

TECHSPEC® OPTICAL COATINGS

- UV, Visible, NIR, SWIR, MWIR, and LWIR Spectral Ranges
- Single- and Multi-Layer AR, Filter, Polarizing, Metallic, and Dielectric Designs
- Hundreds of Stock and Custom Optical Coating Options

Chris Cook
Principal Engineer
and Coatings Expert



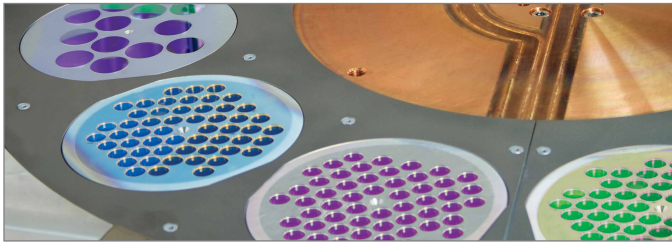
Need Assistance?
Contact Us Today!

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 **Edmund**
optics | worldwide

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OPTICAL COATING CAPABILITIES



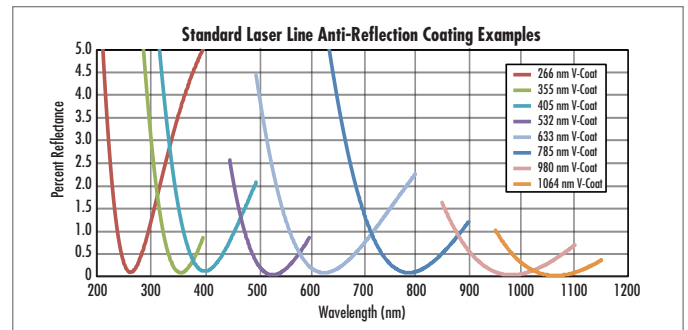
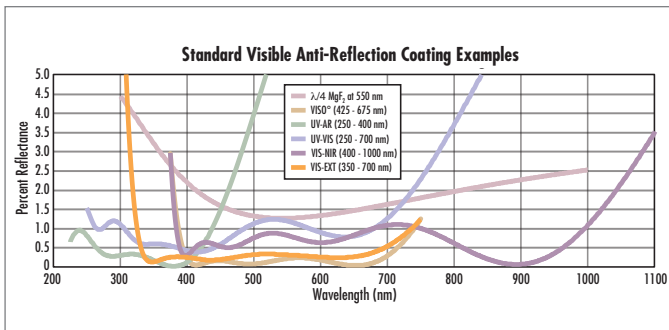
Edmund Optics® offers a wide variety of Optical Coatings for enhancing the transmission, reflection, spectrally-selective transmission and reflection, or blocking of an optical component. We offer extensive coating capabilities for optics operating throughout the ultraviolet (UV), visible, and infrared (IR) spectra. Additionally, we perform a wide variety of single- and multi-layer coatings including broadband, V-coat, polarizing, metallic, and narrow bandpass.

Dimensions (Dia. or Square)	2 - 1000 mm
Substrates	All Glass Types
Spectral Ranges	200 nm - 14 μm
Edge Steepness (T_{50%} to OD >4)	<0.5%
Spectral Edge Tolerance	<1% deviation, <0.2% special case
Blocking	>OD6
Neutral Density Tolerance	OD ± 5%
CWL	± 1 nm
Bandwidth	1 nm - Broadband
Transmission	>95%, Typical
Reflection	0.1 - 99.95%
Polarization	10,000:1
Laser Damage Threshold	Up to 20 J/cm ² @ 20 ns pulses
Number of Layers	200+
Durability	MIL-STD-810F, Section 507.4, MIL-C-48497A, Section 3.4.1
Technology	Hard-coated (Sputtering), Evaporative (IAD, EBAD), Hydrophobic

ANTI-REFLECTION COATINGS

Anti-Reflection (AR) Coatings increase transmission efficiency by reducing Fresnel reflections off an optic's surface, thereby improving throughput and overall system performance. Edmund Optics® offers standard

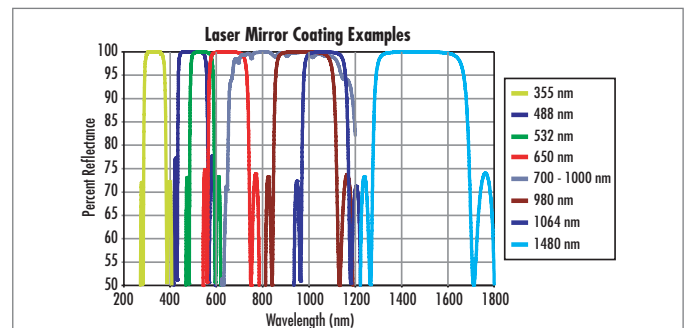
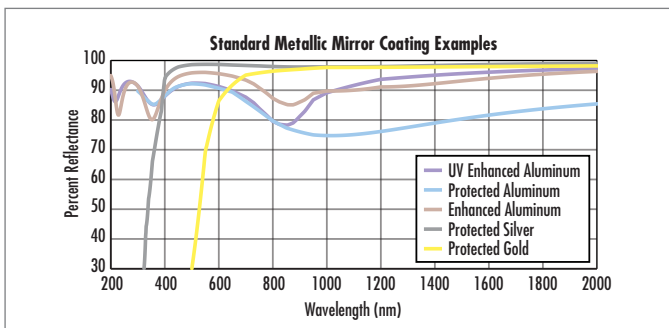
broadband and V-coat anti-reflection coatings for a wide selection of optical components. Additionally, we manufacture custom AR coatings to meet specific customer requirements.



MIRROR COATINGS

To maximize reflection, Edmund Optics® manufactures many metallic and dielectric coatings. We offer a variety of mirror substrates coated with our standard metallic mirror and laser-line coatings, in addition to

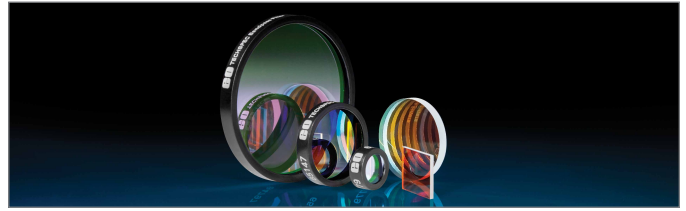
custom broadband, narrowband, single laser line, dual laser line, and laser line beamsplitter coatings.



OPTICAL FILTER COATINGS

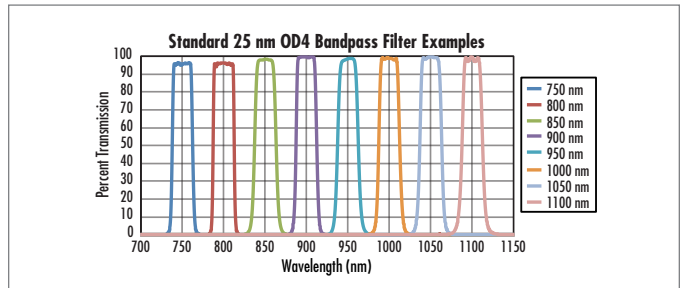
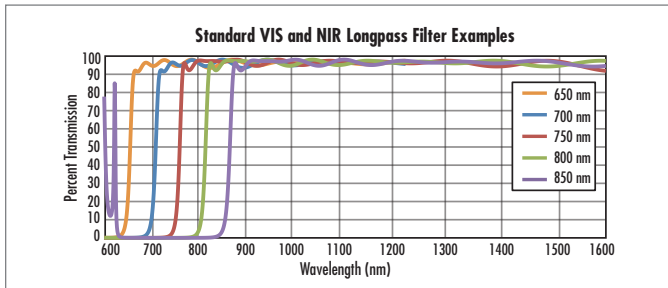
- Over 3,055 Stock Optical Filters Available for Immediate Delivery
- Durable Hard Coated, Single Substrate Filters
- High Transmission, Deep Blocking, Steep Slopes

Complex optical filter coatings can have hundreds of layers that have been carefully designed to produce a spectral profile with high transmission, deep blocking, and steep slopes. The expertise of our Coatings Engineers allows us to meet the performance requirements for applications in industries such as life sciences, imaging, semiconductor, defense, and research and development. Custom capabilities include bandpass, longpass, shortpass, and dichroic filters designed for different wavelengths, spectral width, and blocking requirements.



FILTER CAPABILITIES

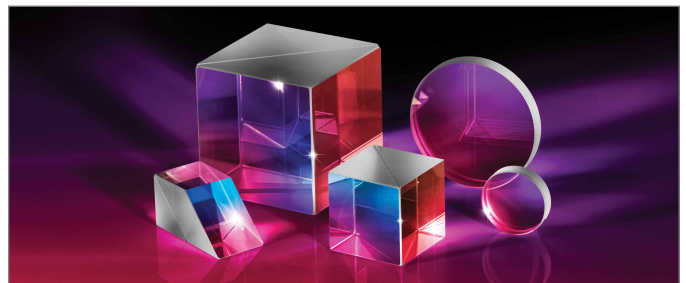
Filter Type	Wavelength Range	Optical Densities
Single Substrate Bandpass Filters	300 nm - 2.0 μm	$\geq 4, \geq 6$
Traditional Bandpass Filters	193 nm - 10.6 μm	$\geq 3, \geq 4$
Notch Filters	355 nm - 1.064 μm	≥ 6
Longpass Filters	266 nm - 7.3 μm	$\geq 2, \geq 4$
Shortpass Filters	400 nm - 1.6 μm	$\geq 2, \geq 4$
Dichroic Filters	400 nm - 1.2 μm	N/A
Color Glass	285 nm - 1.0 μm	N/A
Neutral Density	UV, VIS, NIR, IR	0.1 - 4.0



BEAMSPLITTER COATINGS

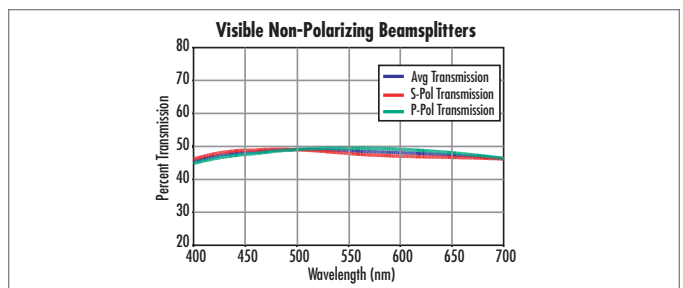
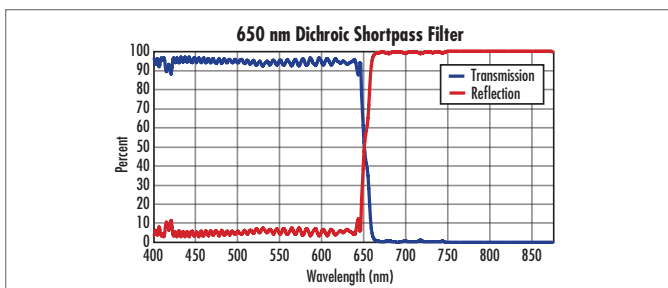
- Polarizing, Non-Polarizing, and Dichroic Designs
- High Performance Cube Beamsplitters Ease Alignment
- Over 600 Beamsplitters in Stock and Ready to Ship

Beamsplitter coatings are designed to partially reflect and transmit incident light through a variety of means. Standard Beamsplitter coatings split incident light by a specified ratio that is independent of wavelength or polarization state. Dichroic Beamsplitters split incident light by wavelength. Non-Polarizing Beamsplitters split incident light by a specific ratio and are controlled to preserve the S and P polarization states, while Polarizing Beamsplitters split unpolarized light into S and P polarization states.

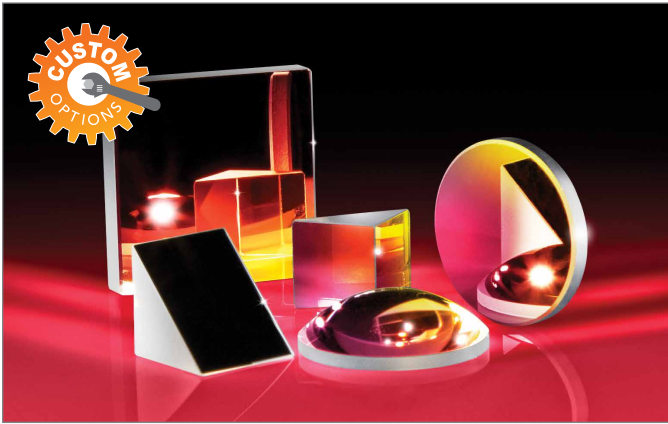


BEAMSPLITTERS

Type	VIS	NIR/IR	Laser Line	R/T Ratios
Cube	400 - 700 nm	0.7 - 1.1 μm	355 - 1064 nm	20/80 - 80/20
Plate	400 - 700 nm	0.7 - 14 μm	355 - 1095 nm	20/80 - 80/20



DESIGNING OPTICAL COATINGS



Edmund Optics® manufactures Optical Coatings to improve the performance of nearly every optical component we offer. Standard coating designs are available to minimize reflection losses in transmissive components, while both metallic and dielectric coatings maximize the reflectance of our optical mirrors. For applications requiring selective

transmission, beamsplitter and filter coatings generally operate by spectral region or polarization state.

Our staff of knowledgeable coating experts is available to assist you in selecting the right precision optical coating for your specific application. Edmund Optics® is an established global manufacturer, providing customers with access to the latest optical coating technologies. The combination of people and technology is coupled with process expertise in cleaning, handling, metrology, and packaging. We will ensure your coated optics arrive exactly when you need them.

In addition to standard coating solutions, Edmund Optics® routinely designs, deposits, and measures custom optical coatings to meet specific customer needs. Custom-designed solutions carefully consider all aspects of your requirements – budget, timeline, and performance – to ensure your project is successful. When you need access to a recognized leader in Optical Coatings, please give us a call. Our technical staff is trained and ready to assist you in finding the right optical solution for your application.

WHAT CAN WE MAKE FOR YOU?

- Evaporative, Ion-Assisted, and Sputtering Coating Platforms
- Coatings for the Deep UV through the Far IR
- High Laser Damage Threshold Processes
- More than One Million Optics Coated per Year
- Expertise in Life Sciences, Defense, and Laser Applications
- Prototype Runs through High Volume Production



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