TECHSPEC® 50mm, VIS-NIR Coated, N-BK7 Wedged Window

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SPECIFICATIONS

General

Type:

Wedged Window

Physical & Mechanical Properties

Clear Aperture CA (mm):
45.00

Diameter (mm):
50.00 +0.0/-0.10

Thickness (mm):
3.00 ±0.20

Edges:
Fine Ground

Young's Modulus (GPa):
82

Wedge Angle (arcmin):
30' ±10'

Optical Properties

Coating:
VIS-NIR (400-1000nm)

Coating Specification:
Rabs ≤0.25% @ 880nm
Ravg ≤1.25% @ 400 - 870nm
Ravg ≤1.25% @ 890 - 1000nm

Index of Refraction (n_d):
1.516

Substrate:
N-BK7

Surface Flatness (P-V):
λ/10 over 25mm Aperture

Surface Quality:
20-10

Wavelength Range (nm):
400 - 1000

Material Properties

Coefficient of Thermal Expansion CTE (10^{-6}/°C):
7.1 (-30 to +70°C) 8.3 (+20 to +300°C)

Regulatory Compliance

RoHS 2015:
Compliant

Certificate of Conformance:
View

Reach 235:
Compliant

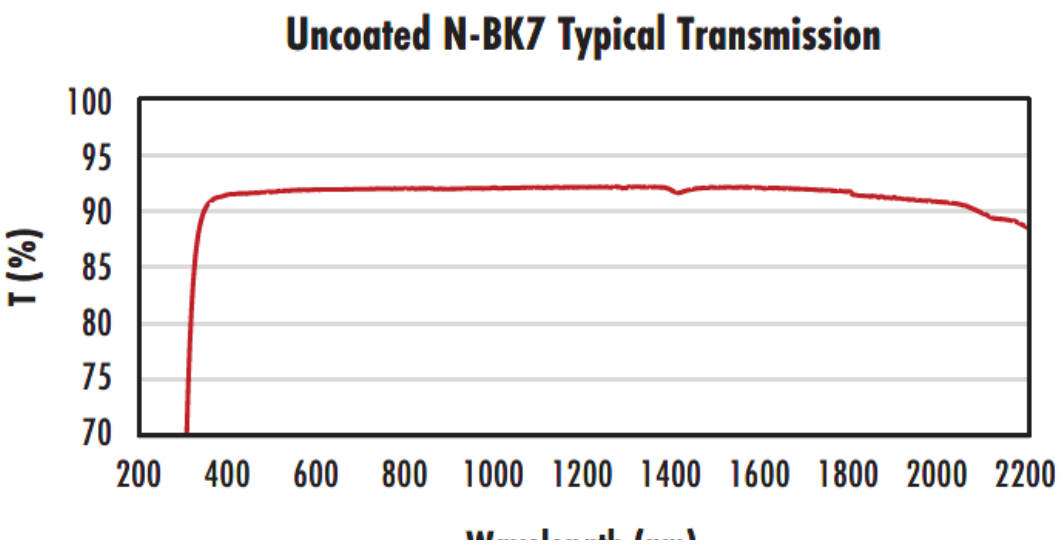
PRODUCT DETAILS

- N-BK7 Substrates with a 30 Arcminute Wedge
- λ/10 Surface Flatness and 20-10 Surface Quality
- Ideal for Eliminating Etalon Effects
- Fused Silica Wedged Windows and N-BK7 Flat Windows Also Available

TECHSPEC® N-BK7 Wedged Windows are available in standard metric sizes with a 30 arcminute wedge. The wedge of these windows eliminate Etalon effects by preventing back surface reflections from traveling along the same optical path as the transmitted beam. In laser cavities, wedged windows help prevent laser instability, mode-hopping, and power spikes caused by these unwanted reflections. TECHSPEC N-BK7 Wedged Windows are often used as a cost-effective alternative to Fused Silica Wedged Windows in applications that do not require UV transmission or where high thermal stability is not required such as with low power visible or NIR lasers. Wedged windows can also be used as beam samplers or beam pick-off optics to monitor laser beam properties such as beam power over time.

TECHNICAL INFORMATION

N-BK7



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

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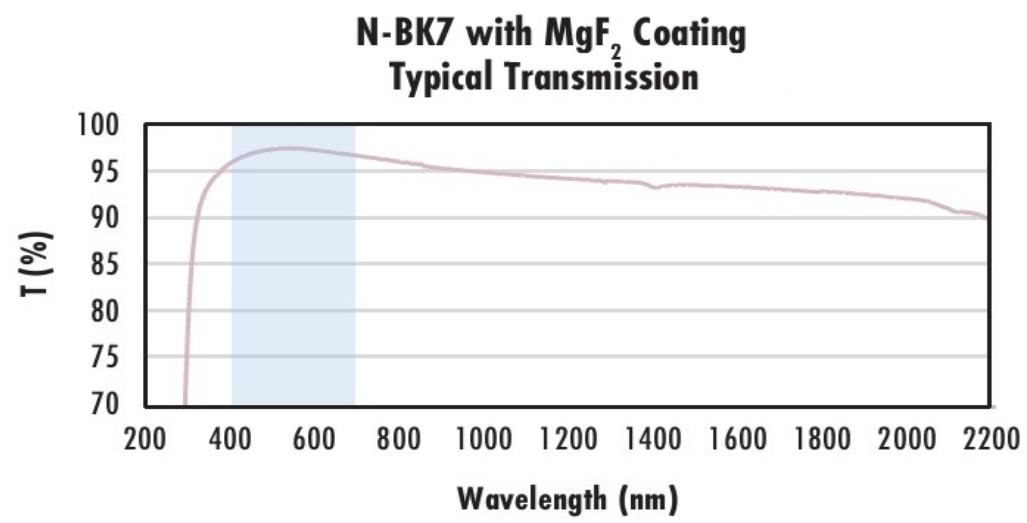
Wavelength (nm)



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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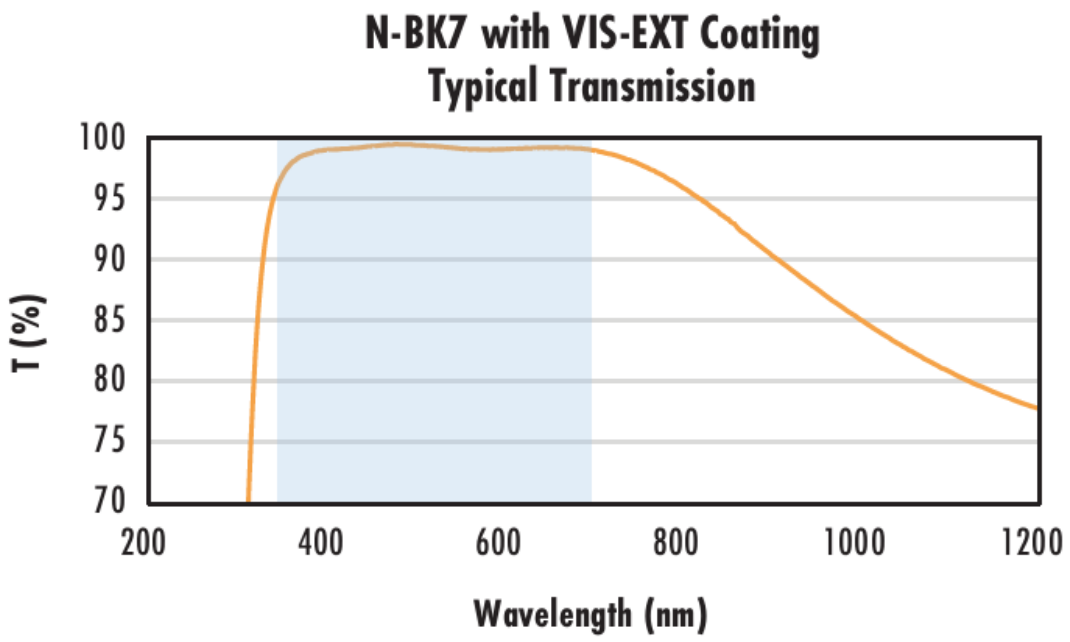

Typical transmission of a 3mm thick N-BK7 window with VIS-EXT (350-700nm) coating at 0° AOI.

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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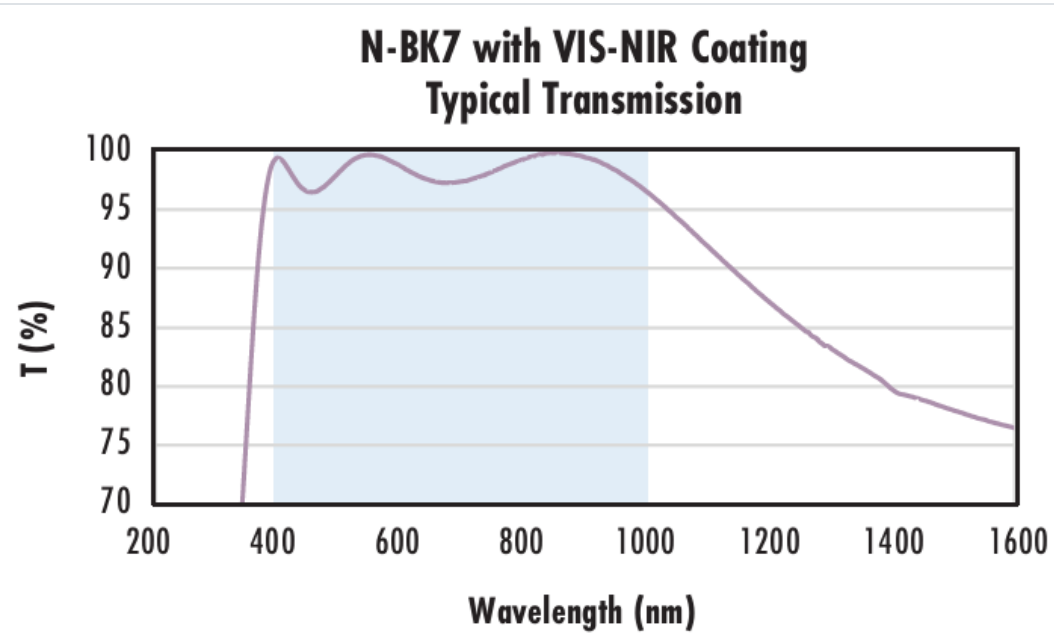

Typical transmission of a 3mm thick N-BK7 window with VIS-NIR (400-1000nm) coating at 0° AOI.

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

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

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

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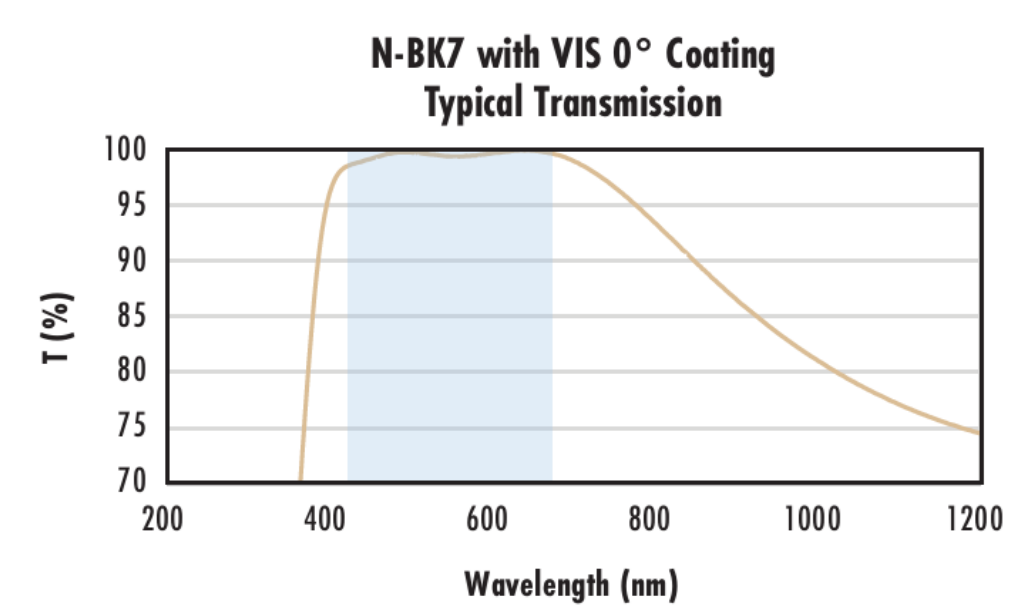

Typical transmission of a 3mm thick N-BK7 window with VIS 0° (425-675nm) coating at 0° AOI.

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

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

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

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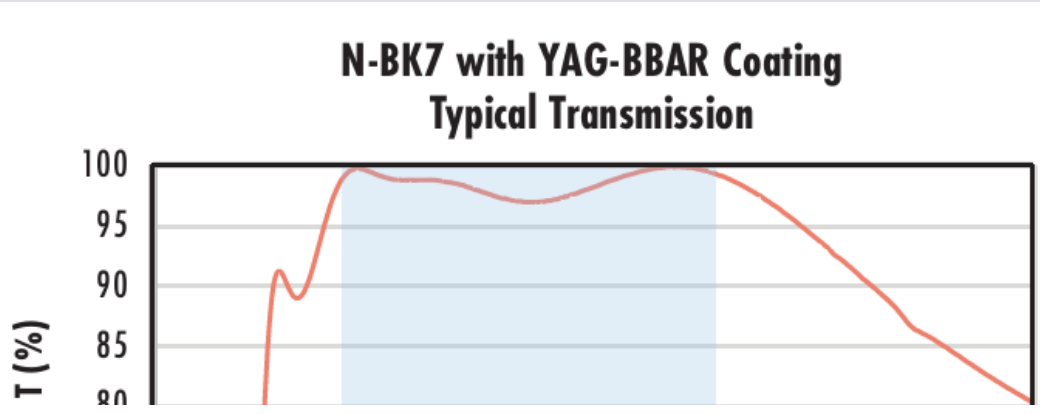
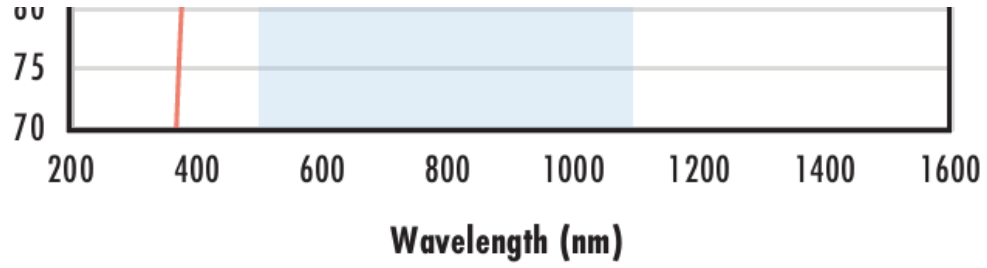


Typical transmission of a 3mm thick N-BK7 window with YAG-BBAR (500-1100nm) coating at 0° AOI.

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

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



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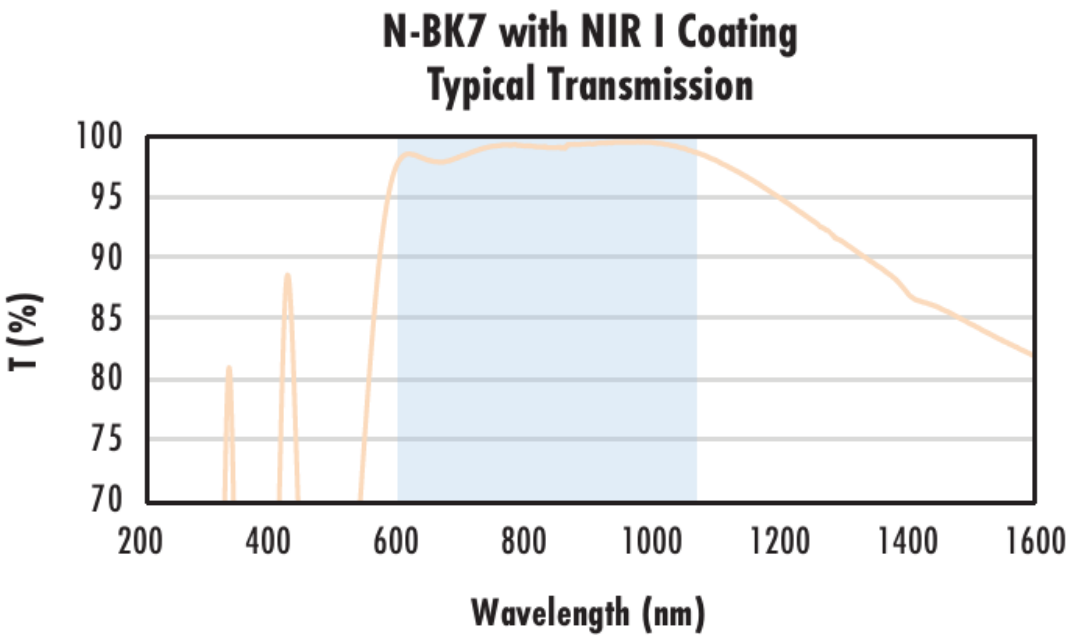

Typical transmission of a 3mm thick N-BK7 window with NIR I (600 - 1050nm) coating at 0° AOI.

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

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

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

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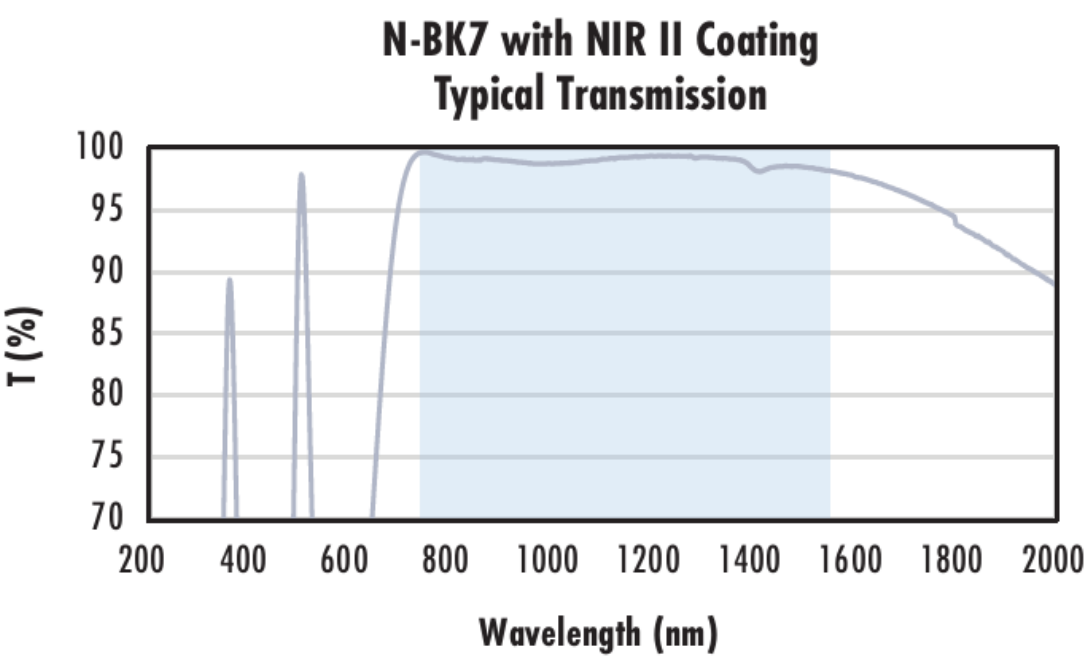

Typical transmission of a 3mm thick N-BK7 window with NIR II (750 - 1550nm) coating at 0° AOI.

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

$R_{abs} \leq 1.5\%$ @ 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.

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COATING CURVES