

TECHSPEC<sup>®</sup> 20mm Dia. x 20mm FL, VIS-EXT Coated, Double-Convex Lens



Stock **#89-168** 2 In Stock

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-

1

+

A\$81<sup>-16</sup>

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Volume Pricing	
Qty 1-9	A\$81.16 each
Qty 10-24	A\$72.92 each
Qty 25-99	A\$65.10 each
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SPECIFICATIONS

General

Type:

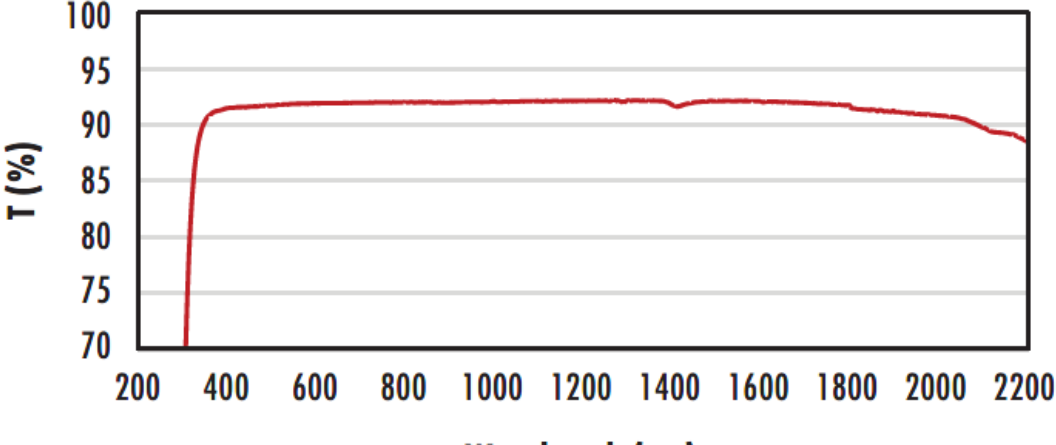
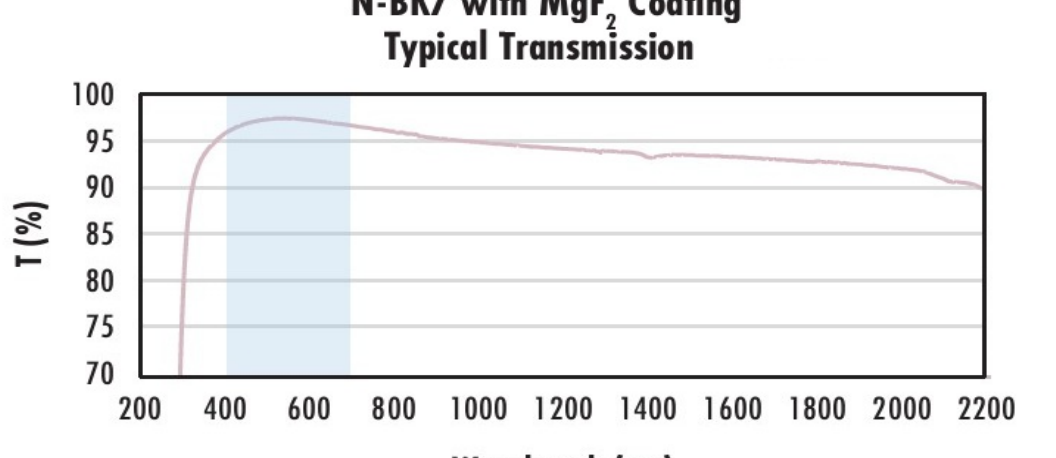
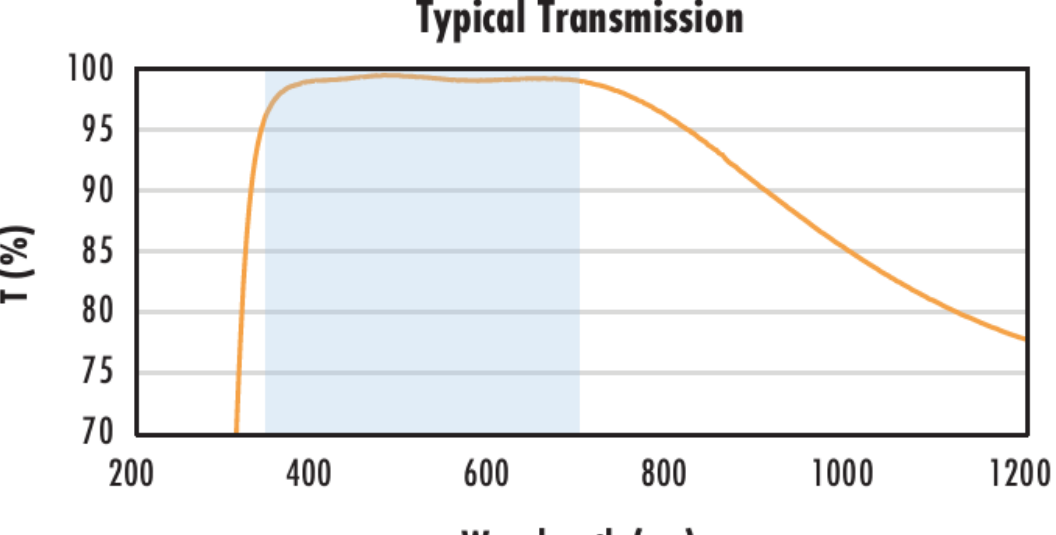
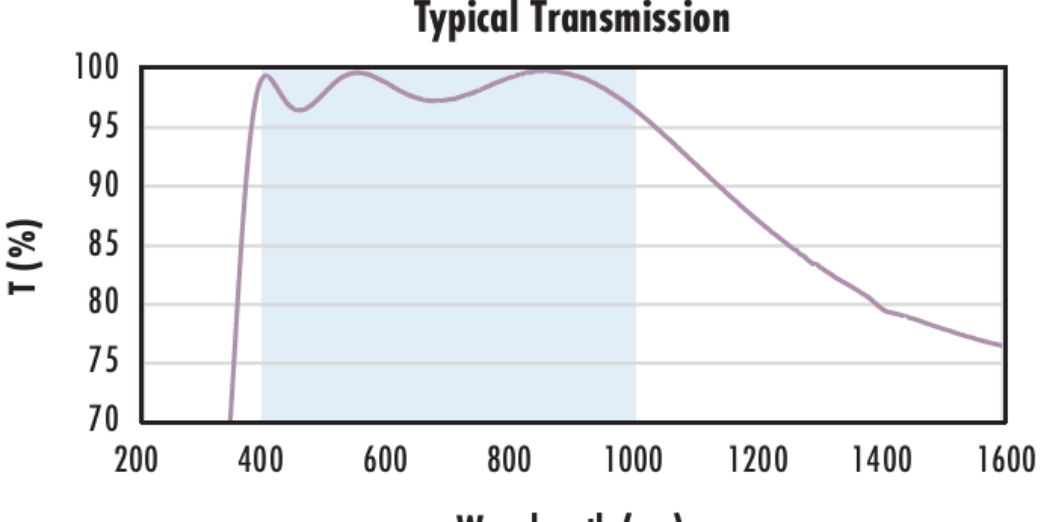
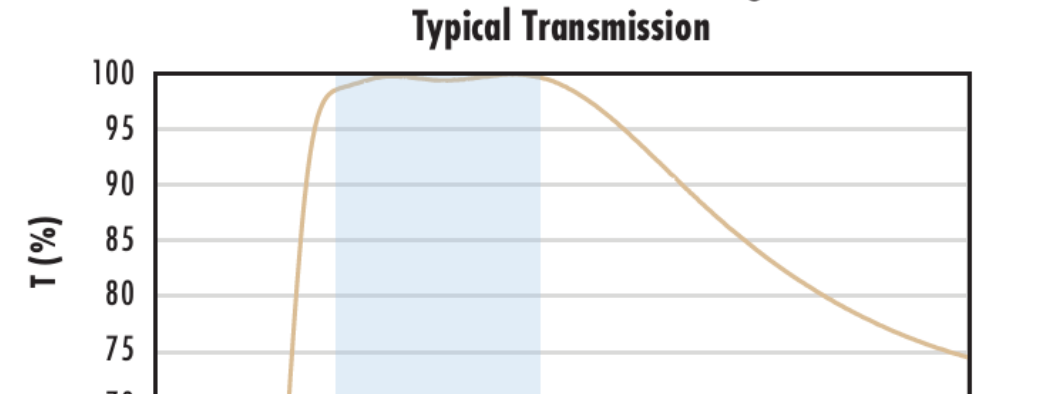
Double-Convex Lens	
Physical & Mechanical Properties	
20.00 +0.000/-0.025	Diameter (mm):
<1	Centering (arcmin):
Protective as needed	Bevel:
5.00	Center Thickness CT (mm):
±0.10	Center Thickness Tolerance (mm):
1.6	Edge Thickness ET (mm):
19.00	Clear Aperture CA (mm):
Optical Properties	
18.55	Back Focal Length BFL (mm):
20.00	Effective Focal Length EFL (mm):
VIS-EXT (350-700nm)	Coating:
R <sub>avg</sub> <0.5% @ 350 - 700nm	Coating Specification:
N-SF11	Substrate: 
40-20	Surface Quality:
1.5λ	Power (P-V) @ 632.8nm:
λ/4	Irregularity (P-V) @ 632.8nm:
30.25	Radius R <sub>1</sub> =R <sub>2</sub> (mm):
1.00	f/#:
587.6	Focal Length Specification Wavelength (nm):
±1	Focal Length Tolerance (%):
0.50	Numerical Aperture NA:
350 - 700	Wavelength Range (nm):
Regulatory Compliance	
Compliant	RoHS 2015:
View	Certificate of Conformance:
Compliant	Reach 235:

## PRODUCT DETAILS

- AR Coated to Provide <0.5% Reflectance per Surface for 350 - 700nm
- Mnimize 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

<p data-bbox="527 71 1085 121"><b>Uncoated N-BK7 Typical Transmission</b></p> 	<p data-bbox="1339 278 1839 329">Typical transmission of a 3mm thick, uncoated N-BK7 window across the UV - NIR spectra.</p> <p data-bbox="1472 344 1707 365"><a href="#">Click Here to Download Data</a></p>
<p data-bbox="590 676 957 756"><b>N-BK7 with MgF<sub>2</sub> Coating Typical Transmission</b></p> 	<p data-bbox="1339 759 1839 810">Typical transmission of a 3mm thick N-BK7 window with MgF2 (400-700nm) coating at 0° AOI.</p> <p data-bbox="1331 825 1848 875">The blue shaded region indicates the coating design wavelength range, with the following specification:</p> <p data-bbox="1436 890 1743 911"><math>R_{avg} \leq 1.75\% @ 400 - 700\text{nm}</math> (N-BK7)</p> <p data-bbox="1339 926 1839 976">Data outside this range is not guaranteed and is for reference only.</p> <p data-bbox="1472 991 1707 1012"><a href="#">Click Here to Download Data</a></p>
<p data-bbox="590 1190 1016 1282"><b>N-BK7 with VIS-EXT Coating Typical Transmission</b></p> 	<p data-bbox="1331 1359 1848 1409">Typical transmission of a 3mm thick N-BK7 window with VIS-EXT (350-700nm) coating at 0° AOI.</p> <p data-bbox="1331 1424 1848 1475">The blue shaded region indicates the coating design wavelength range, with the following specification:</p> <p data-bbox="1478 1489 1701 1510"><math>R_{avg} \leq 0.5\% @ 350 - 700\text{nm}</math></p> <p data-bbox="1339 1525 1839 1576">Data outside this range is not guaranteed and is for reference only.</p> <p data-bbox="1472 1590 1707 1611"><a href="#">Click Here to Download Data</a></p>
<p data-bbox="590 1834 1005 1926"><b>N-BK7 with VIS-NIR Coating Typical Transmission</b></p> 	<p data-bbox="1331 1952 1848 2003">Typical transmission of a 3mm thick N-BK7 window with VIS-NIR (400-1000nm) coating at 0° AOI.</p> <p data-bbox="1331 2018 1848 2068">The blue shaded region indicates the coating design wavelength range, with the following specification:</p> <p data-bbox="1478 2083 1701 2104"><math>R_{abs} \leq 0.25\% @ 880\text{nm}</math></p> <p data-bbox="1478 2107 1701 2128"><math>R_{avg} \leq 1.25\% @ 400 - 870\text{nm}</math></p> <p data-bbox="1478 2131 1701 2151"><math>R_{avg} \leq 1.25\% @ 890 - 1000\text{nm}</math></p> <p data-bbox="1339 2190 1839 2240">Data outside this range is not guaranteed and is for reference only.</p> <p data-bbox="1472 2255 1707 2276"><a href="#">Click Here to Download Data</a></p>
<p data-bbox="596 2457 976 2546"><b>N-BK7 with VIS 0° Coating Typical Transmission</b></p> 	<p data-bbox="1339 2591 1839 2641">Typical transmission of a 3mm thick N-BK7 window with VIS 0° (425-675nm) coating at 0° AOI.</p> <p data-bbox="1331 2656 1848 2706">The blue shaded region indicates the coating design wavelength range, with the following specification:</p> <p data-bbox="1478 2721 1701 2742"><math>R_{avg} \leq 0.4\% @ 425 - 675\text{nm}</math></p> <p data-bbox="1339 2757 1839 2807">Data outside this range is not guaranteed and is for reference only.</p> <p data-bbox="1472 2822 1707 2843"><a href="#">Click Here to Download Data</a></p>

<div>20040060080010001200</div> <div>Wavelength (nm)</div>	
<div><div><div>N-BK7 with YAG-BBAR Coating</div><div>Typical Transmission</div></div><div><div><div>T (%)</div><div>100959085807570</div></div><div><div><div>2004006008001000120014001600</div><div>Wavelength (nm)</div></div></div></div></div>	<div>Typical transmission of a 3mm thick N-BK7 window with YAG-BBAR (500-1100nm) coating at 0° AOI.</div> <div>The blue shaded region indicates the coating design wavelength range, with the following specification:</div> <div><div><div><math>R_{abs} \leq 0.25\%</math> @ 532nm</div><div><math>R_{abs} \leq 0.25\%</math> @ 1064nm</div><div><math>R_{avg} \leq 1.0\%</math> @ 500 - 1100nm</div></div></div> <div>Data outside this range is not guaranteed and is for reference only.</div> <div><a href="#">Click Here to Download Data</a></div>
<div><div><div>N-BK7 with NIR I Coating</div><div>Typical Transmission</div></div><div><div><div>T (%)</div><div>100959085807570</div></div><div><div><div>2004006008001000120014001600</div><div>Wavelength (nm)</div></div></div></div></div>	<div>Typical transmission of a 3mm thick N-BK7 window with NIR I (600 - 1050nm) coating at 0° AOI.</div> <div>The blue shaded region indicates the coating design wavelength range, with the following specification:</div> <div><div><div><math>R_{avg} \leq 0.5\%</math> @ 600 - 1050nm</div></div></div> <div>Data outside this range is not guaranteed and is for reference only.</div> <div><a href="#">Click Here to Download Data</a></div>
<div><div><div>N-BK7 with NIR II Coating</div><div>Typical Transmission</div></div><div><div><div>T (%)</div><div>100959085807570</div></div><div><div><div>200400600800100012001400160018002000</div><div>Wavelength (nm)</div></div></div></div></div>	<div>Typical transmission of a 3mm thick N-BK7 window with NIR II (750 - 1550nm) coating at 0° AOI.</div> <div>The blue shaded region indicates the coating design wavelength range, with the following specification:</div> <div><div><div><math>R_{abs} \leq 1.5\%</math> @ 750 - 800nm</div><div><math>R_{abs} \leq 1.0\%</math> @ 800 - 1550nm</div><div><math>R_{avg} \leq 0.7\%</math> @ 750 - 1550nm</div></div></div> <div>Data outside this range is not guaranteed and is for reference only.</div> <div><a href="#">Click Here to Download Data</a></div>

COMPATIBLE MOUNTS