9 Micron Single-Mode Bare Optical Fiber – ITU-T G.652.D/G.654.E/G.655 Compliant for High-Speed Transmission

Product Overview

Winner single-mode bare optical fiber is engineered to meet or exceed ITU-T standards including G.652.D, G.654.E, and G.655 specifications. With a standard 9/125 µm core/cladding geometry and a 250 µm UV-cured dual acrylate coating, this fiber ensures minimal signal loss and distortion across the full operational spectrum from 1260 nm to 1625 nm.

The fiber's low cladding roundness deviation (⩽1.0%) and core-cladding concentricity deviation (⩽0.6 µm) ensure optimal light transmission and reduced splice loss. The cutoff wavelength of ⩽1260 nm guarantees true single-mode operation, making it suitable for various deployment scenarios. Its operating temperature range of -40°C to +85°C provides durability in extreme environments.

Technical Specifications

Brand Name	Winner
Model Number	G.652.D / G.654.E / G.655 / G.657.A1 / G.657.A2 / B3
Fiber Type	Single-Mode

Core Diameter	9 µm
Cladding Diameter	125 ± 0.7 µm
Coating Diameter	250 µm
Cladding Roundness Deviation	⩽1.0%
Core/Cladding Concentricity Deviation	⩽0.6 µm
Cut-off Wavelength (λ_c)	⩽1260 nm
Attenuation	⩽0.33 dB/km @1310 nm ⩽0.34 dB/km @1383 nm ⩽0.20 dB/km @1550 nm ⩽0.24 dB/km @1625 nm
Warpage	⩾4 m
Operating Temperature Range	-40°C to +85°C

Applications

- Data centers requiring high-bandwidth, low-latency connections for 10G/100G Ethernet applications (G.652.D).
- Long-haul telecommunications networks demanding precise dispersion management for efficient long-distance signal transmission (G.655).

- FTTH deployments where high warpage tolerance and stable connectivity are essential (G.654.E).
- 5G communication systems needing robust performance under extreme environmental conditions.

Standards & Compatibility

Winner single-mode fiber complies with ITU-T G.652.D, G.654.E, G.655, IEC 60793-2-50, and Telcordia GR-20-CORE. It is fully compatible with standard SMF connectors (LC, SC, FC), fusion splicers, and all major transceiver standards including 10GBASE-LR, 100GBASE-LR4, and OTU4. For bend-sensitive applications, G.657.A1/A2 variants offer enhanced macrobend performance down to 7.5 mm radius.