Fiber Optics

FIBERCORE

LASER COMPONENTS

VERSION: MD07/5
RELEASE DATE: 13 DECEMBER 2016

Telecoms PM Fiber

Telecoms PM Fiber (HB-T) is mode-matched to standard 'telecoms' fibers. The result of this is that splice losses of less than 0.1dB can be achieved routinely, with Polarization Extinction Ratios (PERs) of better than -32dB. Similarly, HB-T's geometric precision makes it ideally suited for 45° splices across Polarization Maintaining (PM) axes for Lyot depolarizers. All Fibercore PM fibers are designed and tested to exceed all relevant Telcordia™ standards.

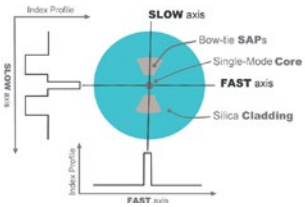
HB1250T, HB1480T and HB1500T are also available with a 400µm dual acrylate buffer for enhanced ruggedness and reduced PER degradation during packaging.

HB980T and HB1480T have been designed specifically for the polarization multiplexing and pigtailing of pump diodes.

HB14XXT, HB1250T(9/125) and HB980T(6.6/125) are short beat-length fibers suitable for Raman pump depolarizers, PM Pigtails and applications requiring the shortest beat-length with a telecoms friendly core.

Fibercore's 'Bow-Tie' design is capable of creating more birefringence than any other stressed design. This is simply because it is based on two opposing wedges, the most simple and efficient means of applying stress to a point.

Typical 'Bow-Tie' HiBi Fiber Geometry



Advantages:

- Highly Birefringent (HB)
- Short Beat-Lengths (SB)
- Strong PER maintaining

Typical applications:

- Telecoms
- Erbium Doped Fiber Amplifier (EDFA)
- Cable Television (CATV)
- Interferometric sensors
- Fiber lasers
- Current sensors
- Biomedical

Related Products:

- PM Erbium Doped Fiber (DHB1500)
- Zing™ Polarizing Fiber (HB-Z)
- Standard PM Fiber (HB)
- PM Coupler Fiber (HB-C)
- PM Gyro Fiber (HB-G)
- Polyimide Coated PM Fiber (HB-P)

Product Variants:

HB980T	PM pump fiber for use in telecoms style 980nm pumps
HB1250T(245)	PM transmission fiber for use around 1310nm
HB1250T(400)	Thick coating PM transmission fiber for use around 1310nm for improved micro-bend resistance
HB1480T(245)	PM transmission fiber for 1480nm
HB1480T(400)	Thick coating PM transmission fiber for use around 1480nm for improved micro-bend resistance
HB1500T(245)	PM transmission and depolarizer fiber for use around 1550nm
HB1500T(400)	Thick coating PM transmission fiber for use around 1550nm for improved micro-bend resistance
HB980T(6.6/125)	Short-beat length PM fiber for 980nm telecoms applications
HB1250T(9/125)	Short-beat length PM fiber for 1310nm telecoms applications
HB14XXT	Short-beat length 14XXnm fiber for Raman depolarizers.

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Specifications

	HB980T	HB1250T (245)	HB1250T (400)	HB1480T (245)	HB1480T (400)	HB1500T (245)	HB1500T (400)
Operating Wavelength (nm)	980 - 1310	1300 - 1480		1480 - 1550		1520 - 1650	
Cut-Off Wavelength (nm)	870 - 970	1100 - 1290		1290 - 1450		1290 - 1520	
Numerical Aperture	0.13 - 0.15	0.11 - 0.13					
Mode Field Diameter (µm)	5.3 - 6.4 @980nm	8.1 - 9.9 @1310nm		9.1 - 10.8 @1480nm		9.6 - 11.7 @1550nm	
Attenuation (dB/km)	≤3 @980	≤2 @1310nm		≤2 @1480nm		≤2 @1550nm	
Beat-Length (mm) @633nm	≤2.0						
Proof Test (%)	1 or 2 (100 or 200 kpsi)						
Cladding Diameter (µm)	125 ± 1						
Core Cladding Concentricity (µm)	≤0.6						
Coating Diameter (µm)	245 ± 7		400 ± 20	245 ± 7	400 ± 20	245 ± 7	400 ± 20
Coating Type	Dual Layer Acrylate						
Operating Temperature (°C)	-55 to +85						

Ultra-short beat-length

	HB980T(6.6/125)	HB1250T(9/125)	HB14XXT
Operating Wavelength (nm)	980 - 1310	1260 - 1650	1300 - 1650
Cut-Off Wavelength (nm)	870 - 970	1100 - 1250	1100 - 1290
Numerical Aperture	0.11 - 0.13		
Mode Field Diameter (µm)	6.1 - 7.1 @980nm	8.1 - 9.9 @1310nm	9.5 - 11.5 @1465nm
Attenuation (dB/km)	≤2 @980	≤2 @1310nm	≤2 @1480nm
Beat-Length (mm) @633nm	≤1.2		
Proof Test (%)	1 or 2 (100 or 200 kpsi)		
Cladding Diameter (µm)	125 ± 1		
Core Cladding Concentricity (µm)	≤0.4		≤0.6
Coating Diameter (µm)	245 ± 7		
Coating Type	Dual Layer Acrylate		
Operating Temperature (°C)	-55 to +85		

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