Description

YOFC's Dispersion Shifted Single-mode Fibre (DSSM) is comprehensively optimized for attenuation and dispersion performance at the 1550 nm operating wavelength. The fibre has the low attenuation and low dispersion at 1550 nm, which is satisfying the demand of new generation transmission system.

Application

YOFC's DSSM fibre is suitable for the application of Erbium Doped Fibre Amplifier (EDFA) and can be effectively applied in the high bit-rate, long-distance transmission links.

YOFC DSSM fibre is applicable in all cable types including ribbon cable, loose tube stranded cable, slotted core cable, unitube cable and tight-buffer cable. YOFC optical fibres are compatible with fibres manufactured with other processes.

Norms

YOFC DSSM fibre complies with or exceeds the ITU Recommendation G.653 Optical Fibre Specification.

YOFC tightens many parameters of fibre products.

Process and Coating

YOFC fibres are manufactured using the advanced Plasma Activated Chemical Vapor Deposition (PCVD) process. Because of the inherent advantages of the process, YOFC fibres show extremely refined refractive index (RI) profile control, excellent geometrical performance, low attenuation, etc.

The optical fibre is coated with a double layer UV curable acrylate, type DLPC7, which gives the fibre a good 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. The coating offers an excellent stable coating strip force over a wide range of environmental conditions and the coating stripping leaves no residues on the bare glass fibre. Ribbon tests show excellent performance in 60℃ watersoak tests, exceeding 100 days. The DLPC7 coated optical fibres show high and stable values for dynamic stress corrosion susceptibility parameter (n_d), which offers a greatly improved applicability to the fibre when used in harsh environments.

Characteristics

- Low attenuation and low dispersion satisfying the operation demand at 1550 nm
- DLPC7 coating offering good protection and excellent strip force stability
- Accurate geometrical parameters that insure low splicing loss and high splicing efficiency

Characteristics		
Optical characteristics		
Attenuation	@1310 nm @1550 nm	≤0.40 dB/km ≤0.45 dB/km ≤0.21 dB/km ≤0.22 dB/km
Dispersion coefficient	@1525-1575 nm	-3.5 ~ 3.5 ps/(nm • km)
Zero dispersion wavelength		1530 ~ 1570 nm
Zero dispersion slope		≤0.085 ps/(nm^2 • km)
Cut-off wavelength λ_c		1100 nm≤λ_c≤1350 nm
Mode field diameter (MFD)	@1550 nm	8.4±0.6 μm
Effective group index of refraction (N_{eff})	@1310nm/1550 nm	1.472/1.471
Back scatter characteristics (@1310 nm and 1550 nm)		
Step (mean of bidirectional measurement)		≤0.05 dB
Irregularities over fibre length		≤0.10 dB
Difference in back scatter coefficient (bidirectional measurement)		≤0.05 dB/km
Geometrical characteristics		
Cladding diameter		125.0±1.0 μm
Cladding non-circularity		≤1.0%
Coating diameter		245±10 μm
Coating/cladding concentricity error		≤12 μm
Coating non-circularity		≤6.0 %
Core/cladding concentricity error		≤0.8 μm
Curl		≥4 m
Delivery length (km/reel) (Other fibre lengths available on request)		2.1km to 25.2 km
Environmental characteristics (@1310 nm and 1550 nm)		
Temperature dependence Δα (-40℃to +85℃) Δα (-60℃to +85℃)		 ≤0.01 dB/km ≤0.04 dB/km
Damp heat dependence Induced attenuation at 85℃, 85% RH, for 30 days		 <0.05 dB/km
Watersoak dependence Induced attenuation at 20℃, for 30 days		 ≤0.05 dB/km
Mechanical characteristics		
Proof test (off line)		≥9.0 N (≥100 kpsi)
Macro-bend induced attenuation 100 turns around a mandrel of 75 mm diameter	@1310 nm @1550 nm	 ≤0.01 dB ≤0.05 dB
Coating strip force (typical)		1.4 N
Dynamic stress corrosion susceptibility parameter n_d(typical)		≥27