FullBand™ Ultra Fibre
Ultra Low Loss Single Mode Fibre

Overview

Whether you are having a hard choice for better attenuation or better macro–bend performance of fibre? Now, we can give you the best choice: YOFC Ultra low loss single mode fibre.

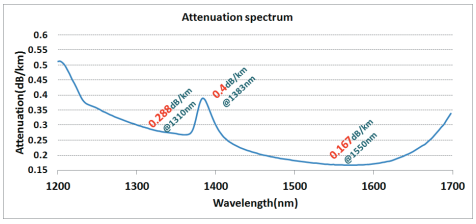
YOFC Ultra low loss single mode fibre is made by YOFC unique pure silica core technology, it offers 15% lower attenuation than typical G.652.D fibres, with a maximum attenuation of 0.17 dB/km at 1550 nm.

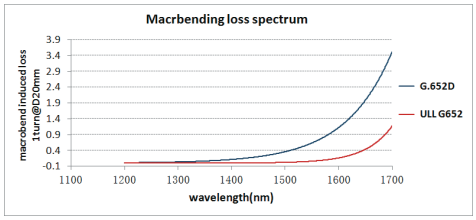
YOFC ultra low loss fibre, typical water peak is about 0.4dB/km, because of the inherent advantages of advanced Plasma Activated Chemical Vapor Deposition (PCVD) process.

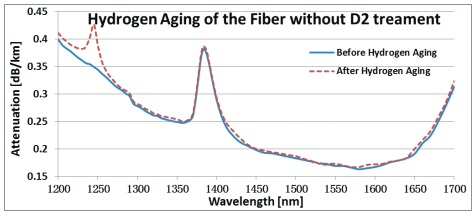
YOFC Ultra low loss single mode fibre, with trench–assisted profile. It offers lower macro and micro bending induced loss, the bend performance exceeds the ITU–T G.657.A1 standard. Up to 10x better macro–bend loss compared to the G.652.D standard, it benefit for smaller, lighter cable design, and reduced rework time from bend in construction.

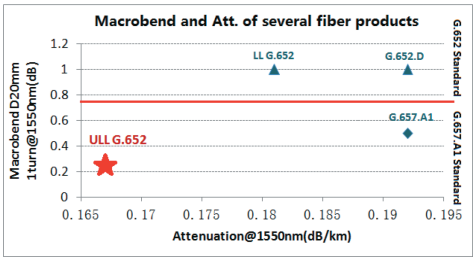
YOFC Ultra low loss single mode fibre, with special material design, it also offers excellent hydrogen aging characteristics, which guarantees stability of fibre application.

So, YOFC ultra low loss single mode fibre is the first G.652 fibre to offer ultra low attenuation performance along with macro–bend performance that exceeds the G.657.A1 standard. And the macro–bend performance is based on 9.1um MFD that same as most standard single mode fibre, benefit for it seamless compliant with existing network. It fully meets the demands for transmitting signal with high speed, high capacity and extended networking distances over one single fibre.









Advantages

Due to the process innovation and technical breakthrough，Ultra Low Loss Single Mode Fibre has the following features and advantages:

Features	Advantages
Ultra low attenuation	Improved OSNR for upgrading to 100Gb/s, 400Gb/s and beyond Further enhanced distance between amplifiers or regenerators Increase system margins, decrease the system cost
Low bending losses	Smaller, lighter cable design Reduced rework time from bends in installation or maintenance
Lower water peak(than other process)	Benefit for Raman amplification
Excellent hydrogen aging	Guarantee the stability of the optical fibre

Ultra Low Loss Single Mode Fibre

Characteristics	Conditions	Specified Values	Units
Optical Characteristics			
Attenuation	1310 nm	≤0.30	[dB/km]
	1550 nm	≤0.17	[dB/km]
	1625 nm	≤0.20	[dB/km]
Attenuation vs. Wavelength	1285–1330nm	≤0.03	[dB/km]
Max. α difference	1525–1575nm	≤0.02	[dB/km]
Dispersion coefficient	1285–1340 nm	≥–3.4, ≤3.4	[ps/(nm · km)]
	1550 nm	≤18	[ps/(nm · km)]
	1625 nm	≤22	[ps/(nm · km)]
Zero dispersion wavelength		1312 ± 12	[nm]
Zero dispersion slope		≤0.092	[ps/(nm^2 · km)]
PMD			
Maximum Individual Fibre		≤0.1	[ps $\sqrt{km}$]
Link Design Value (M=20,Q=0.01%)		≤0.06	[ps $\sqrt{km}$]
Typical value		0.04	[ps $\sqrt{km}$]
Cable cutoff wavelength λ_{cc}		≤1260	[nm]
Mode field diameter (MFD)	1310 nm	8.7–9.5	[μm]
	1550 nm	9.9–10.9	[μm]
Effective group index of refraction (N_{eff})	1310 nm	1.463	
	1550 nm	1.464	
Point discontinuities	1310 nm	≤0.05	[dB]
	1550 nm	≤0.05	[dB]
Geometrical Characteristics			
Cladding diameter		125.0 ± 1.0	[μm]
Cladding non–circularity		≤1.0	[%]
Coating diameter		245 ± 7	[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		2.1 to 25.2	[km/spool]
Environmental Characteristics	(1310 nm, 1550 nm & 1625 nm)		
Temperature dependence Induced attenuation at	–60℃ to +85℃	≤0.05	[dB/km]
Temperature–humidity cycling Induced attenuation at	–10℃ to +85℃, 98% RH	≤0.05	[dB/km]
Watersoak dependence Induced attenuation at	23℃, for 30 days	≤0.05	[dB/km]
Damp heat dependence Induced attenuation at	85℃ and 85% RH, for 30 days	≤0.05	[dB/km]
Dry heat aging at	85℃	≤0.05	[dB/km]
Mechanical Specification			
Proof test	off line	≥0.69	[GPa]
		≥1.0	[%]
		≥100	[kpsi]
Macro–bend induced attenuation			
1 turn around a mandrel of 20 mm diameter	1550 nm	≤0.5	[dB]
1 turn around a mandrel of 20 mm diameter	1625 nm	≤1. 5	[dB]
10 turns around a mandrel of 30 mm diameter	1550 nm	≤0.05	[dB]
10 turns around a mandrel of 30 mm diameter	1625 nm	≤0.3	[dB]
Coating strip force	typical average force	1.5	[N]
	peak force	≥1.3,≤8.9	[N]
Dynamic stress corrosion susceptibility parameter n_d		≥20	

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