Bend-Insensitive G.657.A2 Single-Mode Fiber – 250?m Coated for FTTH Indoor Drop Cables and Tight-Space Installations

Product Overview

Winner G.657.A2 single-mode bare optical fiber meets the stringent requirements of ITU-T G.657.A2, supporting a minimum bend radius of just 7.5 mm without inducing significant macrobending loss. This makes it ideal for indoor drop cables, wall-mounted outlets, under-floor conduits, and other space-constrained environments where standard G.652.D fiber would suffer signal degradation.

Despite its enhanced bend tolerance, the fiber maintains full compatibility with legacy G.652.D infrastructure—enabling low-loss splicing (0.1 dB typical) and seamless integration into existing PON, XGS-PON, and 10G Ethernet networks. With a 250 µm dual acrylate coating, precise 125 ±0.7 µm cladding geometry, and operating temperature range of -40°C to +85°C, it ensures long-term reliability in both conditioned and unconditioned indoor settings.

Technical Specifications

Brand Name	Winner
Model Number	G.657.A2
Fiber Type	Bend-Insensitive Single-Mode Fiber (BIF)

Compliance	ITU-T G.657.A2, IEC 60793-2-50 B6.a2
Coating Diameter	250 μm
Cladding Diameter	125 ± 0.7 μm
Cladding Roundness Deviation	⩽1.0%
Cut-off Wavelength (λ_c)	⩽1260 nm
Chromatic Dispersion	<18 ps/(nm・km) @1550 nm <22 ps/(nm・km) @1625 nm
Bandwidth Support	>10 Gbps (compatible with XGS-PON, 10GBASE-LR)
Operating Temperature Range	-40°C to +85°C
Key Performance	Macrobending loss ⩽0.25 dB @ 10 turns, 7.5 mm radius, 1550 nm Fully splice-compatible with G.652.D Low geometric deviation for high yield in mass termination

Applications

- Fiber-to-the-Home (FTTH) indoor drop cables and patch cords

- Multi-dwelling unit (MDU) vertical risers and apartment cabling
- Office LANs with tight conduit bends or furniture-integrated routing
- Pre-terminated panels and wall outlets requiring repeated flexing
- Retrofit installations in historic buildings with no dedicated pathways

Deployment Advantage

Winner G.657.A2 fiber eliminates the need for bend-radius management clips or service loops in end-user premises, reducing installation time and material cost. Its robust mechanical design withstands repeated handling during DIY or professional deployment, while maintaining optical performance that meets or exceeds global telecom standards.