1310/1550 nm Reduced Clad and Bend Insensitive Select Cut-Off Single-Mode Fibers

Coherent's 1310/1550 nm high-performance select cut-off single-mode fibers are optimized for use by component manufacturers in the telecommunications wavelengths. These application-specific fibers were developed for small form factor components. Coherent's fibers offer exceptional uniformity and core/clad concentricity, very tight second mode cut-off tolerances, and tight bend radius specifications for applications in miniaturized fiber optic packages. These high-performance specifications result in superior strength, increased component reliability, improved production yields and reduced component manufacturer costs.

Typical Applications

- Small form factor components
- Couplers
- Optical switches

Features & Benefits

- Exceptional uniformity and core/clad concentricity — low, consistent splice loss
- Tight mechanical and optical tolerances — high component manufacturing yields
- Higher proof test levels and 80 µm diameter — critical for long-term reliability in tight bend applications

Optical Specifications	**1310-HP-80**	**1310M-HP**	**1310M-HP-80**
Operating Wavelength	1310 – 1620 nm	1310 – 1620 nm	1310 – 1620 nm
Core NA	0.115	0.160	0.160
Mode Field Diameter	9.3 ± 0.5 µm @ 1310 nm 10.5 ± 0.7 µm @ 1550 nm	6.7 ± 0.5 µm @ 1310 nm 7.6 ± 0.6 µm @ 1550 nm	6.7 ± 0.5 µm @ 1310 nm 7.6 ± 0.6 µm @ 1550 nm
Cutoff	1250 ± 50 nm	1250 ± 50 nm	1250 ± 50 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	≤ 0.75 dB/km @ 1310 nm ≤ 0.50 dB/km @ 1550 nm
Geometrical & Mechanical Specifications			
Cladding Diameter	80.0 ± 1.0 µm	125.0 ± 1.0 µm	80.0 ± 1.0 µm
Core Diameter	8.2 µm	6.0 µm	6.0 µm
Coating Diameter	165.0 ± 10.0 µm	245.0 ± 15.0 µm	165.0 ± 10.0 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	Acrylate	Acrylate	Acrylate
Operating Temperature Range	-55 to 85 °C	-55 to 85 °C	-55 to 85 °C
Short Term Bend Radius	≥ 4 mm	≥ 6 mm	≥ 4 mm
Long Term Bend Radius	≥ 9 mm	≥ 13 mm	≥ 9 mm
Prooftest Level	≥ 200 kpsi (1.4 GN/m²)	≥ 200 kpsi (1.4 GN/m²)	≥ 200 kpsi (1.4 GN/m²)

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NU0040- 11/12/2020