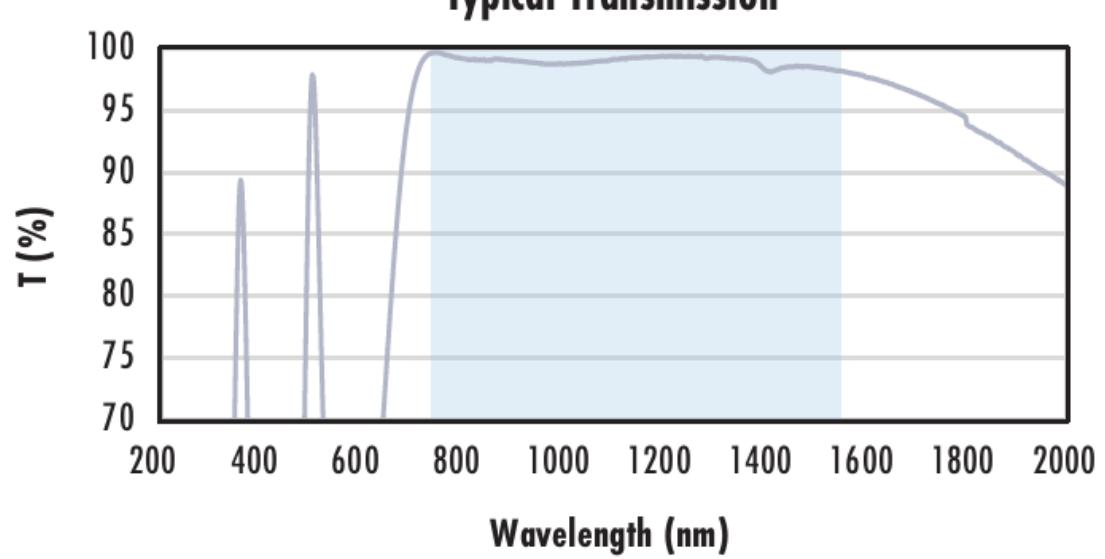
The blue shaded region indicates the coating design wavelength range, with the following specification:

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

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](#)

## 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

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

## COMPATIBLE MOUNTS