High-Birefringence Panda Polarization-Maintaining Fiber – PMW-1310 for 1310nm Laser Pigtails and Sensitive Photonic Devices

Product Overview

Winner PMW-1310 is a panda-type polarization-maintaining fiber featuring two symmetric boron-doped stress-applying parts (SAPs) that induce high linear birefringence along the slow axis. This structure effectively suppresses polarization mode coupling, delivering ultra-low polarization crosstalk (≤ -35 dB over 2 meters) and high extinction ratio in practical device assemblies.

With attenuation ≤0.8 dB/km at 1310 nm, precise mode field diameter (6.0 ±0.5 μm), and stringent geometric control, the fiber ensures low-loss splicing to standard SMF-28 or other PM components using rotational alignment fusion splicers. Its robust dual acrylate coating and ≥100 kpsi proof tension screening guarantee mechanical reliability during winding, packaging, and long-term operation in industrial environments.

Technical Specifications

Brand Name	Winner
Model Number	PMW-1310-80-6.0/165

Fiber Type	Panda-Type Polarization-Maintaining Single-Mode Fiber
Operating Wavelength	1310 nm
Attenuation	⩽0.8 dB/km @1310 nm
Mode Field Diameter	6.0 ± 0.5 μm @1310 nm
Cut-off Wavelength	1100–1270 nm
Cladding Diameter	125 ± 1 μm
Coating Diameter	245 ± 10 μm
Polarization Crosstalk	⩽ -35 dB per 2 meters
Bow (Shoot Long)	⩽ 3.0 mm per meter
Tension Screening Level	⩾100 kpsi
Key Features	High geometric uniformity for consistent device yield Excellent tapering and grinding performance Stable polarization axis orientation Low sensitivity to environmental perturbations

Applications

- Pigtailed semiconductor and fiber lasers requiring polarized output
- Polarization-maintaining fiber couplers, isolators, and circulators
- Interferometric sensors (e.g., fiber optic gyroscopes, current sensors)
- Coherent optical communication test setups
- Quantum key distribution (QKD) and photonic quantum computing modules

Handling Notes

For optimal performance, align the slow axis (marked by stress rod orientation) during splicing and connectorization. Avoid excessive bending radii (15 mm) to prevent induced birefringence distortion. Store and handle in clean, dry conditions to preserve coating integrity and polarization stability.