



## **Photonics West 2024: CeramOptec presents specialty fibers for industrial applications**

### **Focusing on solutions for fiber-connected laser and harsh-environment systems**

*Multicore fibers for laser applications and coated specialty fibers for harsh environments will be the central focus of CeramOptec's exhibit at this year's edition of SPIE Photonics West. The next generation of optical fiber bundles for applications requiring high-performance transmission also take center stage. The new North American CeramOptec branch in Toronto will be represented by its Sales Manager, Carlos Pinto.*

**Bonn/Livani, January 15<sup>th</sup> 2024** – Celebrating the opening of its new North American subsidiary, optical fiber specialist, CeramOptec will present its fiber optic solutions for industrial applications at SPIE Photonics West from January 30<sup>th</sup> to February 1<sup>st</sup>, 2024, in San Francisco. The company's exhibit will focus on multicore fibers with concentric cores, intended for use with laser technology, as well as on the aluminum-coated specialty fibers, designed for use in harsh environments. Also in the spotlight are the custom-built optical fiber bundles for applications requiring high-performance light transmission. As a company capable of performing all steps in the optical fiber manufacturing process (from preform production to cable and bundle assembly), in-house, CeramOptec can always ensure customers get the quickest response times across its range of products and services.

#### **Multicore-fibers for fiber connected laser systems**

The multicore fibers to be showcased were developed primarily for use with fiber-coupled laser systems, and they allow for improved control of output density as well as beam-shaping. In order to address specific requirements, CeramOptec's multicore fibers can have up to six or even more concentric cores. Their numerical apertures (NA) range from 0.10 to 0.28 and they're designed for use with wavelengths ranging from 190 to 2,400 nanometers. A safety version of these fibers is also available, in which two copper wire conductors are inserted into the fiber's sheath, allowing for integration with a laser system's safety mechanisms to trigger a shut-off in the event of fiber breakage or other connection failures. Critical radiation leaks are thereby prevented from the outset. This safety feature is available with all CeramOptec's standard optical fibers.

#### **Aluminum coated fibers for harsh environments**

As a solution for the harsh environments often found in the chemical, semiconductor, or nuclear technology industries, CeramOptec will present its specialty aluminum-coated fibers at the show. Thanks to CeramOptec's continuous development efforts in the area of coating properties (i.e. thickness, homogeneity, and adhesion) as well as the availability of fiber jackets made from particularly resistant materials (such as nylon, acrylate, polyimide and ETFE), a well-suited fiber solution can be provided for almost any harsh environment. Our aluminum-coated fibers tolerate temperatures ranging from -196°C to +400°C, are suitable for use in the presence of aggressive chemicals and radiation, as well as in

applications where they are exposed to near vacuum. Their metal coating also makes it possible to solder the fiber if necessary. As an alternative to aluminum, tin coatings and other client-specific configurations, such as polygonal core geometries for energetic homogenization of the beam profile can be provided.

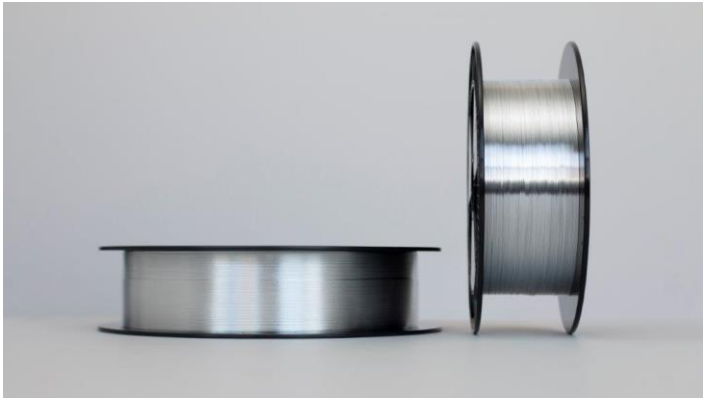
## **Optical fiber bundles for applications requiring high-performance transmissions**

Our trade show line-up will be rounded out by the introduction of the next generation of optical fiber bundles. Advancements in manufacturing processes such as fusion and gluing ensure enhanced transmission rates and reduce power losses. The optional use of polygonal fibers further improves transmission. Simple 1:1 fiber bundles with over 2,000 fibers are possible and in the case of complex fiber bundles (1: n versions/multiple ports), the number of ports has now been increased to over 600 connections. This opens up new applications in the areas of spectroscopy, measurement technology and semiconductor production. It also means that our fiber bundles can also be used in the transmission of high-intensity light, as used in modern, high-performance movie projectors or in industrial UV light-curing systems, the latter of which is based on solarization-resistant CeramOptec Optran® UVNSS fibers.

Interested trade show visitors will find CeramOptec in the German Pavilion, booth 4205-60. Carlos Pinto, Sales Manager for North America, and other associates from Latvia and Germany will be on-site and looking forward to your visit! For more information about CeramOptec optical fibers visit us online at [www.ceramoptec.com](http://www.ceramoptec.com).



*Image 1: Assembled optical fiber bundle. ©CeramOptec*



*Image 2: Aluminum coated specialty fibers (on a reel). ©CeramOptec*



## **SPIE. PHOTONICS WEST**

The Moscone Center, San Francisco, California

30 January - 1 February 2024

German Pavilion booth 4205-60

**CeramOptec®**  
*Innovative Fiber Optics...Every Step of the Way™*

*Image 3: CeramOptec at the SPIE Photonics West. ©CeramOptec*

### **About CeramOptec**

CeramOptec (Bonn, Germany) in cooperation with Ceram Optec® SIA (Livani/Latvia) specializes in the production of multimode optical fibers made of quartz glass. The mid-sized company was established in 1988 and is now a subsidiary of biolitec AG, one of the world's leading medical technology companies in the field of laser applications. With subsidiaries in China, Finland and Dubai as well as distribution partners in France, Israel, India, Japan, Korea and the USA, CeramOptec has a strong presence not only in Europe, but also in the Asian and North American markets. Its product range includes preforms, fibers, cables, and bundled assemblies for a wide range of applications, including industrial and medical laser applications, semiconductor manufacturing, aerospace sensor systems, and spectroscopic applications in the astronomy and chemical industries. The biolitec group employs a total of 345 associates.



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