

EasyBand® Bending Insensitive Single-mode Fibre

Yangtze Optical Fibre and Cable Joint Stock Limited Company

YOFC EasyBand® bending insensitive single mode fibre encompasses all the features of FullBand® fibre and provides good resistance to macro-bending. It has 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).

It offers good resistance to additional losses due to low macro-bending in the 1625 nm wavelength region. This not only supports L-band applications but also allows for easy installation without excessive care when storing the fibre, for example, in splicing cassettes. For cable use inside buildings, the fibre supports installation with small cable bending radii and compact organizers.

Applications

- Short pitch cables for special applications
- High performance optical network operating in O-E-S-C-L band
- High speed optical routes in buildings (FTTx)
- Cables with low bending requirements

Norms

YOFC EasyBand® bending insensitive single mode fibre meets or exceeds the ITU-T Recommendation G.652.D/G.657.A1 including the IEC60703-2-50 type B1.3/B6.a1 Optical Fibre Specification.

Characteristics

- Low attenuation satisfying the operation demand in O-E-S-C-L band
- Good bending loss resistance at short radius bends
- Low bending loss for highly demanding cable designs including ribbons
- Low PMD satisfying high bit-rate and long distance transmission requirements
- Accurate geometrical parameters that insure low splicing loss and high splicing efficiency

Characteristics		Conditions	Specified values	Units
Optical Characteristics				
Attenuation		1310nm	≤0.35	[dB/km]
		1383nm(after H ₂ -aging)	≤0.35	[dB/km]
		1460nm	≤0.25	[dB/km]
		1550nm	≤0.21	[dB/km]
		1625nm	≤0.23	[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_D)		--	1300-1324	[nm]
Zero Dispersion Slope (S_D)		--	≤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	8.4-9.2	[μm]
		1550nm	9.3-10.3	[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		--	≤0.7	[%]
Coating Diameter		--	235-245	[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		--	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]
Watersoak 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	10 Turns Around a Mandrel of 15 mm Radius	1550nm	≤0.25	[dB]
	10 Turns Around a Mandrel of 15 mm Radius	1625nm	≤1.0	[dB]
	1 Turn Around a Mandrel of 10 mm Radius	1550nm	≤0.75	[dB]
	1 Turn Around a Mandrel of 10 mm Radius	1625nm	≤1.5	[dB]
Coating Strip Force		typical average force	1.5	[N]
		peak force	1.3-8.9	[N]
Dynamic Fatigue Parameter (n_f)		--	≥20	--