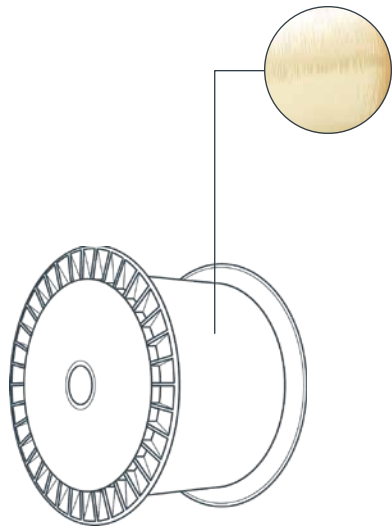




Wide-Temperature Graded-Index Optical Fiber

PYROCOAT[®] K Coating: Part Number F79696



Features

PYROCOAT K Coating
Industry-Leading Thermal
Stability

**Wide Operating Temperature
Range**

**Graded-Index 50/125 Fiber
Structure**

Benefits

Thin, hard coating provides excellent thermal stability, plus chemical resistance in a small cross-section of 155 μm .

Suitable for long-term use over a wide range of temperatures.

Compatible with most commercially available Distributed Temperature Sensing (DTS) interrogators; can also be fusion spliced to traditional lead-in optical fibers.

Product Description

This optical fiber is designed for Distributed Temperature Sensing (DTS) and communications in applications where continuous exposure to temperatures up to 293 °C for long durations is possible (~ up to 20 years, performance and reliability will vary depending on installation environment. Consult OFS for guidance). The table below provides more information on life expectancy in various high temperature use cases.

Wide-Temperature Graded-Index Optical Fiber with PYROCOAT® K Coating

Specifications

| | |
|--------------------|------------------------|
| Item Number | F79696 |
| Type | Multimode Graded-Index |
| Optical Properties | |
| Numerical Aperture | 0.20 |
| Attenuation | |
| @ 850 nm | ≤ 4 dB/km |
| @ 1300 nm | ≤ 2 dB/km |

Physical Characteristics

| | |
|----------------------|--------------|
| Overfilled Bandwidth | |
| @ 850 nm | ≥ 500 MHz·km |
| @ 1300 nm | ≥ 500 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% |
| Core/Cladding Offset | ≤ 3 μm |

Coating Descriptions

| | |
|---|----------------|
| Operating Temperature | -65 to +300 °C |
| Short-Term Temperature Excursions (24 hrs.) | Up to 450 °C |
| Coating Material | PYROCOAT K |

Mechanical Data

| | |
|------------------------|---------------------|
| Short-Term Bend Radius | ≥ 5 mm |
| Long-Term Bend Radius | ≥ 9 mm |
| Proof Test Level | 200 kpsi (1.38 GPa) |

| | Commercially Available Polyimide-Coated Fibers | PYROCOAT K |
|--|--|-------------------------------|
| Lifetime at 275 °C | 4 years | 80 years |
| Lifetime at 300 °C | 0.8 years | 13 years |
| Lifetime at 325 °C | 70 days | 2.2 years |
| Lifetime at 350 °C | 18 days | 160 days |
| 20-year Continuous Upper Use Temperature | 250 °C | 293 °C |
| Fiber/Metal Interaction at 300 °C | Fiber sticks to metal | Fiber does not stick to metal |
| Aging in distilled water, 200 °C, 2000 psi, 7 days | Coating material degrades | No coating degradation |
| Aging in sea water, 100 °C, 2000 psi, 14 days | No coating degradation | No coating degradation |
| Aging in mineral oil, 250 °C, 2000 psi, 10 days | No coating degradation | No coating degradation |
| Aging in isopropanol, 250 °C, 1500 psi, 7 days | No coating degradation | No coating degradation |

NOTE: The lifetimes are based on 25% loss of the initial coating mass criterion. For details, see A. A. Stolov, D. A Simoff, J. Li, Thermal Stability of Specialty Optical Fibers. *J. Lightwave Technol.*, 2008, V 26, N 20, P. 3443-3451.

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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