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TECHSPEC®

10mm Dia. x 40mm Focal Length VIS-EXT Coated Double-Convex Lens

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Stock #89-147 **3 In Stock** [Other Coating Options](#)

1

€49⁰⁰

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Volume Pricing

Qty 1-9 €49,00 each

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Qty 25-99 €39,25 each

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Product Downloads

- STEP:stp
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- PDF Drawing:pdf
- ISO 10110 Drawing
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- Zemax:zmx
- eDrawing:eprt
- Code V:seq
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General

Type: Double-Convex Lens

Physical & Mechanical Properties

Diameter (mm): 10.00 +0.000/-0.025

Centering (arcmin): <1

Bevel: Protective as needed

Center Thickness CT (mm): 2.50

Center Thickness Tolerance (mm): ±0.05

Edge Thickness ET (mm): 1.89

Clear Aperture CA (mm): 9.00

Optical Properties

Back Focal Length BFL (mm): 39.16

Effective Focal Length EFL (mm): 40.00

Coating: VIS-EXT (350-700nm)

Coating Specification: $R_{avg} < 0.5\%$ @ 350 - 700nm

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): 40.91

f/#: 4.00

Focal Length Specification Wavelength (nm):	587.6	Focal Length Tolerance (%):	±1
Numerical Aperture NA:	0.13	Please select your shipping country to view the most accurate inventory information, and to determine the correct Edmund Optics sales office for your order. Select Your Country/Region:	
Regulatory Compliance			
RoHS 2015:	Compliant	Certificate of Conformance:	view
Reach 235:	Compliant		

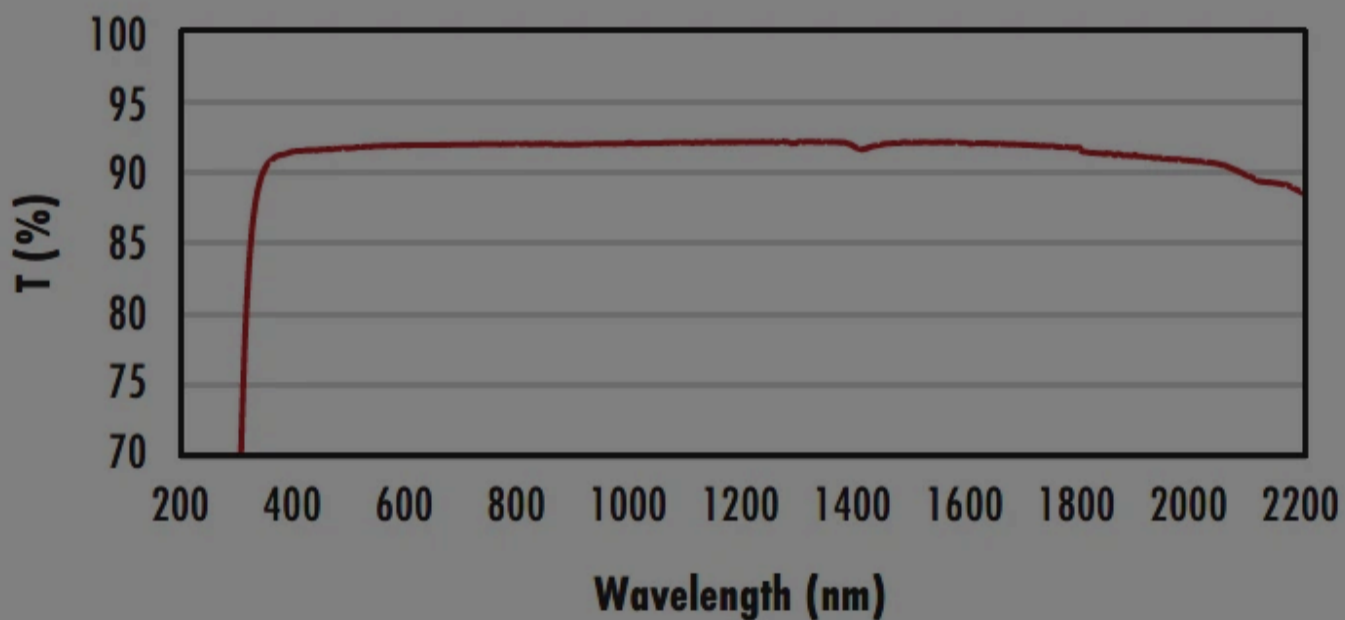
Product Details

- AR Coated to Provide <0.5% Reflectance per Surface for 350 - 700nm
- Minimize Aberrations Including Spherical and Coma
- **UV Fused Silica DCX Lenses** Available
- Other Coating Options Available: **Uncoated, MgF₂, VIS 0°, NIR I, NIR II, VIS-NIR,** and **YAG-BBAR**

TECHSPEC® VIS-EXT 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 VIS-EXT Coated Double-Convex Lenses are available in a variety of substrates and coating options for the visible and NIR spectra.

Technical Information

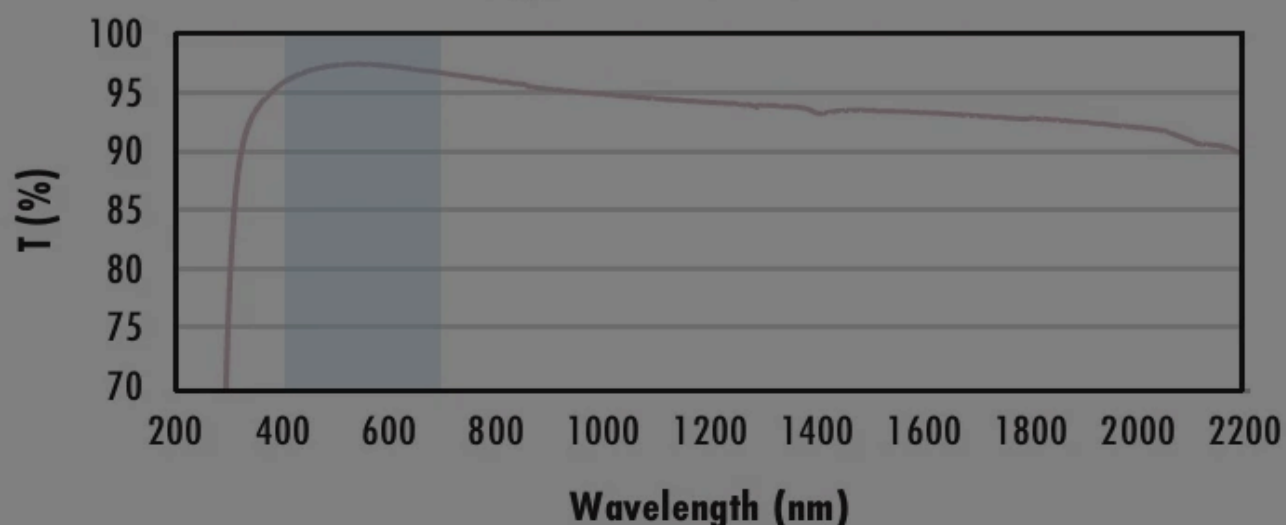
Uncoated N-BK7 Typical Transmission



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

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N-BK7 with MgF₂ Coating Typical Transmission



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

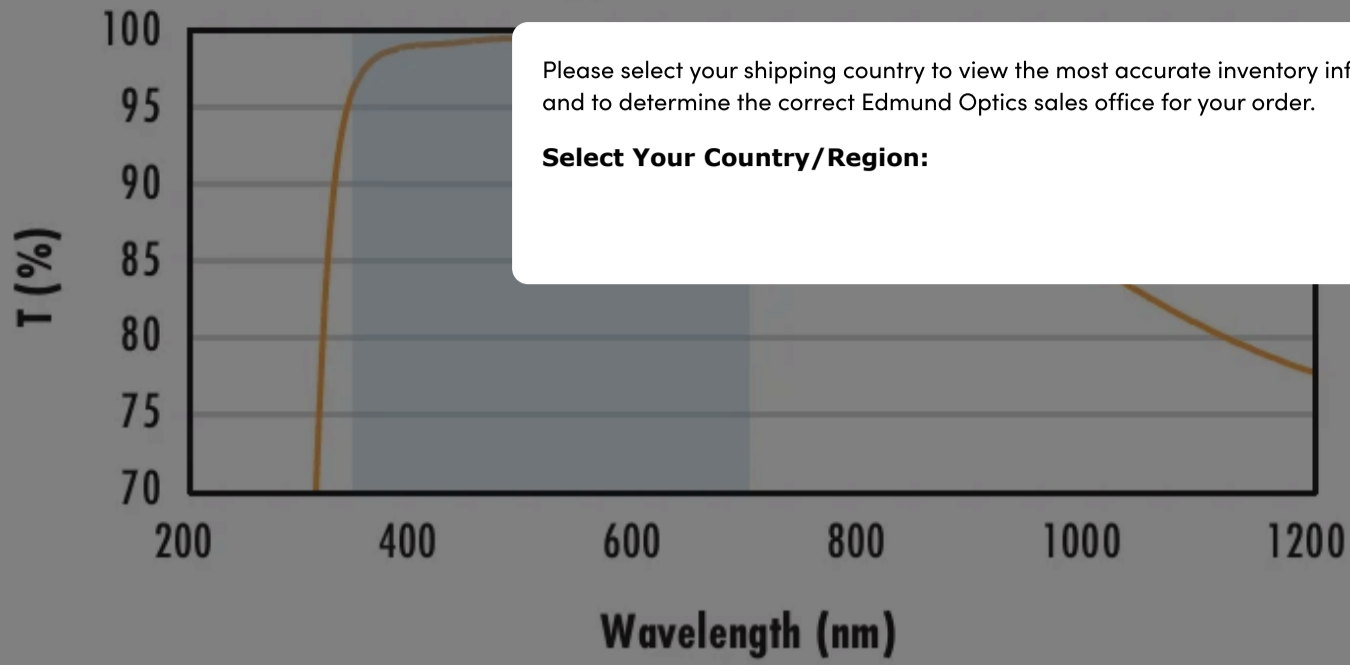
The blue shaded region indicates the coating design wavelength range, with the following specification:

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

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.

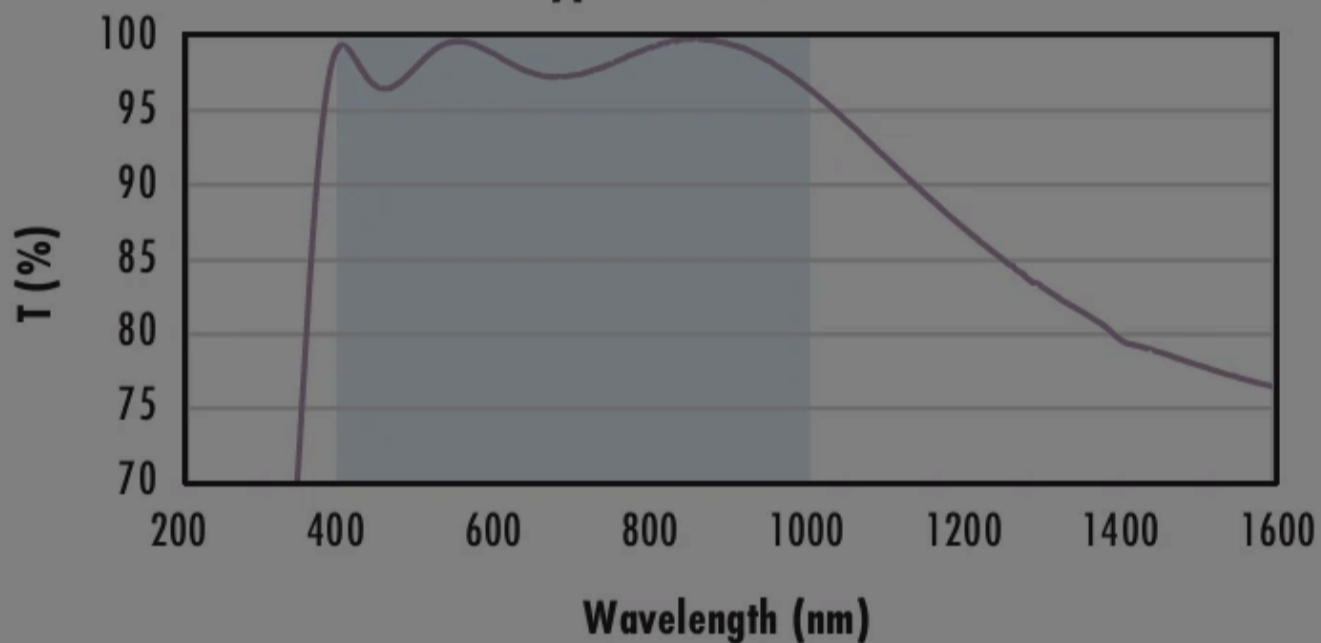
The blue shaded region indicates the coating design wavelength range, with the following specification:

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

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:

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

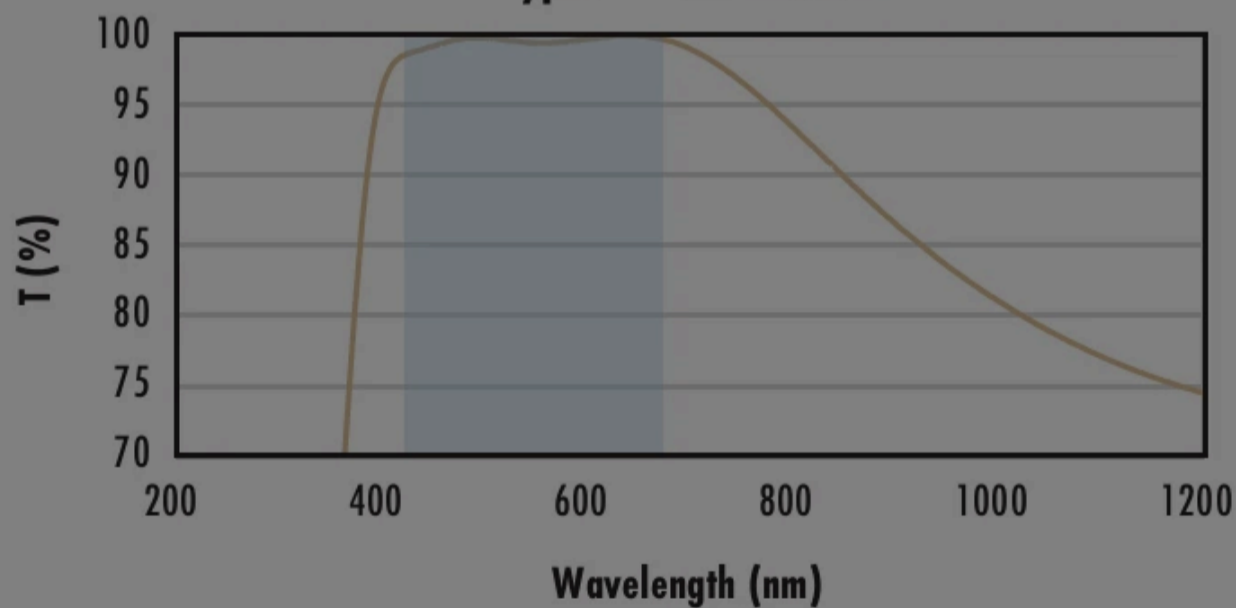
$$R_{avg} \leq 1.25\% \text{ @ } 400 - 870\text{nm}$$

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

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

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N-BK7 with VIS 0° Coating Typical Transmission



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

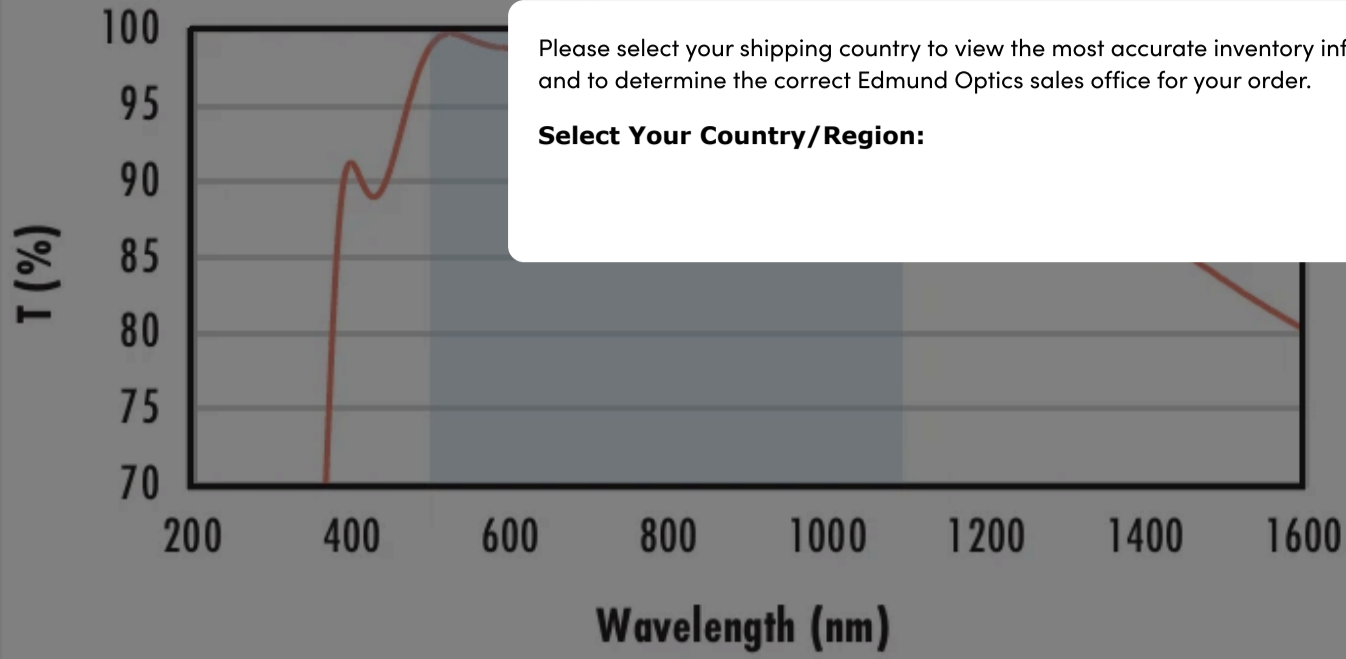
The blue shaded region indicates the coating design wavelength range, with the following specification:

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

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

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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:

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

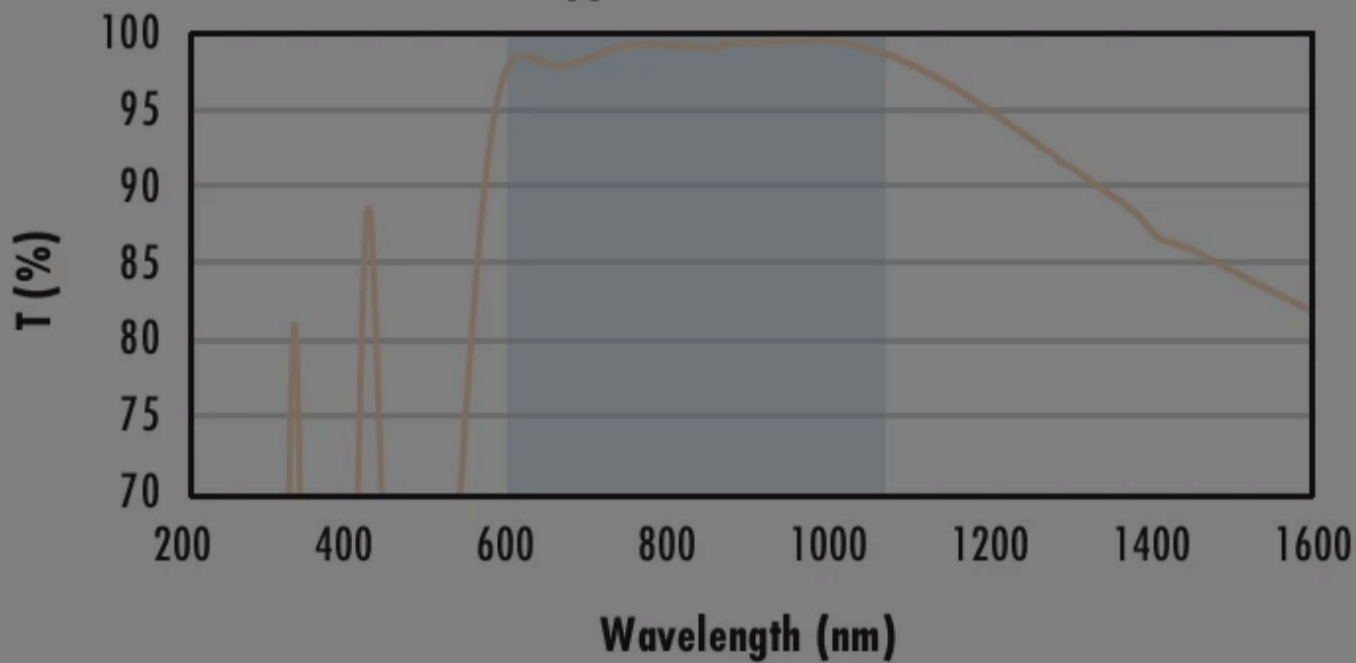
$$R_{abs} \leq 0.25\% @ 1064\text{nm}$$

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

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

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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.

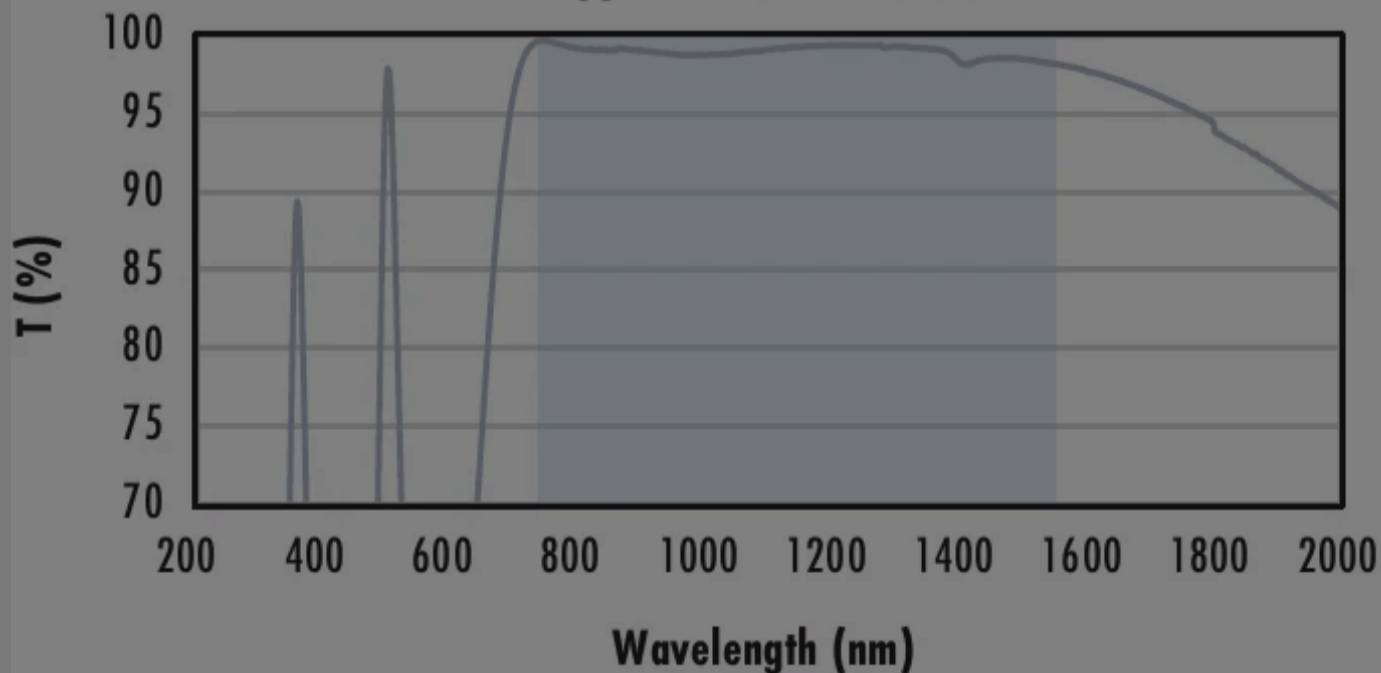
The blue shaded region indicates the coating design wavelength range, with the following specification:

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

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

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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:

$$R_{abs} \leq 1.5\% @ 750 - 800\text{nm}$$

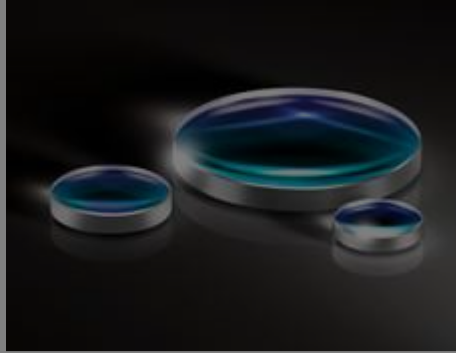
$$R_{abs} \leq 1.0\% @ 800 - 1550\text{nm}$$

$$R_{avg} \leq 0.7\% @ 750 - 1550\text{nm}$$

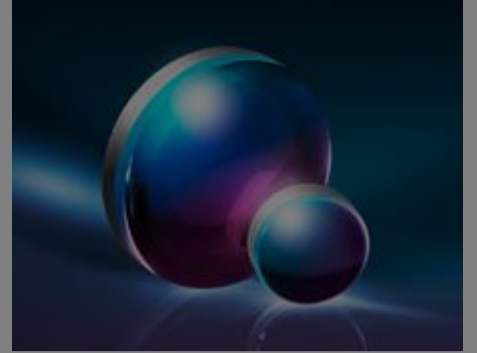
Data outside this range is not guaranteed and is for reference only.

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Related Products



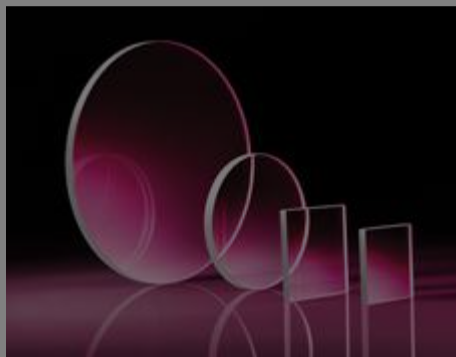
UV Fused Silica Double-Convex (DCX) Lenses



Double-Convex (DCX) Lenses

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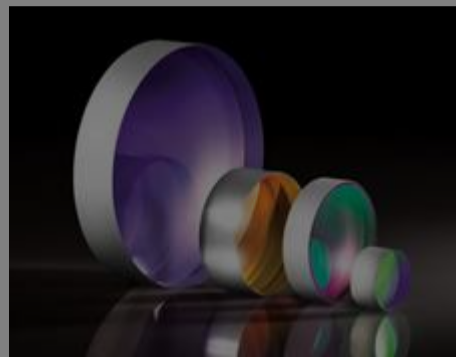
#32-947 - 10mm Diameter MgF₂ Coated, B270 Window
€40,00

Qty



#69-244 - 12.7 x 12.7mm, 4-6λ Mirror
€19,00

Qty



#88-529 - 12.5mm Dia. 532nm 0-45°, Nd:YAG Laser Line Mirror
€150,00

Qty



#89-146 - 10mm Dia. x 30mm FL, VIS-EXT Coated, Double-Convex Lens
€49,00

Qty

Compatible Mounts

	Title	Type	Compare	Stock Number	Price	Buy
	10.0mm Optic Dia., Optic Mount	Fixed		#64-554	€32,75 Request Quote	20+ In Stock <input type="text" value="1"/>
	10mm Inner Single Optic Mount	Fixed		#38-748	€41,00 Request Quote	20+ In Stock <input type="text" value="1"/>
	10mm Diameter, C-Mount Thin Optic Mount	Fixed		#63-979	€56,50 Request Quote	14 In Stock <input type="text" value="1"/>

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Future of
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