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News Release

OFS ANNOUNCES SUCCESSFUL SPLICE OF SAPPHIRE AND SILICA OPTICAL FIBERS

Milestone Has Important Implications for Use of High-Temperature Sapphire Fibers in Industrial, Medical Applications

Photonics West 2013, Booth #917, Moscone Center, San Francisco, CA, February 5, 2013 - OFS, a leading designer, manufacturer and supplier of innovative fiber optic network products has announced a successful fusion splicing of silica fiber and sapphire fiber using Furukawa Electric's standard FITEL® S178 portable fusion splicer.

The new splicing method overcomes traditional barriers to splicing these fibers caused by the difference in their physical properties, including differences in thermal expansion coefficients and the 200°C difference in their melting points. This development is a major step toward extending the commercial application of sapphire fibers to extremely high temperature instrumentation.

Sapphire fibers can be used for optical sensing in harsh environments and for laser delivery in medical applications. Some examples of sapphire fiber-based sensors include fiber Bragg gratings that can be inscribed into the sapphire fiber, and sapphire fiber-based extrinsic Fabry-Perot interferometric sensors. Sapphire fibers offer excellent mechanical strength, hardness, corrosion resistance, and a high melting point (2050° C). They are used in areas where other instrumentation is not considered acceptable due to geometric constraints, electromagnetic interference, chemical or radiological exposure, or risk of explosion or corrosion.

The major drawbacks to the use of sapphire fibers have been their high optical attenuation and their high cost, both of which have limited the fiber length between the optical sensor and detector. The new splicing technique allows low-attenuation silica fibers to act as a lead-in fiber to significantly reduce the total optical attenuation.

Dr. Tom Liang, OFS engineering manager based in Norcross, Georgia, worked closely with The Ohio State University to develop the special splicing method after months of investigation and teamwork.

About OFS

OFS is a world-leading designer, manufacturer and provider of optical fiber, optical fiber cable, connectivity, FTTx and specialty photonics solutions. Our marketing, sales, manufacturing and research teams provide forward-looking, innovative products and solutions in areas including Telecommunications, Medicine, Industrial Automation, Sensing, Government, Aerospace and Defense applications. We provide reliable, cost effective optical solutions to enable our customers to meet the needs of today's and tomorrow's digital and energy consumers and businesses.

OFS' corporate lineage dates back to 1876 and includes technology powerhouses such as AT&T and Lucent Technologies. Today, OFS is owned by Furukawa Electric, a multi-billion dollar global leader in optical communications.

For more information, please visit www.ofsoptics.com.

CONTACT:

Sherry Salyer

OFS Public Relations

shsalyer@ofsoptics.com

Direct: 770-798-4210

Mobile: 678-296-7034