YOFC Graded-Index Multimode Optical Fibre (50/125 μm)

Description

YOFC 50/125 μm multimode fibre is a graded-index multi-mode optical fibre with a 50 μm core diameter and a 125 μm cladding diameter. The optical fibre is comprehensively optimized for performance at the 850 nm and 1300 nm operating wavelengths. The fibre has the highest bandwidth and lowest attenuation, which is satisfying the use at 850 nm and 1300 nm. YOFC 50/125 μm multimode fibre is designed and manufactured according to the most advanced level in the world.

Application

Due to the low attenuation and high bandwidth, YOFC 50/125 μm multimode fibre can be widely applied in local area networks (LAN), video, voice and data services. It's specially suited to Gigabit Ethernet (IEEE 802.3z) using laser or light emitting diode (LED) sources. Because of the advantages of the manufacturing process (PCVD), such as extremely refined refractive index (RI) profile control, stability, etc., YOFC 50/125 μm multimode fibre offers the highest bandwidth available in the market.

YOFC 50/125 μm multimode 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 50/125 μm multimode fibre complies with or exceeds the ITU Recommendation G.651 Optical Fibre Specification.

YOFC tightens many parameters of fibre products so as to offer more conveniences to customers.

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 DLPC9, 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°C watersoak tests, exceeding 100 days. The DLPC9 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

- Designed for use at 850 nm and 1300 nm
- Low attenuation and high bandwidth, which overfills the transmission demand of IEEE 802.3z Gigabit Ethernet
- DLPC9 coating offering good protection and excellent strip force stability

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YOFC

GIMM 50/125 μm Fibre

Characteristics	Conditions	Specified Values			Units
Optical characteristics		A	B	C	
Attenuation	850 nm	≤2.3	≤2.5	≤2.7	[dB/km]
	1300 nm	≤0.55	≤0.70	≤0.80	[dB/km]
Overfilled Modal Bandwidth	850 nm	≥500	≥400	<400	[MHz · km]
	1300 nm	≥1000	≥800	<800	[MHz · km]
Numerical Aperture (NA)				0.200±0.015	
Group index of refraction (Typical)	850 nm			1.482	
	1300 nm			1.477	
Backscatter characteristics	1300 nm				
Step (mean of bidirectional measurement)				≤0.10	[dB]
Irregularities over fibre length and point discontinuity				≤0.10	[dB]
Difference backscatter coefficient (bidirectional measurement)				≤0.08	[dB/km]
Geometrical characteristics					
Core diameter				50±2.5	[μm]
Cladding diameter				125.0±1.0	[μm]
Cladding non-circularity				≤1.0	[%]
Coating diameter				242±7	[μm]
Coating/cladding concentricity error				≤12.0	[μm]
Coating non-circularity				≤6.0	[%]
Core/cladding concentricity error				≤1.5	[μm]
Delivery length			≥1.1	≤17.6	[km/reel]
Environmental characteristics	850 nm, 1300 nm				
Temperature dependence Induced attenuation	−60℃ to +85℃			≤0.10	[dB/km]
Temperature-humidity cycling Induced attenuation	−10℃ to +85℃, 90% R.H.			≤0.20	[dB/km]
Damp heat dependence Induced attenuation	85℃, 85% R.H., 30 days			≤0.20	[dB/km]
Watersoak dependence Induced attenuation	20℃ for 30 days			≤0.20	[dB/km]
Mechanical characteristics					
Proof test	off line			≥9.0	[N]
				≥1.0	[%]
				≥100	[KPSI]
Bending Dependence Induced Attenuation	850 nm, 1300 nm 100 turns, 75 mm diameter			≤0.50	[dB]
Coating strip force	typical average force			1.7	[N]
	peak force		≥1.3	≤8.9	[N]
Dynamic stress corrosion susceptibility parameter (n_d, Typical)				≥27	