中国华能
CHINA HUANENG

Huaneng Taian Optic-Electric Technology Co.,Ltd Product Introduction

Product name: 180/200μm G.657.A2 Small Outer Diameter Bend-Insensitive Single-Mode Fiber for Access Network

1、Product Description:

Huaneng Taian Optic-Electric 180/200μm small outer diameter bending - insensitive single - mode fiber for access network produced by Huaneng Tai'an Optoelectronics has all the characteristics of G.652.D fiber， and has more excellent bending performance.Compared with conventional fibers, its area is reduced by 46% at least, which is of practical significance for solving the increasingly tight pipeline resources and makes the optical cable more miniaturized and high-strength. Under bending conditions in the long wavelength band, with a bending radius is 7.5 mm, the additional loss at the 1625nm window is only 0.6dB. It is suitable for the entire wavelength range from 1260 nm to 1625 nm.

2、Product Features:

(1) Specifications of the 180/200 μ m small outer diameter bend-insensitive single-mode optical fiber for access networks exceed the technical specifications of ITU-T G.657.A2 and IEC 60973-2-50 B6..

(2) Fully compatible with existing G.652.D optical fibers.

(3) Ultra-small outer diameter, reducing the optical cable area by 46%.

(4) Excellent bending performance, suitable for occasions with special requirements for bending radius.

(5) Excellent PMD coefficient meets the requirements of long relay distance and high rate transmission systems.

3、 Product Application:

(1) Suitable for various structures of optical cable.

(2) Especially suitable for microstructure optical cables, and the best choice for Fiber to the Home (FTTH).

4、Product Standards:

Optical Performance			
Performance	Conditions	Data	Units
Attenuation	1310 nm	≤0.35	[dB/km]
	1383nm	≤0.34	[dB/km]
	1550 nm	≤0.21	[dB/km]
	1625 nm	≤0.24	[dB/km]
Attenuation wavelength characteristics	1285nm～1330nm compared to 1310nm	≤0.04	[dB/km]
	1525nm～1575nm compared to 1550nm	≤0.03	[dB/km]
Dispersion coefficient	1285-1339nm	≥-3.5 ≤3.5	[ps/(nm·km)]
	1271-1360nm	≥-5.3 ≤5.3	[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/(nm2·km)]
Typical value		0.086	[ps/(nm2·km)]
Polarization mode dispersion	Maximum individual fiber	≤0.2	[ps/ √km]
	Link design value (M=20,Q=0.01%)	≤0.15	[ps/ √km]
	Typical value	0.04	[ps/ √km]
Cut-off wavelength	Cable cut-off wavelength	≤1260	[nm]
	Fiber cut-off wavelength	1150-1350	[nm]
Mode-field diameter	1310 nm	8.6±0.4	[μm]
	1550 nm	9.6±0.5	[μm]
Effective group index of refraction	1310 nm	1.4672	
	1550 nm	1.4683	
Point discontinuities	1310 nm	≤0.05	[dB]
	1550 nm	≤0.05	[dB]
Geometrical Performance			
Cladding diameter		125±0.7	[μm]
Cladding non-circularity		≤0.8	[%]
Secondary Coating diameter		180/200±10	[μm]

Secondary Coating eccentricity		≤10.0	[μm]
Coating non-circularity		≤5.0	[%]
Core/Cladding eccentricity		≤0.5	[μm]
Fiber curl radius		≥4	[m]
Delivery length		2.1_50.4	[km/reel]
Environmental Behavior			
Temperature dependence induced attenuation	-60℃ to +85℃	≤0.05	[dB/km]
Water immersion dependence induced	23℃, 30 days	≤0.05	[dB/km]
Damp heat dependence induced attenuation	85℃，85% Relative humidity,30days	≤0.05	[dB/km]
Dry heat aging induced attenuation	85℃，30 days	≤0.05	[dB/km]
Mechanical Behavior and Macro-bending Attenuation			
Proof test		≥9.2	[N]
		≥1.0	[%]
		≥100	[kpsi]
Macro-bending induced loss	10 turns 15 mm radius，1550 nm	≤0.03	[dB]
	10 turns 15 mm radius，1625 nm	≤0.1	[dB]
	1 turn 10 mm radius，1550 nm	≤0.1	[dB]
	1 turn 10 mm radius，1625 nm	≤0.2	[dB]
	1 turn 7.5 mm radius，1550 nm	≤0.5	[dB]
	1 turn 7.5 mm radius，1625 nm	≤1.0	[dB]
Coating strip force	Typical average value	1.0-5.0	[N]
	Peak value	1.3-8.9	[N]
Dynamic fatigue parameter		≥20	