HB Series : Polarization Maintaining Fibers
Bend-Insensitive Fiber for Sensor and Research Applications

Specifications

Model	HB450[5]	HB600	HB750	HB800	HB1000	HB1250	HB1500
Design Wavelength[1]	488nm 514nm	633nm 688nm	780nm	830nm	1064nm	1300nm	1550nm
Cut-off Wavelength	350nm-470nm	500nm-600nm	610nm-750nm	600nm-800nm	840nm-1020nm	1030nm-1270nm	1230nm-1520nm
Numerical Aperture	0.10-0.13	0.14-0.18					
Mode Field Diameter[2]	3.6㎛	3.2㎛	4.0㎛	4.2㎛	5.4㎛	6.6㎛	7.9㎛
Attenuation[3]	< 100 dB/km	< 15 dB/km	< 8 dB/km	< 5 dB/km	< 3 dB/km	< 2 dB/km	< 2 dB/km
Beat-Length[4]	< 2 mm						
Proof Test	0.5%(50kpsi), 1.0%(100kpsi)						
Outside Diameter (Fiber)	125㎛ ± 1㎛						
Core Cladding Concentricity	< 1.0㎛						
Outside Diameter (Coating)	245㎛ ± 5%						

1. The Design Wavelength is the wavelength (or wavelengths) at which the fiber is typically used. In practice, the fiber will transmit the TEMoo mode at wavelengths of up to approximately 200 nm longer than the cut-off wavelength.
2. The Mode Field Diameter is a nominal, calculated value, estimated at the operating wavelength(s) using typical value of numerical aperture and cut-off wavelength.
3. Attenuation is a worst-case value, quoted for the shortest design wavelength.
4. Beat Length is measured at 633 nm for all HB fiber types. To a first approximation, beat-length scales directly with operating wavelength.
5. At the design wavelengths of 488nm and 514nm, the launched power must be considered carefully as these fibres have germanosilicate cores, and as such are susceptible to color center generation.

HB-P Series : Polarization Maintaining Fibers
Polyimide Coated Fiber for Embedded and High Temperature Applications

- Survives composite embedding temperatures
- Maintains composite material strength when embedded
- Survives sterilization temperatures

Specifications

Model	HB800P	HB1250P
Design Wavelength[1]	830nm	1300nm
Cut-off Wavelength	600nm-800nm	1030nm-1270nm
Numerical Aperture	014-0.18	
Mode Field Diameter[2]	4.2㎛	6.6㎛
Attenuation[3]	< 5 dB/km	< 2 dB/km
Beat-Length[4]	< 2 mm	
Proof Test	1.0%(100kpsi)	
Outside Diameter(Fiber)	125㎛ ± 1㎛	
Core Cladding Concentricity	< 1.0㎛	
Outside Diameter(Coating)	145㎛(nominal)	

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2. The Mode Field Diameter is a nominal, calculated value, estimated at the operating wavelength(s) using typical value of numerical aperture and cut-off wavelength.
3. Attenuation is a worst-case value, quoted for the shortest design wavelength.
4. Beat Length is measured at 633 nm for all HB fiber types. To a first approximation, beat-length scales directly with operating wavelength.

HB-G Series : Polarization Maintaining Fiber For Fiber Optic Gyroscopes

- High polarization extinction in coiled applications
- -55℃ to +85℃ in-coil operation range
- Silicone-free, mode-stripping dual coating
- 80㎛ OD saves space and enhances lifetime

Specifications

Model	HB800G	HB1250G	HB1500G
Design Wavelength[1]	830nm	1300nm	1550nm
Cut-off Wavelength	680nm-780nm	1030nm-1270nm	1230nm-1520nm
Numerical Aperture	014-0.18		
Mode Field Diameter[2]	4.2㎛	6.6㎛	7.9㎛
Attenuation[3]	＜5 dB/km	＜2 dB/km	＜2 dB/km
Beat-Length[4]	＜1.5 mm		
Proof Test	1.0% (100kpsi) or 2.0% (200kpsi) to special order		
Outside Diameter(Fiber)	80 ± 1㎛		
Core Cladding Concentricity	＜1.0㎛ or ＜0.5㎛		
Coating Type	Dual-layer, UV Cured Acrylate		
Outside Diameter(Coating)	Coating packages available from 135㎛ to 175㎛ (nominal)		

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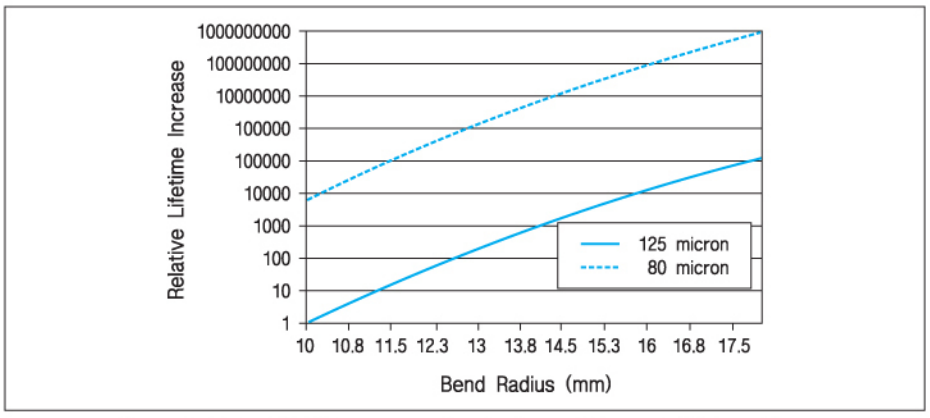
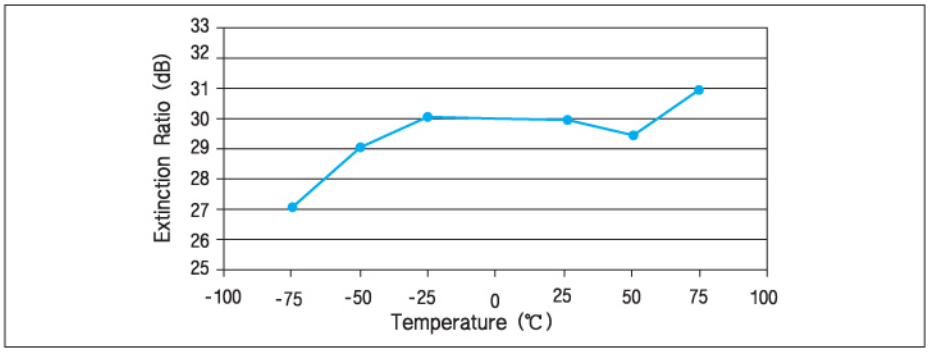
2. The Mode Field Diameter is a nominal, calculated value, estimated at the operating wavelength(s) using typical value of numerical aperture and cut-off wavelength.
3. Attenuation is a worst-case value, quoted for the shortest design wavelength.
4. Beat Length is measured at 633 nm for all HB fiber types. To a first approximation, beat-length scales directly with operating wavelength.



Theoretical, incoil lifetime comparison between 80㎛ and 125㎛ fibers



Extinction ratio temperature response of a 200m, thread-wound HB800G coil

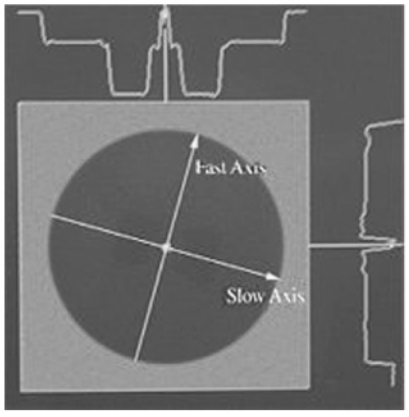
HB-T Series : Polarization Maintaining Fiber For Telecommunications Applications

- Splice-compatible with other PM fibres used in telecommunications
- Excellent availability
- Cost-effective

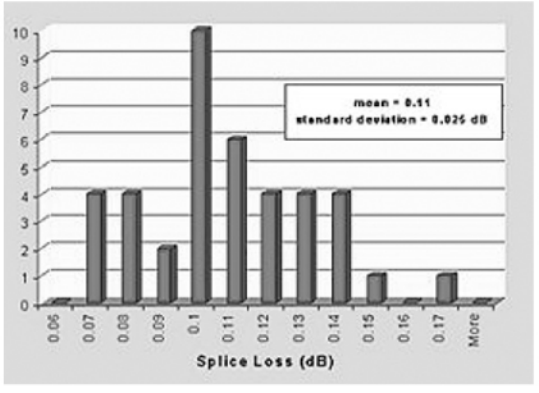
Specifications

Model	HP980T	HP1250T	HP1480T	HP1500T
Design Wavelength[1]	980 nm	1310 nm	1480 nm	1550 nm
Cut-off Wavelength	870nm-970nm	1100nm-1290nm	1290nm-1450nm	1290nm-1540nm
Numerical Aperture	0.13-0.15	0.11-0.13		
Mode-Field Diameter[2]	6.0㎛	9.0㎛	10.1㎛	10.5㎛
Attenuation[3]	< 3 dB/km	< 2 dB/km		
Beat-Length[4]	< 2.0 mm			
Proof Test	1.0% or 2.0%(100kpsi or 200kpsi)			
Outside Diameter (Cladding)	125㎛ ± 1㎛			
Core cladding Concentricity	≤0.75㎛			
Coating Type	Dual-layer Acrylate			
Outside Diameter	245㎛ ± 5%	400㎛ ± 5%		

1. The Design Wavelength is the wavelength (or wavelengths) at which the fiber is typically used. In practice, the fiber will transmit the TEMoo mode at wavelengths of up to approximately 200 nm longer than the cut-off wavelength.
2. The Mode Field Diameter is a nominal, calculated value, estimated at the operating wavelength(s) using typical value of numerical aperture and cut-off wavelength.
3. Attenuation is a worst-case value, quoted for the shortest design wavelength.
4. Beat Length is measured at 633 nm for all HB fiber types. To a first approximation, beat-length scales directly with operating wavelength.



2-D refractive index profile of HB1500T



Typical distribution of insertion loss values for HB1500T to 'PANDA' fusion splices

FCPP Series : Polarization Maintaining Fiber Cable With FC Connector

Polarization-Maintaining (PM) fibers employ a stress technique to stress the core of the fiber to create two propagation paths within the fiber core. Linearly polarized light aligned to either the slow or fast axis of the fiber will remain linearly polarized. This is analogous to an optical retarder.

PM Fiber Patch Cord

Specifications

Catalog Number	Description
FCPP-λ-L-FC/APC	FiberCable, FC/APC connector on end
FCPP-λ-L-FC/APC/APC	Patchcord, FC/APC both ends
FCPP-λ-L-FC/PC/APC	Patchcord, FC/PC one end, FC/APC other end
FCPP-λ-L-FC/PC/PC	Patchcord, FC/PC both ends

When ordering, specify λ wavelength in nm.
L: length, 1 meter or 2 meters or other. For example, for 2-meter length FCPP-1550-2-FC/APC.
Fiber available for: 532, 633, 780, 850, 980, 1064, 1310 and 1550nm.
Example: FCPP-1310-2-FC/APC2, PM Panda patchcord for 1310nm, length 2m with FC/APC connectors.

FC Adapter, super high precision, monolithic stainless steel body.

- One-piece stainless construction
- Ceramic split-sleeve insert
- 70% less keyway slop
- Absolute repeatability
- PM fiber repeatable connecting
- Reduced fiber-end scratching
- For PC and APC

Specifications

Catalog Number	Description
FCA-N2.0-SM	narrow FC to FC adaptor for SM fiber
FCA-W2.1-SM	wide FC to FC adaptor for SM
FCA-N2.0-PM	narrow FC to FC adaptor for PM
FCA-W2.1-PM	wide FC to FC adaptor for PM
FCA-WN-PM	wide to narrow