

FullBand® Low Water Peak Single-mode Fibre

Yangtze Optical Fibre and Cable Joint Stock Limited Company

YOFC FullBand® low water peak dispersion unshifted Single-mode fibre is designed specially for optical transmission systems operating over the entire wavelength window from 1260 nm to 1625 nm. By suppressing the water peak that occurs near 1383 nm in conventional Single-mode fibre due to hydroxyl (OH⁻) ions absorption, FullBand® fibre is able to open E-band (1360 -1460nm) for operation, and consequently provides 100 nm more usable wavelengths.

Applications

Thanks to its broad usable optical spectrum and outstanding optical performance, FullBand® fibre is the optimum choice that supports various applications such as Ethernet, Internet Protocol (IP), Asynchronous Transfer Mode (ATM), Synchronous Optical Network (SONET) and Wavelength Division Multiplexing (WDM). FullBand® fibre provides more bandwidth for backbone, metropolitan area and access networks.

Norms

YOFC FullBand® fibre complies with or exceeds the ITU-T Recommendation G.652.D and the IEC 60793-2-50 type B1.3 Optical Fibre Specification.

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

Characteristics

- Designed for operation over the full optical spectrum from 1260-1625 nm, which provides 50% more usable wavelengths and hence the transmission capacity is increased
- Outstanding optical performance supporting high-speed transmission technologies such as DWDM and CWDM
- Being compatible with existing 1310 nm equipment
- Good protection and excellent strip force stability
- Accurate geometrical parameters that insure low splicing loss and high splicing efficiency



Characteristics		Conditions	Specified values	Units
Optical Characteristics				
Attenuation		1310nm	≤0.34	[dB/km]
		1383nm(after H ₂ -aging)	≤0.34	[dB/km]
		1550nm	≤0.20	[dB/km]
		1625nm	≤0.24	[dB/km]
Attenuation vs. Wavelength Max. α difference		1285-1330nm, in reference to 1310nm	≤0.03	[dB/km]
		1525-1575nm, in reference to 1550nm	≤0.02	[dB/km]
Dispersion Coefficient		1285-1340nm	-3.5 to 3.5	[ps/(nm·km)]
		1550nm	≤18	[ps/(nm·km)]
		1625nm	≤22	[ps/(nm·km)]
Zero Dispersion Wavelength (λ ₀)		--	1300-1324	[nm]
Zero Dispersion Slope (S ₀)		--	≤0.092	[ps/(nm ² ·km)]
Typical Value		--	0.086	[ps/(nm ² ·km)]
PMD	Maximum Individual Fibre	--	≤0.1	[ps/√km]
	Link Design Value (M=20, Q=0.01%)	--	≤0.06	[ps/√km]
	Typical Value	--	0.04	[ps/√km]
Cable Cutoff Wavelength (λ _{cc})		--	≤1260	[nm]
Mode Field Diameter (MFD)		1310nm	8.7- 9.5	[μm]
		1550nm	9.8- 10.8	[μm]
Effective Group Index of Refraction (N _{eff})		1310nm	1.466	--
		1550nm	1.467	--
Point Discontinuities		1310nm	≤0.05	[dB]
		1550nm	≤0.05	[dB]
Geometrical Characteristics				
Cladding Diameter		--	125.0±0.7	[μm]
Cladding Non-Circularity		--	≤1.0	[%]
Coating Diameter		--	235- 250	[μm]
Coating-Cladding Concentricity Error		--	≤12.0	[μm]
Coating Non-Circularity		--	≤6.0	[%]
Core-Cladding Concentricity Error		--	≤0.6	[μm]
Curl(radius)		--	≥4	[m]
Delivery Length		--	Up to 50.4	[km/reel]
Environmental Characteristics			1310nm, 1550nm & 1625nm	
Temperature Dependence Induced Attenuation		-60°C to +85°C	≤0.05	[dB/km]
Temperature-Humidity Cycling Induced Attenuation		-10°C to +85°C, 98% RH	≤0.05	[dB/km]
Water Immersion Dependence Induced Attenuation		23°C, for 30 days	≤0.05	[dB/km]
Damp Heat Dependence Induced Attenuation		85°C and 85% RH, for 30 days	≤0.05	[dB/km]
Dry Heat Aging		85°C, for 30 days	≤0.05	[dB/km]
Mechanical Specifications				
Proof Test		--	≥9.0	[N]
		--	≥1.0	[%]
		--	≥100	[kpsi]
Macro-bend Induced Loss	100 Turns Around a Mandrel of 30 mm Radius	1625nm	≤0.05	[dB]
	100 Turns Around a Mandrel of 25 mm Radius	1310nm and 1550nm	≤0.05	[dB]
	1 Turn Around a Mandrel of 16 mm Radius	1550nm	≤0.05	[dB]
Coating Strip Force		typical average force	1.5	[N]
		peak force	1.3- 8.9	[N]
Dynamic Fatigue Parameter (n _f)		--	≥20	--