

Spherical Lenses

Cylindrical Lenses

Lens Kits

Achromatic Doublets

Multi-Element

Micro Optics

Mirrors

Prisms

Substrates & Windows

Beamsplitters

Polarizers

Filter & Apertures

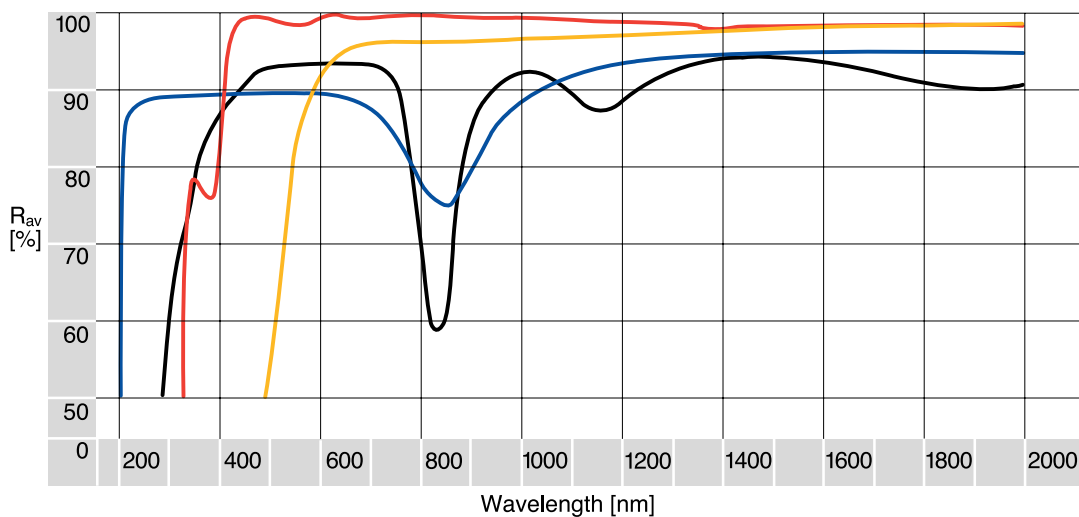
Ultra-broadband Metallic Mirrors

- High reflectance over a broad spectral range
- Enhanced reflectance in the visible range
- Effective over wide angles of incidence
- Standard diameters from 12.7 to 50.8mm



These mirrors provide a high reflectance over a very broad spectral bandwidth. They are manufactured by coating first with a reflective metal film and then with a dielectric overcoat for protection and enhancement of the reflectivity. Coatings offered include aluminum, silver and gold. Each has a different spectral characteristic as shown in the curves. Aluminum provides a good general purpose visible range mirror. Silver has a very high reflectance over the visible and near infra-red range and gold is the preferred coating for infra-red applications at wavelengths greater than 2 microns. We use only highly polished laser grade substrates with $\lambda/10$ surfaces and low scatter. Unlike dielectric coatings, these mirrors can be used over a wide range of angles of incidence. However, they do affect the state of polarization of the reflected beam.

Standard sizes are 1/2 inch, 3/4 inch, 1 inch and 2 inches in diameter - other shapes and sizes are available on request.



ULTRA-BROADBAND
MIRROR REFLECTIVITY
AOI: 45°

ENHANCED ALUMINUM
ENHANCED UV ALUMINUM

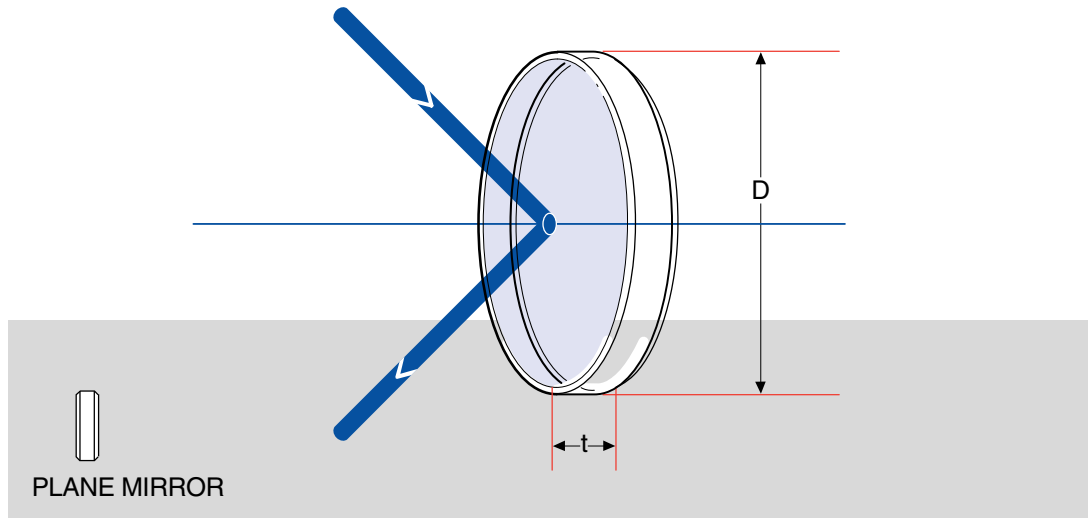
ENHANCED SILVER
PROTECTED GOLD

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 OptoSigma®

OPTICAL COMPONENTS

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Specifications & Tolerances

Surface flatness: $\lambda/10$
 Surface quality: 20-10
 Thickness: $\pm 0.1\text{mm}$
 Bevel: $0.2\text{mm} \times 45^\circ$ typical
 Laser damage threshold: $0.5\text{J}/\text{cm}^2$ for 10ns pulse
 Durability: to MIL-C-675

Diameter: $+0, -0.2\text{mm}$
 Parallelism: $\leq 3\text{arcmin}$
 Clear aperture: $>90\%$ diameter
 Material: BK7, grade A

Ultra-broadband Metallic Mirrors

Type	Reflectance (%)	Wavelength Range (nm)	Diameter, D (inches) (mm)		Thickness, t (mm)	Price	PART NUMBER
UV Enhanced Aluminum	>85.0av	250-400	0.50	12.7	5.0		033-4340
UV Enhanced Aluminum	>85.0av	250-400	0.75	19.1	5.0		033-4350
UV Enhanced Aluminum	>85.0av	250-400	1.00	25.4	5.0		033-4360
UV Enhanced Aluminum	>85.0av	250-400	2.00	50.8	8.0		033-4370
Enhanced Aluminum	>94.0av	400-700	0.50	12.7	5.0		033-4440
Enhanced Aluminum	>94.0av	400-700	0.75	19.1	5.0		033-4450
Enhanced Aluminum	>94.0av	400-700	1.00	25.4	5.0		033-4460
Enhanced Aluminum	>94.0av	400-700	2.00	50.8	8.0		033-4470
Enhanced Silver	>96.0av	400-700	0.50	12.7	5.0		033-4540
Enhanced Silver	>97.5av	700-2000	0.75	19.1	5.0		033-4550
	>96.0av	400-700					
Enhanced Silver	>97.5av	700-2000	1.00	25.4	5.0		033-4560
	>96.0av	400-700					
Enhanced Silver	>97.5av	700-2000	2.00	50.8	8.0		033-4570
	>96.0av	400-700					
Protected Gold	>96.0av	650-IR	0.50	12.7	5.0		033-4640
Protected Gold	>96.0av	650-IR	0.75	19.1	5.0		033-4650
Protected Gold	>96.0av	650-IR	1.00	25.4	5.0		033-4660
Protected Gold	>96.0av	650-IR	2.00	50.8	8.0		033-4670

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