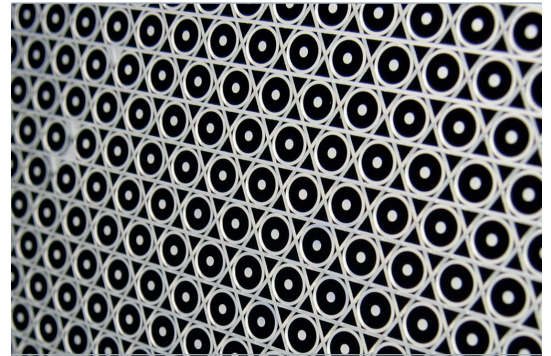


CrBlack™ Coating (VIS, VIS-NIR)

Optical Black Coating

CrBlack™ is an optical black coating, characterized by high absorption and low reflection in the VIS and near IR range as well as low defect / pin hole level. It is possible to adjust color impression and optical density on customer request.



Benefits

- Optical Black
- High absorption in the VIS and NIR range
- Low reflection in the VIS and NIR range
- Optical properties achieved for internal reflection and / or external reflection
- Can be patterned by lift-off and chemical etching
- Low defect and pin hole level
- Excellent environmental stability
- Good adhesion on glass and metal

Applications

CrBlack™ coating will mainly be used to reduce scattered light. Examples are apertures in lense systems of endoscopes, sensor lids or projection applications.

In monolithic arrays of dichroic filters, CrBlack™ is used to cover the interspace between the individual filters resulting in minimized cross-talk and stray light.

- Endoscopy
- Sensor lids for cameras
- Multispectral Imaging
- Projection

Technical datas

Spectral specification VIS

$R < 1.5\%$ abs 410-620nm, AOI = 0-15° q-pol

$R < 5\%$ for angles up to 60°

OD4 or higher

Better performance for internal reflection possible

Spectral specification VIS-NIR

$R < 4.0\%$ abs 300-1200nm, AOI = 0-15° q-pol

$R < 8\%$ for angles up to 45°

OD4 or higher

Better performance for internal reflection possible

Environmental testing

MIL-C-675 A

Hardness, 20 strokes

Humidity, 24h / 49° / > 95% r.H.

Salt water, 24h / 4.5% NaCl

Salt fog, 24h, 4.5% NaCl

Temperature resistance

Up to 300°C for 24h in air

Higher temperatures for shorter periods of time possible

Defect specification:

Standard: No pin holes > 20µm

Advanced: No pin holes > 10µm

On 5" × 5" square substrate

Substrate dimensions:

Up to 8" diameter, thickness down to 0.2mm

Larger sizes upon request

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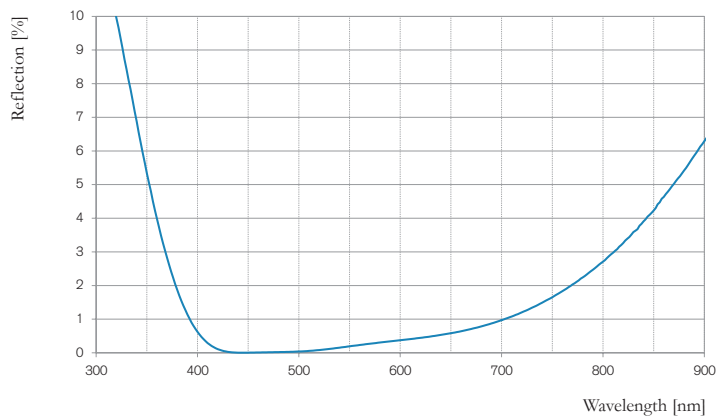
Subject to technical change without notice



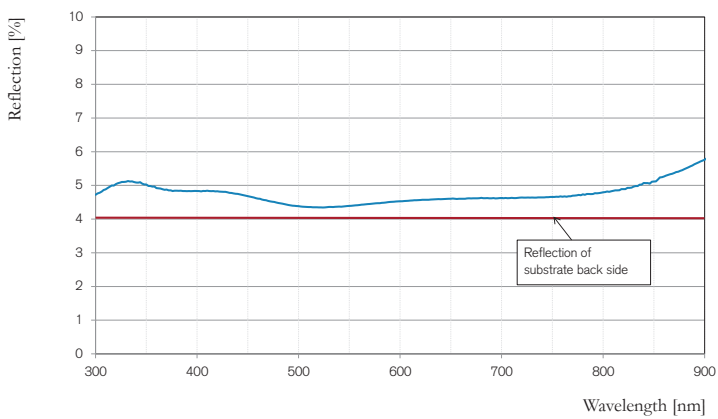
MATERION

// BALZERS OPTICS

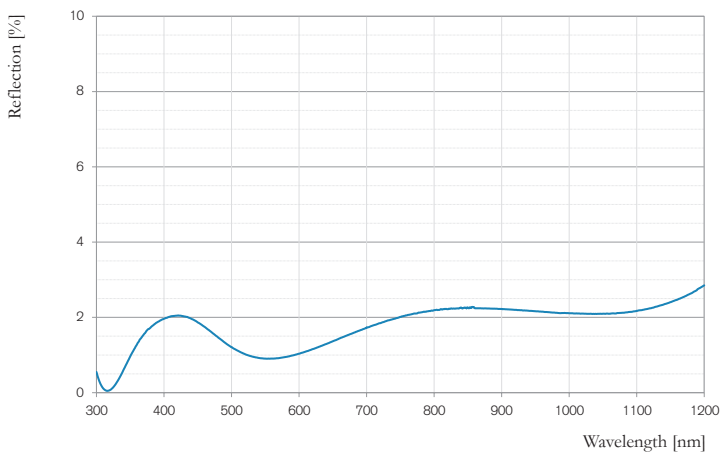
Black Chrome VIS – Air Side Reflection



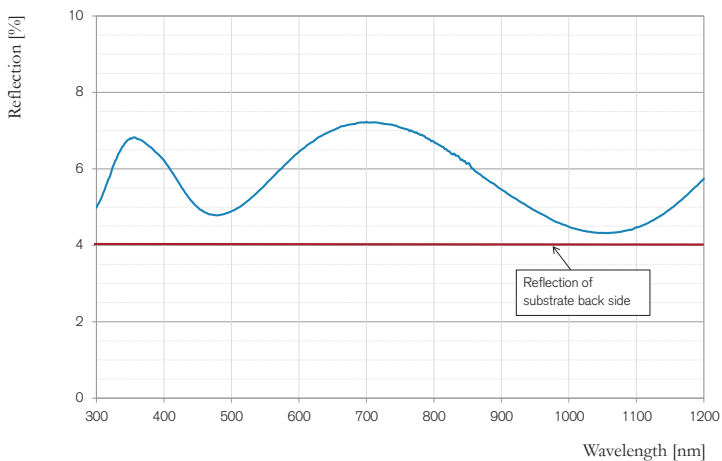
Black Chrome VIS – Internal Reflection



Black Chrome VIS-NIR – Air Side Reflection



Black Chrome VIS-NIR – Internal Reflection



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