

NEWS

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ZC&R Coatings for Optics Supplies Night Vision Imaging System (NVIS) Dual Mode, NVG Compatible Coated Glass Filters for Lighting & Displays

July 24, 2023 – Torrance, CA – ZC&R Coatings for Optics (ZC&R) a division of Abrisatechnologies has over 20 years of volume manufacturing experience for the design and supply of high-performance thin film coating solutions for Night Vision Imaging Systems (NVIS) and Night Vision Goggle (NVG) compatible lighting and display applications for the military and avionics industry. Lisa Tsufura, Product Manager for ZC&R explains, “Collaborating with customers, ZC&R tailors coating solutions to meet the performance defined by MIL-STD-3009 when mated to their light emitter and display. The ZC&R thin film engineering team defines



the coating specification needed for the integrated assembly to meet the NVG compatibility limits on red and near infrared (NIR) radiance limits, cut-off, and slope requirements with industry leading throughput and performance. Once validation is complete, production is launched with a COPY EXACT process for a repeatable and consistent result, and ZC&R will support new designs as customers’ technology roadmap evolves.”

ZC&R’s Coated Glass Filters for NVIS and NVG applications meet the durability and environmental requirements of MIL-C-48497A, while also meeting MIL-SPEC severe abrasion and fast pull adhesion requirements. Filters are tested in-house for transmittance as well as specular and diffuse reflection and can be manufactured using ultra-thin, ultra-light HIE™ aluminosilicates, Corning® Eagle XG® 0.1 to 1.1 mm thick glass, as well as industry standard and chemically strengthened soda lime float glass. Sizes range from mm’s to 19” x 19” square.

Lisa further explains, “NVIS allows authorized personnel to view instrumentation displays for monitoring navigation controls and communication in total darkness while preventing detection by unwanted and unfriendly parties. The NVIS systems can get oversaturated by too much radiance in the deep red/NIR leading to blooming. Our NVG compatible filters and display enhancement glass suppresses unwanted emissions and maintains the contrast needed for optimal viewing performance”.

Available in NVIS Red, NVIS Green A&B, NVIS White/Full Color, and NVIS Yellow, ZC&R thin film coated filters are designed to meet MIL-STD-3009 standard when mated to newer, brighter LED sources and updated LCD and OLED displays with their higher throughput efficiency and different spectral radiance characteristics compared to those of older system designs.

Lastly, Lisa states, “To ensure that MIL-STD-3009 is met, partnering with ZC&R to develop filters with detailed chromaticity, spectral performance, cut-off wavelengths, and limits to NIR radiance when mated to updated technology lighting and market available displays is the ideal solution for these critical systems.”

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[Abrisa Technologies](#), a member of HEF Photonics, is a globally recognized technology glass fabrication and optical thin film coating company with expertise in high volume manufacturing and engineering capabilities, delivering Total Solutions that provide excellent performance, fitness-for-use, and economies of scale.

Our US based, state-of-the-art ISO 9001:2015 and ITAR registered facilities include Abrisa Industrial Glass in Santa Paula, CA, and ZC&R Coatings for Optics in Torrance, CA. These two divisions produce solutions from cut-to-order coated glass components to custom complex and ready-to-install fabricated, strengthened, optically coated, electronically enabled, and branded sub-assemblies.

Our Total Solutions serve a variety of markets including Micro-Electronics, Defense and Avionics, Display, Industrial Automation, Optical Sensors, Imaging, Photonics, Medical & Dental, Life Science, and more.

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