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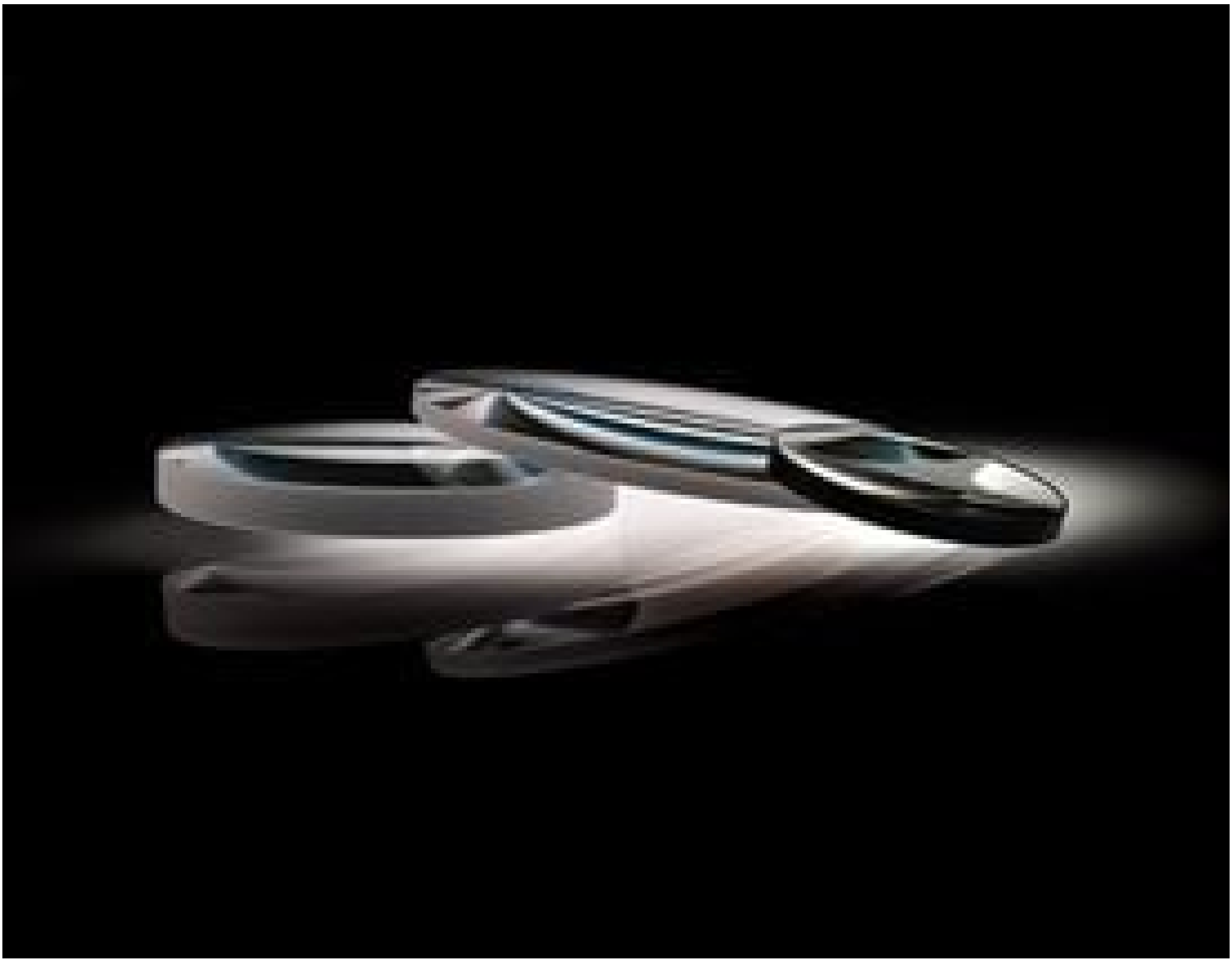
TECHSPEC® 9mm Dia. x 27mm FL Uncoated, Double-Convex Lens



Stock **#45-155** **20+ In Stock**

Other Coating Options

- 1 + C$46.55

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Volume Pricing	
Qty 1-9	**C$46.55** each
Qty 10-24	**C$42.00** each
Qty 25-99	**C$37.10** each
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General

Type:

Double-Convex Lens

Physical & Mechanical Properties

Diameter (mm):

9.00 +0.0/-0.025

Centering (arcmin):
<1

Bevel:
Protective as needed

Center Thickness CT (mm):
2.74

Center Thickness Tolerance (mm):
±0.05

Edge Thickness ET (mm):
2.00

Clear Aperture CA (mm):
8.1

Optical Properties

Back Focal Length BFL (mm):
26.08

Effective Focal Length EFL (mm):
27.00

Coating:
Uncoated

Substrate:
N-BK7

Surface Quality:
40-20

Power (P-V) @ 632.8nm:
1.5λ

Irregularity (P-V) @ 632.8nm:
λ/4

Radius R_1=-R_2 (mm):
27.43

f/#:
3.00

Focal Length Specification Wavelength (nm):
587.6

Focal Length Tolerance (%):
±1

Numerical Aperture NA:
0.17

Wavelength Range (nm):
350 - 2200

Regulatory Compliance

RoHS 2015:
Compliant

Certificate of Conformance:
View

Reach 235:
Compliant

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

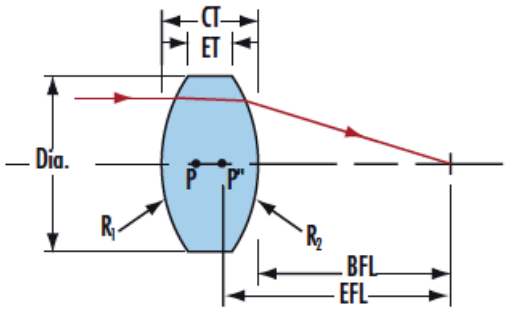
Learn more about our custom manufacturing capabilities or submit an inquiry here.

Product Details

- Ideal for Imaging Applications
- Minimize Aberrations Including Spherical and Coma
- UV Fused Silica DCX Lenses Available
- Anti-Reflection Coating Options: MgF_2, VIS 0°, VIS-NIR, NIR I, NIR II, VIS-EXT, and YAG-BBAR

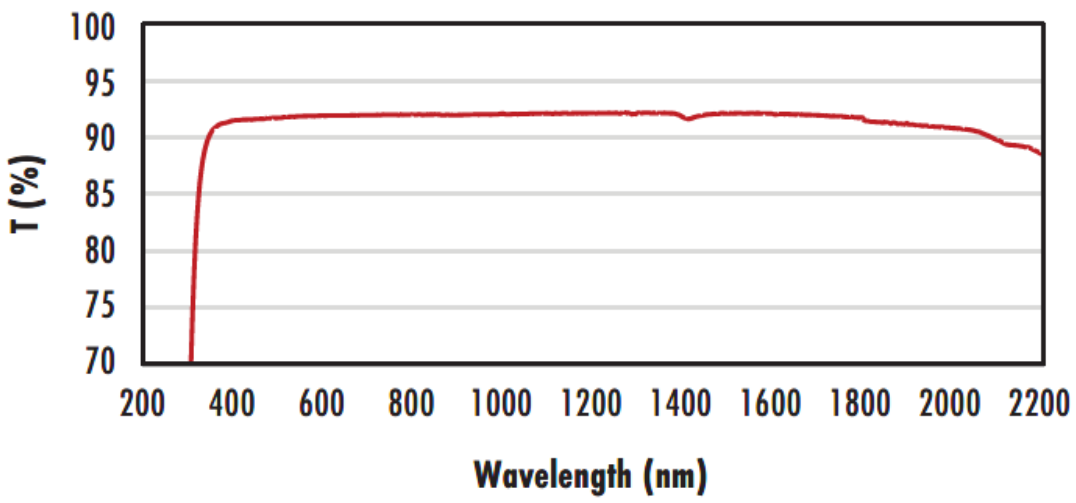
TECHSPEC® Uncoated Double-Convex (DCX) Lenses, also referred to as bi-convex lenses, have two positive, symmetrical faces with equal radii on both sides. These lenses are generally recommended for finite imaging applications with a conjugate ratio (ratio between object distance and image distance) between 0.2 and 5. At a conjugate ratio of 1, aberrations such as spherical aberration, chromatic aberration, coma, and distortion are minimized or canceled due to the symmetric lens design. TECHSPEC® Uncoated Double-Convex Lenses resist the effects from various aberrations in a lens design that are ultimately seen in performance and affect modulation transfer function (MTF), spot size, telecentricity, depth of field (DOF), and others. These 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.

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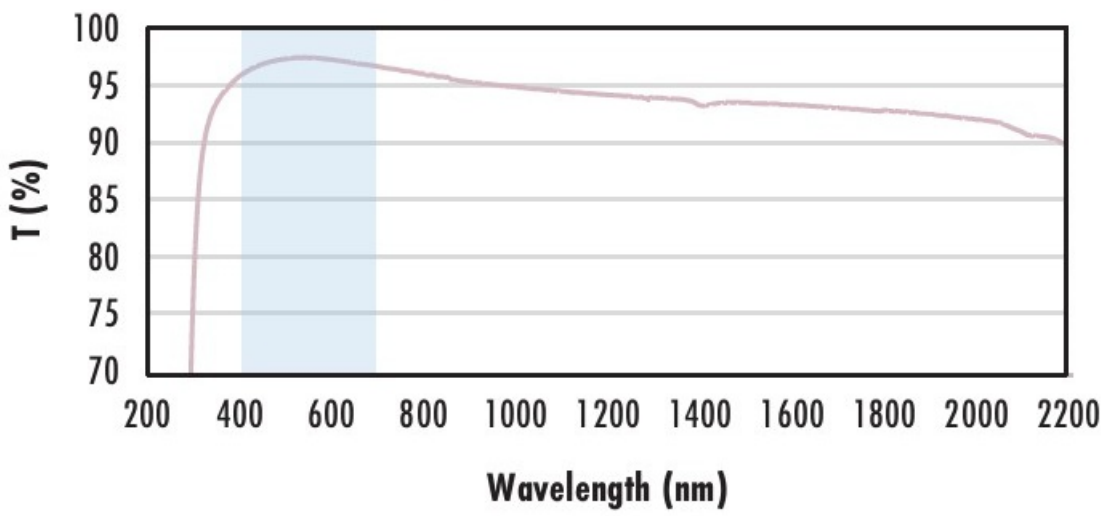
N-BK7 with MgF_2 Coating Typical Transmission



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 wavelengh range, with the following specification:

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

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

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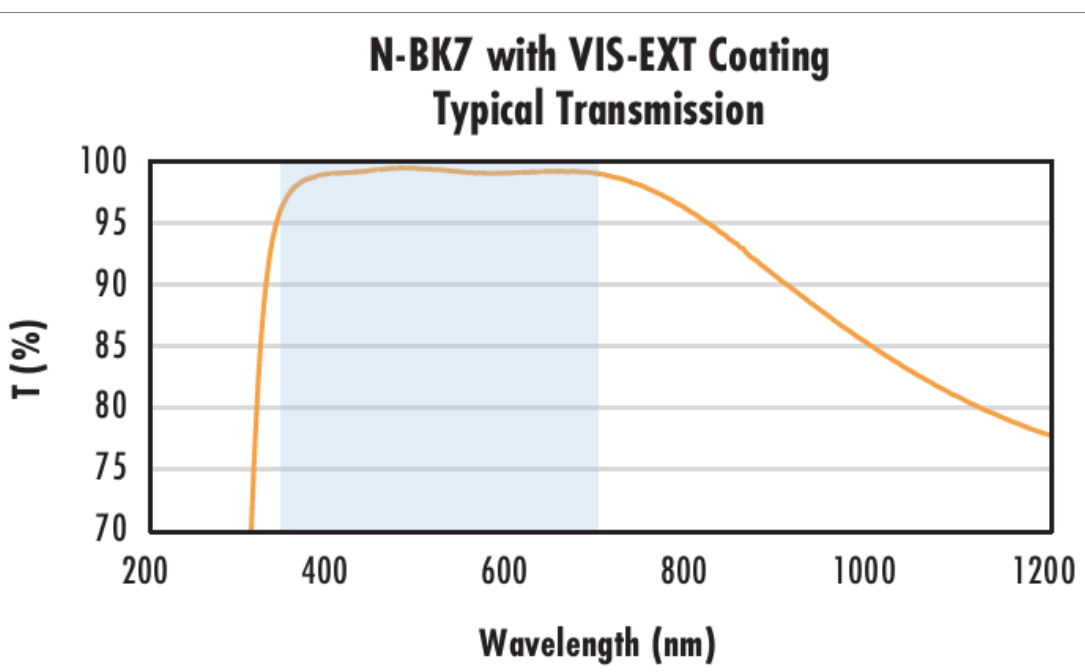
N-BK7 with VIS-EXT Coating Typical Transmission



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 wavelengh range, with the following specification:

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

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

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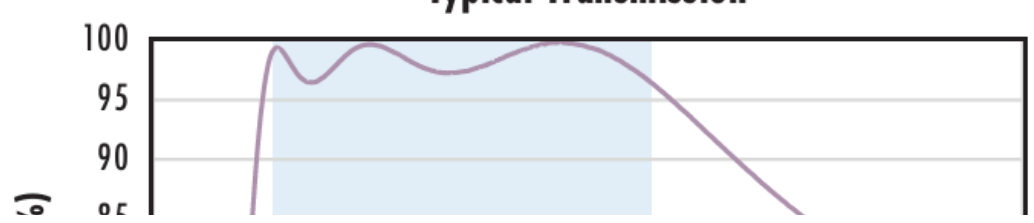
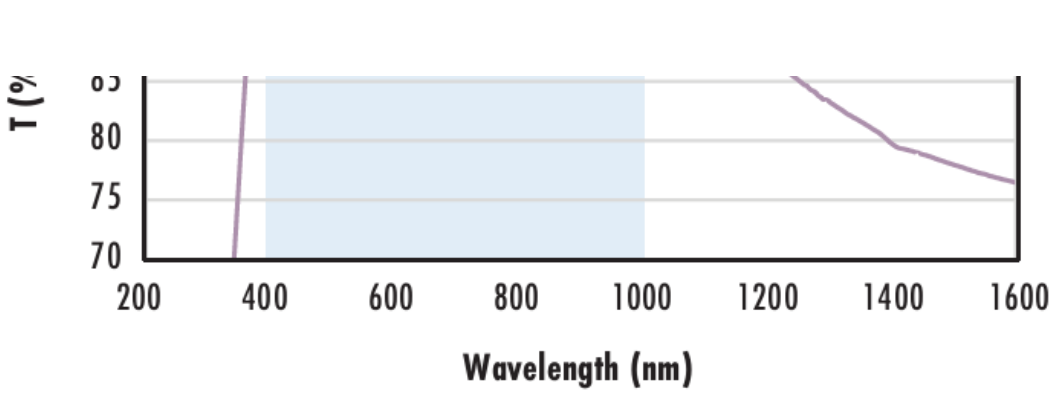
N-BK7 with VIS-NIR Coating Typical Transmission



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 wavelengh range, with the following specification:

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



R_{avg} ≤ 1.25% @ 400 - 870nm
R_{avg} ≤ 1.25% @ 890 - 1000nm

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

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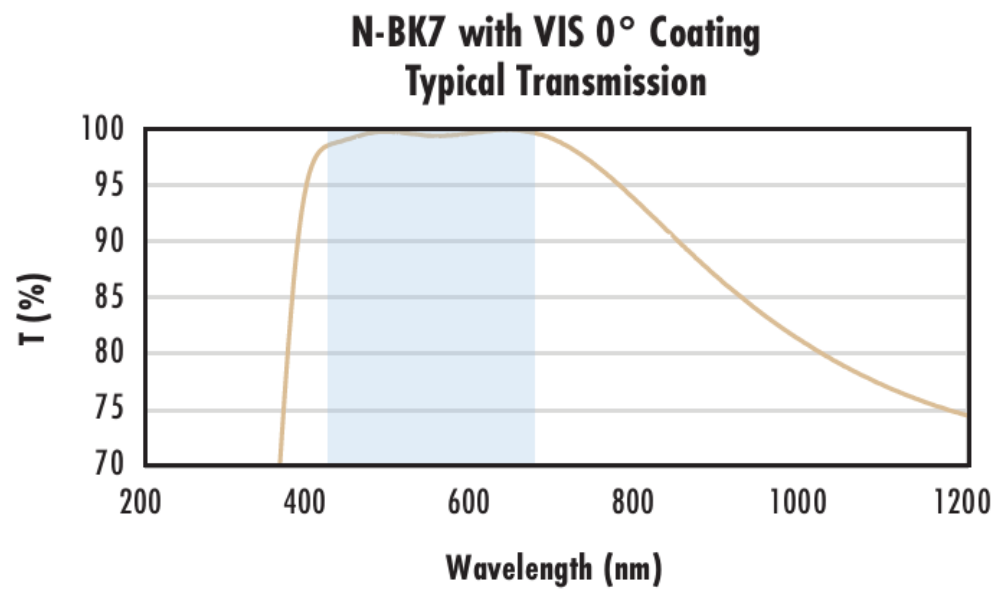

Typical transmission of a 3mm thick N-BK7 window with VIS 0° (425-675nm) coating at 0° AOI.

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

R_{avg} ≤ 0.4% @ 425 - 675nm

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

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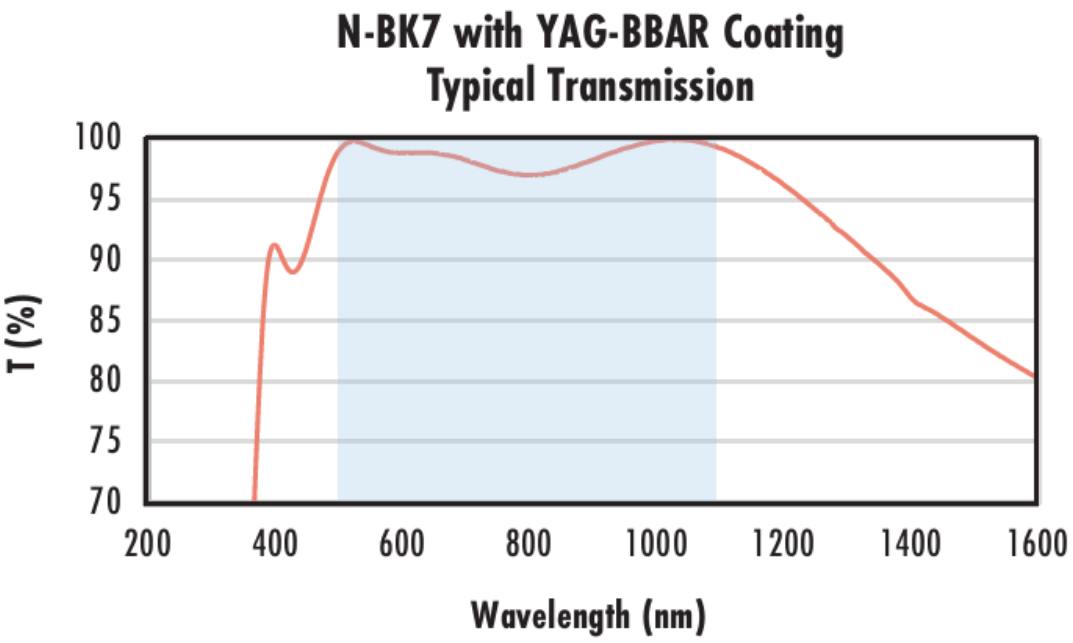

Typical transmission of a 3mm thick N-BK7 window with YAG-BBAR (500-1100nm) coating at 0° AOI.

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

R_{abs} ≤ 0.25% @ 532nm
R_{abs} ≤ 0.25% @ 1064nm
R_{avg} ≤ 1.0% @ 500 - 1100nm

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

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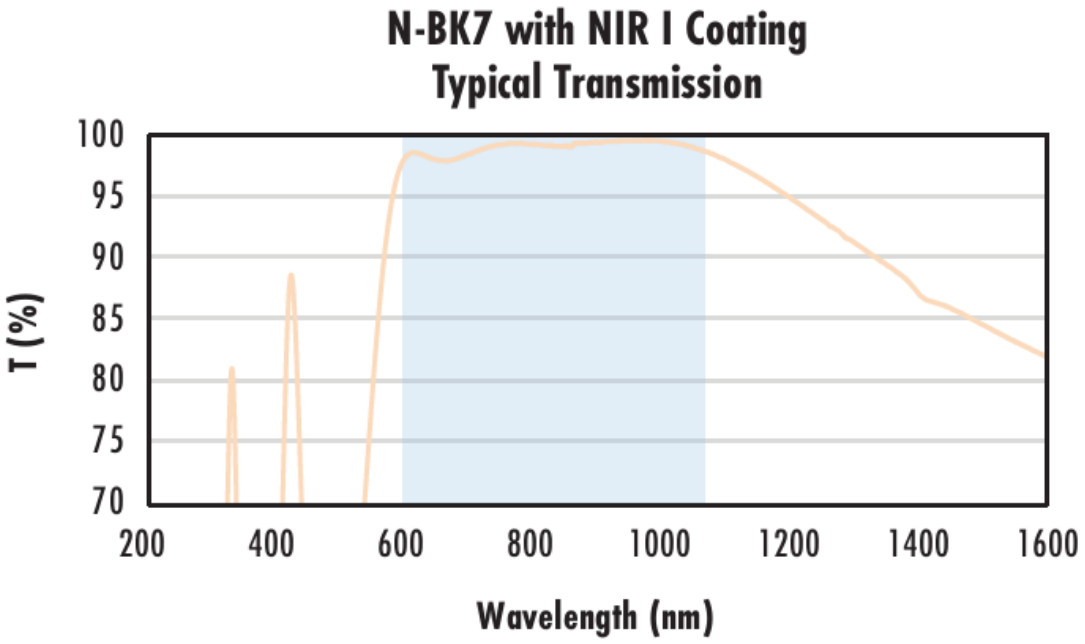

Typical transmission of a 3mm thick N-BK7 window with NIR I (600 - 1050nm) coating at 0° AOI.

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

R_{avg} ≤ 0.5% @ 600 - 1050nm

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

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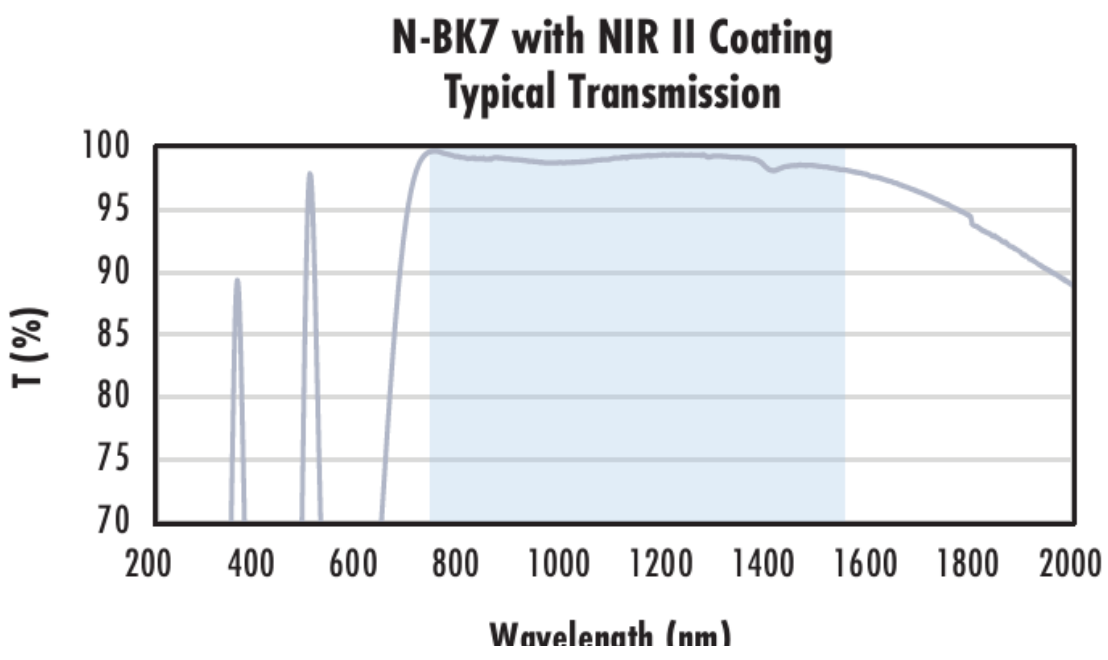

Typical transmission of a 3mm thick N-BK7 window with NIR II (750 - 1550nm) coating at 0° AOI.

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

R_{abs} ≤ 1.5% @ 750 - 800nm
R_{abs} ≤ 1.0% @ 800 - 1550nm
R_{avg} ≤ 0.7% @ 750 - 1550nm

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

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Travel Length (mm)	

Compatible Mounts

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