MATERION
// BALZERS OPTICS

Alflex™ (UV, B-VIS, B-NIR)

Versatile Aluminium Mirrors, giving an excellent stable Performance

The Alflex™ mirror family has proven itself many times over due to its hardness and durability. Depending on applications the Alflex mirrors are generally insensitive to polarization and angle of incidence over wide wavelength ranges. All types of Alflex™ are equipped with protection layers.

Benefits

- Wide-band, high-reflective and durable metallic mirror coatings
- Designed specifically to meet demands of customer systems (e.g. patterned mirrors)
- Engineering design support
- Excellent environmental stability (environmental testing capabilities in-house)
- Low angle of incidence dependency
- Suited for applications with temperature sensitive substrates
- EU RoHS directive compliant

Applications

- All reflective optics at UV, VIS and NIR
- Optical sensors and instruments
- Metrology & Inspection (e.g. Spectrometer)
- Safety & Security
- Technical Lighting
- Automotive Lidar ranging systems
- Space applications (qualification heritage available for Alflex™)

Technical data

Substrate type

Floatglass, other substrates e.g. plastic or metal on request. Alflex™ are applicable as well on customer supplied substrates.

Cleaning

Alflex™ withstands immersion in acetone, ethanol, etc., as specified in MIL-C48497, para. 4.5.4.2. It can be cleaned with a soft cotton cloth soaked in mild soapy water, ethanol or other non-abrasive substances.

Technical data Alflex™ UV

Rabs. >= 88% at 200–250 nm
Ravg. >= 85% at 200–700 nm
AOI = 45° r-pol.

Environmental resistance and durability

The coating withstands the following tests on glass substrates

Temperature

(MIL-M-13508C, para. 4.4.4.)
5 hrs each at –62° and 71° C
(ISO 9022-2)
16 hrs at –62° C and 2 hrs at +71° C

Adhesion

(MIL-M-13508C, para.4.4.6.)
Scotch tape test, slow
(ISO 9211-4-02-01)
2–3 s/25 mm, tape 3M

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Humidity
(MIL-M-13508C, para. 4.4.7.)
24 hrs. at 49°C r.h. 95%
(ISO 9022-2)
24 hrs. at +40° C, r.h. 95%

Technical data Alflex™ B-VIS

Rabs. >= 93% at 500–600 nm
Ravg. >= 89% at 400–700 nm
AOI = 45°
r-pol.

Environmental resistance and durability
The coating withstands the following tests
on glass substrates

Temperature
(MIL-M-13508C, para. 4.4.4.)
5 hrs each at –62° and 71° C
(ISO 9022-2)
16 hrs at –62° C and 2hrs at +71° C

Abrasion
(MIL-M-13508C, para. 4.4.5.)
50 strokes/cheesecloth
(ISO 9211-4-01)
50 strokes/cheesecloth

Adhesion
(MIL-M-13508C, para.4.4.6.)
Scotch tape test, slow
(ISO 9211-4-02-01)
2–3 s/25 mm, tape 3M

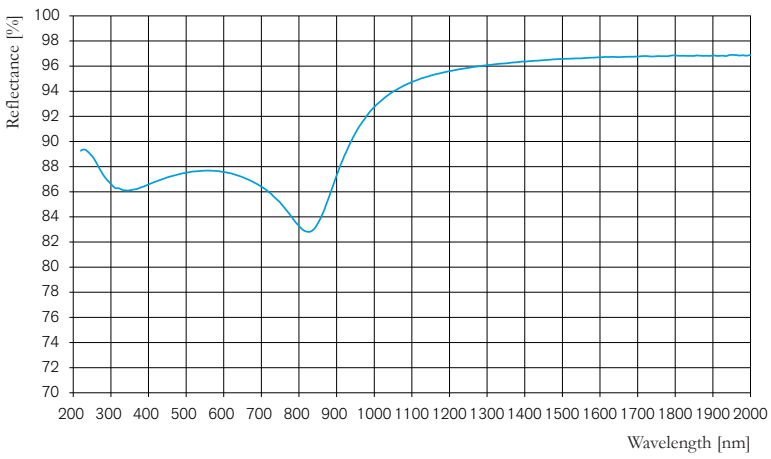
Humidity
(MIL-M-13508C, para. 4.4.7.)
24 hrs. at 49°C r.h. 95%
(ISO 9022-2)
24 h rs. at +40°C, r.h. 95%

Technical data Alflex™ B-NIR

Rabs. >= 94% at 900–1000 nm
Ravg. >= 93% at 800–1200 nm
AOI = 45°
r-pol.

Environmental resistance and durability
The coating withstands the following tests
on glass substrates: as Alflex™ B-VIS

Alflex™ UV – Principle curve at AOI 45°, r-pol



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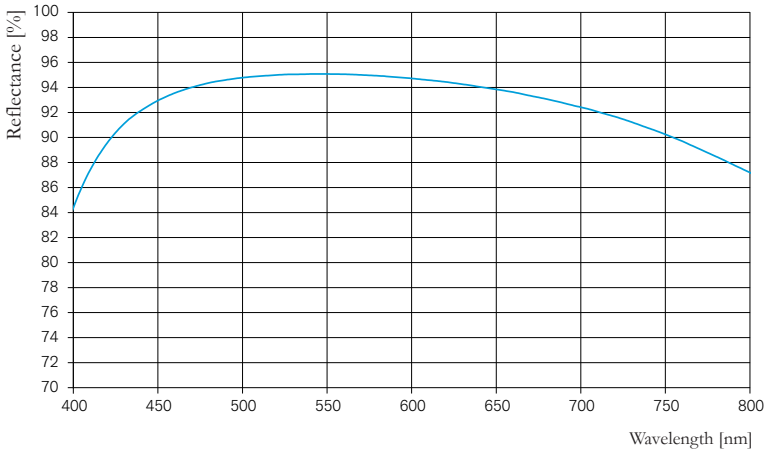
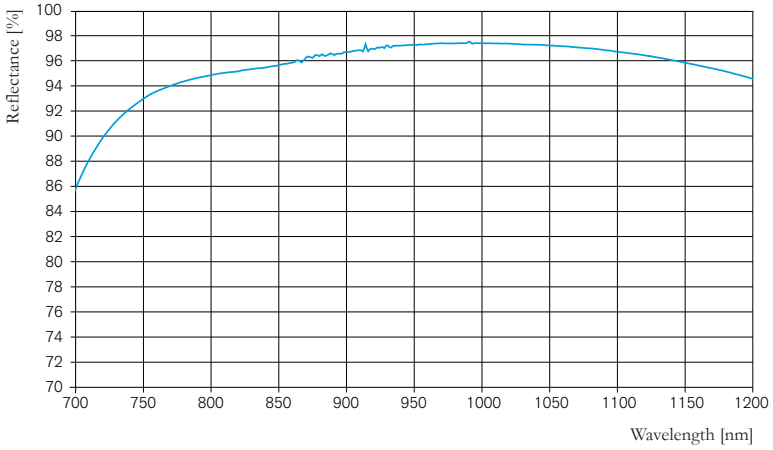
Alflex™ B-VIS – Principle curve at AOI = 45°, r-pol



Alflex™ B-NIR – Principle curve at AOI = 45°, r-pol



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