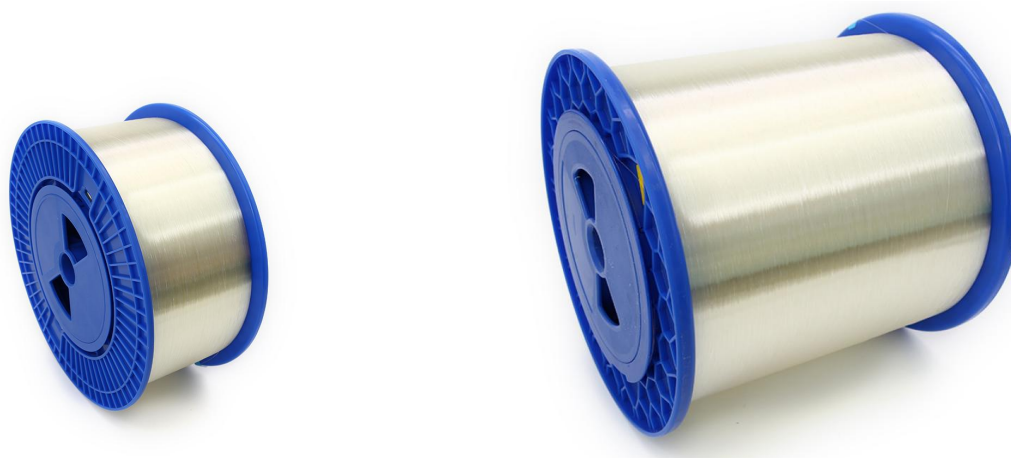




弯曲不敏感单模光纤（G.657.A1）

Bending Insensitive Single-mode Optical Fiber (G.657.A1)

产品描述

弯曲不敏感单模光纤（G.657.A1）具有非色散位移单模光纤的各项特性，且弯曲性能更加优异，适用于 1260nm-1625nm 全波段的传输。在长波段弯曲条件下，弯曲半径可小至 10mm。

Product Description

Bending insensitive single-mode optical fiber (G.657.A1) bears the entire characteristics of dispersion unshifted single-mode optical fiber and superior bending performance especially. It is applicable to transmission over entire wavelength from 1260nm to 1625nm. Under the condition of long wave band, the bending radius could be as little as 10mm.

执行标准

符合或优于 ITU-T G.652.D/G.657.A1
& IEC 60793-2-50 B1.3/B6.a1 型光纤

Product Standard

Complies with or exceeds the ITU-T recommendation G.652.D/G.657.A1 and the IEC 60793-2-50 B1.3/B6.a1 optical fiber specifications.

产品特点

消除 1383nm 水峰吸收，
实现 1260nm~1625nm 全波段
传输；弯曲性能优异，用于对弯曲
半径有特殊要求的场合；与现有
G.652.D 光纤完全兼容；优良的几
何尺寸，确保低熔接损耗和高熔接
效率；优异的 PMD 系数，满足传输
系统的长中继距离和高速率要求。

Product Characteristics

It completely overcomes the attenuation of water peak at 1383nm and could operate over the entire wavelength from 1260nm to 1625nm. Good bending loss, applicable to occasion with special requirement of bending radius. Completely compatible with existing G.652.D. Accurate geometrical parameters ensure low splicing loss and high splicing efficiency. Excellent PMD performance supports high-speed and long repeater spacing transmission system.

光学特性/Optical Characteristics

特性 Characteristics		单位 Units	数值 Value
衰减 Attenuation	1310nm	dB/km	≤0.35
	1383nm	dB/km	≤0.35
	1550nm	dB/km	≤0.21
	1625nm	dB/km	≤0.24
相对波长衰减变化 Attenuation vs. Wavelength	1285-1330nm vs.1310nm	dB/km	≤0.04
	1525-1575nm vs 1550nm		≤0.03
衰减不连续性 (台阶) Attenuation Discontinuity	1310nm	dB	≤0.05
	1550nm		≤0.05
衰减不均匀性 Attenuation Nonuniformity	1310nm	dB/km	≤0.05
	1550nm		≤0.05
衰减双向端差 Attenuation of bidirectional differential	1310nm	dB/km	≤0.05
	1550nm		≤0.05
零色散波长 Zero Dispersion Wavelength		nm	1300-1324
零色散斜率 Zero Dispersion Slope		ps/(nm ² .km)	≤0.092
单根纤偏振模色散最大值 Maximum PMD of Individual Fiber		ps/(km ^{1/2})	≤0.2
光缆截止波长λ _{cc} Cable Cutoff Wavelength λ _{cc}		nm	≤1260
有效群折射率 Effective Group Refraction Index	1310nm		1.467
	1550nm		1.468
模场直径 Mode Field Diameter	1310nm	μm	8.6±0.4

几何特性/Geometrical Characteristics

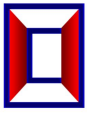
特性 Characteristics	单位 Units	数值 Value
包层直径 Cladding Diameter	um	125±0.7
芯/包同心度偏差 Core-Cladding Concentricity Error	um	≤0.5
包层不圆度 Cladding Non-Circularity	%	≤1.0
外涂层直径 Coating Diameter	um	245±10
涂层不圆度 Coating Non-Circularity	%	≤4
涂层/包层同心度偏差 Coating/cladding concentricity deviation	um	≤12.5
翘曲度 Warpage	m	≥4

光纤的环境特性/Environmental Characteristics (1310nm、1550nm、1625nm)

特性 Characteristics	单位 Units	数值 Value
温度循环附加衰减 Temperature cycling additional decay	—60℃~+85℃ dB/km	≤0.05
湿热老化附加衰减 Additional Attenuation due to damp heat aging	85℃, RH85%, 30 days dB/km	≤0.05
浸水老化附加衰减 Additional Attenuation due to water immersion aging	23℃, 30 days dB/km	≤0.05
干热老化附加衰减 Additional Attenuation due to dry heat aging	85℃, 30 days dB/km	≤0.05

光纤的机械特性/Mechanical Characteristics

特性 Characteristics		单位 Units	数值 Value
光纤筛选应力 Tensile Proof Test		N % Kpsi	≥9.0 ≥1.0 ≥100
涂层机械剥离力 Coating mechanical peel force	峰值 Peak Force 平均值 Typical Value	N	1.0-8.9 1.0-5.0
拉伸强度 Tensile Strength	Weibull Distribution 50% Weibull Distribution 15%	Gpa	≥4.00 ≥3.20
动态疲劳参数 n_d Dynamic Fatigue Parameter			≥20
宏弯附加损耗 Macro bending additional loss			
半径 15mm, 10 圈 15mm radius, 10 turns	1550nm 1625nm	dB	≤0.25 ≤1.0
半径 10mm, 1 圈 10mm radius, 1 turn	1550nm 1625nm	dB	≤0.75 ≤1.50



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