Sensor and Scanner Window Solutions

Imaging ● 3D Metrology and Mapping ● Obstacle Avoidance

Optical and image sensor use is on the rise with growing applications in industrial 3D metrology, machine vision, automotive obstacle avoidance, security and surveillance, document and 3D scanning, gesture recognition and other digital imaging applications. Abrisa Technologies' rare combination of performance coating design and volume glass fabrication offers the OEM an opportunity for a Total Solution for their sensor and scanning windows; an excellent balance of optical coating performance and economies of scale.

Abrisa Technologies now offers a selection of coated solutions for both laser line and broad spectral ranges from the visible to SWIR, with large angle-of-incidence accommodation and high throughput. Spectrally selective coatings for use outdoors or with discreet diode emitters are also available.

**Sensor and Scan Window Coatings:**

- Anti-Reflection Visible (425nm-675nm) \( R_{avg} < 0.5\% \) (AOI = 0-30°)
- Anti-Reflection Visible-NIR (425-950nm) \( R_{avg} < 1.0\% \) (AOI = 0-30°)
- Anti-Reflection SWIR (900-1700nm) \( R_{avg} < 1.0\% \) (AOI = 0-30°)
- Broad Angle Anti-Reflection Laser Line \( R_{avg} < 0.5\% \) (AOI = 0-50°)
- Ultra-low Anti-Reflection NIR Diode \( R_{avg} < 0.1\% \) (AOI = 0-30°)
- Cut Off, IR Blocking Filter/Mirror Visible Transmission, NIR Blocking
- Cut On, VIS Blocking Filter, Mirror Visible Blocking, NIR Transmitting

**Damage Resistant and “Tough” Environment Solutions:**

Many applications for sensors and scanners are industrial or for field use where uptime and reduced product maintenance are not just desirable, but a necessity. Abrisa Technologies offers coated sensor and scanner window solutions for these “tough” use environments as well, whether they be outdoors in sunlight, on the seas or on the road, installed in a hot and humid factory, have high traffic interface contact or constant exposure to dirt and other contaminants.
Sensor and Scanner Window Solutions

Imaging ● 3D Metrology and Mapping ● Obstacle Avoidance

**G1**
AR Coating Visible

- Visible AR coating for full color LCD & OLED Displays
- $R_{avg} < 0.5\%$ (AOI = 0-30°) 425-675nm
- Also available with oleo/hydrophobic properties

**G4**
AR Coating SWIR 900 - 1700nm

- Coating for machine vision & spectral analysis
- $R_{avg} < 1.0\%$/1.5% 900-1700nm (AOI = 0/30°)
- Also available with oleo/hydrophobic properties

**G2**
AR Coating 425 - 950nm NIR Bias

- VIS-NIR coating compensates for weak diode signal
- $R_{avg} < 1\%$ 425-900nm & $R < 0.5\%$ NIR, (AOI = 0-30°)
- Also available with oleo/hydrophobic properties

**G5**
AR Coating 425 - 1050nm

- Expanded range VIS-NIR AR coating
- $R_{avg} < 1.0\%$ 425-1050nm (AOI = 0-20°)
- Accommodates diode emitter sources (730-980nm)

**G3**
AR Coating 425 - 900nm Blue Bias

- VIS-NIR coating to enhance blue responsivity
- $R_{avg} < 1.25\%/1.5\%$ 425-850nm (AOI = 0/30°)
- Also available with oleo/hydrophobic properties

**G6**
AR Coating Diode 1550nm

- Low loss coating $R < 0.1\%$ for 1550nm
- Maximum signal preservation for diode emitters
- Accommodates diode spectral variance/thermal drift
Sensor & Scanner Window Solutions

Security and Surveillance • Machine Vision • Displays

Options

Coatings:
- Custom V-Coat, Multi-band, Broadband AR
- AR Coatings to MIL-C-14806 A
- ITO/IMITO for EMI Shielding, Heater, LC Devices
- Custom SWP, LWP, Bandpass, UV & NIR Blocker
- Broad/Narrowband Scanning Mirror Coatings
- Deposition onto Filters, Silicon & Other Materials
- Autoclavable, Bio or Chemically Compatible

Substrates:
- Fabrication to Shape & Size
  - Cut & Seam or Circle Ground to Size & Shape
  - Precision CNC - Holes, Bevels, Steps, Notches
- Damage Resistant Substrates
  - HIE™ Aluminosilicates
  - AGC Dragontrail™
  - Corning® Gorilla®
  - SCHOTT AS 87
  - Chemically Strengthened Soda Lime Float
- Low Expansion Chemically Resistant Substrates
  - SCHOTT Borofloat® 33
- Ultra Thin and Wafer Substrates
  - AGC EN-A1
  - Corning® 0211 & Eagle XG®
  - SCHOTT AF32, D263® & AS 87

Easy-to-Clean & Anti-Fog Solutions:
- Oleo/Hydrophobic Options
- ITO Heater, HTAF Anti-Fog Solutions

Graphics & Bus Bars:
- Color Matched Epoxy Ink
- Non-Conductive Ink
- High Temperature Frit Ink
- Deadfront Ink - Partially Transmissive
- Infrared IR Transmitting Ink
- Silver Epoxy, Silver Frit, CrNiAu Bus Bars

Wide angle coating for 3D metrology, printing, scanning
Rav ≤ 0.5% (0-50°) at single wavelength
Custom designs for diode & laser wavelengths

Heat or NIR blocking, visible light transmitting
Protects underlying sensor from NIR heat load
Blocks unwanted NIR diode source interference

Visible reflecting, NIR Transmitting
Reduces visible light saturation, improves contrast
Transmits diode source emitter wavelengths
Abrisa Technologies is a recognized global supplier of high quality, fabricated glass components, optical thin film coatings, and custom glass solutions for a wide variety of industries.

US based, Abrisa Industrial Glass fabrication facility in Santa Paula, CA and ZC&R Coatings for Optics facility in Torrance, CA serve diverse industries such as microelectronics and displays, semiconductor, military, automotive, aerospace, medical, biomedical and scientific R&D.

We provide custom specialty flat glass and coating products for applications such as: flat panel display, touch and gesture recognition; visible to IR imaging and surveillance; entertainment, indoor and outdoor lighting; advanced instrumentation; and photonics.

Abrisa Industrial Glass
200 South Hallock Drive
Santa Paula, CA 93060
(805) 525-4902

ZC&R Coatings for Optics
1401 Abalone Avenue
Torrance, CA 90501
(310) 381-3060

(877) 622-7472
www.abrisatechnologies.com
info@abrisatechnologies.com