

Single mode Bend Insensitive Fiber

Description

bending insensitive single mode fibre combines two attractive features: excellent 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).

bending insensitive feature not only guarantees L-band applications but also allows for easy installation without excessive care when storing the fibre especially for Fibre-to-the-Home networks application. Bending radii in fibre guidance ports can be reduced as well as minimum bend radii in wall and corner mountings. Moreover, it has the same mode field diameter as standard single mode fibre, which ensures that it has low connection loss with standard single mode fibre (including fusion splicing and mechanical coupling, etc.) and high power-handling for increased access network capability and flexibility.

bending insensitive single mode fibre meets or exceeds the ITU-T Recommendation G.652.D/G.657.A1/G.657.A2/G.657.B2 including the IEC 60793-2-50 type B1.3/B6 Optical Fiber Specification.

Application

- All types of fibre cables with different structures
- High performance optical network operating in O-E-S-C-L band
- High speed optical routes for Fibre-to-the-Home networks
- Cables with extreme low bending requirements
- Small-sized fibre cable and optical component
- Application in L band (1565-1625 nm)

Multimode Bend Insensitive Fiber Specs

Characteristics	Conditions	Specified Values	Units
Optical Characteristics			
Attenuation	1310 nm	≤ 0.35	[dB/km]
	1383 nm (after H ₂ -aging)	≤ 0.35	[dB/km]
	1460 nm	≤ 0.25	[dB/km]
	1490 nm	≤ 0.23	[dB/km]
	1550 nm	≤ 0.21	[dB/km]
	1625 nm	≤ 0.23	[dB/km]
Attenuation vs. Wavelength	1285 ~ 1330 nm	≤ 0.03	[dB/km]
Max. α difference	1525 ~ 1575 nm	≤ 0.02	[dB/km]
Zero dispersion wavelength		1300 ~ 1324	[nm]
Zero dispersion slope		≤ 0.092	[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)	1310 nm	8.4 ~ 9.2	[μm]
	1550 nm	9.3 ~ 10.3	[μm]
Effective group index of refraction (N _{eff})	1310 nm	1.466	
	1550 nm	1.467	
Point discontinuities	1310 nm	≤ 0.05	[dB]
	1550 nm	≤ 0.05	[dB]

Geometrical Characteristics			
Cladding diameter		125.0 ± 0.7	[µm]
Cladding non-circularity		≤ 0.7	[%]
Coating diameter		245 ± 5	[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		2.1 to 50.4	[km/reel]
Environmental Characteristics (1310 nm, 1550 nm & 1625 nm)			
Temperature dependence			
Induced attenuation at	-60°C to +85°C	≤ 0.05	[dB/km]
Temperature-humidity cycling			
Induced attenuation at	-10°C to +85°C, 98% RH	≤ 0.05	[dB/km]
Watersoak dependence			
Induced attenuation at	23°C, for 30 days	≤ 0.05	[dB/km]
Damp heat dependence			
Induced attenuation at	85°C and 85% RH, for 30 days	≤ 0.05	[dB/km]
Dry heat aging at	85°C, for 30 days	≤ 0.05	[dB/km]
Mechanical Specification			
Proof test	off line	≥ 9.0 ≥ 1.0 ≥ 100	[N] [%] [kpsi]
Macro-bend induced attenuation			
10 turns around a mandrel of 15 mm radius	1550 nm	≤ 0.03	[dB]
10 turns around a mandrel of 15 mm radius	1625 nm	≤ 0.1	[dB]
1 turn around a mandrel of 10 mm radius	1550 nm	≤ 0.1	[dB]
1 turn around a mandrel of 10 mm radius	1625 nm	≤ 0.2	[dB]
1 turn around a mandrel of 7.5 mm radius	1550 nm	≤ 0.2	[dB]
1 turn around a mandrel of 7.5 mm radius	1625 nm	≤ 0.5	[dB]
Coating strip force	average force (typical)	1.7	[N]
	peak force	≥ 1.3 ≤ 8.9	[N]
Dynamic stress corrosion susceptibility parameter n _s (typical)		27	