

## Fiber Assemblies for Space-Based Laser Communications

Coastal Connections has been supporting space-based fiber optics since 2003. Prior to this Andy Devine, its president and founder, spent 2 years qualifying a fiber optic connector to survive 10 years of thermal cycling in space. The lessons learned from this program are applied to every connector built. Coastal Connections' Qualified FC connector was tested to survive the extreme conditions of launch and in space reducing your risks. Coastal Connections is the world's leading supplier of fiber end-caps for SM and PM fibers in ferrules and connectors. Coastal Connections also builds vacuum feedthroughs for testing space systems on earth.

### Experience

- Supported a program that successfully deployed a space-based laser communication system
- Currently building assemblies for laser communication systems
- Assemblers are NASA certified to NASA Standard 8739.5
- Understands material and cleanliness required for vacuum environments

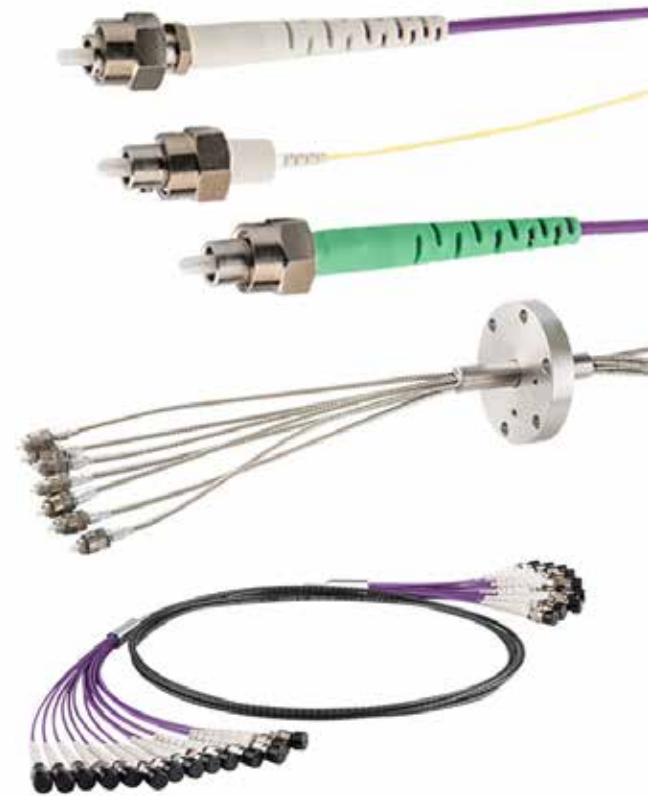
### Qualified FC Connector

- Assembly process and documentation complies with NASA standard 8739.5

Fibers:	Single-Mode, Polarization Maintaining, Multimode
Boots:	Hytel 8068 for low outgassing
Wrench Flats:	For torquing the connector to 10 in-lbs
Vibration:	46.3Grms
Shock:	500Gs
Temperature:	-200 to 150°C (without boots)
Tubing:	PVDF (preferred) or PTFE

### Fiber End-Caps

- Increased reliability by reducing the power density at the end of the fiber core
- Compatible with SM and PM fibers
- $\leq 1\mu\text{m}$  fiber core eccentricity on 125 $\mu\text{m}$  clad fibers
- Can withstand 25,000 Watts/mm<sup>2</sup> at the end-face
- Up to 400 $\mu\text{m}$  diameter end-caps



### PM, SM or MM FIBER

FIBER END-CAP

Light entering or exiting the fiber

LENGTH  
250 - 1000 $\mu\text{m}$