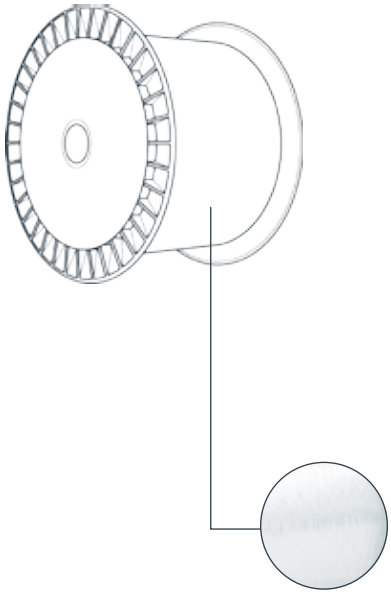
LineaSens® Proprietary, Hydrogen Insensitive Core Graded-Index Multimode 50 µm Optical Fiber

Silicone/PFA Coating System:
Part Number F80400



Features	Benefits
Improved Waveguide Resists Hydrogen Darkening	Minimizes permanent losses due to hydrogen ingression in harsh conditions
Graded-Index 50/125 Fiber Structure	Compatible with most commercially available Distributed Temperature Sensing (DTS) interrogators; can also be fusion spliced to similar hydrogen insensitive core optical fiber, and traditional lead-in optical fibers
Silicone/PFA Coating System	Low friction, outer coating resists chemicals, abrasion and water absorption and is easy to mechanically strip

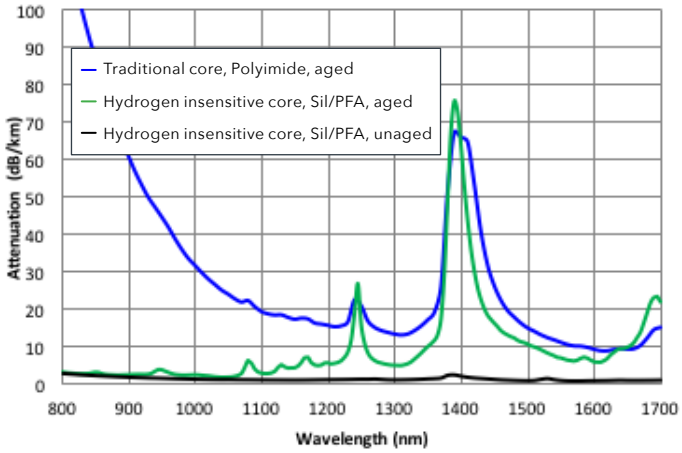
Product Description

This optical fiber is designed for distributed temperature sensing and communications in applications where hydrogen diffusion is a concern, and at elevated temperatures for long duration exposure. The waveguide features a proprietary, hydrogen insensitive core structure to minimize the effects of hydrogen darkening, and also features a dual-layer coating system. The inner layer of enhanced silicone dampens attenuation-inducing compression and is easily strippable while the secondary PFA layer provides excellent chemical and abrasion resistance and low water absorption. This combination is suitable for long-term continuous use up to 200 °C (~ up to 20 years, performance and reliability will vary depending on installation environment Consult OFS for guidance). In addition, this fiber structure is ideal for low temperature and cryogenic applications, operating indefinitely at low temperatures.

LineaSens® Proprietary, Hydrogen Insensitive Core GI MM 50 Optical Fiber (Silicone/PFA Coating)		
Specifications		
Item Number		**F80400**
Description		GEO50-H Geophysical Graded-Index Optical Fiber - Hydrogen Resistant, Silicone/PFA
Type		Multimode Graded-Index
Numerical Aperture		0.20
Attenuation	@ 850 nm	≤ 4.0 dB/km
	@ 1300 nm	≤ 2.0 dB/km
Bandwidth	OFL @ 850 nm	≥ 400 Mhz-km
	OFL @ 1300 nm	≥ 400 Mhz-km
Core Diameter		50 ± 3 µm
Clad Diameter		125 ± 1 µm
Cladding Non-Circularity		≤ 2.0%
Hermetic Carbon Layer		None
Primary Coating Diameter		450 ± 30 µm
Secondary Coating Diameter		700 ± 50 µm
Operating Temperature		-55 to +200 °C
Short Term Excursions (24 Hours)		Up to 410 °C
Coating Material		Silicone/PFA
Short-Term Bend Radius (Mechanical)		≥ 8 mm
Long-Term Bend Radius (Mechanical)		≥ 10 mm
Proof Test Level		200 kpsi (1.38 Gpa)
* NOTE: Hydrogen diffusion performance curve on right		

Proprietary, Hydrogen Insensitive Core Optical Fibers - Lower Sensitivity to H_2

Aging Condition: 5% H_2/95% N_2, 1500 psi, 200 °C, 10 days



Hydrogen Ingression Performance				
Hydrogen Concentration	Partial Pressure (PSI)	Temperature (°C)	Duration (Days)	H_2 Induced Loss @ 1060 nm
5%	1,500	200	10	< 1.0 dB/km

For additional information please contact your sales representative.

You can also visit our website at **www.ofsoptics.com** or call 1-888-fiberhelp (1-888-342-3743) USA or 1-770-798-5555 outside the USA.

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