

# Nufern 980 nm Select Cutoff Single-Mode Fibers



Coherent 980 nm high-performance select cutoff single-mode fibers are optimized for use by component manufacturers at the telecommunications wavelengths. These application-specific fibers were developed for pump diode pigtailed, unique delivery for components, and couplers. Available in 80  $\mu\text{m}$  and 125  $\mu\text{m}$  form factors, Coherent's 980 nm fibers offer exceptional uniformity, tight tolerance core/clad concentricity and second mode cutoff specifications. These fibers are designed for tighter bend radius applications including miniaturized fiber optic packaging. These high performance specifications result in superior strength, increased component reliability, improved production yields, and reduced component manufacturer costs. The XP version offers the tightest tolerance specifications for more demanding applications.

## Typical Applications

- Pump Diode Pigtails
- Metro components
- Small form factor components
- Couplers

## Features & Benefits

- Exceptional uniformity and core/clad concentricity — Low, consistent splice loss to telecom components
- Extremely tight second mode cutoff tolerance — High yield coupler manufacturing
- Higher proof test levels — Critical for long-term reliability in tight bend applications

## Optical Specifications

	980-XP	980-HP	980-HP-80	980M-HP-80
Operating Wavelength	980 – 1600 nm	980 – 1600 nm	980 – 1600 nm	980 – 1600 nm
Core NA	0.200	0.200	0.200	0.170
Mode Field Diameter	4.2 $\pm$ 0.3 $\mu\text{m}$ @ 980 nm 6.8 $\pm$ 0.5 $\mu\text{m}$ @ 1550 nm	4.2 $\pm$ 0.5 $\mu\text{m}$ @ 980 nm 6.8 $\pm$ 0.5 $\mu\text{m}$ @ 1550 nm	4.2 $\pm$ 0.5 $\mu\text{m}$ @ 980 nm 6.8 $\pm$ 0.5 $\mu\text{m}$ @ 1550 nm	4.7 $\pm$ 0.3 $\mu\text{m}$ @ 980 nm
Cutoff	920 $\pm$ 30 nm	920 $\pm$ 30 nm	920 $\pm$ 30 nm	930 $\pm$ 30 nm
Core Attenuation	$\leq$ 3.0 dB/km @ 980 nm	$\leq$ 3.5 dB/km @ 980 nm	$\leq$ 3.5 dB/km @ 980 nm	$\leq$ 3.0 dB/km @ 980 nm

## Geometrical & Mechanical Specifications

	980-XP	980-HP	980-HP-80	980M-HP-80
Cladding Diameter	125.0 $\pm$ 0.5 $\mu\text{m}$	125.0 $\pm$ 1.0 $\mu\text{m}$	80.0 $\pm$ 1.0 $\mu\text{m}$	80.0 $\pm$ 1.0 $\mu\text{m}$
Core Diameter	3.6 $\mu\text{m}$	3.6 $\mu\text{m}$	3.6 $\mu\text{m}$	4.5 $\mu\text{m}$
Coating Diameter	245.0 $\pm$ 10.0 $\mu\text{m}$	245.0 $\pm$ 15.0 $\mu\text{m}$	165.0 $\pm$ 10.0 $\mu\text{m}$	165.0 $\pm$ 10.0 $\mu\text{m}$
Coating Concentricity	< 5.0 $\mu\text{m}$	< 5.0 $\mu\text{m}$	< 5.0 $\mu\text{m}$	< 5.0 $\mu\text{m}$
Core/Clad Offset	$\leq$ 0.30 $\mu\text{m}$	$\leq$ 0.50 $\mu\text{m}$	$\leq$ 0.50 $\mu\text{m}$	$\leq$ 0.50 $\mu\text{m}$
Coating Material	Acrylate	Acrylate	Acrylate	Acrylate
Operating Temperature Range	-55 to 85 $^{\circ}\text{C}$	-55 to 85 $^{\circ}\text{C}$	-55 to 85 $^{\circ}\text{C}$	-55 to 85 $^{\circ}\text{C}$
Short Term Bend Radius	$\geq$ 6 mm	$\geq$ 6 mm	$\geq$ 4 mm	$\geq$ 4 mm
Long Term Bend Radius	$\geq$ 13 mm	$\geq$ 13 mm	$\geq$ 9 mm	$\geq$ 9 mm
Proof test Level	$\geq$ 200 kpsi (1.4 GN/m <sup>2</sup> )	$\geq$ 200 kpsi (1.4 GN/m <sup>2</sup> )	$\geq$ 200 kpsi (1.4 GN/m <sup>2</sup> )	$\geq$ 200 kpsi (1.4 GN/m <sup>2</sup> )



Bend Loss: The Bend Loss at 980 nm (100 turns at LTBR) is <0.001 dB, by design.  
 Bend Radius: The Bend Radius for 0.05 dB/100 turns at 980 nm is much less than LTBR, by design.  
 Bend Radius: The Bend Radius for 0.05 dB/100 turns at 1550 nm is 15 mm, by design.

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 www.coherent.com ; www.shop.coherent.com • Coherent 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 Coherent can assist with your requirements.