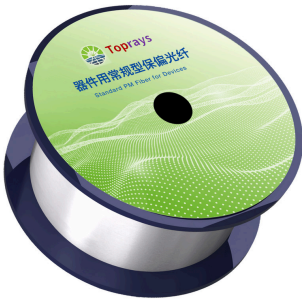


Standard PM Fiber for Devices

Specification Datasheet · TopRays Optical Fiber

The standard PM fiber for devices is a dedicated specialty fiber designed for various polarization-sensitive devices. It uses a mature and reliable Panda structure with symmetric, regular dual circular stress elements, offering high birefringence, excellent grindability, low transmission loss and good geometric consistency, meeting the precision fabrication and stable operation requirements of polarization-sensitive devices. To meet diverse application needs, the series offers flexible specification options. It covers operating wavelengths of 780 nm, 980 nm, 1310 nm and 1550 nm, with a standard size of 125 μm cladding and 250 μm coating. In the core 1310 nm and 1550 nm telecom bands, it also extends to a compact 200 μm coating size and a thin 80 μm cladding / 165 μm coating size, suiting miniaturized devices and high-density array integration. These combinations flexibly adapt to various polarization-sensitive devices and PM arrays, and are widely used in AI computing infrastructure, data center interconnection (DCI), coherent optical communication backbones, quantum communication and other frontier optical communication fields, providing a reliable optical transmission medium for stable operation and technological iteration of high-end optical communication systems.



Features

- Excellent polarization-maintaining performance
- Excellent grindability
- Good consistency and uniformity
- Compliant with RoHS and REACH

Application Environment

- Polarization-sensitive devices
- Polarization modulators
- Laser pigtails
- PM arrays

Specifications I

Optical Performance	PM780-125/250G	PM980B125/250G	PM1310C125/250G	PM1550D125/250G
Operating Wavelength (nm)	780	980	1310	1550
Cut-off Wavelength (nm)	650 ~ 770	800 ~ 970	1100 ~ 1260	1290 ~ 1520
Attenuation (dB/km)	≤4.0	≤2.5	≤0.5	≤0.5

Optical Performance	PM780-125/250G	PM980B125/250G	PM1310C125/250G	PM1550D125/250G
Mode Field Diameter (μm)	5.5±0.5 @850 nm	6.5±0.5	9.0±0.5	10.5±0.5
Beat Length (mm)	1.0 ~ 2.5	1.5 ~ 2.7	2.5 ~ 4.0	3.0 ~ 5.0
100 m Crosstalk (dB)	≤-30	≤-30	≤-30	≤-30
4 m Crosstalk (dB)	≤-40	≤-40	≤-40	≤-40
Geometry & Material Specifications	PM780-125/250G	PM980B125/250G	PM1310C125/250G	PM1550D125/250G
Cladding Diameter (μm)	125.0±1.0	125.0±1.0	125.0±1.0	125.0±1.0
Coating Diameter (μm)	250.0±10.0	250.0±10.0	250.0±10.0	250.0±10.0
Core-Cladding Concentricity (μm)	≤0.5	≤0.5	≤0.5	≤0.5
Cladding Non-circularity (%)	≤1.0	≤1.0	≤1.0	≤1.0
Coating Structure	Dual-layer UV-curable acrylate resin			
Environmental & Mechanical Performance	PM780-125/250G	PM980B125/250G	PM1310C125/250G	PM1550D125/250G
Operating Temperature (°C)	-45 ~ +85	-45 ~ +85	-45 ~ +85	-45 ~ +85
Proof Test (kpsi)	100 (200 optional)	100 (200 optional)	100 (200 optional)	100 (200 optional)

Specifications II

Optical Performance	PM1310-80/165G	PM1550-80/165G	PM1310-125/200G	PM1550-125/200G
Operating Wavelength (nm)	1310	1550	1310	1550
Cut-off Wavelength (nm)	1100 ~ 1260	1290 ~ 1500	1100 ~ 1260	1290 ~ 1500
Attenuation (dB/km)	≤1.5	≤1.5	≤0.5	≤0.5
Mode Field Diameter (μm)	8.2±0.5	9.5±0.5	9.0±0.5	10.5±0.5
Beat Length (mm)	2.0 ~ 3.5	2.5 ~ 4.5	2.5 ~ 4.0	3.0 ~ 5.0
100 m Crosstalk (dB)	≤-25	≤-25	≤-30	≤-30
4 m Crosstalk (dB)	≤-40	≤-40	≤-40	≤-40
Geometry & Material Specifications	PM1310-80/165G	PM1550-80/165G	PM1310-125/200G	PM1550-125/200G
Cladding Diameter (μm)	80.0±1.0	80.0±1.0	125.0±1.0	125.0±1.0

Geometry & Material Specifications	PM1310-80/165G	PM1550-80/165G	PM1310-125/200G	PM1550-125/200G
Coating Diameter (μm)	165.0±10.0	165.0±10.0	200.0±10.0	200.0±10.0
Core-Cladding Concentricity (μm)	≤0.5	≤0.5	≤0.5	≤0.5
Cladding Non-circularity (%)	≤1.0	≤1.0	≤1.0	≤1.0
Coating Structure	Dual-layer UV-curable acrylate resin			
Environmental & Mechanical Performance	PM1310-80/165G	PM1550-80/165G	PM1310-125/200G	PM1550-125/200G
Operating Temperature (°C)	-45 ~ +85	-45 ~ +85	-45 ~ +85	-45 ~ +85
Proof Test (kpsi)	100	100	100 (200 optional)	100 (200 optional)