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TECHSPEC®

12.0mm Dia. x 10mm Thick Standard Plano-Convex Lens

Please select your shipping country to view the most accurate inventory information, and to determine the correct Edmund Optics sales office for your order.

Select Your Country/Region: European Union

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Stock #45-275 **16 In Stock** [Other Coating Options](#)

1 €40^{,50}

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Volume Pricing	
Qty 1-9	€40,50 each
Qty 10-24	€36,25 each
Qty 25-49	€32,50 each
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Prices shown are exclusive of VAT/local taxes

Product Downloads

- STEP:stp
- 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: Plano-Convex Lens

Physical & Mechanical Properties

Diameter (mm): 12.00 +0.0/-0.025

Centering (arcmin): <1

Center Thickness CT (mm): 2.50 ±0.05

Edge Thickness ET (mm): 2.15

Clear Aperture CA (mm): 11

Bevel: Protective as needed

Optical Properties

Effective Focal Length EFL (mm): 100.00 @ 587.6nm

Back Focal Length BFL (mm): 98.35

Coating: MgF₂ (400-700nm)

Coating Specification: R_{avg} ≤1.75% @ 400 - 700nm

Substrate: [N-BK7](#)

Surface Quality: 40-20

Power (P-V) @ 632.8nm: 1.5λ

Irregularity (P-V) @ 632.8nm: λ/4

Focal Length Tolerance (%): ±1

Radius R₁ (mm): 51.68

f/#: 8.33

Numerical Aperture NA: 0.06

Wavelength Range (nm): 400 - 700

Damage Threshold, By Design: 10 J/cm² @ 532nm, 10ns

Regulatory Compliance

RoHS 2015: **Compliant**

Reach 235: **Compliant**

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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](#).

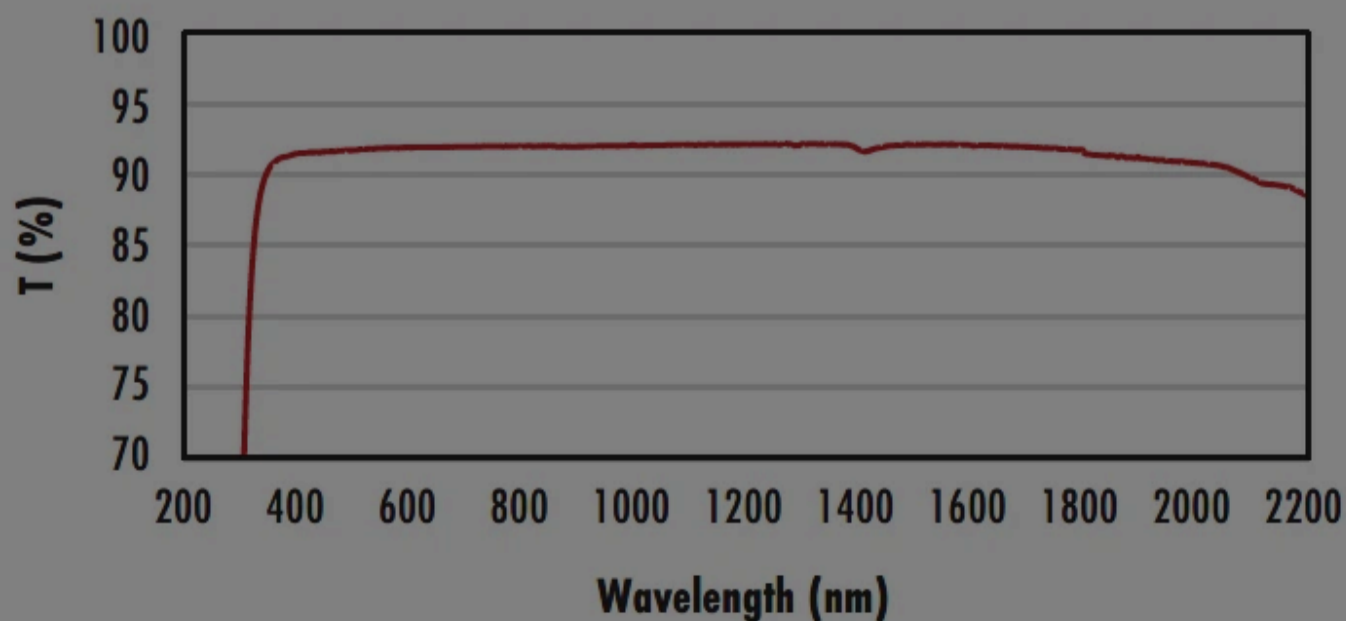
Product Details

- AR Coated to Provide <1.75% Reflectance per Surface for 400 - 700nm
- Designed for 0° Angle of Incidence
- Various PCX Coating Options: **Uncoated, VIS 0°, VIS-NIR, NIR I, NIR II, VIS-EXT**, and **YAG-BBAR**
- Also Available **Pre-Mounted in Engraved C-Mount Housings**

TECHSPEC® MgF2 Coated Plano-Convex (PCX) Lenses have a positive focal length, making them ideal for collecting and focusing light in imaging applications. They are also useful in a variety of applications involving emitters, detectors, lasers, and fiber optics. TECHSPEC® MgF2 Coated Plano-Convex (PCX) Lenses are available in a wide variety of diameters and focal lengths. Identical designs of these PCX lenses are also offered **uncoated** or with broadband anti-reflective (BBAR) coatings, which include **VIS 0°, VIS-NIR, NIR I, NIR II, VIS-EXT**, and **YAG-BBAR**.

Technical Information

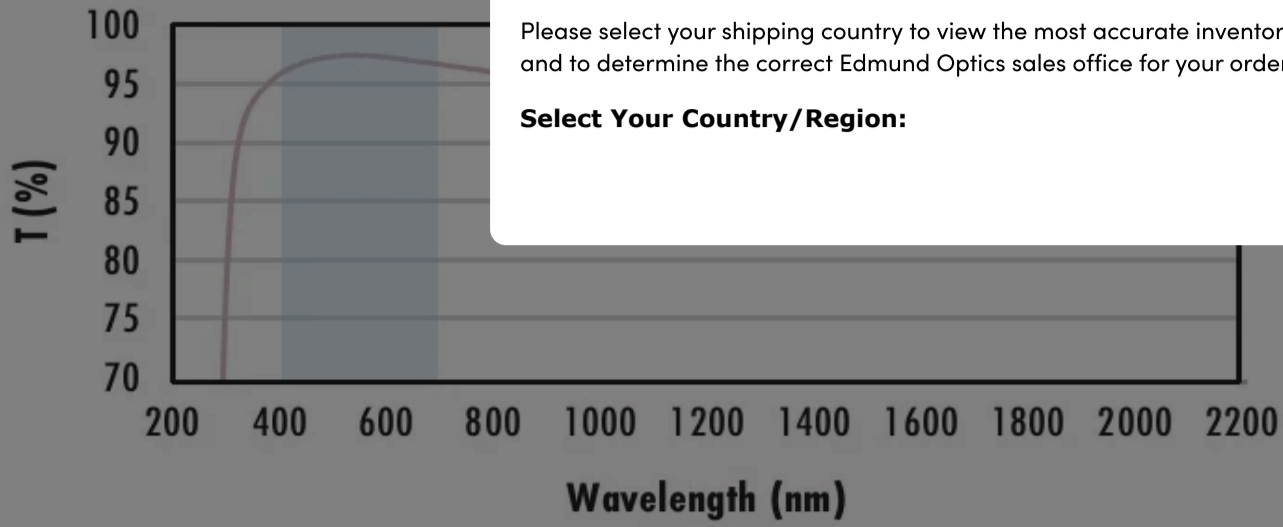
Uncoated N-BK7 Typical Transmission



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



Please select your shipping country to view the most accurate inventory information, and to determine the correct Edmund Optics sales office for your order.

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

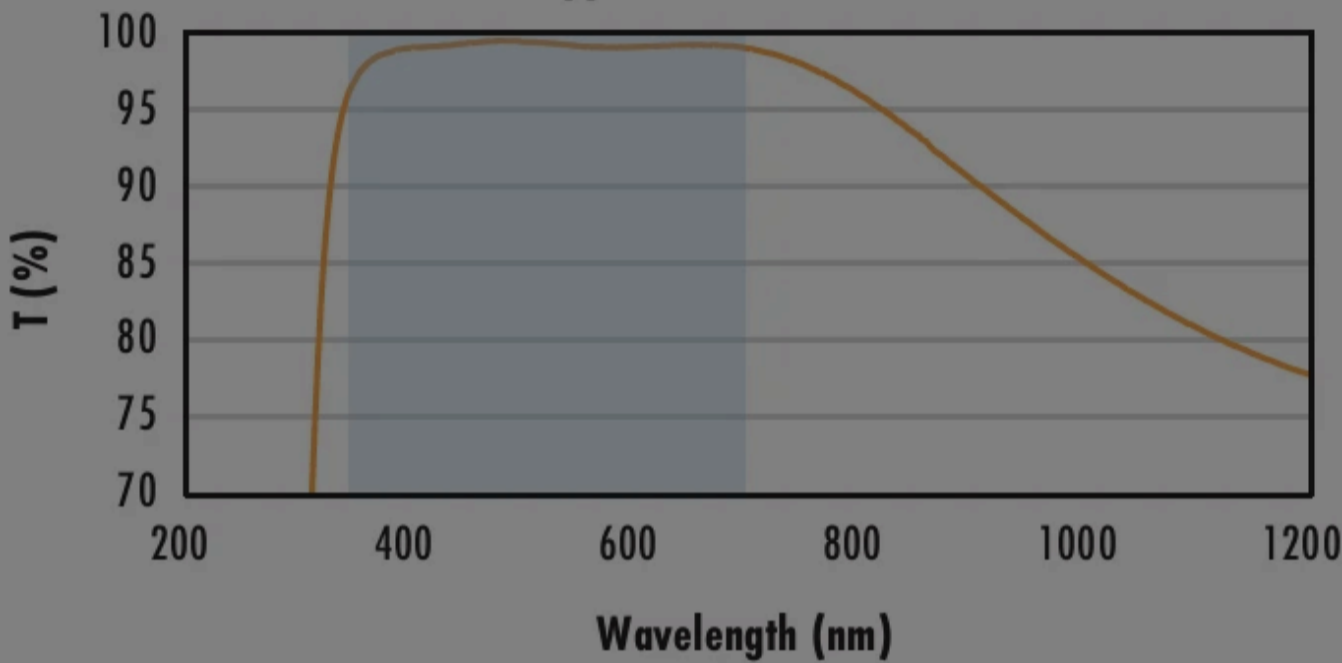
The blue shaded region indicates the coating design wavelength range, with the following specification:

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

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 with VIS-EXT (350-700nm) coating at 0° AOI.

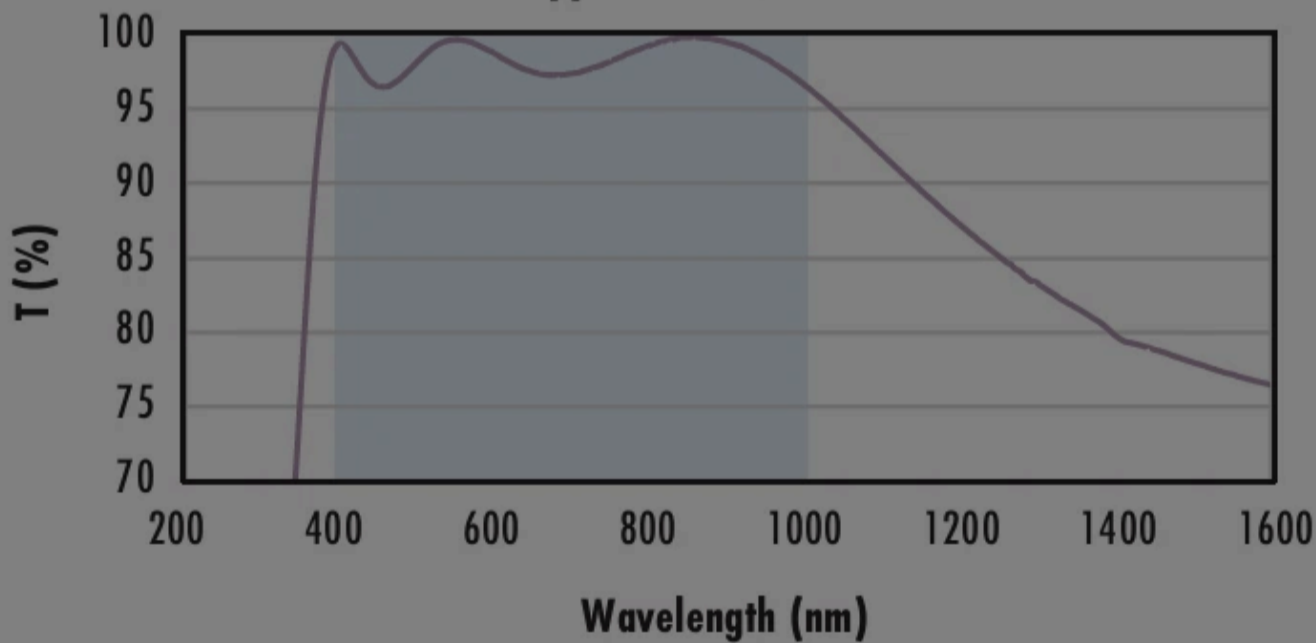
The blue shaded region indicates the coating design wavelength range, with the following specification:

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

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

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

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

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



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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:

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

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 wavelength 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.

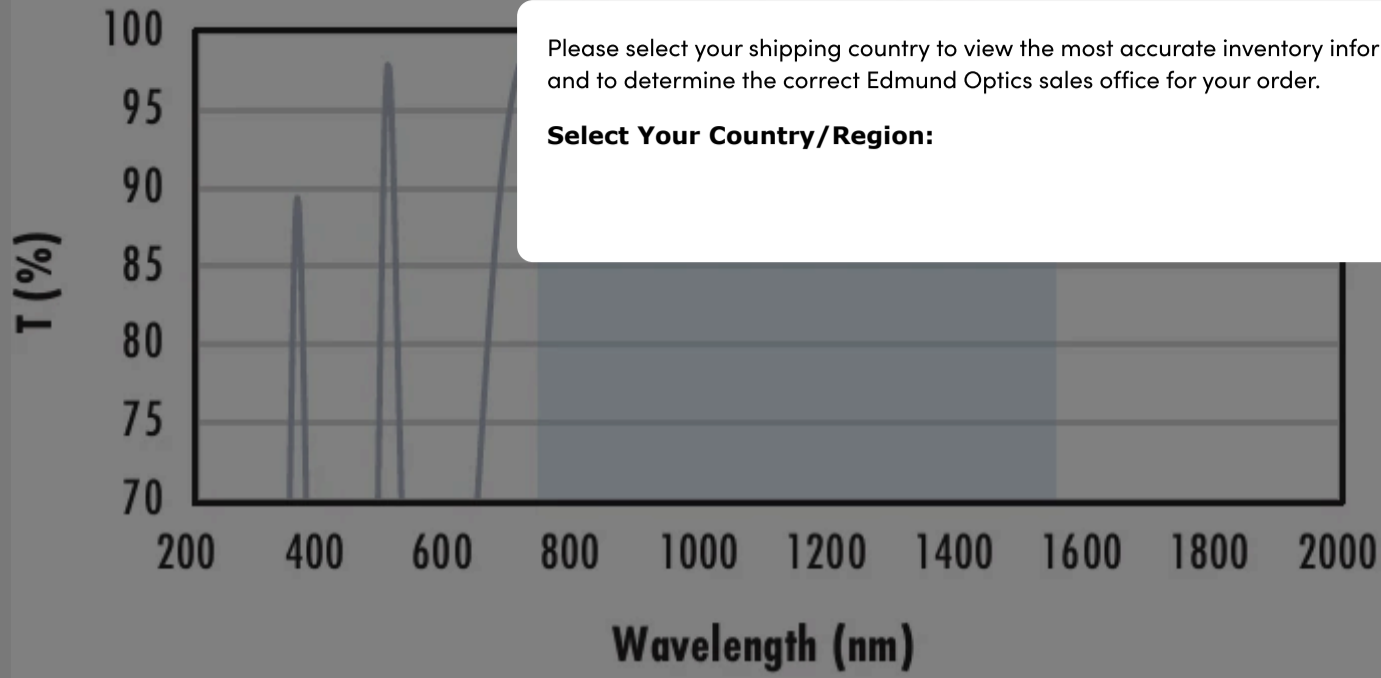
The blue shaded region indicates the coating design wavelength range, with the following specification:

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

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

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N-BK7 with NIR II Coating Typical Transmission



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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:

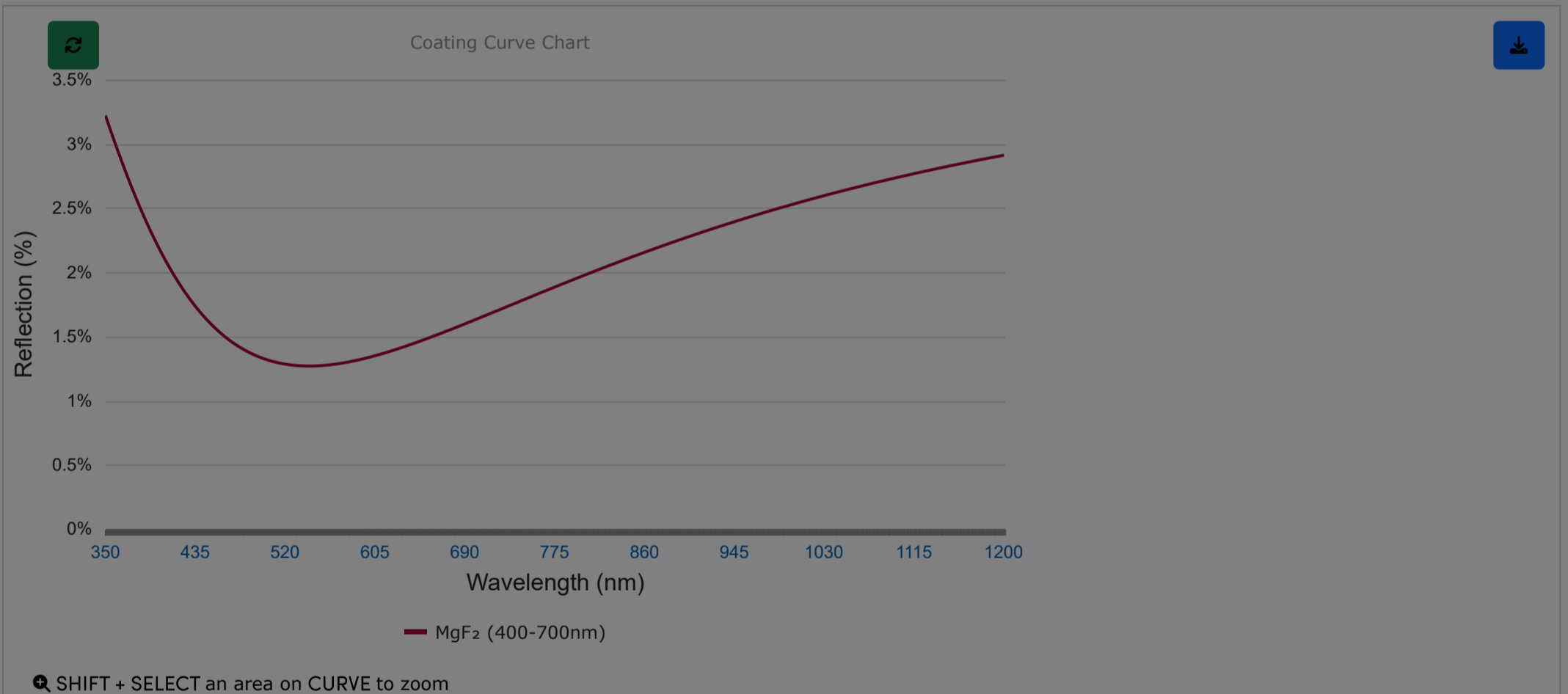
- $R_{abs} \leq 1.5\%$ @ 750 - 800nm
- $R_{abs} \leq 1.0\%$ @ 800 - 1550nm
- $R_{avg} \leq 0.7\%$ @ 750 - 1550nm

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

[Click Here to Download Data](#)

Coating Curves

MgF₂ (400-700nm)

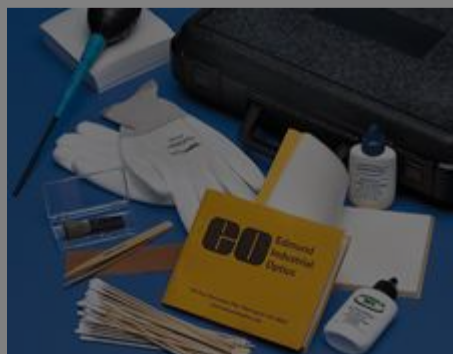


Please note that coating performance outside each product's specified design range is theoretical and may vary.

Related Products



MgF₂ Coated Achromatic Lenses



Optical Cleaning



Plano-Convex (PCX) Lenses



Optical Lens and Filter Mounts

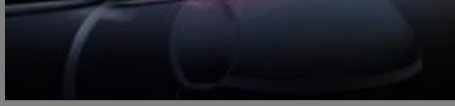
Frequently Purchased Together



#31-855 - 12.0mm Dia. x 24.0mm FL, MgF₂ Coated, Plano-Convex Lens
€40,50

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#32-008 - 9.0mm Dia. x 18.0mm FL Uncoated, Plano-Convex Lens
€30,50



#32-019 - 9mm Dia. x 9mm FL, MgF₂ Coated, Double-Convex Lens
€41,00



#32-498 - 30mm Dia. x 75mm FL, MgF₂ Coated, Achromatic Doublet Lens
€145,00

Compatible Mounts

	Title	Type	Compare	Stock Number	Price	Buy
	12.0mm Optic Dia., Optic Mount	Fixed		#64-555	€32,75 Request Quote	10 In Stock <input type="text" value="1"/>
	12mm Inner Single Optic Mount	Fixed		#38-749	€41,00 Request Quote	9 In Stock <input type="text" value="1"/>
	25mm Cage 12mm Diameter Lens Mount	Fixed		#85-550	€45,75 Request Quote	1 In Stock <input type="text" value="1"/>
	12mm Inner Pair Optic Mounts	Fixed		#11-405	€80,50 Request Quote	3 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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