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## TECHSPEC® 9mm Dia. x 9mm FL VIS-EXT Coated, Double-Convex Lens



Stock #89-136 **7 In Stock**

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⊖ 1 ⊕ €49<sup>00</sup>

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Volume Pricing	
Qty 1-9	€49,00 each
Qty 10-24	€44,00 each
Qty 25-99	€39,25 each
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ⓘ Prices shown are exclusive of VAT/local taxes

### Product Downloads

### General

Double-Convex Lens **Type:**

### Physical & Mechanical Properties

9.00 +0.000/-0.025	<b>Diameter (mm):</b>
<3	<b>Centering (arcmin):</b>
Protective as needed	<b>Bevel:</b>
3.45	<b>Center Thickness CT (mm):</b>
±0.05	<b>Center Thickness Tolerance (mm):</b>
1.6	<b>Edge Thickness ET (mm):</b>
8.1	<b>Clear Aperture CA (mm):</b>

## Optical Properties

7.9	<b>Back Focal Length BFL (mm):</b>
9.00	<b>Effective Focal Length EFL (mm):</b>
VIS-EXT (350-700nm)	<b>Coating:</b>
$R_{avg} < 0.5\%$ @ 350 - 700nm	<b>Coating Specification:</b>
<b>N-SF5</b>	<b>Substrate:</b> <input type="checkbox"/>
40-20	<b>Surface Quality:</b>
1.5λ	<b>Power (P-V) @ 632.8nm:</b>
λ/4	<b>Irregularity (P-V) @ 632.8nm:</b>
11.38	<b>Radius R<sub>1</sub>=R<sub>2</sub> (mm):</b>
1.00	<b>f#:</b>
587.6	<b>Focal Length Specification Wavelength (nm):</b>
±1	<b>Focal Length Tolerance (%):</b>
0.50	<b>Numerical Aperture NA:</b>
350 - 700	<b>Wavelength Range (nm):</b>

## Regulatory Compliance

<b>Compliant</b>	<b>RoHS 2015:</b>
<b>View</b>	<b>Certificate of Conformance:</b>
<b>Compliant</b>	<b>Reach 235:</b>

## Product Details

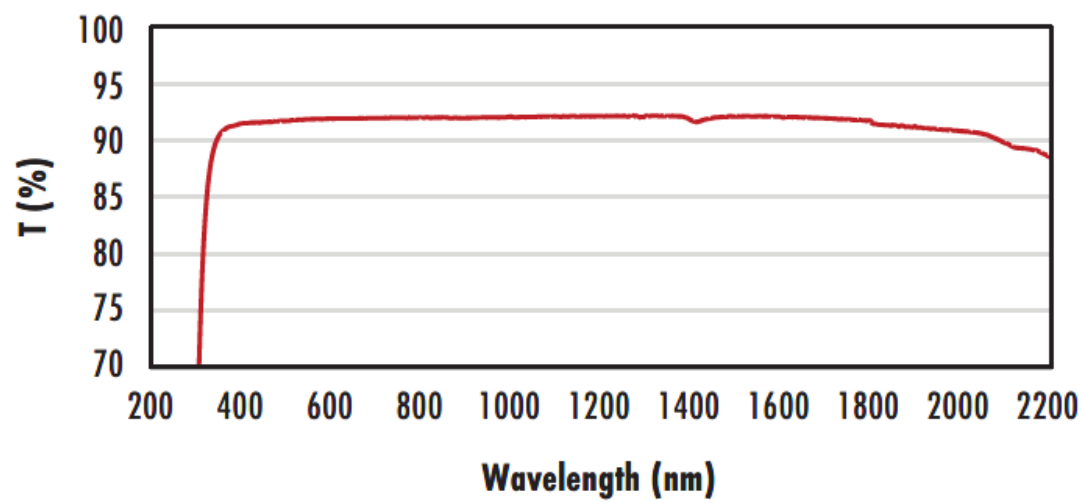
- AR Coated to Provide <0.5% Reflectance per Surface for 350 - 700nm
- Minimize Aberrations Including Spherical and Coma
- **UV Fused Silica DCX Lenses** Available
- Other Coating Options Available: **Uncoated, MgF<sub>2</sub>, VIS 0°, NIR I, NIR II, VIS-NIR,** and **YAG-BBAR**

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

N-BK7

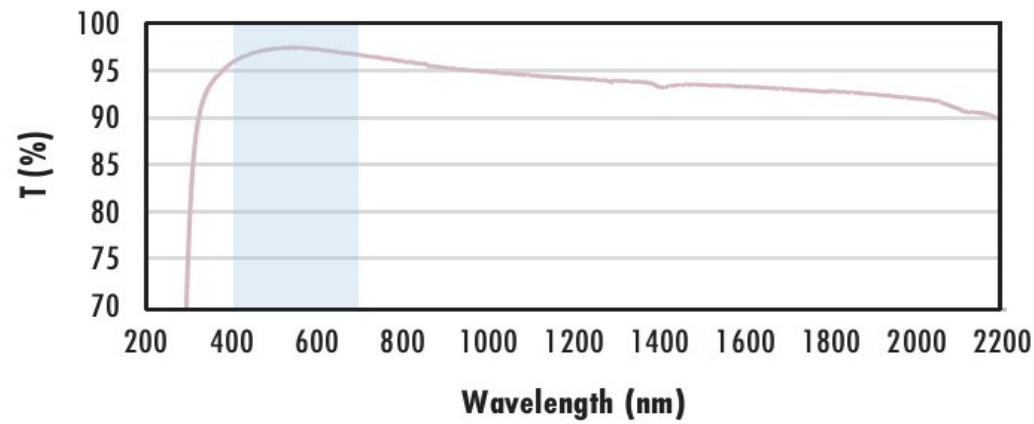
### Uncoated N-BK7 Typical Transmission



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

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**N-BK7 with MgF<sub>2</sub> Coating  
Typical Transmission**



Typical transmission of a 3mm thick N-BK7 window with MgF<sub>2</sub> (400-700nm) coating at 0° AOI.

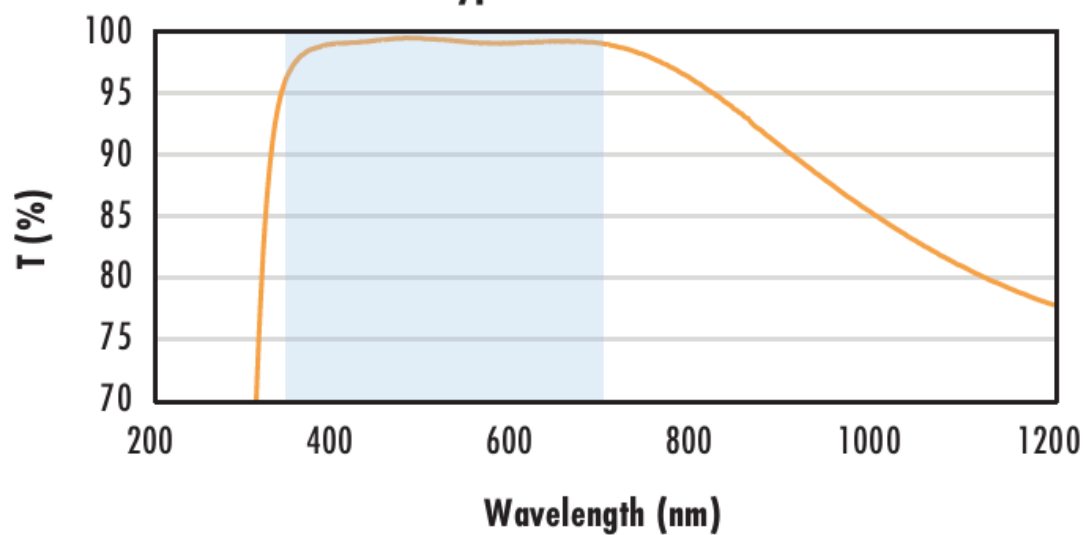
The blue shaded region indicates the coating design wavelength range, with the following specification:

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

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.

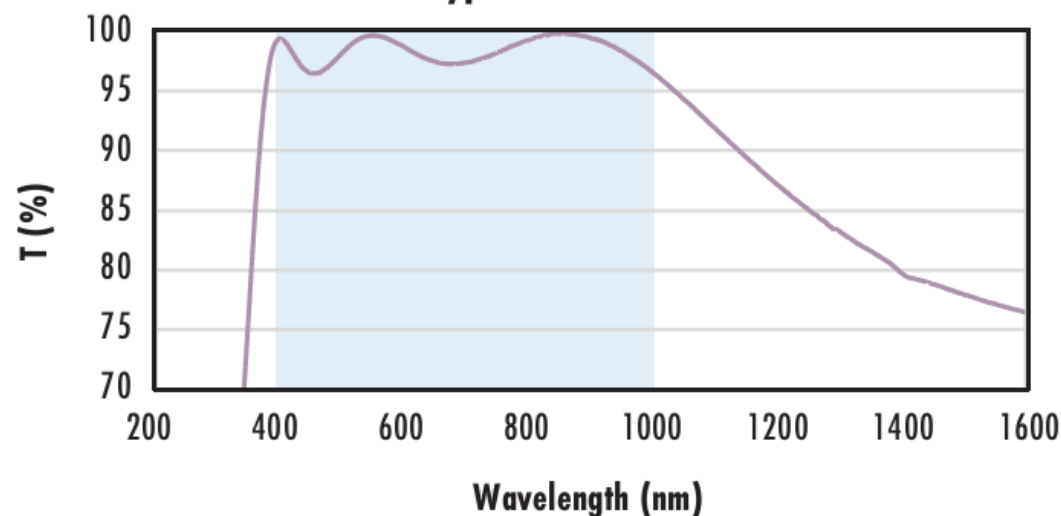
The blue shaded region indicates the coating design wavelength range, with the following specification:

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

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:

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

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 VIS 0° (425-675nm) coating at 0° AOI.

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

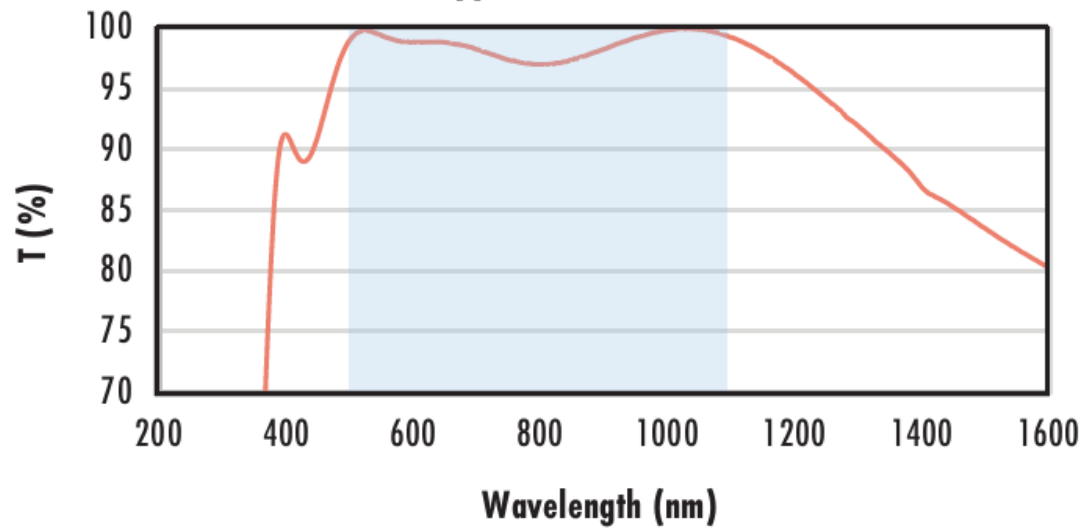
$$R_{avg} \leq 0.4\% @ 425 - 675\text{nm}$$

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

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Wavelength (nm)

### 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.

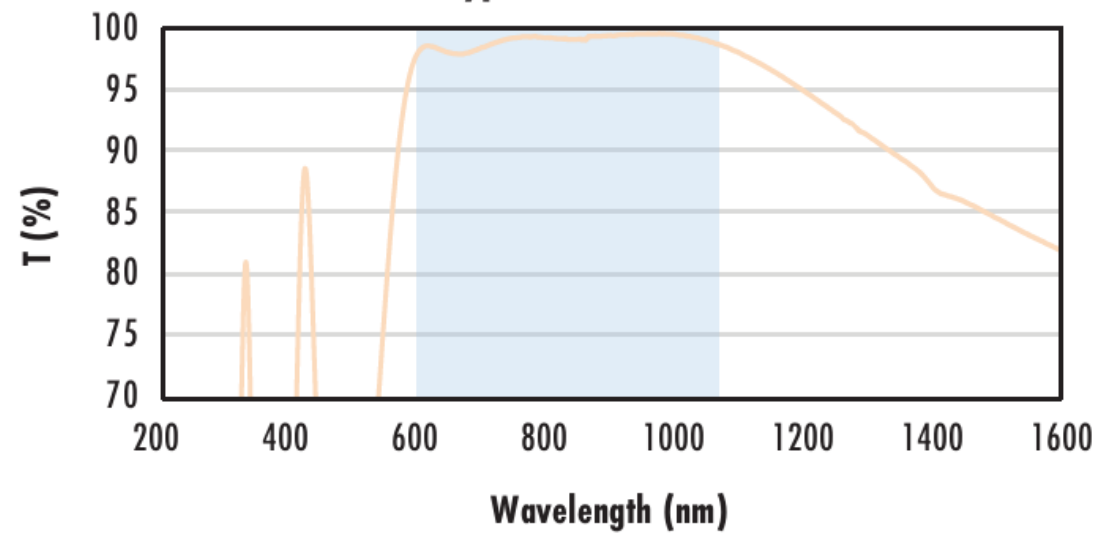
The blue shaded region indicates the coating design wavelength range, with the following specification:

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

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.

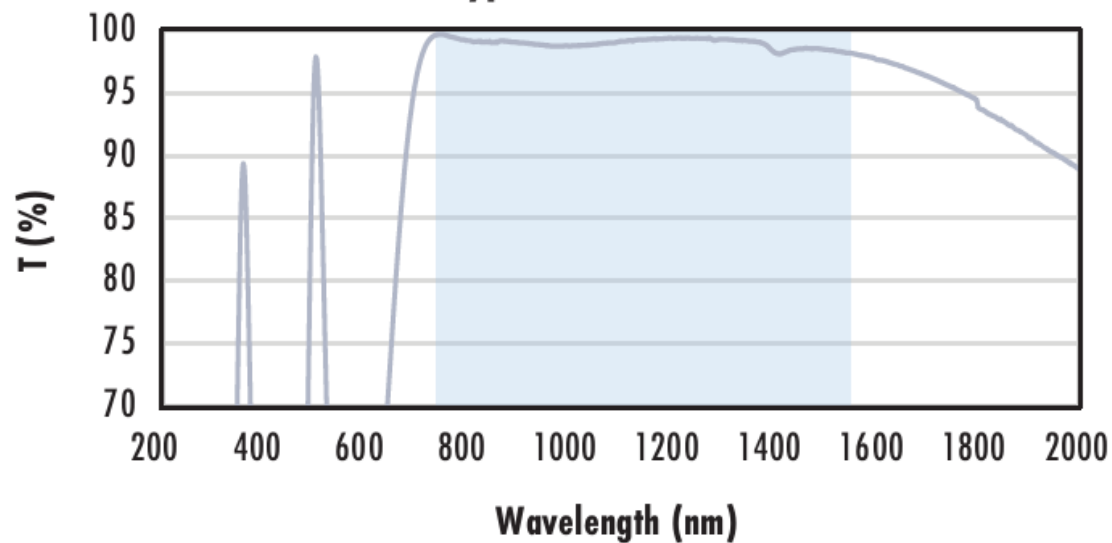
The blue shaded region indicates the coating design wavelength range, with the following specification:

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

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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## Compatible Mounts