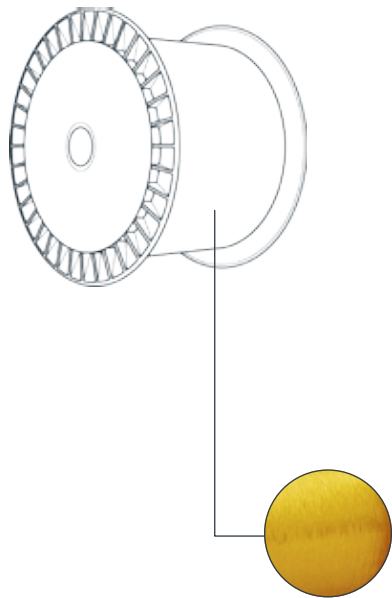
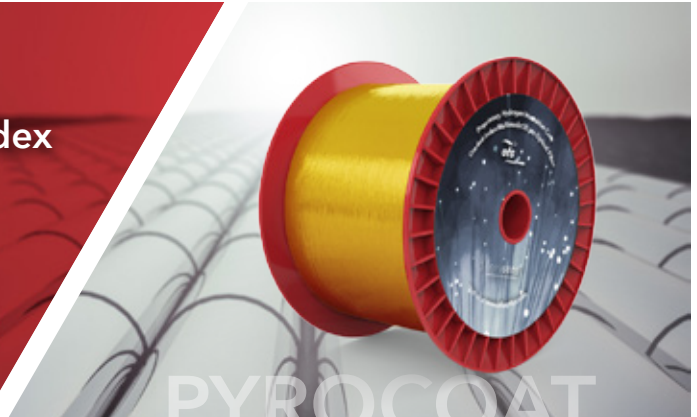


## LineaSens<sup>®</sup> Proprietary, Hydrogen Insensitive Core Graded-Index Multimode 50 $\mu\text{m}$ Optical Fiber

PYROCOAT<sup>®</sup> Coating: Part Number F78960



### Features

Improved Waveguide Resists  
Hydrogen Darkening

Graded-Index 50/125 Fiber  
Structure

PYROCOAT<sup>®</sup> Coating

### 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

Thin, hard coating provides  
excellent thermal stability, plus  
chemical and abrasion resistance  
in a small cross-section of 155  $\mu\text{m}$

### 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 250 °C for long durations (~ up to 20 years, performance and reliability will vary depending on installation environment. Consult OFS for guidance). The waveguide features a proprietary, hydrogen insensitive core structure to minimize the effects of hydrogen darkening and also features a thin, hard, polyimide coating for excellent chemical resistance and thermal stability at elevated temperatures.

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

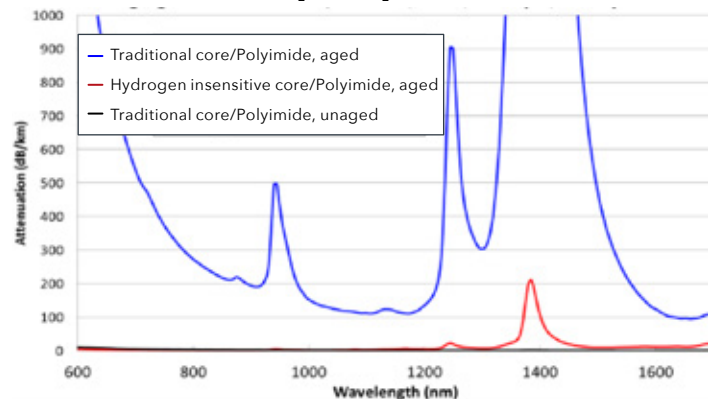
Specifications

Item Number	<b>F78960</b>
Description	GEO50-H Geophysical Graded-Index Optical Fiber - Hydrogen Resistant, PYROCOAT®*
Type	Multimode Graded-Index
Numerical Aperture	0.20
Attenuation @ 850 nm	≤ 4.0 dB/km
Attenuation @ 1300 nm	≤ 2.0 dB/km
Bandwidth OFL @ 850 nm	≥ 400 Mhz-km
Bandwidth OFL @ 1300 nm	≥ 400 Mhz-km
Core Diameter	50 ± 3 μm
Clad Diameter	125 ± 2 μm
Coating Diameter	155 ± 5 μm
Cladding Non-Circularity	≤ 2.0%
Core Non-Circularity	≤ 5.0%
Hermetic Carbon Layer	None
Operating Temperature	-198 to +250 °C
Short Term Excursions (24 Hours)	Up to 410 °C
Coating Material	PYROCOAT
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<sub>2</sub>**

**Aging Condition: 5% H<sub>2</sub>/95% N<sub>2</sub>, 1500 psi, 200 °C, 10 days**



**Hydrogen Ingression Performance**

Hydrogen Concentration	Partial Pressure (PSI)	Temperature (°C)	Duration (Days)	H <sub>2</sub> Induced Loss @ 1060 nm
5%	1,500	250	23	< 1.0 dB/km
5%	1,500	350	10	< 1.0 dB/km

For additional information please contact your sales representative.

You can also visit our website at [www.ofsoptics.com](http://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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