

Dielectric Mirrors

Surface coatings with high reflection are generally produced with metals or with dielectric thin-film interference systems and also by a combination of metal/dielectric.

Mirrors for scientific and technical applications are always surface mirrors.

Metallic and dielectric mirrors differ in their reflectivity and spectral width, but also in hardness, abrasion resistance, laser damage threshold, etc.

Dielectric interference mirrors are, in comparison with metal mirrors, spectrally less wide than metal mirrors and their reflection is angle-dependent. However, they can achieve reflection values in the visible range of more than 99.9% at a vertical angle of incidence.

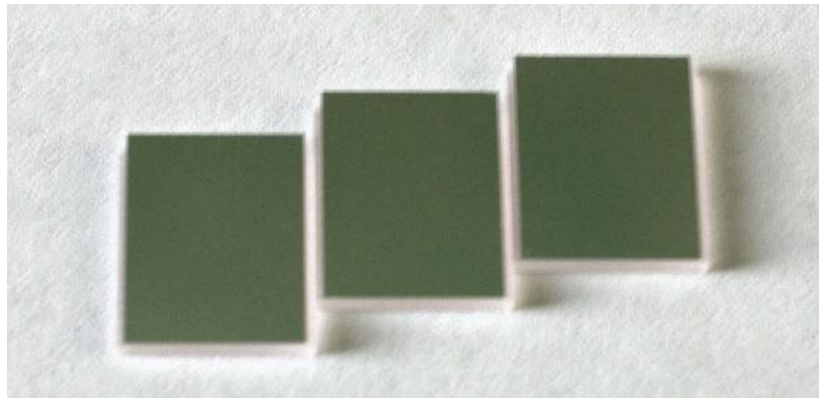
This is possible because optically high-quality, low-loss interference layer systems are produced from pure, absorption-free materials under clean-room conditions using state-of-the-art coating technology.

Applications

- Highly reflective and semi-transparent reflectors for the optimal setup of various laser systems
- Components for laser experiments in chemistry, physics and metrology
- Various lighting equipment
- Optical devices

Properties

- Suitable for wide wavelength ranges
- Suitable for high laser power
- High thermal resistance (up to 550°C with quartz glass or sapphire substrates)
- Long-term stable layers, independent of environmental influences
- Extremely durable layers



Dielectric Mirrors

Mirror types

- Laser mirrors for one or more wavelengths, from UV to IR
- Laser mirrors with additional functions (e.g. R_{\max} at 1064 nm and T_{\max} at 633 nm)
- Partially transparent mirrors, from UV to IR
- Broadband laser mirrors with high reflection
- Broadband reflectors for stable lighting systems
- Cold light mirror
- Infrared reflectors with high transmission in the visible spectral range

Technical data

| | |
|------------|---|
| AOI: | 0° to 45° |
| Material: | almost all types of mineral glass and crystals suitable |
| Thickness: | according to customer requirements, standard = 1.0 mm |

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Typical curves:

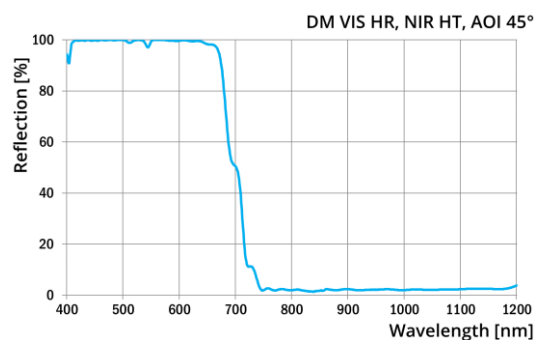
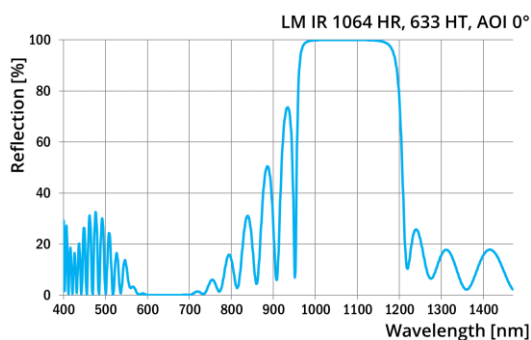
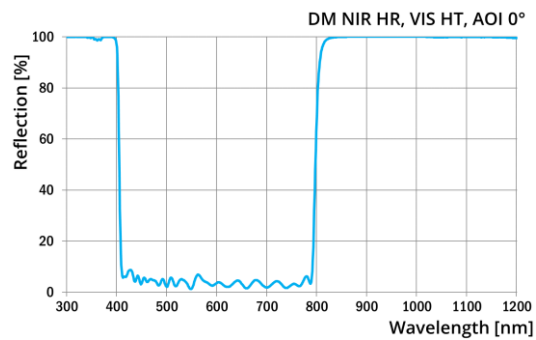
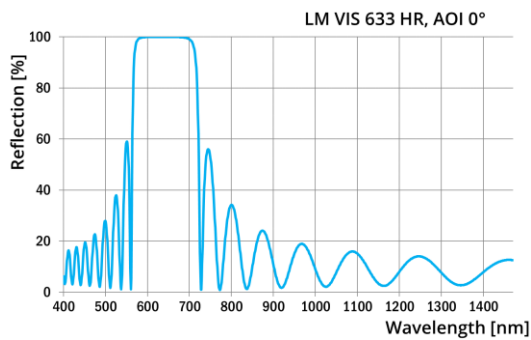
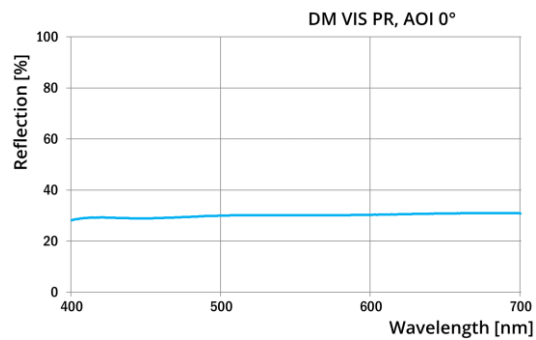
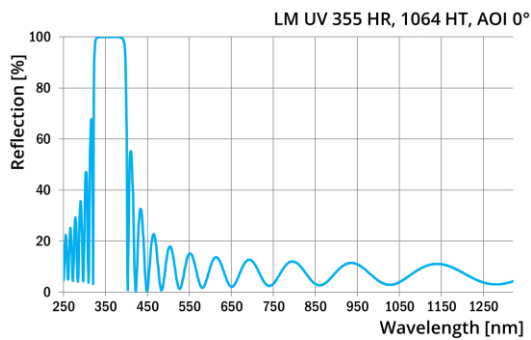
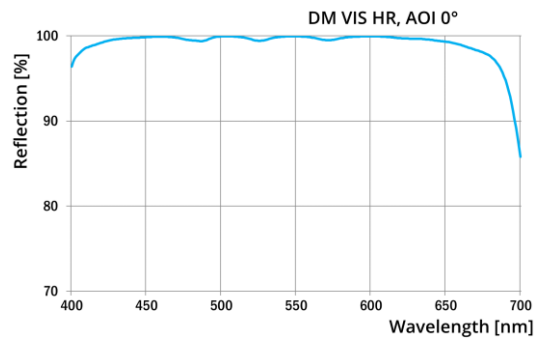
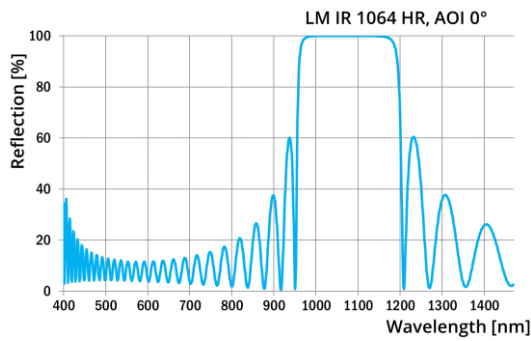
DM = Dielectric Mirror

LM = Laser Mirror

HR = High Reflection

PR = Partial Reflection

HT = High Transmission



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