

CeramOptec Safety Fiber:

More safety for users of fiber-coupled high-performance lasers

Copper wire conductors with a jacket facilitate the design of active protective devices

A new fiber design from CeramOptec increases user safety in connection with fiber-coupled high-performance lasers. Copper wire conductors in a polyamide jacket support the configuration of active protective devices that interrupt the laser circuit in the event of fiber breakage or connection problems and protect the user from leaking radiation. The concept can be applied to all standardized CeramOptec glass fibers.

Bonn/Livani, 08. March 2019 - CeramOptec, one of the leading international developers and manufacturers of multi-mode optical waveguides made of quartz glass, enhances the safety for users of fiber-coupled high-performance lasers. Safety glass fibers with electrical contacting now facilitate the creation of active protective devices that automatically switch off the laser in the event of fiber breakage or connection failures. To this end, the polyamide jacket of the CeramOptec safety fibers contains two extremely thin copper wire conductors that are integrated into the circuit of the laser system via the usual fiber couplings. In case of a fiber breakage these conductors are destroyed and the circuit is thereby interrupted; contact interruption also happens in the event of malfunctions in the interface area between the fiber and the beam source. Users of medical or industrial lasers are thus reliably protected against the emission of harmful laser radiation.

Since the two copper wires are applied together with the polyamide sheathing after the fiber drawing process, the new fiber concept can be implemented for all standardized CeramOptec glass fibers. All-rounders such as the standard Optran[®] UV/WF fibers are also available as safety fibers, as are the solarization-free Optran[®] UVNSS special fibers or the homogenizing Optran[®] NCC fibers with polygonal core geometry. For optimum coverage of all bending radii and temperature zones, safety fibers are available with copper wire conductors of 50, 100 and 150 micrometers. Custom configurations are also available on request.

For more information on the different CeramOptec fiber types and contact details for individual enquiries, please visit www.ceramoptec.com.

About CeramOptec

CeramOptec[®], in cooperation with Ceram Optec SIA, specializes in the manufacture of multimode fiber optic cables made from quartz glass. The medium-sized company was founded in 1988 and is today a subsidiary of biolitec AG, one of the leading international medical technology companies in the field of laser applications. With subsidiaries in China and distribution partners in the USA, France, India, Japan and Korea, CeramOptec is strongly represented not just in Europe, but also on the Asian and North American markets. The company's range comprises fibers, fiber bundles, assemblies and cables for numerous application areas, amongst these industrial and medical laser applications, aerospace sensor systems and spectroscopic applications in the fields of astronomy and the chemical industry. One special product in its range is the manufacture of glass fiber cores with square to octagonal geometries (non circular core fibers/NCC), which are mainly used in astrophysics applications. The biolitec group has 245 employees in total.