CeramOptec adds splicing applications to its portfolio

High precision fusion splicing of end caps and optical fibers

Optical fiber specialist CeramOptec from Bonn is, as of now, able to offer high precision, customized fusion splicing of end caps and optical fibers as well. This was achieved by utilizing the CO_2-Laser-Systems Nyfors Smartsplicer™, developed in cooperation between Nyfors and CeramOptec, as well as the Fraunhofer IOF Jena.

Bonn, October 11, 2017 – CeramOptec, the specialist for multimode optical fibers, manufactured from quartz glass, has added splicing applications to its product portfolio. Based on the utilization of the CO_2-Laser-Systems Nyfors Smartsplicer™, in whose development CeramOptec participated directly, the biolitec subsidiary from Bonn is, as of now, able perform high precision, individually customized fusion splicing of end caps and various optical fibers. The software controlled splicing system is built based on the patented Axicon Splicing™ beam formation technology and projects a ring-shaped laser focal point, whose diameter can be adjusted according to the respective application. The energy from the laser is distributed evenly and projected precisely on the intended splicing area. This way, especially end caps with larger radii can be fused to a fiber through the laser much more precise and efficient than by means of conventional splicing devices. The system is also particularly well suited for the splicing of photonic crystal and gradient index fibers. Applications like the active collapsing of fibers, as well as rounding off and tapering of fiber ends can be achieved with the new splicing laser with previously unobtainable precision. The very stable software control and high precision of all optical and mechanical components guarantee the exact reproducibility of production results, even in highly demanding manufacturing processes. In order to accomplish the demand-oriented configuration of the application at all times, CeramOptec is available to assist customers through extensive guidance and test-runs within their own production process.

The Smartsplicer™ was developed as the result of a research project, in which aside from Nyfors and CeramOptec, also the Fraunhofer-Institut für Angewandte Optik und Feinmechanik (IOF) [Fraunhofer Institute for Applied Optics and Precision Engineering] in Jena participated. While Nyfors developed the laser system and Fraunhofer IOF the optical components, CeramOptec was in charge of consistently testing the individual application scenarios. Additional information about CeramOptec's fusion splicing portfolio, as well as the guidance and test offer, are available online at www.ceramoptec.com

About CeramOptec

CeramOptec is a specialized manufacturer of multimode optical fibers made from quartz glass. The medium-sized company was founded in 1988 and is now a subsidiary of biolitec AG, one of the world-leaders among medical-technology companies in laser applications. With subsidiaries in China and distribution partners in the USA, India, Japan and Korea, CeramOptec has established a strong position not only in Europe but also in Asian and North American markets. Its product portfolio includes optical fibers, fiber bundles, assemblies and cables for a wide range of applications, among them industrial and medical laser applications, sensor systems for the aerospace sector, as well as spectroscopic applications in astronomy and the chemical industry. One specialty consists of the manufacturing of rectangular and up to octagonal optical fiber cores (Non Circular Core Fibers/NCC), which are predominantly applied in astrophysics. The biolitec group currently employs a total of 245 associates.