



EasyBand® Plus Fibre

EasyBand® Plus Bending Insensitive Singlemode Fibre

Description

YOFC EasyBand® Plus bending insensitive single mode fibre combines two attractive features: excellent low macro-bending sensitivity and low water-peak level. It is comprehensively optimized for use in O-E-S-C-L band (1260 -1625 nm).

The EasyBand® plus's bending insensitive feature not only guarantees L-band applications but also allows for easy installation without excessive care when storing the fibre especially for Fibre-to-the-Home networks application. Bending radii in fibre guidance ports can be reduced as well as minimum bend radii in wall and corner mountings. Moreover, it has the same mode field diameter as standard single mode fibre, which ensures that it has low connection loss with standard single mode fibre (including fusion splicing and mechanical coupling, etc.) and high power-handling for increased access network capability and flexibility.

YOFC EasyBand® Plus bending insensitive single mode fibre meets or exceeds the ITU-T Recommendation G.652.D/G.657.A1/G.657.A2/G.657.B2 including the IEC 60793-2-50 type B1.3/B6 Optical Fiber Specification.

Application

- All types of fibre cables with different structures
- High performance optical network operating in O-E-S-C-L band
- High speed optical routes for Fibre-to-the-Home networks
- Cables with extreme low bending requirements
- Small-sized fibre cable and optical component
- Application in L band (1565-1625 nm)

Process

YOFC optical fibres are manufactured using the advanced Plasma Activated Chemical Vapor Deposition (PCVD) process. Because of the inherent advantages of the process, YOFC fibres show ultra accurate refractive index (RI) profile control, excellent geometrical performance, low attenuation, etc. High performance bending insensitivity requires a special Freon-Downdoped-Cladding design to prevent the optical field to escape. PCVD is the optimal process to realize such cladding design effectively.

The optical fibre is coated with YOFC's proprietary dual layer UV curable acrylate. This fibre coating system provides the fibre with superior environmental protection. Designed for more stringent tight-buffer cable application, the fibre also performs perfectly in loose buffer constructions and demonstrates a high resistance to micro-bending. YOFC's proprietary coating offers very stable coating strip force over a wide range of environmental conditions with no coating residue on the bare glass fibre. In fibre ribbon constructions, this coating system exhibits excellent performance in 60°C watersoak tests, exceeding 100 days. The coated optical fibre has high and stable values for the dynamic stress corrosion susceptibility parameter (n_d), which provides greatly improved fibre durability when used in harsh environments.

Characteristics

- Extremely high bending loss resistance in the 7.5 to 15mm bend radius range
- Full compatibility with all G.652 fibres for any application
- Low attenuation satisfying the operation demand in O-E-S-C-L band
- Low PMD satisfying high bit-rate and long distance transmission requirements
- Low micro-bending loss for highly demanding cable designs including ribbons
- Accurate geometrical parameters that insure low splicing loss and high splicing efficiency
- High n_d -value satisfying long operational lifetime in minimum bend radius

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Characteristics	Conditions	Specified Values	Units
Optical Characteristics			
Attenuation	1310 nm	≤0.35	[dB/km]
	1383 nm (after H ₂ -aging)	≤0.35	[dB/km]
	1460 nm	≤0.25	[dB/km]
	1490 nm	≤0.23	[dB/km]
	1550 nm	≤0.21	[dB/km]
	1625 nm	≤0.23	[dB/km]
Attenuation vs. Wavelength	1285~1330 nm	≤0.03	[dB/km]
Max. α difference	1525~1575 nm	≤0.02	[dB/km]
Zero dispersion wavelength		1300~1324	[nm]
Zero dispersion slope		≤0.092	[ps/(nm ² ·km)]
PMD			
Maximum Individual Fibre		≤0.2	[ps/√km]
Link Design Value (M=20,Q=0.01%)		≤0.1	[ps/√km]
Typical value		0.04	[ps/√km]
Cable cutoff wavelength λ _c		≤1260	[nm]
Mode field diameter (MFD)	1310 nm	8.4~9.2	[μm]
	1550 nm	9.3~10.3	[μm]
Effective group index of refraction (N _{eff})	1310 nm	1.466	
	1550 nm	1.467	
Point discontinuities	1310 nm	≤0.05	[dB]
	1550 nm	≤0.05	[dB]
Geometrical Characteristics			
Cladding diameter		125.0±0.7	[μm]
Cladding non-circularity		≤0.7	[%]
Coating diameter		245±5	[μm]
Coating-cladding concentricity error		≤12.0	[μm]
Coating non-circularity		≤6.0	[%]
Core-cladding concentricity error		≤0.5	[μm]
Curl (radius)		≥4	[m]
Delivery length		2.1 to 50.4	[km/reel]
Environmental Characteristics (1310 nm, 1550 nm & 1625 nm)			
Temperature dependence			
Induced attenuation at	-60°C to +85°C	≤0.05	[dB/km]
Temperature-humidity cycling			
Induced attenuation at	-10°C to +85°C, 98% RH	≤0.05	[dB/km]
Watersoak dependence			
Induced attenuation at	23°C, for 30 days	≤0.05	[dB/km]
Damp heat dependence			
Induced attenuation at	85°C and 85% RH, for 30 days	≤0.05	[dB/km]
Dry heat aging at	85°C, for 30 days	≤0.05	[dB/km]
Mechanical Specification			
Proof test	off line	≥9.0	[N]
		≥1.0	[%]
		≥100	[kpsi]
Macro-bend induced attenuation			
10 turns around a mandrel of 15 mm radius	1550 nm	≤0.03	[dB]
10 turns around a mandrel of 15 mm radius	1625 nm	≤0.1	[dB]
1 turn around a mandrel of 10 mm radius	1550 nm	≤0.1	[dB]
1 turn around a mandrel of 10 mm radius	1625 nm	≤0.2	[dB]
1 turn around a mandrel of 7.5 mm radius	1550 nm	≤0.2	[dB]
1 turn around a mandrel of 7.5 mm radius	1625 nm	≤0.5	[dB]
Coating strip force	average force (typical)	1.7	[N]
	peak force	≥1.3 ≤8.9	[N]
Dynamic stress corrosion susceptibility parameter n ₄ (typical)		27	