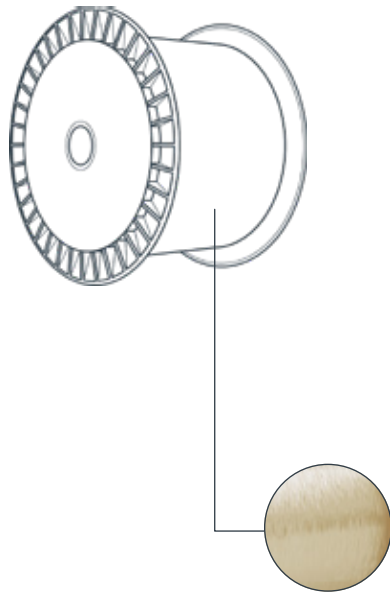
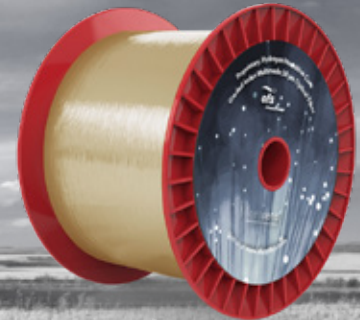


LineaSens[®] Proprietary, Hydrogen Insensitive Core Graded-Index Multimode 50 μ m Optical Fiber

Silicone/PEEK Coating System:
Part Number F80398



Features

Improved Waveguide Resists
Hydrogen Darkening

Graded-Index 50/125 Fiber
Structure

Silicone/PEEK Coating
System

Benefits

Minimizes permanent losses due
to hydrogen ingress in harsh
conditions

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

Low friction, crush and elongation
resistant outer coating resists
chemicals and abrasion 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 in temperatures up to 160 °C for long durations. 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 chemical and abrasion resistance, low thermal expansion, and is a zero halogen material providing low smoke and toxicity. This combination is suitable for long-term use up to 160 °C. In addition, this fiber structure is ideal for low temperature and cryogenic applications, operating indefinitely at low temperatures (~up to 20 years, performance and reliability will vary depending on installation environment. Consult OFS for guidance).

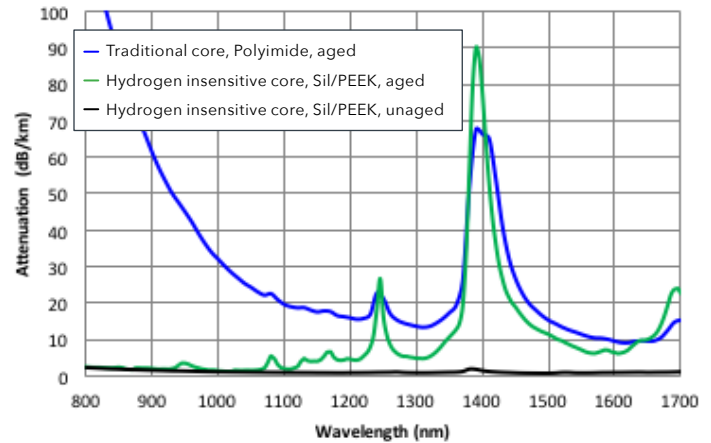
**LineaSens® Proprietary, Hydrogen Insensitive Core
GI MM 50 Optical Fiber (Silicone/PEEK Coating)**

Specifications

Item Number	F80398	
Description	GEO50-H Geophysical Graded-Index Optical Fiber - Hydrogen Resistant, Silicone/PEEK	
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/PEEK	
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 H₂**

Aging Condition: 5% H₂/95% N₂, 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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