

Polarization Maintaining Fibre for Fibre Coil

Characteristics

- Short beat length
- Extremely high birefringence
- Excellent polarization maintaining properties
- Tight geometric tolerances and very low attenuation
- Low bending-induced attenuation
- Tight tolerance, dual-layer, and UV-acrylate coating
- High environmental stability and reliability

Applications

- Fibre optic gyroscopes (FOGs)
- Polarization maintaining fused-fibre couplers
- Polarization-sensitive components
- High performance transmission laser pigtailed
- Polarization-based sensors

Specifications

Fibre Type	PM 1310_ 125-16/250	PM 1310_ 80-16/165	PM 1310_ 80-16/135	PM 1550_ 125-18/250	PM 1550_ 80-18/165	PM 1550_ 80-18/135
Part No.	PM1016-A	PM1016-B	PM1016-G	PM1017-A	PM1017-B	PM1017-G
Optical Properties						
Operating Wavelength (nm)	1310	1310	1310	1550	1550	1550
Cut-off Wavelength (nm)	1100 - 1290	1100 - 1290	1100 - 1290	1290 - 1520	1290 - 1520	1290 - 1520
Mode Field Diameter (μm)	6.0 ± 0.5@1310nm	6.0 ± 0.5@1310nm	6.0 ± 0.5@1310nm	6.5 ± 0.5@1550nm	6.5 ± 0.5@1550nm	6.5 ± 0.5@1550nm
Attenuation (dB/km)	≤ 0.6	≤ 0.6	≤ 0.6	≤ 0.5	≤ 0.8	≤ 0.8
Beat Length (mm)	≤ 3.0	≤ 3.0	≤ 2.5	≤ 3.5	≤ 3.5	≤ 3.0
Cross Talk at 1000m (dB)	≤ -30	≤ -30	≤ -25	≤ -30	≤ -30	≤ -25
Geometrical Properties						
Cladding Diameter (μm)	125.0 ± 1.0	80.0 ± 1.0	80.0 ± 1.0	125.0 ± 1.0	80.0 ± 1.0	80.0 ± 1.0
Coating Diameter (μm)	245.0 ± 5.0	165.0 ± 5.0	135.0 ± 5.0	245.0 ± 5.0	165.0 ± 5.0	135.0 ± 5.0
Cladding Non-Circularity (%)	≤ 1.0	≤ 1.0	≤ 1.0	≤ 1.0	≤ 1.0	≤ 1.0
Core/Cladding Concentricity (μm)	≤ 1.0	≤ 1.0	≤ 0.5	≤ 1.0	≤ 1.0	≤ 0.5
Coating Type	Dual-layer, UV-acrylate	Dual-layer, UV-acrylate	Dual-layer, UV-acrylate	Dual-layer, UV-acrylate	Dual-layer, UV-acrylate	Dual-layer, UV-acrylate
Mechanical Properties						
Operating Temperature (°C)	-45 to +85	-45 to +85	-45 to +85	-45 to +85	-45 to +85	-45 to +85
Proof Test (kpsi)	100	100	100	100	100	100

Polarization Maintaining Fibre for Waveguide

Characteristics

- Excellent grinding properties
- Tight geometric tolerances
- High environmental stability and reliability

Applications

- Pigtail to LiNbO3 FOG chip (IOC)
- Polarization-based sensors

Specifications

Fibre Type	PM 1310_ 125-16/250_Y	PM 1310_ 80-16/165_Y	PM 1550_ 125-18/250_Y	PM 1550_ 80-18/165_Y
Part No.	PM1016-E	PM1016-F	PM1017-E	PM1017-F
Optical Properties				
Operating Wavelength (nm)	1310	1310	1550	1550
Cut-off Wavelength (nm)	1100 - 1290	1100 - 1290	1290 - 1520	1290 - 1520
Mode Field Diameter (μm)	6.0 ± 0.5@1310nm	6.0 ± 0.5@1310nm	6.5 ± 0.5@1550nm	6.5 ± 0.5@1550nm
Attenuation (dB/km)	≤ 0.6	≤ 0.6	≤ 0.6	≤ 1.0
Beat Length (mm)	2.5 - 4.0	2.5 - 4.0	2.5 - 4.5	2.5 - 4.5
Typical Cross Talk at 4m (dB)	≤ -30	≤ -30	≤ -30	≤ -30
Cross Talk at 100m (dB)	≤ -30	≤ -30	≤ -30	≤ -30
Geometrical Properties				
Cladding Diameter (μm)	125.0 ± 1.0	80.0 ± 1.0	125.0 ± 1.0	80.0 ± 1.0
Coating Diameter (μm)	245.0 ± 5.0	165.0 ± 5.0	245.0 ± 5.0	165.0 ± 5.0
Cladding Non-Circularity (%)	≤ 1.0	≤ 1.0	≤ 1.0	≤ 1.0
Core/Cladding Concentricity (μm)	≤ 0.5	≤ 0.5	≤ 0.5	≤ 0.5
Coating Type	Dual-layer, UV-acrylate	Dual-layer, UV-acrylate	Dual-layer, UV-acrylate	Dual-layer, UV-acrylate
Mechanical Properties				
Operating Temperature (°C)	-45 to +85	-45 to +85	-45 to +85	-45 to +85
Proof Test (kpsi)	100	100	100	100

Polarization Maintaining Fibre for Tapering

Characteristics

- Tight geometric tolerances
- High environmental stability and reliability

Applications

- Polarization maintaining fused-fibre couplers
- Polarization-based sensors

Specifications

Fibre Type	PM 1310_125-16/250_C
Part No.	PM1016-D
Optical Properties	
Operating Wavelength (nm)	1310
Cut-off Wavelength (nm)	1100 - 1290
Mode Field Diameter (μm)	$6.5 \pm 0.5@1310\text{nm}$
Attenuation (dB/km)	≤ 1.0
Beat Length (mm)	4.0 - 6.0
Typical Cross Talk at 4m (dB)	≤ -30
Cross Talk at 100m (dB)	≤ -25
Geometrical Properties	
Cladding Diameter (μm)	125.0 ± 1.0
Coating Diameter (μm)	245.0 ± 5.0
Cladding Non-Circularity (%)	≤ 1.0
Core/Cladding Concentricity (μm)	≤ 1.0
Coating Type	Dual-layer, UV-acrylate
Mechanical Properties	
Operating Temperature ($^{\circ}\text{C}$)	-45 to +85
Proof Test (kpsi)	100