

TECHSPEC[®] 12mm Dia. x 30mm FL Uncoated, Double-Convex Lens



Stock **#45-087** 20+ In Stock

☐ [Other Coating Options](#)

-

1

+

£27^{.20}

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Volume Pricing	
Qty 1-9	£27.20 each
Qty 10-24	£24.60 each
Qty 25-99	£21.80 each
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 Prices shown are exclusive of VAT/local taxes

Product Downloads

General	
Double-Convex Lens	Type:
Physical & Mechanical Properties	

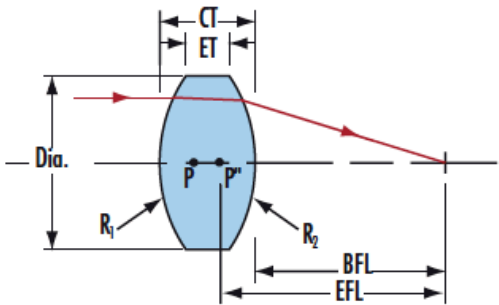
12.00 +0.0/-0.025	Diameter (mm):
<1	Centering (arcmin):
Protective as needed	Bevel:
3.70	Center Thickness CT (mm):
±0.05	Center Thickness Tolerance (mm):
2.50	Edge Thickness ET (mm):
11.00	Clear Aperture CA (mm):
Optical Properties	
28.75	Back Focal Length BFL (mm):
30.00	Effective Focal Length EFL (mm):
Uncoated	Coating:
N-BK7	Substrate: □
40-20	Surface Quality:
1.5λ	Power (P-V) @ 632.8nm:
λ/4	Irregularity (P-V) @ 632.8nm:
30.36	Radius R ₁ =R ₂ (mm):
2.5	f/#:
587.6	Focal Length Specification Wavelength (nm):
±1	Focal Length Tolerance (%):
0.20	Numerical Aperture NA:
350 - 2200	Wavelength Range (nm):
Regulatory Compliance	
Compliant	RoHS 2015:
View	Certificate of Conformance:
Compliant	Reach 235:

Product Details

- Ideal for Imaging Applications
- Minimize Aberrations Including Spherical and Coma
- [UV Fused Silica DCX Lenses](#) Available
- Anti-Reflection Coating Options: [MgF₂](#), [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 <table border="1"><caption>Approximate data for Uncoated N-BK7 Typical Transmission</caption><thead><tr><th>Wavelength (nm)</th><th>Transmission T (%)</th></tr></thead><tbody><tr><td>300</td><td>70</td></tr><tr><td>400</td><td>92</td></tr><tr><td>600</td><td>92</td></tr><tr><td>800</td><td>92</td></tr><tr><td>1000</td><td>92</td></tr><tr><td>1200</td><td>92</td></tr><tr><td>1400</td><td>92</td></tr><tr><td>1600</td><td>92</td></tr><tr><td>1800</td><td>92</td></tr><tr><td>2000</td><td>91</td></tr><tr><td>2200</td><td>88</td></tr></tbody></table>	Wavelength (nm)	Transmission T (%)	300	70	400	92	600	92	800	92	1000	92	1200	92	1400	92	1600	92	1800	92	2000	91	2200	88	Typical transmission of a 3mm thick, uncoated N-BK7 window across the UV - NIR spectra. Click Here to Download Data
Wavelength (nm)	Transmission T (%)																								
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Wavelength (nm)	Transmission T (%)																								
300	70																								
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300	70																								
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2004006008001000120014001600 Wavelength (nm)	
N-BK7 with VIS 0° Coating Typical Transmission T (%) 100 95 90 85 80 75 70 200 400 600 800 1000 1200 Wavelength (nm)	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: $R_{avg} \leq 0.4\% \text{ @ } 425 - 675\text{nm}$ Data outside this range is not guaranteed and is for reference only. Click Here to Download Data
N-BK7 with YAG-BBAR Coating Typical Transmission T (%) 100 95 90 85 80 75 70 200 400 600 800 1000 1200 1400 1600 Wavelength (nm)	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: $R_{abs} \leq 0.25\% \text{ @ } 532\text{nm}$ $R_{abs} \leq 0.25\% \text{ @ } 1064\text{nm}$ $R_{avg} \leq 1.0\% \text{ @ } 500 - 1100\text{nm}$ Data outside this range is not guaranteed and is for reference only. Click Here to Download Data
N-BK7 with NIR I Coating Typical Transmission T (%) 100 95 90 85 80 75 70 200 400 600 800 1000 1200 1400 1600 Wavelength (nm)	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: $R_{avg} \leq 0.5\% \text{ @ } 600 - 1050\text{nm}$ Data outside this range is not guaranteed and is for reference only. Click Here to Download Data
N-BK7 with NIR II Coating Typical Transmission T (%) 100 95 90 85 80 75 70 200 400 600 800 1000 1200 1400 1600 1800 2000 Wavelength (nm)	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: $R_{abs} \leq 1.5\% \text{ @ } 750 - 800\text{nm}$ $R_{abs} \leq 1.0\% \text{ @ } 800 - 1550\text{nm}$ $R_{avg} \leq 0.7\% \text{ @ } 750 - 1550\text{nm}$ Data outside this range is not guaranteed and is for reference only. Click Here to Download Data

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- Tight tolerances and complex geometries
- Scalable production—from prototype to volume

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Compatible Mounts
