Bend-Resistant Single-Mode Specialty Fiber for 1060nm – Optimized for Yb-Doped Fiber Lasers and Industrial Sensors

Product Overview

Winner SM1060 single-mode fiber is engineered specifically for applications operating around the 1060 nm wavelength—a critical band for ytterbium (Yb)-doped fiber lasers, amplifiers, and interferometric sensors. Unlike standard telecom fibers, this specialty fiber features a tailored refractive index profile that suppresses both macrobending and microbending losses, ensuring stable modal behavior even under tight coiling (e.g., <10 mm radius) or vibration-prone environments.

With attenuation ⩽2.0 dB/km at 1060 nm and ⩾100 kpsi proof tension screening, the fiber maintains signal integrity during handling, packaging, and long-term deployment. Its precise geometry—125 ±1 μm cladding and 245 ±5 μm dual acrylate coating—enables low-loss splicing to compatible active fibers and passive components using standard fusion splicers (in SM mode).

Technical Specifications

Brand Name	Winner
Model Number	SM1060
Fiber Type	Single-Mode Specialty Fiber

Operating Wavelength	1060 nm (optimized)
Attenuation	⩽2.0 dB/km @1060 nm
Cladding Diameter	125 ± 1 μm
Coating Diameter	245 ± 5 μm
Tension Screening Level	⩾100 kpsi
Key Performance	Excellent macrobend resilience Ultra-low microbending sensitivity Low splice loss to matched specialty fibers High geometric precision for active device integration

Applications

- Pump delivery and signal routing in high-power Yb-doped fiber lasers (1.0–1.1 μm)
- Fiber Bragg grating (FBG) and Fabry-Pérot sensors for strain, temperature, or pressure monitoring
- Compact photonic modules in medical devices, aerospace, and industrial automation
- Test & measurement setups requiring stable single-mode operation under mechanical stress

Design Notes

This fiber is not intended for standard telecom data transmission. It is optimized for performance in the 1060 nm band and may exhibit higher loss or multimode behavior outside its design window. For best results, use with cleavers and splicers calibrated for non-1550nm wavelengths, and avoid excessive bending below the minimum specified radius.

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