



NETWORK GROUP has hi-tech technology for fiber optic glass processing: LDS – Large Diameter Splicing System (3SAE Technologies, Inc). With this precise system we are able to perform many customer-defined special fiber-optics components, such as tapers, endcaps, splicing of prisms, lenses, grin lenses, splicing of photonics-crystal fibers (PCF), splicing of fibers with different diameter, etc.

Conventional arc fusion machines utilize a high voltage glow discharge between two electrodes, forming a heat source in the shape of a narrow cylinder perpendicular to the fiber. Such heat sources are inadequate for larger fibers, because of the inability to heat evenly.

Ring of Fire® technology - a multi-electrode plasma discharge is advantageous for these applications, as the resulting heat zone is isothermic around the circumference of the fiber, but remains relatively narrow. This allows for precise heating of larger or higher temperature materials [3SAE].

LDS - Large Diameter Splicing System capabilities:

- Splicing of optical fibers with dissimilar fiber diameters - 125 µm up to 2 mm, with Ring of Fire® technology.
- Splicing of Photonic-crystal fibers (PCF) with little or no air hole collapse.
- Splicing of materials with high melting temperatures, collapsing and fusing.
- Extremely high splice strengths, „Ionic Ablation“ fiber cleaning.
- Reproducible fabrication of low loss and high ratio tapers up to 85mm in length - symmetrical, asymmetrical, short and long tapers.
- Endcapping - creating lenses at the ends of the optical fibers.
- Splicing of optical lenses and prisms on the fiber endface.
- Unique capability to fuse pre-made End Caps having vastly dissimilar diameters than that of the input fibers.
- Creating components for high performance fiber lasers (pump combiners).
- Ultrasonic cleaving with piezo-based frequency /amplitude control.
- Three Electrode system design combines proven manufacturing ready technology with R&D flexibility.

We can offer customer-defined fiber optic glass processing!



