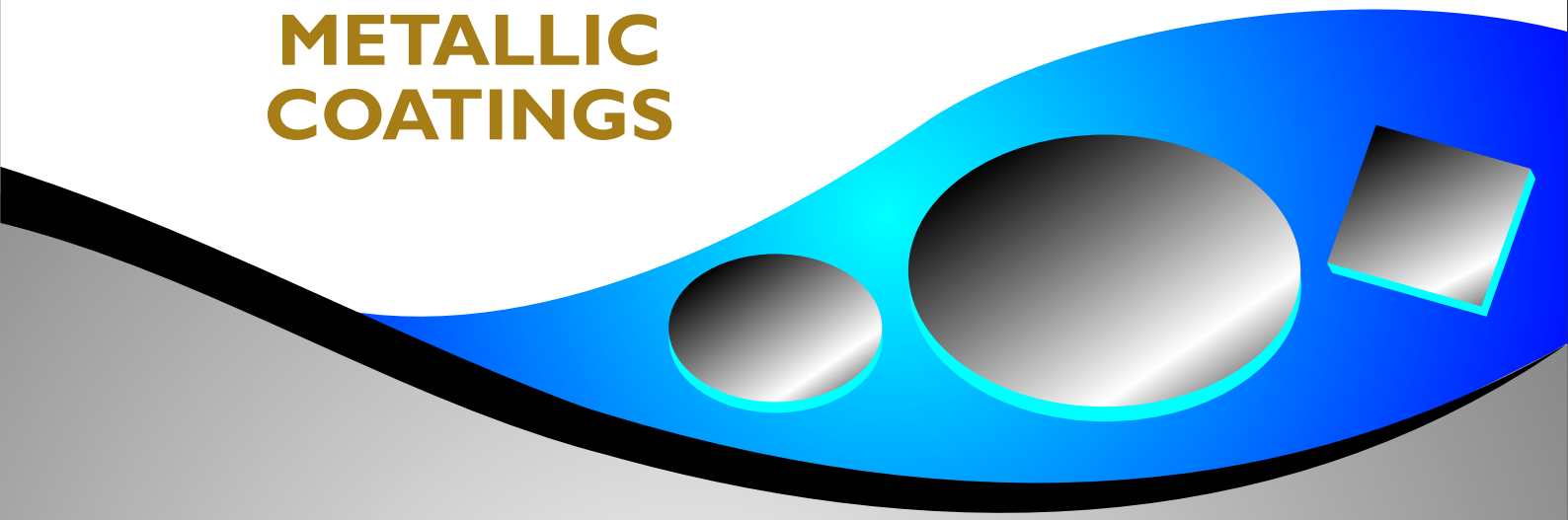
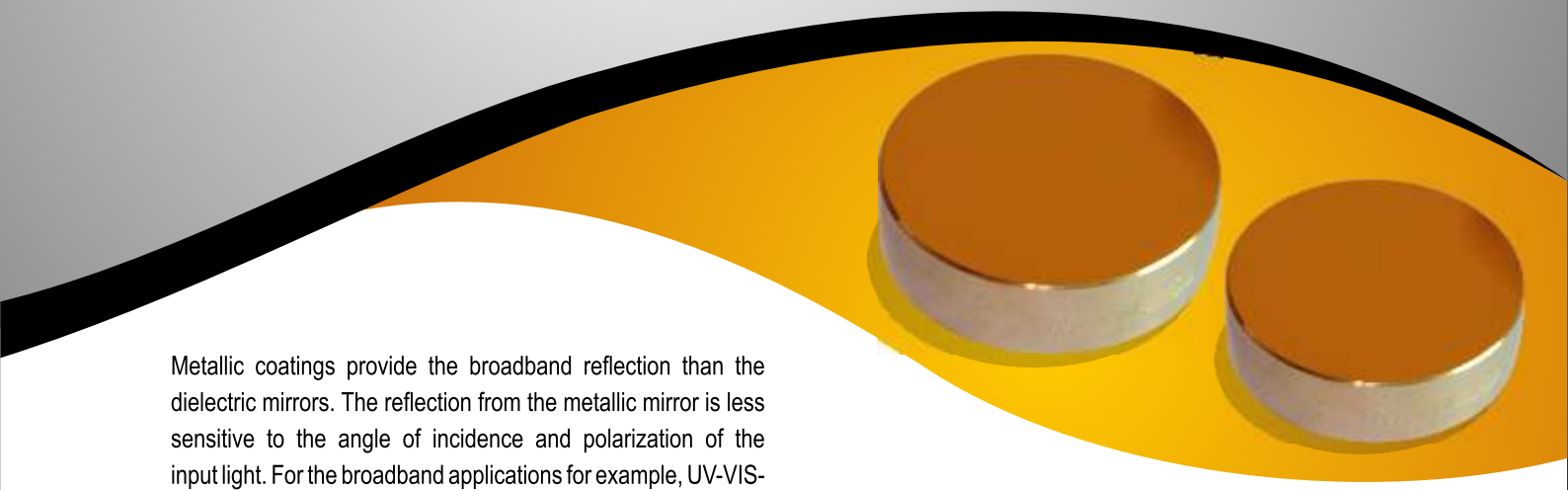
METALLIC COATINGS





Metallic coatings provide the broadband reflection than the dielectric mirrors. The reflection from the metallic mirror is less sensitive to the angle of incidence and polarization of the input light. For the broadband applications for example, UV-VIS-NIR and VIS-NIR-MIR metallic coatings are the preferable candidates. But all the metal coatings more or less than the other are prone to oxidation or sulphidation effects. Hence they need to be protected.

ALUMINUM MIRRORS

Aluminum is the preferable material for UV-Vis applications. It has better reflectance than any other metal in UV. Aluminum mirrors are available as protected aluminum and enhanced-aluminum.

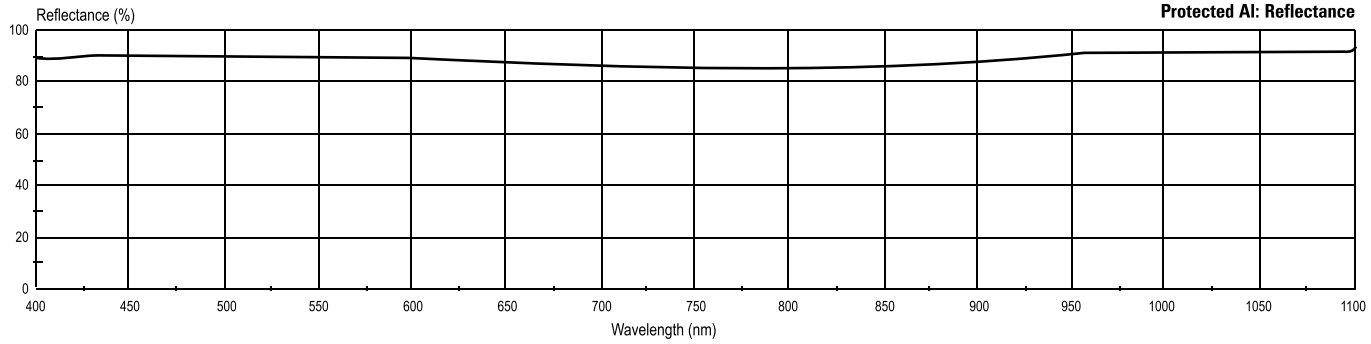
Protected Aluminum Mirrors

Specification:

Substrate material	: Glass / metal
Coating technology	: Physical vapor deposition
Coating type	: Metallic aluminum with protective overcoat
Wavelength range	: UV-VIS-NIR
Coating performance	: R ~ 90 %
Angle of incidence	: 0- 45 degree
Clear aperture	: > 90 % of the specified aperture
Adhesion and durability	: As per MIL-C-675C

Applications:

- In astronomy, ellipsometry, spectroscopy and semiconductor lithography.
- Front surface and back surface mirrors and on prism surfaces in binoculars.



Enhanced Aluminum Mirrors

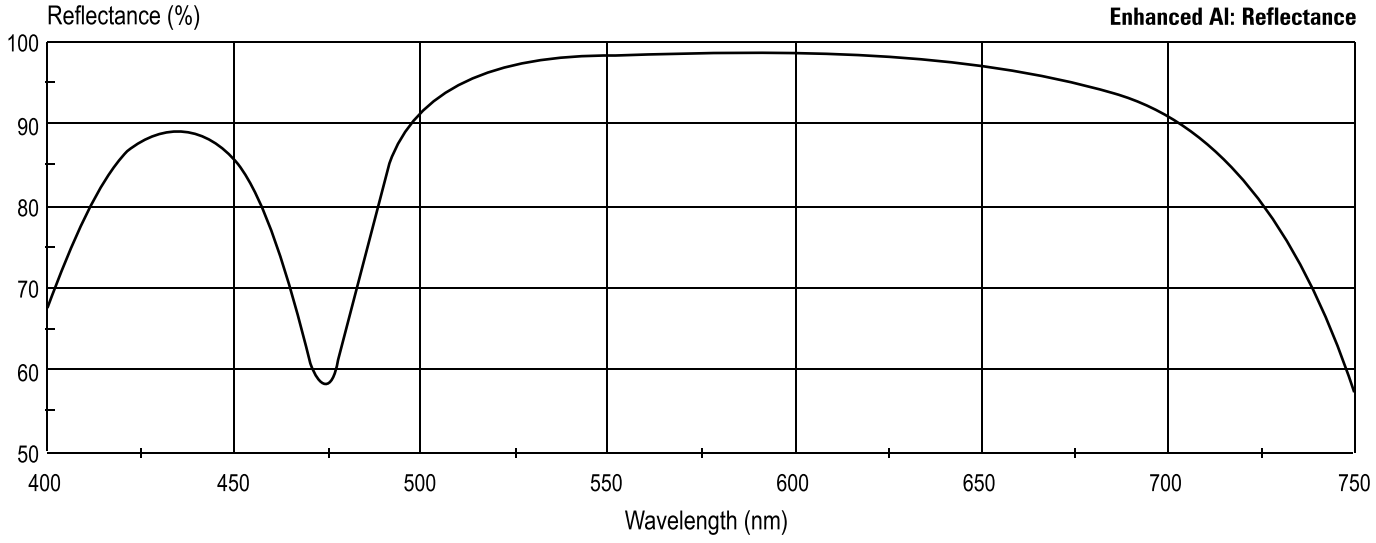
Specification:

Substrate material	: Glass
Coating technology	: Physical vapor deposition
Coating type	: Metallic aluminum with dielectric layers
Wavelength range	: UV-VIS-NIR
Coating performance	: R ~ 92 % in 550-650 nm
Angle of incidence	: 0- 45 degree
Clear aperture	: > 90 % of the specified aperture
Adhesion and durability	: As per MIL-C-675C

Applications:

- As a front surface reflection mirror
- 45° front surface mirrors
- Redirecting first surface mirrors
- Sensor Technology
- Barcode Scanner Mirrors
- Flatbed Scanners
- Laser Projection Scanners
- Laser Applications
- Infrared Mirror
- Episcopes, Copiers, Projectors, Fax Machines
- Cameras and Optical Instruments
- Technical Mirror
- Economical Gold Mirror replacement (SEA-NIR)

Note: Other custom specified coatings can be done

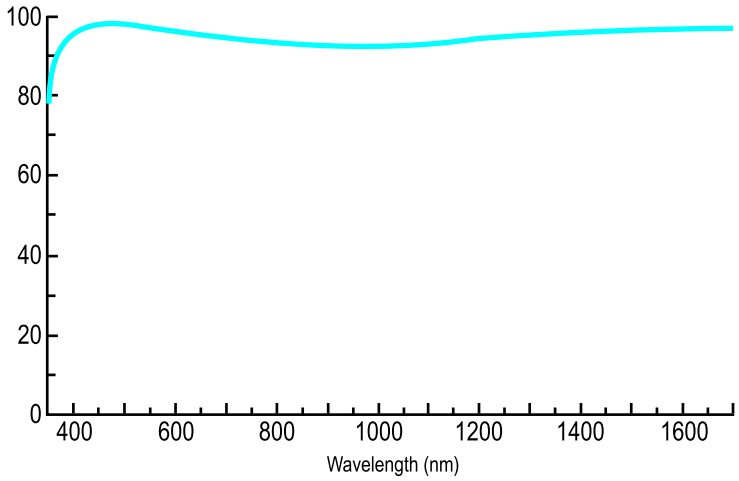


SILVER MIRRORS

Silver has a broad reflection from visible to NIR. The reflectivity is over 95 %. But silver is very prone to degradation. Its tarnishing feature makes it inferior to aluminum in space applications inspite of its high reflection. But, for the terrestrial applications, properly protected silver is preferred because of high reflection.

Specification:

Substrate material	: Glass / metal
Coating technology	: Electron beam evaporation
Coating type	: Metallic silver with dielectric layers
Wavelength range	: VIS-NIR
Coating performance	: R ⩾ 94 %
Clear aperture	: > 90 % of the specified aperture



Application:

- As a front surface reflection mirror for solar concentrators, terrestrial astronomical mirrors etc.
- As reflection mirrors in optical systems with multiple beam reflections
- On prism surfaces
- Laser Projection Scanners
- Laser Applications
- Infrared Mirror

Note: Other custom specified coatings can be done.
Along with the standard metal coatings, copper, chromium, nickel metalizations can be done.

GOLD MIRRORS

Gold has the absorption in the visible but has the broad and flat reflection spectrum from NIR to MIR region. Gold coated mirror are the preferable candidates in NIR – MIR region. Bare gold mirror has slightly more reflection than the protected ones. But, in order to mitigate the effect of tarnish, the mirrors are protected with the help of dielectric top layers on gold.

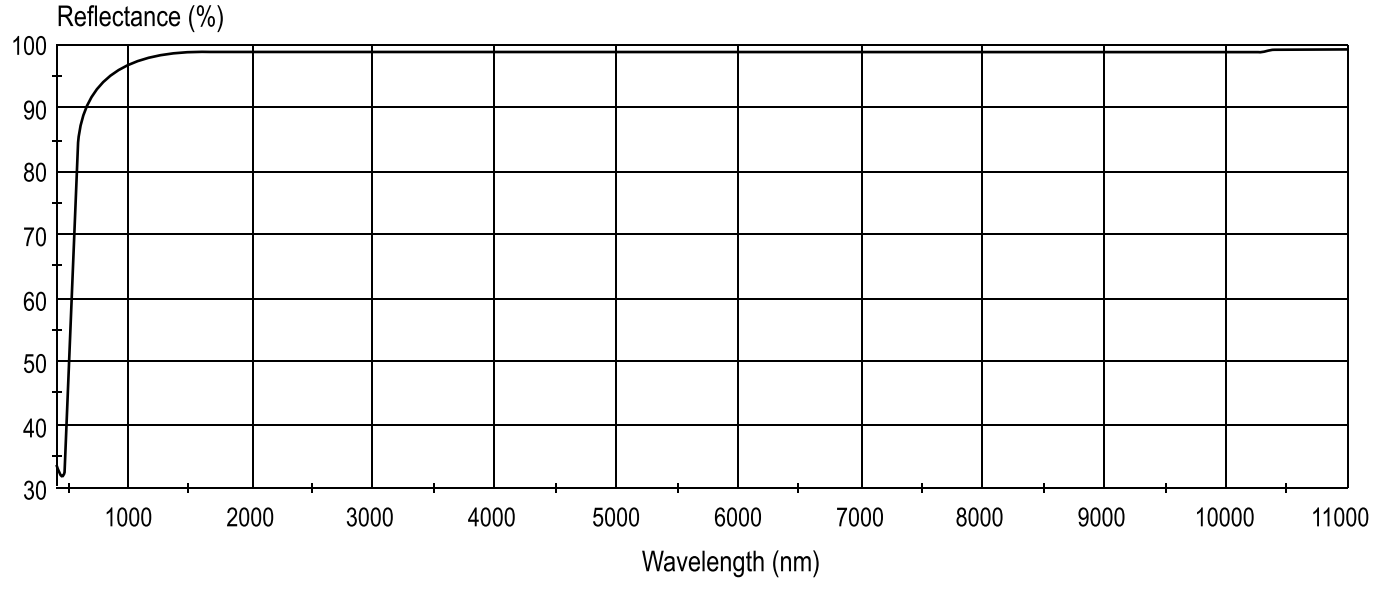
Specification:

Substrate material	: Glass / metal / pyrex etc.
Coating technology	: Sputtering / Electron beam evaporation
Coating type	: Metallic gold with dielectric layers
Wavelength range	: NIR-MIR
Coating performance	: R ⩾ 98 %
Clear aperture	: > 90 % of the specified aperture

Applications:

- As a front surface reflection mirror for solar concentrators, terrestrial astronomical mirrors etc.
- As reflection mirrors in optical systems with multiple beam reflections
- On prism surfaces
- Laser Applications
- Infrared Mirror

Note: Custom specified enhanced-mirror designs are possible
Along with the standard metal coatings, Copper, chromium, nickel metalizations can be done.



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