

# High Performance Thin Film Optical Coatings

## Technical Reference Document

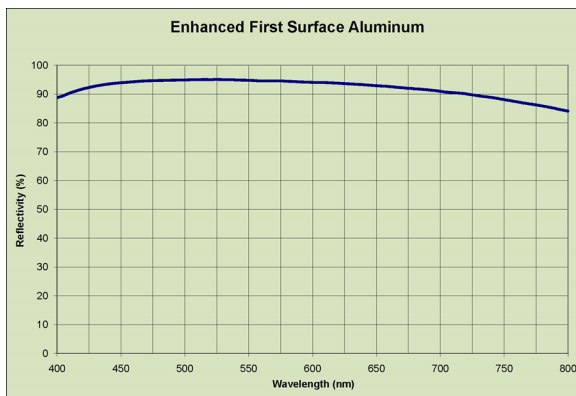
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## Coatings Capabilities

### Mirrors and Metals

Metal mirror coatings are often used in systems where a very broadband reflector or beam splitter is needed. Metal coatings can also be an excellent choice when an economical coating is especially important. Examples of common metal coating applications include telescope mirrors, neutral density filters, and general purpose laboratory mirrors. Metals commonly deposited at ZC&R include aluminum, chromium, silver, gold, and Inconel.

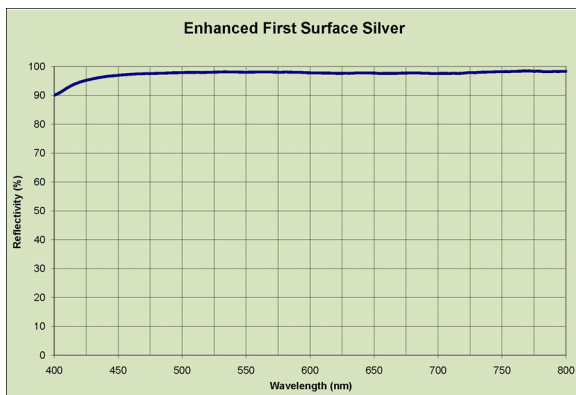
The metal coatings described here are of what is possible with metal coatings. If your system requires a custom or modified metal coating, we would be happy to be of service.



### Enhanced First Surface Aluminum

The front surface of the enhanced aluminum mirror coating reflects an average of 93% over the visible spectrum (450-650nm).

Back surface reflective aluminum coatings are also available.



### Enhanced First Surface Silver

This design is very standard and often uses for demanding telescope and other very high performance imaging applications. Reflectance may be specified for IR wavelengths.

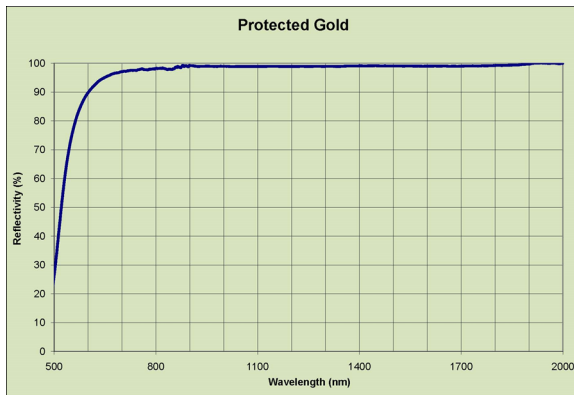
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## Coatings Capabilities

### Mirrors and Metals - *continued*



#### Protected Gold Mirror

The protected gold mirror coating reflects an average of 97% over the spectrum (700-2000nm). This coating can also be used for IR wavelength bands 3-5nm and 8-12nm.

ZC&R has the ability to deposit a number of precious and non-precious metals. Below is a list of metals, semi-conductors, and alloys routinely provided for customer applications.

- Gold
- Silver
- Aluminum
- Nickel
- Chromium
- Copper
- Inconel
- Titanium
- Hafnium
- Tantalum
- Tungsten
- Silicon
- Germanium
- Molybdenum