Single-Mode Bend Insensitive &/or Radiation Hardened Fibers

This family of three different single-mode fibers is specifically designed for non traditional data and telecom applications that use standard telecom wavelengths. Tactical fiber survives and transmits light even under extreme mechanical duress. The R1310-HTA operates identically to SMF-28™ with improved radiation performance. It is also EMP immune and can withstand very high electrical field strengths. The pure silica core S1550-HTA fiber is also designed to be bend insensitive and withstand extreme pulsed and continuous ionizing radiation. All fibers in this series come with high proof strength, large Weibull modulus, and superior dynamic fatigue parameter to maintain high mechanical reliability (long lifetimes). To meet the challenges of the harsh tactical, avionics/aerospace, missile and UAV working environments, the fibers have high temperature acrylate as the standard coating.

Typical Applications

- Airframe, Spacecraft, Missile and UAV optical interconnects
- Large bandwidth tactical cables
- Miniature fiber optic packages

Features & Benefits

- Exceptional uniformity and core/clad concentricity — Low connectorization losses
- High proof test level, high Weibull modulus and high dynamic fatigue parameter — Long deployed lifetimes
- High temperature coating — Survival in hostile environment
- Bend insensitive versions — Survives application in tight confines
- Rad resistant & rad hard versions — Useful in radiation environments

Optical Specifications	**R1310-HTA**	**1310M-HTA**	**S1550-HTA**
Operating Wavelength	1310 – 1620 nm	1310 – 1620 nm	1530 – 1630 nm
Core NA	0.120	0.160	0.160
Mode Field Diameter	10.5 ± 1.0 µm @ 1550 nm 9.1 ± 1.0 µm @ 1310 nm	6.7 ± 1.0 µm @ 1310 nm	7.0 ± 1.0 µm @ 1550 nm
Cutoff	1250 ± 50 nm	1250 ± 50 nm	1450 ± 70 nm
Core Attenuation	≤ 0.75 dB/km @ 1310 nm ≤ 0.50 dB/km @ 1550 nm	≤ 0.75 dB/km @ 1310 nm ≤ 0.50 dB/km @ 1550 nm	≤ 1.0 dB/km @ 1550 nm
Geometrical & Mechanical Specifications			
Cladding Diameter	125.0 ± 1.0 µm	125.0 ± 1.0 µm	125.0 ± 1.0 µm
Core Diameter	9.0 µm	6.0 µm	7.8 µm
Coating Diameter	245.0 ± 15.0 µm	245.0 ± 15.0 µm	245.0 ± 15.0 µm
Coating Concentricity	< 5.0 µm	< 5.0 µm	< 5.0 µm
Core/Clad Offset	≤ 0.50 µm	≤ 0.50 µm	≤ 0.50 µm
Coating Material	Dual Layer, High Temperature Acrylate	Dual Layer, High Temperature Acrylate	Dual Layer, High Temperature Acrylate
Operating Temperature Range	-55 to 125 °C	-55 to 125 °C	-55 to 125 °C
Short Term Bend Radius	≥ 6 mm	≥ 6 mm	≥ 12 mm
Long Term Bend Radius	≥ 13 mm	≥ 13 mm	≥ 25 mm
Prooftest Level	≥ 200 kpsi (1.4 GN/m²)	≥ 200 kpsi (1.4 GN/m²)	≥ 100 kpsi (0.7 GN/m²)

S1550-HTA is US Department of Commerce Export Controlled.

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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 • www.nufern.com Nufern products are manufactured under an ISO 9001:2008 certified quality management system.

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