



Press Release Sensor + Test 2012

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Jenoptik presents innovative Hybrid-DLC Coatings at Sensor + Test 2012

Jenoptik's Optical Systems Division will be presenting its new product line of Hybrid-Diamond-Like-Carbon (DLC) coatings for multispectral use. Jenoptik's technology launches a new technology generation of environmentally highly resistant optical coatings and components. It combines the superior toughness of protective DLC coatings with the versatility and multispectral functionality of High-End IR coatings.

Visit us at Sensor + Test in Nuremberg, May 2012, 22nd -24th, booth # 565 in hall 12.

The optics which is built into infrared systems of metrology, test and monitoring equipment is required to transmit high-quality images and signals with long-time stability. It must do so despite harsh environmental conditions and process-induced impacts on optical components and their coatings. DLC – also referred to as "hard carbon" IR coatings – represent the state-of-the-art in optical systems of thermo-sensor-based monitoring plants for industrial, civil and military applications. They can be manufactured on such materials as silicon or germanium. This can be achieved, in the simplest case, through adaptation of refractive indexes (single-layer coating).

Jenoptik's newly developed Hybrid-DLC coating unites lasting resistance with the clearly improved transmittance of a dielectrical coating (Fig.1). This places Jenoptik among few companies worldwide which have the capability to selectively manufacture customized IR windows of highest durability and lowest residual spectral reflection. A sophisticated design and production process makes it possible to minimize internal coating tensions and, hence, warrant the durability and adhesive power in accordance with such established testing standards as TS 1888 (Windscreen-Wiper Test).

This successful product line will be extended by hybrid filter coatings in the future.

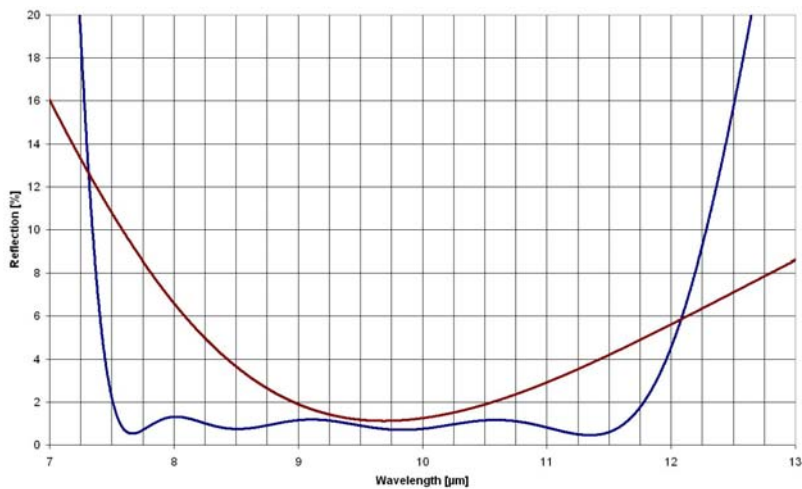


Fig1: Anti-reflective coating of single-layer DLC coating (red) and Hybrid-DLC coating (blue)

In addition, these spectral properties can be achieved in two separate wavelength ranges (e.g. MWIR and LWIR). Multispectral coatings of this type provide users of coatings with new solutions in design and application. By way of example, Fig. 2 shows a multispectral Hybrid-DLC coating with optimized transmittance (Avg > 80%) between 2.7 μm and 11 μm.

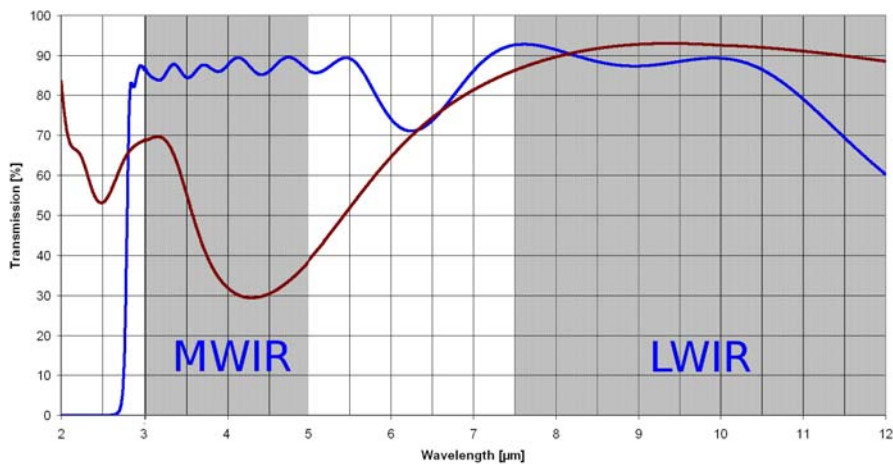


Fig2: Multispectral anti-reflective coating of single-layer DLC coating (red) and Hybrid-DLC coating (blue)

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About Jenoptik Optical Systems division

Through its Optical Systems division, the Jenoptik Group delivers world class precision optics and systems designed and manufactured to the highest quality standards.

Besides offering customized systems, modules and assemblies, the Optical Systems division is a development and production partner for optical, microoptical and coated optical components - made of optical glasses, IR materials as well as polymers.

It possesses outstanding expertise in the development and manufacture of optics and microoptics for beam shaping used in the semiconductor industry and laser material processing.

The product portfolio also includes optical and opto-electronic systems and components for applications in defense & security, health care & life science, digital imaging, machine vision as well as lighting.

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