Wide Angle, VIS to SWIR Sensor & Scanner Window Solutions

ZC&R Coatings for Optics (ZC&R), a division of Abrisa Technologies, now offers high throughput efficiency Wide Angle, Broad Spectrum Sensor and Laser Scanning Window solutions for the visible 425-675nm (VIS), visible to near infra-red 425-1050nm (VIS-NIR), short wave infrared 700-1800nm (SWIR) and popular laser, LED and LIDAR wavelengths from 405 to 1550nm. Designed for image sensors and scanners these optics are used in industrial 3D metrology, machine vision, LIDAR, automotive obstacle avoidance, security and surveillance, document scanners, 3D scanning, gesture recognition and other digital imaging applications.

According to Lisa M. Tsufura, Product Manager at ZC&R, “The low loss, broad spectrum, broad angle performance needed for image sensor and laser scanner windows is challenging for most coating companies to design for and even harder for most to manufacture economically. All too often, precision coating manufacturers tend to have in-house manufacturing capabilities for coating but not volume flat glass fabrication and vice-versa for flat glass fabricators. Abrisa Technologies, comprised of ZC&R Coatings for Optics and Abrisa Industrial Glass offers the best of both worlds; coating and glass expertise, vast selection of sheet glass and fabrication of borosilicate, aluminosilicate and other glass materials, thereby offering economical manufacturing for both. This combined expertise provides the OEM with a total solution; an excellent balance of optical performance and economies of scale.”

Lisa M. Tsufura further states, “We know that 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.”

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Sensor and scanner windows with easy-to-clean oleo/hydrophobic surfaces, low CTE substrates, “bond” friendly coatings, damage and impact resistant HIE™ aluminosilicate substrates and heat and chemically resistant coatings and graphics are just some of the many solutions Abrisa technologies offers for sensor and scanner window applications.

**Sensor Window Coating Capabilities:**

- Anti-Reflection Visible (425nm-675nm) \( R_{avg} < 0.5\% \) (AOI = 0-30º)
- Anti-Reflection Visible-NIR (425-950nm) \( R_{avg} < 1.0\% \) (AOI = 0-30º)
- Anti-Reflection SWIR (900-1700nm) \( R_{avg} < 1.0\% \) (AOI = 0-30º)
- Broad Angle Anti-Reflection Laserline \( R_{avg} < 0.5\% \) (AOI = 0-50º)
- Ultra-low Anti-Reflection 1550nm \( R_{avg} < 0.1\% \) (AOI = 0-30º)
- Cut off, IR blocking Filter/Mirror Visible transmission, NIR blocking
- Cut on, VIS blocking Filter, Mirror Visible blocking, NIR transmitting

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Abrisa Technologies is a recognized, US based, global supplier of high quality, fabricated glass components, optical thin film coatings, and custom glass solutions for diverse industries such as microelectronics and displays, semiconductor, military, automotive, aerospace, biomedical, telecom and scientific R&D. We provide custom flat glass and coating products for applications such as: flat panel display, touch and gesture recognition, imaging and surveillance, entertainment, lighting, advanced instrumentation and photonics.