

# C-Band Erbium Doped Fibers



Nufern's high performance C-Band Erbium-Doped 980-HP Fibers are designed for use in single and multi-channel C-band amplifiers and ASE sources. The 80  $\mu\text{m}$  version is suitable for small form-factor amplifiers and metro amps. The "HI" version is designed to achieve the highest possible optical efficiencies in applications where available pump power is limited. All Nufern erbium-doped fibers are fabricated with a proprietary technology and have highly consistent and reproducible spectroscopy

## Typical Applications

- Single and multi-channel C-band amplifiers
- ASE sources
- Small form factor amps
- Metro amps

## Features & Benefits

- Highly consistent and reproducible spectroscopy — high manufacturing yields when matching to a GFF
- Excellent core concentricity — low splice loss to single-mode fibers
- High aluminum concentration — inherent gain flatness

## Optical Specifications

|                      |   |   |
|----------------------|---|---|
| Operating Wavelength | 1530 – 1565 nm  | 1530 – 1565 nm  |
| Core NA              | 0.230   | 0.230   |
| Mode Field Diameter  | $5.8 \pm 0.5 \mu\text{m}$ @ 1550 nm   | $5.8 \pm 0.5 \mu\text{m}$ @ 1550 nm   |
| Cutoff               | $920 \pm 50 \text{ nm}$   | $920 \pm 50 \text{ nm}$   |
| Core Attenuation     | $\leq 10.0 \text{ dB/km}$ @ 1200 nm   | $\leq 15.0 \text{ dB/km}$ @ 1200 nm   |
| Saturation Power     | 0.18 mW @ 1530 nm   | 0.180 mW @ 1530 nm  |
| Core Absorption      | $6.00 \pm 1.00 \text{ dB/m}$ near 1530 nm<br>$6.50 \pm 3.50 \text{ dB/m}$ near 980 nm | $6.50 \pm 3.50 \text{ dB/m}$ at 980 nm<br>$6.00 \pm 1.00 \text{ dB/m}$ near 1530 nm |

## Geometrical & Mechanical Specifications

|                             |  |  |
|-----------------------------|--|--|
| Cladding Diameter           | $125.0 \pm 1.0 \mu\text{m}$                      | $80.0 \pm 1.0 \mu\text{m}$                       |
| Core Diameter               | $3.2 \mu\text{m}$                                | $3.2 \mu\text{m}$                                |
| Coating Diameter            | $245.0 \pm 10.0 \mu\text{m}$                     | $165.0 \pm 10.0 \mu\text{m}$                     |
| Coating Concentricity       | $< 5.0 \mu\text{m}$                              | $< 5.0 \mu\text{m}$                              |
| Core/Clad Offset            | $\leq 0.30 \mu\text{m}$                          | $\leq 0.30 \mu\text{m}$                          |
| Coating Material            | UV Cured, Dual Acrylate                          | UV Cured, Dual Acrylate                          |
| Operating Temperature Range | -40 to 85 °C                                     | -40 to 85 °C                                     |
| Proof test Level            | $\geq 200 \text{ kpsi}$ (1.4 GN/m <sup>2</sup> ) | $\geq 200 \text{ kpsi}$ (1.4 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 • www.nufern.com Nufern products are manufactured under an ISO 9001:2008 certified quality management system.



Standard specifications and design parameters are listed above. 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.