Single-mode Fibre G.657.A2

单模光纤G.657.A2

Description 产品描述

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). The bending insensitive feature not only guarantees L-band applications but also allows for easy installation without excessive care when storing the fibre especially for FTTH networks application. Bending radii in fibre guidance ports can be reduced as well as minimum bend radii in wall and corner mountings.

弯曲不敏感单模光纤结合了两个吸引人的特性：出色的低宏弯曲灵敏度和低水峰电平。它针对 O-E-S-C-L 波段 (1260 -1625 nm) 的使用进行了全面优化。弯曲不敏感特性不仅保证了 L 波段应用，而且在存储光纤时无需过度小心即可轻松安装，特别是对于 FTTH 网络应用。可以减小光纤引导端口中的弯曲半径以及墙壁和角落安装中的最小弯曲半径。

Applications 产品应用

- All types of fibre cables with different structures
  各种不同结构的光缆
- High performance optical network operating in O-E-S-C-L band
  在 O-E-S-C-L 波段运行的高性能光网络
- High speed optical routes for Fibre-to-the-Home networks
  光纤到户网络的高速光路由
- Cables with extreme low bending requirements
  具有极低弯曲要求的电缆
- Small-sized fibre cable and optical component
  小型光缆及光器件

Standards 产品标准

Bending insensitive single mode fibre meets or exceeds the ITU-T
弯曲不敏感单模光纤达到或超过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.a1/B6.a2/B6.b2 Optical Fibre Specification.
建议的G.652.D/G.657.A1/G.657.A2/G.657.B2规范，包括 IEC 60793-2-50 类型 B1.3/B6.a1/B6.a2/B6.b2 光纤规范。

Characteristics 光学特性

- Extremely high bending loss resistance in the 7.5 to 15 mm bending radius range
  在 7.5 至 15 mm 弯曲半径范围内具有极高的抗弯曲损耗能力
- Full compatibility with all G.652 fibres for any applications
  与适用于任何应用的所有 G.652 光纤完全兼容
- Low attenuation satisfying the operation demand in O-E-S-C-L band
  低衰减满足O-E-S-C-L频段运行需求
- Low PMD satisfying high bit-rate and long-distance transmission requirements
  低PMD满足高码率和远距离传输要求
- Low bending loss for highly demanding cable designs including ribbons
  低弯曲损耗，适用于包括带状电缆在内的高要求电缆设计
- Accurate geometrical parameters that insure low splicing loss and high splicing efficiency
  精确的几何参数，确保低熔接损耗和高熔接效率
- High nd-value satisfying long operational lifetime in minimum bend radius
  高 nd 值满足最小弯曲半径下的长使用寿命

Specifications 参数

Optical Characteristics 光学特性

Characteristics 特性	Conditions 条件	Specified values 数据	Units 单位
Attenuation 衰减	1310nm	≤0.35	[dB/km]
	1383nm (after H2-aging) 1383nm(氢老化后)	≤0.35	[dB/km]
	1460nm	≤0.25	[dB/km]
	1490nm	≤0.23	[dB/km]
	1550nm	≤0.21	[dB/km]
	1625nm	≤0.23	[dB/km]
Attenuation vs. Wavelength Max. α difference 相对于波长的衰减变化	1285-1330nm, in reference to 1310nm 1285~1330nm, 相对于1310nm	≤0.03	[dB/km]
	1525-1575nm, in reference to 1550nm 1525~1575nm, 相对于1550nm	≤0.02	[dB/km]
Zero Dispersion Wavelength(λ0) 零色散波长(λ0)		1300-1324	[nm]
Zero Dispersion Slope(S0) 零色散斜率(S0)		≤0.092	[ps/(nm2·km)]
PMD 偏振模色散系数	Maximum Individual Fibre 单根光纤最大值	≤0.1	[ps/√km]
	Link Design Value (M=20, Q=0.01%) 光纤链路值	≤0.06	[ps/√km]
	Typical Value 典型值	≤0.04	[ps/√km]
Cable Cutoff Wavelength (λCC) 光缆截止波长 (λcc)		≤1260	[nm]
Mode Field Diameter (MFD) 模场直径 (MFD)	1310nm	8.4-9.2	[μm]
	1550nm	9.3-10.3	[μm]
Effective Group Index of Refraction (Neff) 有效群折射率 (Neff)	1310nm	1.466	--
	1550nm	1.467	--
Point Discontinuities 点不连续性	1310nm	≤0.05	[dB]
	1550nm	≤0.05	[dB]

Geometrical Characteristics 几何特性

Characteristics 特性	Specified values 数据	Units 单位
Cladding Diameter 包层直径	125.0±0.7	[μm]
Cladding Non-Circularity 包层不圆度	≤0.7	[%]
Coating Diameter 涂层直径	235-245	[μm]
Coating-Cladding Concentricity Error 涂层/包层同心度误差	≤12.0	[μm]
Coating Non-Circularity 涂层不圆度	≤6.0	[%]
Core-Cladding Concentricity Error 芯/包层同心度误差	≤0.5	[μm]
Curl(radius) 翘曲度 (半径)	≥4	[m]
Delivery Length 交货长度	Up to 50.4	[km/reel]

Environmental Characteristics 环境特性 (1310nm, 1550nm & 1625nm)

Characteristics 特性	Conditions 条件	Specified values 数据	Units 单位
Temperature Dependence Induced Attenuation 温度附加衰减	-60°C to +85°C	≤0.05	[dB/km]
Temperature-Humidity Cycling Induced Attenuation 温度-湿度循环附加衰减	-10°C to +85°C, 98% RH -10°C 到85°C, 98% 相对湿度	≤0.05	[dB/km]
Water Immersion Dependence Induced Attenuation 浸水附加衰减	23°C, for 30 days 23°C, 30 天	≤0.05	[dB/km]
Damp Heat Dependence Induced Attenuation 湿热附加衰减	85°C and 85% RH, for 30 days 85°C, 85%相对湿度, 30天	≤0.05	[dB/km]
Dry Heat Aging 干热老化	85°C, for 30 days 85°C, 30天	≤0.05	[dB/km]

Mechanical Specifications 机械特性

Characteristics 特性	Conditions 条件		Specified values 数据	Units 单位
Proof Test 筛选张力	--		≥9.0	[N]
	--		≤1.0	[%]
	--		≥100	[kpsi]
Macro-bend Induced Attenuation 宏弯附加损耗	10 Turns Around a Mandrel of 15 mm Radius 10圈, 半径15mm	1550nm	≤0.03	[dB]
	10 Turns Around a Mandrel of 15 mm Radius 10圈, 半径15mm	1625nm	≤0.1	[dB]
	1 Turn Around a Mandrel of 10 mm Radius 1圈, 半径10mm	1550nm	≤0.1	[dB]
	1 Turn Around a Mandrel of 10 mm Radius 1圈, 半径10mm	1625nm	≤0.2	[dB]
	1 Turn Around a Mandrel of 7.5mm Radius 1圈, 半径7.5mm	1550nm	≤0.5	[dB]
	1 Turn Around a Mandrel of 7.5mm Radius 1圈, 半径7.5m	1625nm	≤1.0	[dB]
Coating Strip Force 涂层剥离力	typical average force 典型平均值		1.5	[N]
	peak force 峰值		1.3-8.9	[N]
Dynamic Fatigue Parameter (nd) 动态疲劳参数 (nd)			≥20	--