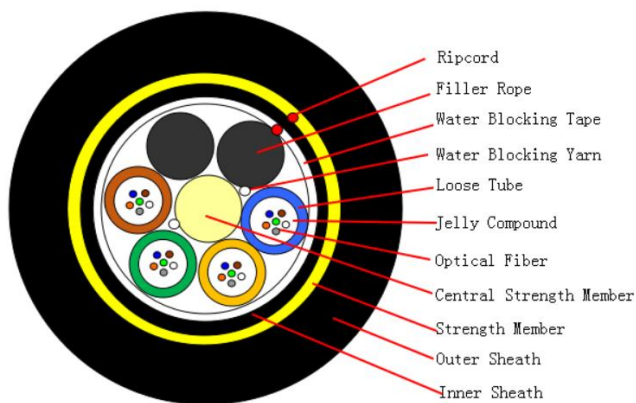




Customized ADSS Fiber Optic Cable Single Mode 24 Fibers Non-metal

Stranded Loose Tube Long Span Double Jacket

Cable Design



Technical data

No. of cable		/	12	24
Design (StrengthMember+Tube&Filler)		/	1+5	
Fiber type		/	G.652D	
Central Strength Member	Material	mm	FRP	
	Diameter ($\pm 0.05\text{mm}$)		1.5	
Loose Tube	Material	mm	PBT	
	Diameter ($\pm 0.05\text{mm}$)		1.8	
	Thickness ($\pm 0.03\text{mm}$)		0.35	
	MAX.NO./per		6	6
Water Blocking Layer	Material	/	Flooding Compound& Water Blocking tape	
Additional Strength Member	Material	/	Aramid Yarn	
Outer Sheath	Material	mm	MDPE	
	Thickness		1.8 (nominal)	
	colour		black.	
Cable Diameter($\pm 0.2\text{mm}$)		mm	11.0	
Cable Wetght($\pm 10.0\text{kg/km}$)		kg/km	105	
Attenuation coefficient	1310nm	dB/km	≤ 0.35	
	1550nm		≤ 0.21	

Cable breaking strength(RTS)		kn	≥ 15
Working Tension (MAT)		kn	≥ 6
span		m	300
Crush Resistance	Short Term	N/100mm	≥ 2200
	Long Term		≥ 1100
Min. bending radius	Without Tension	mm	$10.0 \times \text{Cable- } \phi$
	Under Maximum Tension		$20.0 \times \text{Cable- } \phi$
Temperature range ($^{\circ}\text{C}$)	Installation	$^{\circ}\text{C}$	-20~+60
	Transport&Storage		-40~+70
	Operation		-40~+70

Fibre Colours

NO.	1	2	3	4	5	6
Colour	Blue	orange	green	brown	gray	white
						

Loose Tube Colours

NO.	1	2	3	4
Colour	Blue	orange	green	brown
				

The properties of single mode optical fiber (ITU-T Rec. G.652.D)

Item	Specification
Fiber type	Single mode
Fiber material	Doped silica
Attenuation coefficient	
@ 1310 nm	$\leq 0.36 \text{ dB/km}$
@ 1383 nm	$\leq 0.32 \text{ dB/km}$
@ 1550 nm	$\leq 0.22 \text{ dB/km}$
@ 1625 nm	$\leq 0.30 \text{ dB/km}$
Point discontinuity	$\leq 0.05 \text{ dB}$
Cable cut-off wavelength	$\leq 1260 \text{ nm}$
Zero-dispersion wavelength	1300 ~ 1324 nm
Zero-dispersion slope	$\leq 0.092 \text{ ps}/(\text{nm}^2 \cdot \text{km})$
Chromatic dispersion	
@ 1288 ~ 1339 nm	$\leq 3.5 \text{ ps}/(\text{nm} \cdot \text{km})$
@ 1271 ~ 1360 nm	$\leq 5.3 \text{ ps}/(\text{nm} \cdot \text{km})$
@ 1550 nm	$\leq 18 \text{ ps}/(\text{nm} \cdot \text{km})$
@ 1625 nm	$\leq 22 \text{ ps}/(\text{nm} \cdot \text{km})$
PMD _Q (Quadrature average*)	$\leq 0.2 \text{ ps}/\text{km}^{1/2}$
Mode field diameter @ 1310 nm	$9.2 \pm 0.4 \text{ } \mu\text{m}$

Core / Clad concentricity error	$\leq 0.5 \mu\text{m}$
Cladding diameter	$125.0 \pm 0.7 \mu\text{m}$
Cladding non-circularity	$\leq 1.0\%$
Primary coating diameter	$245 \pm 10 \mu\text{m}$
Proof test level	100 kpsi (=0.69 Gpa), 1%
Temperature dependence 0oC~ +70oC @ 1310 & 1550nm	$\leq 0.1 \text{ dB/km}$

The properties of single mode optical fiber (ITU-T Rec. G.657A1)

Characteristic	condition	data	unit
Optical properties			
Attenuation	1310nm	≤ 0.35	dB/km
	1383nm(氢老化后)	≤ 0.35	dB/km
	1490nm	≤ 0.23	dB/km
	1550nm	≤ 0.22	dB/km
	1625nm	≤ 0.23	dB/km
Relative wavelength attenuation @1310nm @1550nm	1285~1330nm	≤ 0.05	dB/km
	1525~1575nm	≤ 0.05	dB/km
Dispersion in the wavelength range of	1285~1340nm	≤ 3.5	ps/(nm.km)
	1550nm	≤ 18	ps/(nm.km)
Zero dispersion wavelength		1300~1324	nm
A zero-dispersion slope		≤ 0.092	ps/(nm ² .km)
Polarization Mode Dispersion Coefficient PMD		≤ 0.2	ps/
Single fiber maximum		≤ 0.1	ps/
Fiber link value (M=20, Q=0.01%)		0.04	
Typical value			ps/
Cable cut-off wavelength (λ_{cc})		≤ 1260	nm
Mode field diameter (MFD)	1310nm	8.8 ± 0.4	μm
	1550nm	9.8 ± 0.5	μm
Attenuation discontinuities	1310nm	≤ 0.05	dB
	1550nm	≤ 0.05	dB
Geometric characteristics			
Core diameter		125 ± 0.7	μm
Cladding roundness		≤ 0.7	%
Coating diameter		245 ± 5	μm
Coating / package concentricity error		≤ 12.0	μm
Core / package concentricity error		≤ 0.5	μm
The warpage (radius)		≥ 4	m
Environmental characteristics (1310nm、1550nm、1625nm)			
Temperature additional attenuation	-60°C ~+85°C	≤ 0.05	dB/km



Temperature-humidity cycle additional attenuation	-10℃ ~+85℃ , 98% Relative humidity	≤0.05	dB/km
Flooding additional attenuation	23℃ , 30 days	≤0.05	dB/km
Hot and humid additional attenuation	85℃ 和 85% Relative humidity, 30 days	≤0.05	dB/km
Dry heat aging	85℃	≤0.05	dB/km
Mechanical properties			
Screening tension		≥9.0	N
The macro bend Additional attenuation 10 CircleΦ30mm 10 CircleΦ30mm 1 CircleΦ20mm 1 CircleΦ20mm	1550nm	≤0.025	dB
	1625nm	≤1.0	dB
	1550nm	≤0.75	dB
	1625nm	≤1.5	dB
Coating peeling force	Typical average	1.5	N
Dynamic fatigue parameters		≥20	

The properties of single mode optical fiber (ITU-T Rec. G.657A2)

Characteristic	condition	data	unit
Optical properties			
Attenuation	1310nm	≤0.35	dB/km
	1383nm(氢老化后)	≤0.35	dB/km
	1490nm	≤0.23	dB/km
	1550nm	≤0.22	dB/km
	1625nm	≤0.23	dB/km
Relative wavelength attenuation @1310nm @1550nm	1285~1330nm	≤0.05	dB/km
	1525~1575nm	≤0.05	dB/km
Dispersion in the wavelength range of	1285~1340nm	≤3.5	ps/(nm.km)
	1550nm	≤18	ps/(nm.km)
Zero dispersion wavelength		1300~1324	nm
A zero-dispersion slope		≤0.092	ps/(nm ² .km)
Polarization Mode Dispersion Coefficient PMD Single fiber maximum Fiber link value (M=20, Q=0.01%) Typical value		≤0.2	ps/
		≤0.1	ps/
		0.04	ps/
Cable cut-off wavelength (λ _{cc})		≤1260	nm
Mode field diameter (MFD)	1310nm	8.8±0.4	μm
	1550nm	9.8±0.5	μm
Attenuation discontinuities	1310nm	≤0.05	dB
	1550nm	≤0.05	dB
Geometric characteristics			
Core diameter		125±0.7	μm
Cladding roundness		≤0.7	%
Coating diameter		245±5	μm
Coating / package concentricity error		≤12.0	μm
Core / package concentricity error		≤0.5	μm
The warpage (radius)		≥4	m

Environmental characteristics (1310nm、1550nm、1625nm)			
Temperature additional attenuation	-60℃ ~+85℃	≤0.05	dB/km
Temperature-humidity cycle additional attenuation	-10℃ ~+85℃, 98% Relative humidity	≤0.05	dB/km
Flooding additional attenuation	23℃, 30 days	≤0.05	dB/km
Hot and humid additional attenuation	85℃ 和 85% Relative humidity, 30 days	≤0.05	dB/km
Dry heat aging	85℃	≤0.05	dB/km
Mechanical properties			
Screening tension		≥9.0	N
The macro bend Additional attenuation 10 CircleΦ30mm 10 CircleΦ30mm 1 CircleΦ20mm 1 CircleΦ20mm 1 CircleΦ15mm 1 CircleΦ15mm	1550nm	≤0.03	dB
	1625nm	≤0.1	dB
	1550nm	≤0.1	dB
	1625nm	≤0.2	dB
	1550nm	≤0.5	dB
	1625nm	≤1.0	dB
	1625nm	≤1.0	dB
Coating peeling force	Typical average	1.5	N
Dynamic fatigue parameters		≥20	

Sheath marking

The optical fiber drop cable shall have sequentially numbered length marking at intervals of approximately 1 meter. The starting number of ordering length for any coil shall begin with zero meter. The accuracy of the measurement of length marking shall be held within the limits of ±1%.

- Type of wire
- Year and month of manufacture
- Length marking each meter along the wire