



# NuSENSOR 1550 nm Bend Insensitive Single-Mode Fiber

Nufern's NuSENSOR single-mode fiber is ideally suited for Brillouin based distributed temperature and strain sensing, and Fiber Bragg Grating based sensing methods. This 0.13 NA fiber is bend insensitive and optimized for operation at 1550nm. NuSENSOR single-mode fiber provides tight tolerance optical and geometrical specifications measured at the application critical wavelengths and comes with a polyimide coating and is also available with a hermetic carbon layer. The polyimide coating can operate up to 300°C and with the hermetic carbon coating is ideal for use in H<sub>2</sub> rich environments.

## Typical Applications

- Enhanced oil recovery processes
- Hydrothermal well temperature measurements
- Brillouin distributed temperature & strain sensing
- FBG and Fabry-Perot based sensors

## Features & Benefits

- Bend insensitive — Ideal for small form factor applications with tight bends
- Exceptional uniformity — Least spurious noise signal generation
- Long unattended deployments or short cycle in-out applications
- Low loss over the wavelengths range critical to DTSS
- Available with hermetic carbon coating

## Optical Specifications

Operating Wavelength	1500 – 1700 nm
Core NA	0.130
Mode Field Diameter	9.5 ± 0.5 μm @ 1550 nm
Cutoff	1450.0 ± 50.0 nm
Core Attenuation	≤ 0.80 dB/km @ 1550 nm

## R1550B-P

## Geometrical & Mechanical Specifications

Cladding Diameter	125.0 ± 1.0 μm
Core Diameter	9.0 μm
Coating Diameter	150.0 ± 5.0 μm
Coating Concentricity	< 1.50 μm
Core/Clad Offset	≤ 0.50 μm
Coating Material	Polyimide
Operating Temperature Range	-65 to 300 °C
Proof test Level	≥ 100 kpsi (0.7 GN/m <sup>2</sup> )



7 Airport Park Road, East Granby, CT 06026 • 860.408.5000 • Toll-free 866.466.0214 • Fax 860.844.0210 • E-mail [info@nufern.com](mailto:info@nufern.com) • [www.nufern.com](http://www.nufern.com) • Nufern products are manufactured under an ISO 9001:2008 certified quality management system.

Custom developed fiber (FUD) specifications are subject to change without notice. Other configurations such as alternative form factors, optimized cut-off and UV cured color coating may be available. Let us know how Nufern can assist with your requirements.

