

The CORNING logo is displayed in white, uppercase letters on a solid blue rectangular background.

PANDA PM Specialty Optical Fibers

High Performance Polarization Maintaining Fibers

PANDA PM Specialty Fibers are designed with the best polarization maintaining properties, and are the industry standard in the world today. The fibers offer low attenuation and excellent birefringence for high performance applications. Available in a wide range of standard operating wavelengths up to 1550 nm, and with a variety of coating designs, PANDA PM Specialty Fibers are optimal for high performance polarization retaining fiber applications. This field-proven fiber supports high growth applications, and performs well over a wide temperature range.

Applications:

- High performance transmission laser pigtails
- Polarization-based modulators
- High data rate communications systems

- Polarization-sensitive components
- Raman amplifiers
- Fiber optic sensors, gyroscopes and instrumentation

Features:

- Extremely high birefringence
- Excellent polarization maintaining properties
- Low attenuation
- Single-mode designs from 400 nm – 1550 nm
- Dual-layer UV acrylate and 900 μm polyester-elastomer coatings available
- Low sensitivity to bending-induced attenuation
- Low splice loss
- PANDA PM Fibers available:
 - High Numerical Aperture
 - Reduced claddings
 - Low birefringence
 - Erbium-doped
 - Dispersion shifted
 - Polyimide and flame retardant coatings are also available

PANDA PM Specialty Fibers

Key Optical Specifications for All Coatings

	PM 1550	PM14XX	PM 1300	PM 980	PM 850	PM 630	PM 480	PM 400
Wavelength (nm)	1550	1400-1490	1300	980	850	630	480	410
Mode-field Diameter (μm)	10.5 \pm 0.5	9.8 \pm 0.5	9.0 \pm 0.5	6.6 \pm 0.5	5.5 \pm 0.5	4.5 \pm 0.5	4.5 \pm 0.5	3.5 \pm 0.5
Beat Length Range (mm)	3.0-5.0	2.8-4.7	2.5-4.0	1.5-2.7	1.0-2.0	\leq 2.0	\leq 2.0	\leq 1.7
Maximum Cross Talk at 100 m (dB)	-30	-30	-30	-30	-30	-30	-30	-30*
Typical Cross Talk at 4 m (dB)	-40							
Cutoff Wavelength (nm)	1300-1440	1260-1380	1130-1270	870-950	650-800	520-620	400-470	330-400
Maximum Attenuation (dB/km)	0.5	1.0	1.0	2.5	3.0	12	30	\leq 50

* PM 400 Cross Talk is \leq -30dB/100 m at 410 nm and 480 nm measurement wavelengths

Key Geometric, Mechanical and Environmental Specifications (-U25D) UV/UV Acrylate

	PM 1550	PM14XX	PM 1300	PM 980	PM 850	PM 630	PM 480	PM 400
Part Number	PM 15-U25D	PM 14-U25D	PM 13-U25D	PM 98-U25D	PM 85-U25D	PM 63-U25D	PM 48-U25D	PM40-U25D
Core-to-Cladding Offset (μm)	\leq 0.5							
Coating Outer Diameter (μm)	245 \pm 15							
Cladding Outer Diameter (μm)	125 \pm 1							
Standard Lengths*	100 m, 200 m, 300 m, 400 m, 500 m, 1 km							
Proof Test (kpsi)	100 (200 optional)							
Operating Temperature ($^{\circ}\text{C}$)	-40 to 85							

* For longer lengths contact Corning

Key Geometric, Mechanical and Environmental Specifications (-U40D) UV/UV Acrylate

	PM 1550	PM14XX	PM 1300	PM 980	PM 850	PM 630	PM 480	PM 400
Part Number	PM 15-U40D	PM 14-U40D	PM 13-U40D	PM 98-U40D	PM 85-U40D	PM 63-U40D	PM 48-U40D	PM 40-U40D
Core-to-Cladding Offset (μm)	\leq 0.5							
Coating Outer Diameter (μm)	400 \pm 15							
Cladding Outer Diameter (μm)	125 \pm 1							
Standard Lengths*	100 m, 200 m, 300 m, 400 m, 500 m, 1 km							
Proof Test (kpsi)	100 (200 optional)							
Operating Temperature ($^{\circ}\text{C}$)	-40 to 85							

* For longer lengths contact Corning

Key Geometric, Mechanical and Environmental Specifications (-H90D) Polyester-Elastomer

	PM 1550	PM14XX	PM 1300	PM 980	PM 850	PM 630	PM 480	PM 400
Part Number	PM 15-U90D	PM 14-U90D	PM 13-U90D	PM 98-U90D	PM 85-U90D	PM 63-U90D	PM 48-U90D	PM40-U90D
Core-to-Cladding Offset (μm)	\leq 0.5							
Coating Outer Diameter (μm)	900 \pm 100							
Cladding Outer Diameter (μm)	125 \pm 1							
Standard Lengths*	100 m, 200 m, 300 m, 400 m, 500 m, 1 km							
Proof Test (kpsi)	100 (200 optional)							
Operating Temperature ($^{\circ}\text{C}$)	-40 to 85							

* For longer lengths contact Corning

RC PANDA PM Specialty Fibers

Key Optical Specifications

	RC PM 1550	RC PM 14XX	RC PM 1300	RC PM 980
Wavelength (nm)	1550	1400-1490	1300	980
Mode-field Diameter (μm)	9.5 ± 0.5	9.0 ± 0.5	8.2 ± 0.5	6.0 ± 0.5
Beat Length Range (mm)	2.5-4.5	2.3-4.2	2.0-3.5	1.4-2.6
Maximum Cross Talk at 100 m (dB)		-25		
Typical Cross Talk at 4 m (dB)		-40		
Cutoff Wavelength (nm)	1290-1450	1200-1380	1100-1290	870-950
Maximum Attenuation (dB/km)	≤ 2.0	≤ 2.0	≤ 2.0	≤ 2.5

Key Geometric, Mechanical and Environmental Specifications UV/UV Acrylate

	RC PM 1550	RC PM 14XX	RC PM 1300	RC PM 980
Part Number	RC PM 15	RC PM 14	RC PM 13	RC PM 98
Core-to-Cladding Offset (μm)		≤ 0.5		
Coating Outer Diameter (μm)		165 ± 10		
Cladding Outer Diameter (μm)		80 ± 1		
Standard Lengths	100 m, 200 m, 300 m, 400 m, 500 m, 1 km			
Proof Test (kpsi)	100 (200 optional)			
Operating Temperature ($^{\circ}\text{C}$)	-40 to 85			

Polyimide PANDA PM Specialty Fibers

Key Optical Specifications

	Polyimide PM 1550	Polyimide PM 1300	Polyimide PM 980
Wavelength (nm)	1550	1310	980
Mode-field Diameter (μm)	9.4 ± 0.5	8.6 ± 0.4	6.6 ± 0.5
Beat Length Range (mm)	≤ 4.0		≤ 2.7
Maximum Cross Talk at 100 m (dB)	-25	-25	-25
Cutoff Wavelength (nm)	1440	1330	910
Maximum Attenuation (dB/km)	≤ 2.0	≤ 0.6	≤ 2.5

Key Geometric, Mechanical and Environmental Specifications Polyimide

	Polyimide PM 1550	Polyimide PM 1300	Polyimide PM 980
Part Number	PM SR15-Y15		
Core-to-Cladding Offset (μm)	≤ 0.5		
Coating Outer Diameter (μm)	145 ± 1		
Cladding Outer Diameter (μm)	125 ± 1		
Standard Lengths	100 m, 200 m, 300 m, 400 m, 500 m		
Proof Test (kpsi)	100		
Operating Temperature ($^{\circ}\text{C}$)	-60 to 300		

Performance Characteristics*

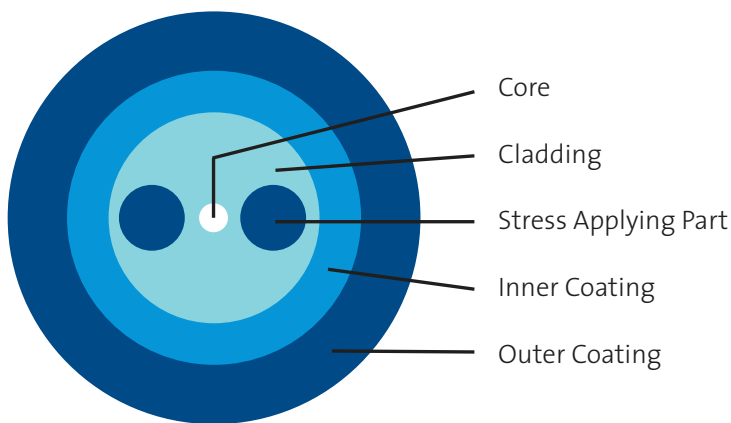
	RC PM 1550	RC PM 14XX	RC PM 1300	RC PM 980
Numerical Aperture	0.09	0.09	0.09	0.10

* Values in this table are nominal or calculated values

Typical Splice Loss

	RC SMF Fiber	SMF-28E+® Fiber	RC HI 1060
Wavelength (nm)	1550	1550	1550
RC PANDA PM 980 (dB)	0.25	0.25	0.07
RC PANDA PM 1550 (dB)	0.09	0.10	N/A

Typical Cross-sectional View of PANDA PM Specialty Optical Fiber



PANDA PM Specialty Optical Fiber design uses two stress applying parts to create an extremely high birefringence, resulting in fiber with excellent polarization maintaining properties. This design was invented and patented by Corning Incorporated. Corning continues to have a manufacturing partnership with Fujikura Ltd.

CORNING

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