TECHSPEC® 12.0mm Diameter x -15 FL, MgF$_2$ Coated, Plano-Concave Lens

Stock **#48-685**   CONTACT US

□ **Other Coating Options**

⊖   1   ⊕   £33$^{.00}$

ADD TO CART

Volume Pricing	
Qty 1-9	**£33.00** each
Qty 10-25	**£29.60** each
Qty 26-49	**£26.60** each
Need More?	**Request Quote**

❶ Prices shown are exclusive of VAT/local taxes

Product Downloads

General

Type:

Plano-Concave Lens

Physical & Mechanical Properties

Diameter (mm):	
12.00 +0.0/-0.025	
Bevel:	
Protective as needed	

Center Thickness CT (mm):	
3.00	
Center Thickness Tolerance (mm):	
±0.05	

Centering (arcmin):	
<1	
Clear Aperture CA (mm):	
11.00	

Edge Thickness ET (mm):	
4.47	

Optical Properties

Effective Focal Length EFL (mm):	
-15.00	
Substrate: ⓘ	
N-SF11	

f/#:	
1.25	
Numerical Aperture NA:	
0.40	

Coating:	
MgF_2 (400-700nm)	
Wavelength Range (nm):	
400 - 700	

Back Focal Length BFL (mm):	
-16.68	
Coating Specification:	
R_{avg} ≤1.75% @ 400 - 700nm	

Focal Length Specification Wavelength (nm):	
587.6	
Focal Length Tolerance (%):	
±1	

Radius R_1 (mm):	
-11.77	
Surface Quality:	
40-20	

Damage Threshold, By Design: ⓘ	
10 J/cm² @ 532nm, 10ns	
Power (P-V) @ 632.8nm:	
1.5λ	

Irregularity (P-V) @ 632.8nm:	
λ/4	

Regulatory Compliance

RoHS 2015:	
Compliant	
Certificate of Conformance:	
View	

Reach 235:	
Compliant	

Need different specs or modifications?

Edmund Optics offers comprehensive custom manufacturing services for optical and imaging components tailored to your specific application requirements. Whether in the prototyping phase or preparing for full-scale production, we provide flexible solutions to meet your needs. Our experienced engineers are here to assist—from concept to completion.
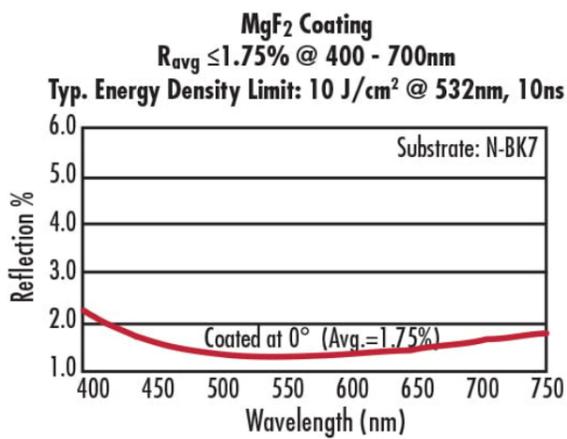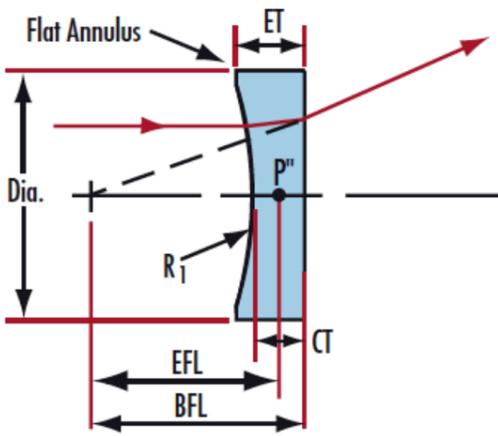
Our capabilities include:

- Custom dimensions, materials, coatings, and more
- High-precision surface quality and flatness
- Tight tolerances and complex geometries
- Scalable production—from prototype to volume

Learn more about our **custom manufacturing capabilities** or submit an inquiry **here.**

Product Details

- AR Coated to Provide <1.75% Reflectance per Surface for 400 - 700nm
- Designed for 0° Angle of Incidence
- Various Coating Options: Uncoated, VIS-EXT, VIS 0°, VIS-NIR, YAG-BBAR, NIR I, and NIR II

TECHSPEC® MgF_2 Coated Plano-Concave (PCV) Lenses are designed to bend parallel input rays to diverge from one another on the output side of the lens causing this lens to have a negative focal length. These lenses can be used for balancing aberrations created by other lenses within a system due to their negative spherical aberration. Plano-Concave (PCV) lenses are commonly used in a variety of applications including image reduction, beam

expansion and telescopes. TECHSPEC MgF$_2$ Coated Plano-Concave (PCV) Lenses are ideal for broadband applications. These lenses are also available Uncoated, VIS-EXT, VIS 0°, VIS-NIR, YAG-BBAR, NIR I, or with NIR II AR coating options.

Technical Information

MgF$_2$ Coating
R$_{avg}$ ≤1.75% @ 400 - 700nm
Typ. Energy Density Limit: 10 J/cm^2 @ 532nm, 10ns

Substrate: N-BK7

Coated at 0° (Avg.=1.75%)

N-BK7

Uncoated N-BK7 Typical Transmission

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

Click Here to Download Data

N-BK7 with MgF$_2$ 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 wavelengh range, with the following specification:

R$_{avg}$ ≤ 1.75% @ 400 - 700nm (N-BK7)

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

Click Here to Download Data

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 wavelengh range, with the following specification:

R$_{avg}$ ≤ 0.5% @ 350 - 700nm
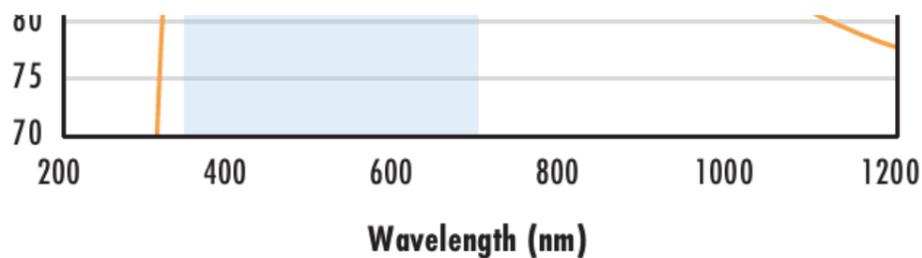
80
75
70
200   400   600   800   1000   1200
Wavelength (nm)

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

Click Here to Download Data

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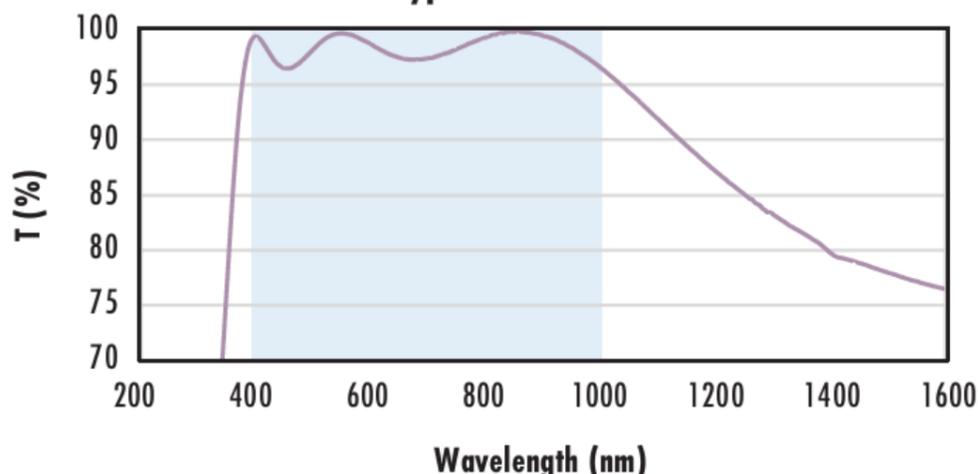
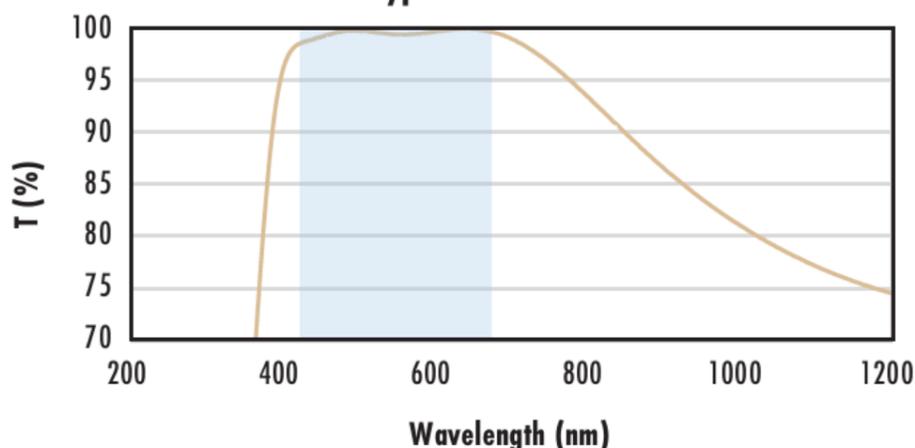Typical transmission of a 3mm thick N-BK7 window with VIS-NIR (400-1000nm) coating at 0° AOI.

The blue shaded region indicates the coating design 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.

Click Here to Download Data

N-BK7 with VIS 0° Coating
Typical Transmission

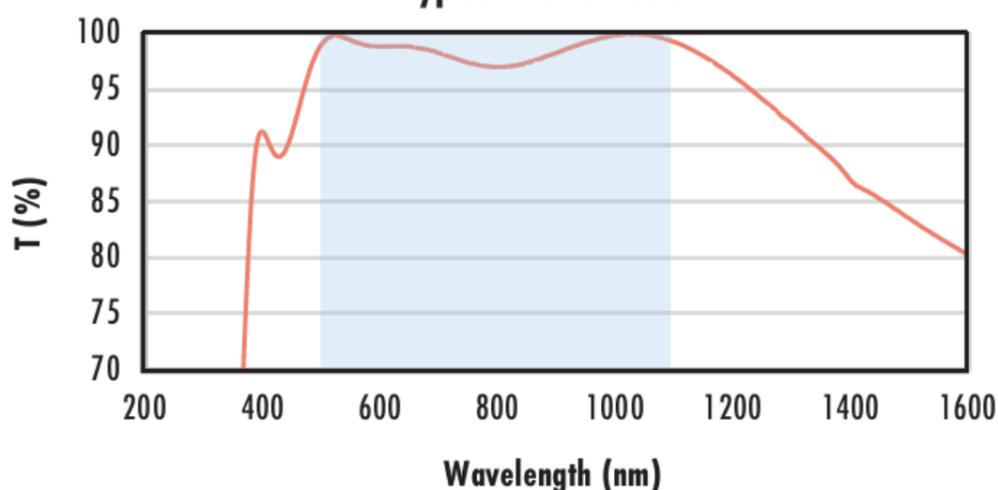Typical transmission of a 3mm thick N-BK7 window with VIS 0° (425-675nm) coating at 0° AOI.

The blue shaded region indicates the coating design 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.

Click Here to Download Data

N-BK7 with YAG-BBAR Coating
Typical Transmission

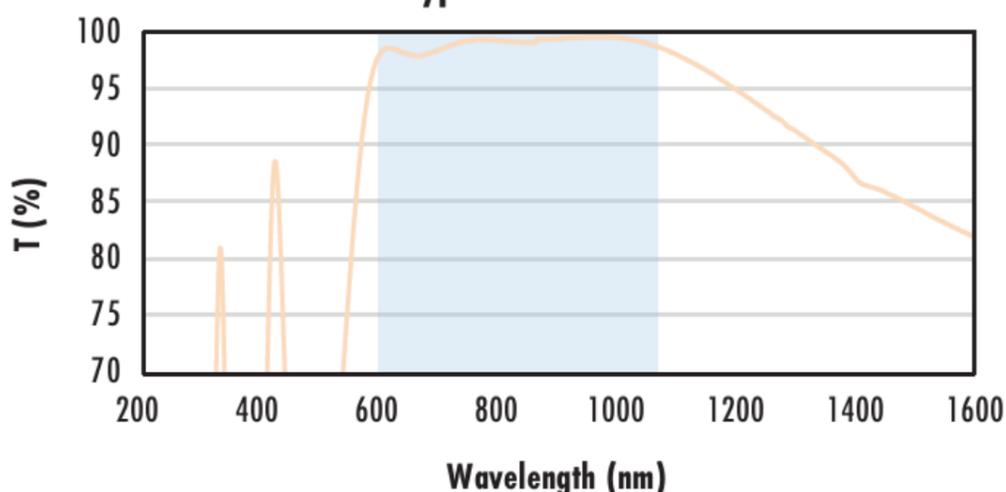Typical transmission of a 3mm thick N-BK7 window with YAG-BBAR (500-1100nm) coating at 0° AOI.

The blue shaded region indicates the coating design 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

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

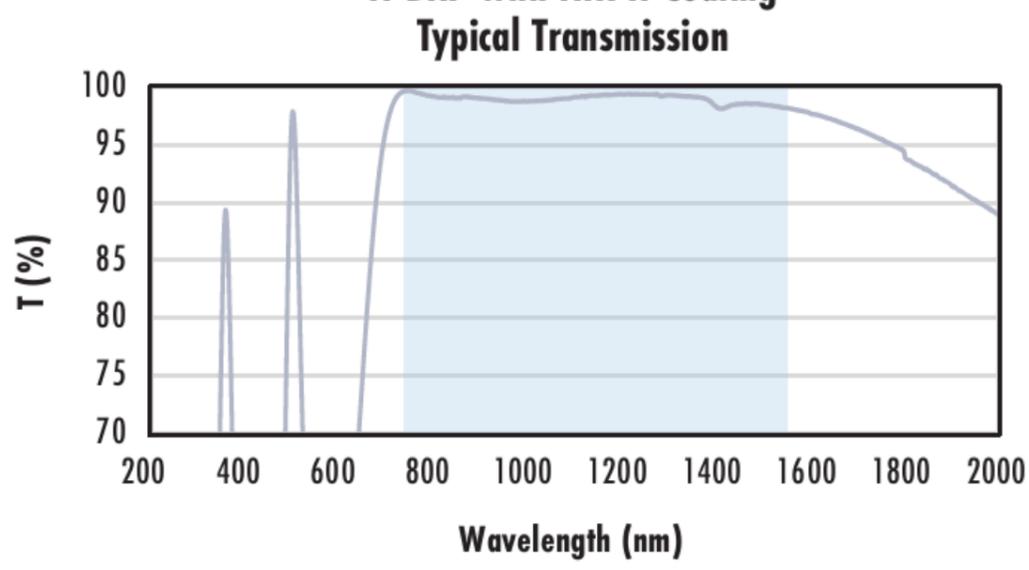Typical transmission of a 3mm thick N-BK7 window with NIR I (600 - 1050nm) coating at 0° AOI.

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.

Click Here to Download Data

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 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.

Click Here to Download Data

Coating Curves

Compatible Mounts

;