

TECHSPEC®

12mm Dia. x 12mm FL, MgF₂ Coated, Double-Convex Lens



Stock #32-015 **20+ In Stock** [Other Coating Options](#)

1 C\$58^{.10}

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Volume Pricing	
Qty 1-9	C\$58.10 each
Qty 10-24	C\$52.15 each
Qty 25-99	C\$46.55 each
Need More?	Request Quote

Product Downloads	
STEP:stp	Curve:pdf
PDF Drawing:pdf	
ISO 10110 Drawing	
IGES:igs	Zemax:zar
Zemax:zmx	eDrawing:eprt
Code V:seq	EO Spec Sheet
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General

Type: Double-Convex Lens

Physical & Mechanical Properties

Diameter (mm): 12.00 +0.0/-0.025	Centering (arcmin): <1
Bevel: Protective as needed	Center Thickness CT (mm): 3.85
Center Thickness Tolerance (mm): ±0.05	Edge Thickness ET (mm): 1.41
Clear Aperture CA (mm): 11.00	

Optical Properties

Back Focal Length BFL (mm): 10.79	Effective Focal Length EFL (mm): 12.00
Coating: MgF ₂ (400-700nm)	Coating Specification: R _{avg} ≤1.75% @ 400 - 700nm
Substrate: N-SF5	Surface Quality: 40-20
Power (P-V) @ 632.8nm: 1.5λ	Irregularity (P-V) @ 632.8nm: λ/4
Radius R₁=-R₂ (mm): 15.34	f/#: 1.00

Focal Length Specification Wavelength (nm):	587.6	Focal Length Tolerance (%):	±1
Numerical Aperture NA:	0.50	Wavelength Range (nm):	400 - 700
Damage Threshold, By Design: ⓘ	10 J/cm ² @ 532nm, 10ns		

Regulatory Compliance

RoHS 2015:	Compliant	Reach 219:	Compliant
Certificate of Conformance:	View		

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](#).

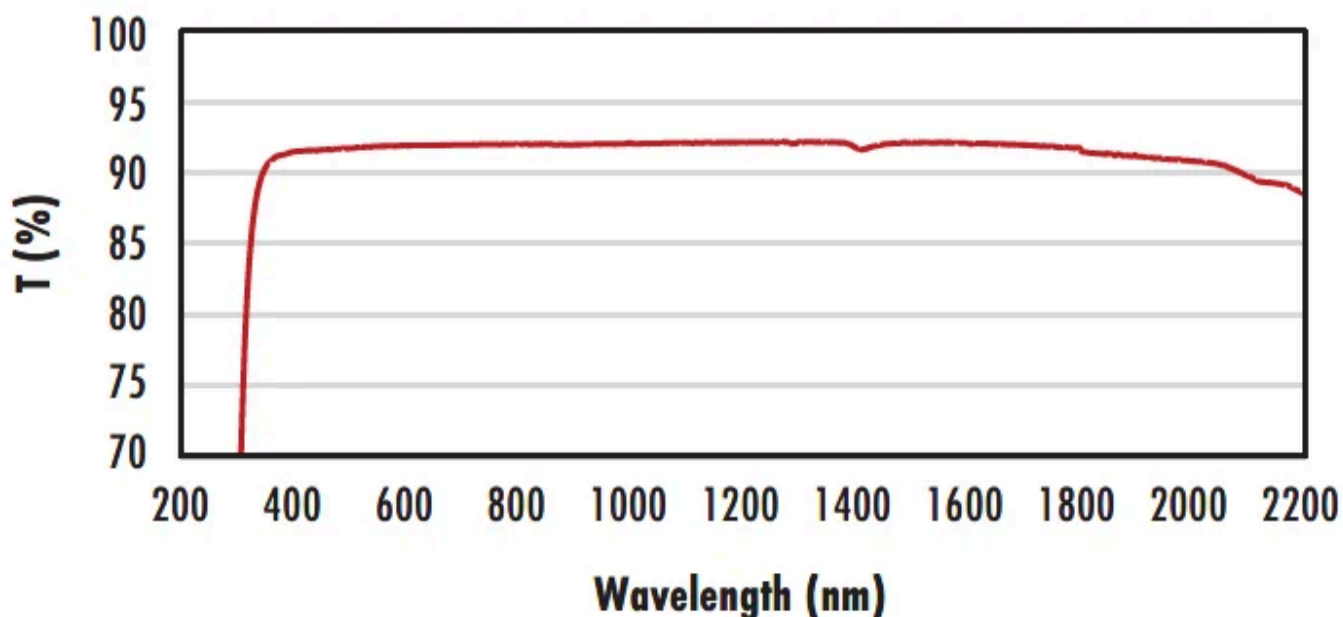
Product Details

- AR Coated to Provide <1.75% Reflectance per Surface for 400 - 700nm
- Minimize Aberrations Including Spherical and Coma
- **UV Fused Silica DCX Lenses** Available
- Other Coating Options Available: **Uncoated, VIS 0°, NIR I, NIR II, VIS-EXT, VIS-NIR, and YAG-BBAR**

TECHSPEC® MgF₂ 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® MgF₂ 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.

[Click Here to Download Data](#)

N-BK7 with MgF₂ Coating Typical Transmission



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

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

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

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 w 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 w VIS-NIR (400-1000nm) coating at 0° AOI.

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

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

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 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



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



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

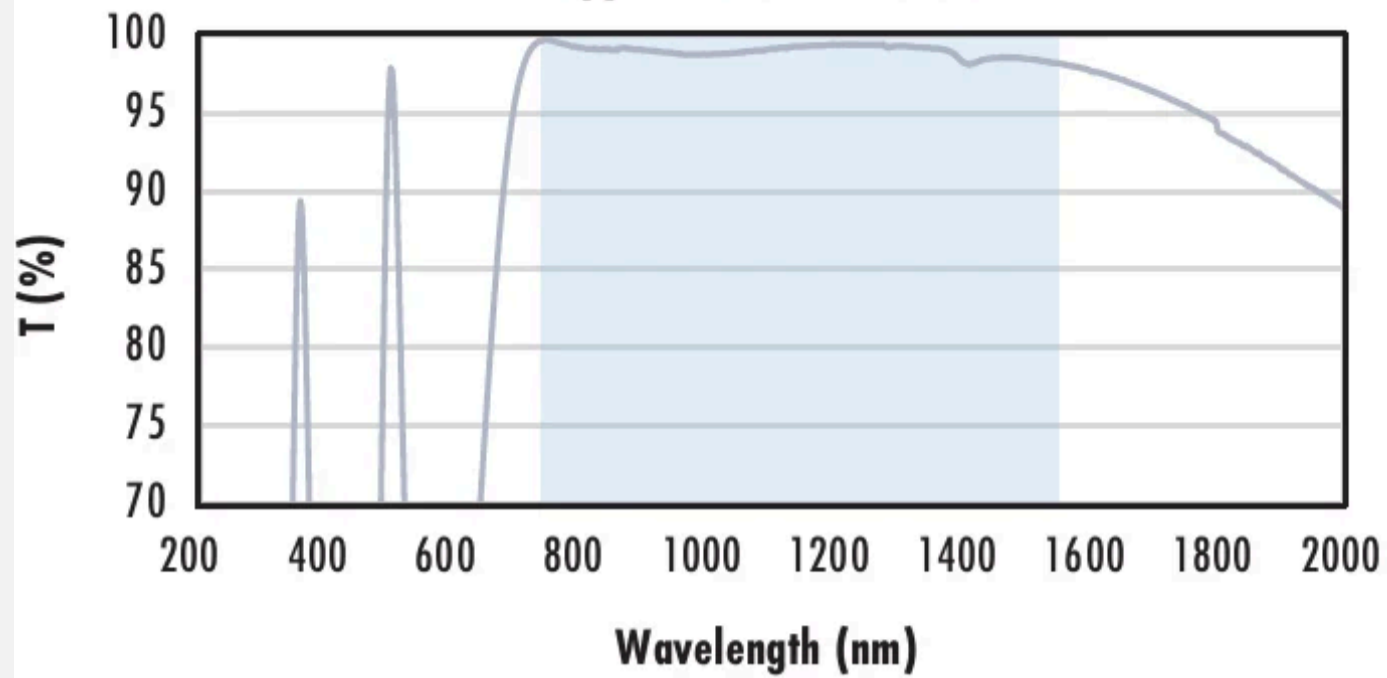
The blue shaded region indicates the coating design wavelength range, with the following specification:

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

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



Typical transmission of a 3mm thick N-BK7 window with II (750 - 1550nm) coating at 0° AOI.

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

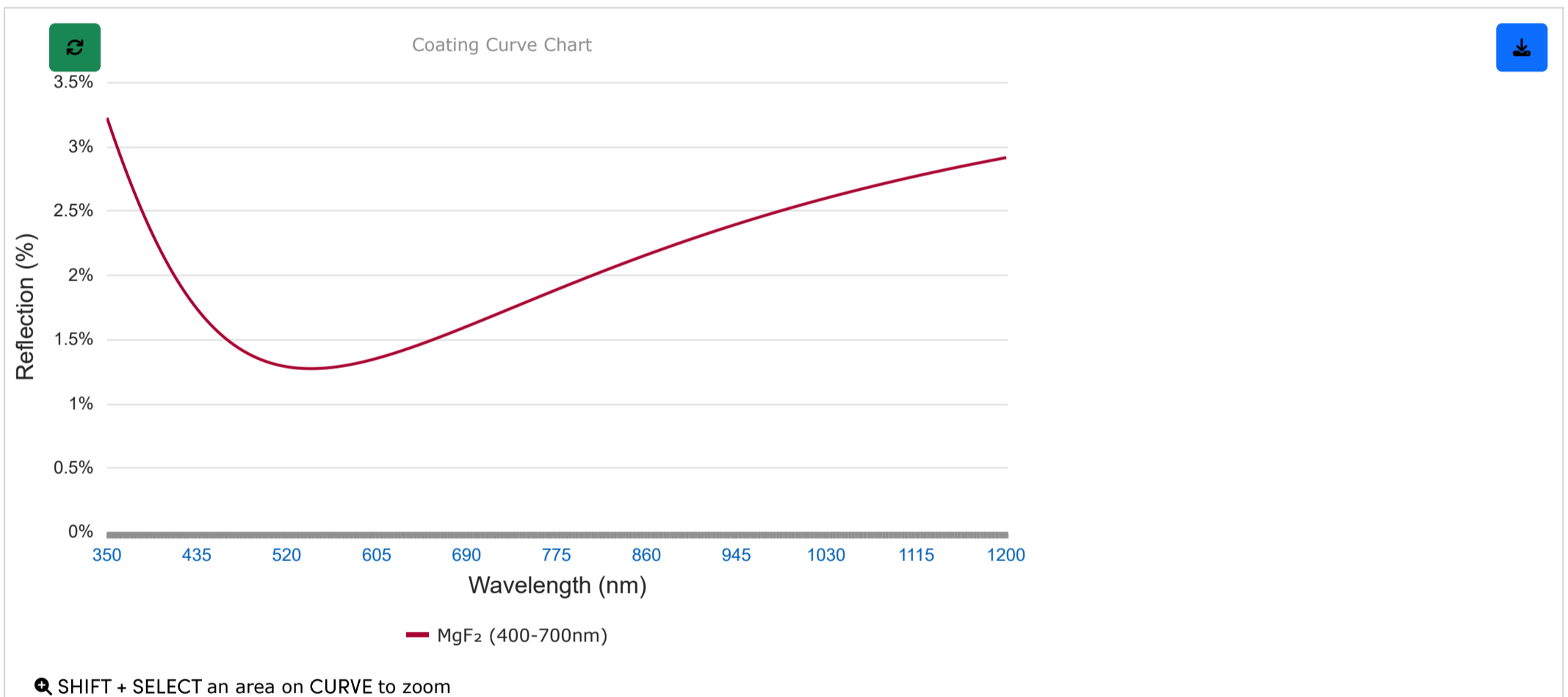
- $R_{abs} \leq 1.5\%$ @ 750 - 800nm
- $R_{abs} \leq 1.0\%$ @ 800 - 1550nm
- $R_{avg} \leq 0.7\%$ @ 750 - 1550nm

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

[Click Here to Download Data](#)

Coating Curves

MgF₂ (400-700nm)



Please note that coating performance outside each product's specified design range is theoretical and may vary.

Related Products



Double-Convex (DCX) Lenses



UV Fused Silica Double-Convex (DCX) Lenses



MgF₂ Coated Plano-Convex (PCX) Lenses

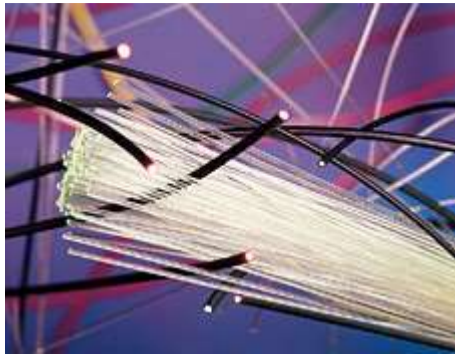


Optical Lens and Filter Mounts

Frequently Purchased Together



#31-858 - 3mm Dia. x 3mm FL, MgF₂ Coated, Double-Convex Lens
C\$88.90



#02-551 - 2000µm with 1 Fiber, Optical Grade Plastic Light Guide
C\$7.70





#30-120 - 15mm Dia x 25.4mm EFL Hastings Triplet Achromatic Lens
C\$211.40



#30-229 - 23mm Dia x 40.3mm EFL Hastings Triplet Achromatic Lens
C\$232.40

Compatible Mounts

	Title	Type	Compare	Stock Number	Price	Buy
 	12.0mm Optic Dia., Optic Mount	Fixed		#64-555	C\$45.85 Request Quote	10 In Stock <input type="text" value="1"/>

Check out our full selection of mounts [here](#).

Resources

Media Type

- Application Note
- Technical Tool
- Trending in Optics
- FAQ
- Glossary
- Video

APPLICATION NOTE
Anti-Reflection (AR) Coatings

APPLICATION NOTE
An Introduction to Optical Coatings

APPLICATION NOTE
Understanding Optical Specifications

APPLICATION NOTE
Lens Geometry Performance Comparison

TECHNICAL TOOL
SAG Calculator

TRENDING IN OPTICS
Future of Spherical Lenses

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