1550nm Panda Polarization-Maintaining Fiber with Thin 165?m Coating – PMW-1550-80-6.5/165 for Coherent Systems and Compact Sensors

Product Overview

Engineered for the C-band, this fiber features a germanosilicate core surrounded by dual boron-doped stress-applying parts (SAPs) that induce strong linear birefringence, ensuring stable polarization propagation with crosstalk of ⩽ -30 dB over 2 meters. Its ultra-low attenuation (⩽0.6 dB/km) and precise mode field diameter (6.5 ±0.5 μm) make it ideal for low-loss coupling to DFB lasers, modulators, and integrated photonic circuits.

The fiber employs a reduced 165 μm dual-layer acrylate coating—significantly thinner than standard 245 μm fibers—enabling higher packing density in compact modules such as polarization-maintaining couplers, interferometers, and aerospace-grade sensor coils. Despite its slim profile, it maintains ⩾100 kpsi proof tension screening and excellent bending resilience, supporting reliable device packaging and long-term field operation.

Technical Specifications

Brand Name	Winner
Model Number	PMW-1550-80-6.5/165

Fiber Type	Panda-Type Polarization-Maintaining Single-Mode Fiber
Operating Wavelength	1550 nm
Attenuation	⩽0.6 dB/km @1550 nm
Mode Field Diameter	6.5 ± 0.5 μm @1550 nm
Cut-off Wavelength	1400–1520 nm
Cladding Diameter	125 ± 1 μm
Coating Diameter	165 ± 5 μm
Polarization Crosstalk	⩽ -30 dB per 2 meters @1550 nm
Bow (Shoot Length)	⩽ 4.0 mm per meter
Tension Screening Level	⩾100 kpsi
Key Performance	Excellent geometric uniformity for consistent splicing yield Superior tapering and grinding compatibility High polarization extinction ratio (PER) in packaged devices Stable performance under thermal cycling (-40°C to +85°C)

Applications

- Pigtailed DFB and EML lasers for coherent transmission systems
- Polarization-maintaining fiber couplers, isolators, and circulators
- Interferometric sensors for strain, temperature, and acoustic detection
- Quantum key distribution (QKD) and LiDAR systems requiring polarized light
- Compact photonic integrated circuit (PIC) interconnects

Handling Notes

For optimal PER, align the slow axis (marked by SAP orientation) using a rotational fusion splicer. Avoid bend radii below 10 mm to prevent excess loss or birefringence distortion. The thin 165 µm coating reduces module footprint but requires careful stripping with precision tools to avoid core damage.