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Low Defect Antireflective Coating

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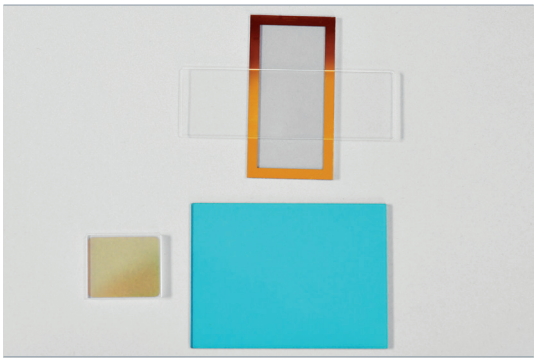
Silicon based sensors are packaged with cover glasses. These sensor lids consist of clean surfaces plus functional coatings such as AR coatings. Materion Balzers Optics offers a variety of AR coatings with superior low defect properties as they define the quality of the device. These coatings cover a wide wavelength range, adjustable for the applications and requirements.



Benefits

- Low Defect cosmetic quality (defects max 10µm or 20µm for common CCD/CMOS sizes, tighter specification possible on request)
- Standard and customized coating designs to minimize reflectance
- Experience with coatings on absorbing filter glass
- Full-face coating available
- Additional coatings on request
  – patterned apertures (optical black)
  – solderable coating for hermetic sealing
  – conductive and optical transparent coating
- Broad range of substrate materials

Applications

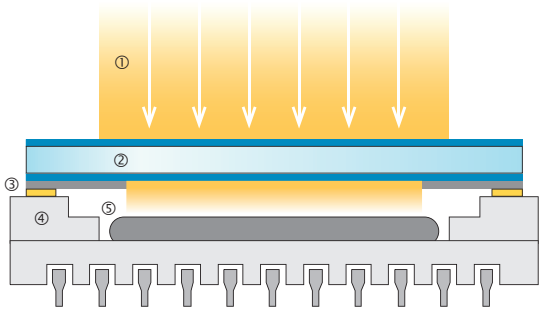
Reliable protection for the "digital eye" of the camera (still or video images), shields the delicate image sensor, allows operation at peak performance.

- Cover glass for ceramic CCD/CMOS sensor packages.
- Protective cover wherever extreme clean surfaces are required.

Technical Data

Spectral specifications
Standard spectral designs are available as well as specific customer designs to cover a large field of applications. Measured example spectra are shown below: AR VIS, BBAR VIS, BBAR VIS-NIR, BBAR NIR
Glass
E.g. Sapphire, low defect borosilicate glass, absorbing filter glass, fused silica
Size
Common CCD/CMOS and custom sizes
Wafer diameter up to 200mm round (customized cosmetic specification required)
Thickness: 0.3mm – 1.1mm, other thicknesses on request

Side view of a sensor packaging
The cover glass includes the Low Defect AR coating



① Incoming light beam
② Cover Glass with double-sided Low Defect AR coating
③ Aperture and/or solderable coating (on request)
④ Ceramic package
⑤ CMOS/CCD sensor

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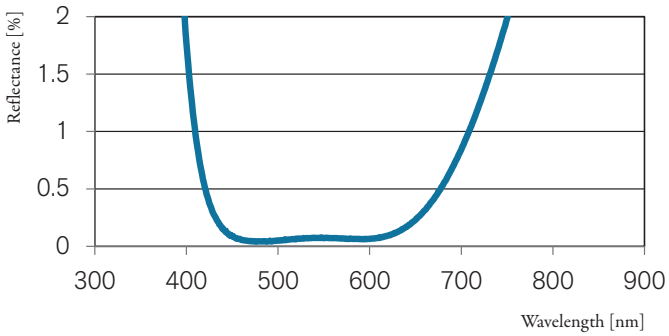
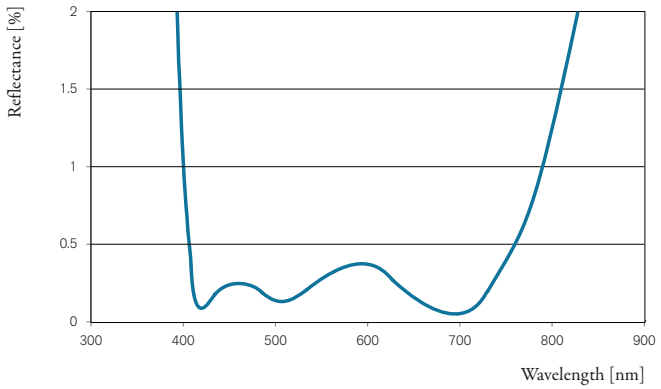
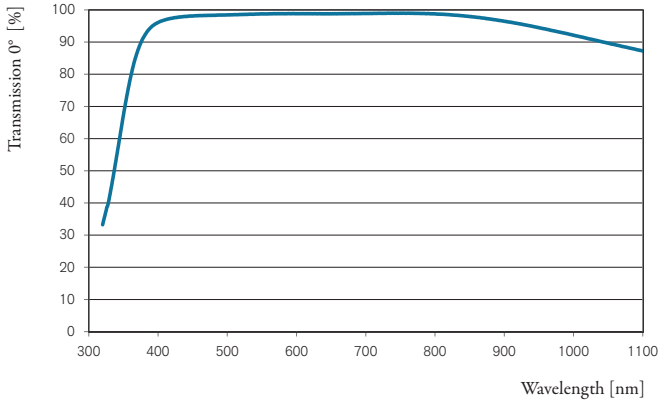
AR VIS: R avg. < 0.5% at 440nm - 650nm (per surface)



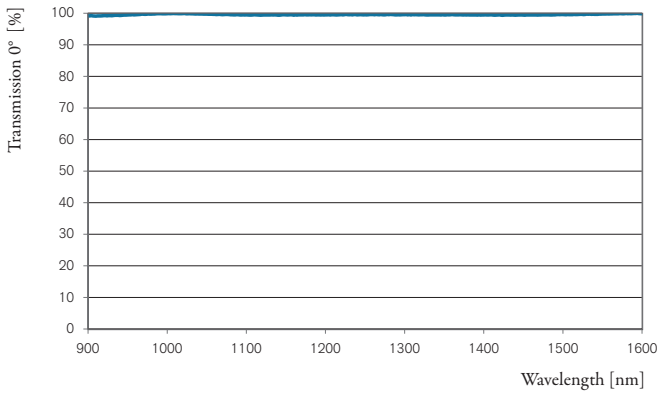
BBAR VIS: R avg. < 0.5% at 400nm - 700nm (per surface)



BBAR VIS-NIR: T avg. > 98% at 400nm – 900nm



BBAR NIR: T avg. > 98% at 900nm – 1600nm



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