Main Manufacturing Equipments

Enterprise idea
We always adhere to people–oriented business philosophy

Purpose of the enterprise
To the quality of a corporate brand purpose

The spirit of enterprise
The speed of light global information sharing

Guangzhou Tongmai Communication Technology CO.,Ltd

Add:1-4F,Block A,Hengfu Industrial Park, No.2,Three Road of Cowboy City, Xintang Town,Zengcheng District 511300,Guangzhou China.
Mobile/Skype/Whatsapp/Wechat:+86 13539892685
Website: www.tmcable.cn https://gztongmai.en.alibaba.com
E-mail:fiber@tmcable.cn

Company profile

Guangzhou Tongmai Communication Technology CO.,Ltd is a high–tech company group engagedin researching, manufacturing, selling communication products with our import andexport rights.

Our corporation is a professional manufacturer of fiber optic cable，FTTH drop cable and patch cord over 6years, with ISO, UL, CPR, ROSH, REACH and CE certificates. We OEM or design any structure of fiber optic cable for you.

The main products of our company are: optical fiber cables and optical fiber passive components. All of the products are widely used in telecom, electric powder, railway and other communication products related department, exported to many countries and districts such as America, Europe, Mideast and Southeast Asia.
We have obtained certificates of ISO9001-2000, Network Access for Broadcast Equipment of P. R. China, High-tech company, Eligible company of Overall Quality Management.

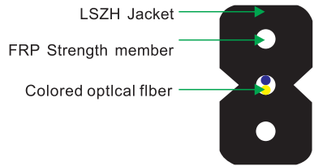
At present, our annual production capacity is 6 million core .km and 1.5 million pieces patch cords.

目录//Contents

1-12Cores FTTH Optical Fiber Cable

Products Description

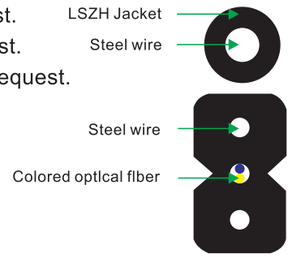
The structure is 1-12 colored fibers combined with two FRP(or steel wires),which can protect the fiber inside by providing sufficient tensile strength and good resistance to lateral crushing.



(Data in table 1)

Properties

- Simple and convenient structure, convenient for indoor cabling.
- Good design for lateral crushing resistance.
- Fiber count is 1-12 cores,can be other fiber count upon request.
- White color for indoor use, can also be other color upon request.
- LSZH material for out jacket,can also be other material upon request.



(Data in table 2)

Application

- As FTTH cable,for indoor horizontal and vertical cabling.
- Indoor cabling under carpet and along corner.

Temperature range

-20℃~+70℃

(Table 1)

Fiber Count	Quter Diameter(mm)±0. 2mm	Nominal weight (kg/km)	Min.Bending Radius(mm)	
			Dynamic	Static
1	3.1*1.9	9	20H	10H
2	3.1*1.9	9	20H	10H

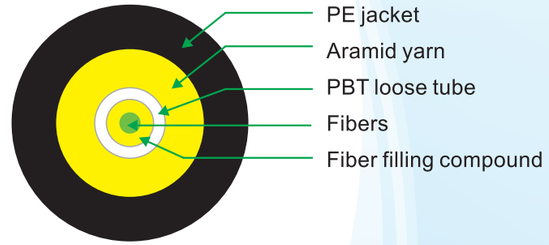
(Table 2)

Fiber Count	Quter Diameter(mm)±0. 2mm	Nominal weight (kg/km)	Min.Bending Radius(mm)	
			Dynamic	Static
2	5. 0*2. 0	20	20H	10H

Multi-core Optical Cable For Outdoor/Indoor Use

Description

- Fibers centrally bundled in the PBT loose tube
- The loose tube evenly bound by high strength aramid yarn



Characteristics

- Small cable diameter,ligh weight
- Fibers protecthed by filling compound
- Options available for flame-retardant or Low Smoke Zero Halogen (LSZH)jacket

Applications

Optical transmission cables for transmission equipment,data processing equipment. also suitable for general cabling.

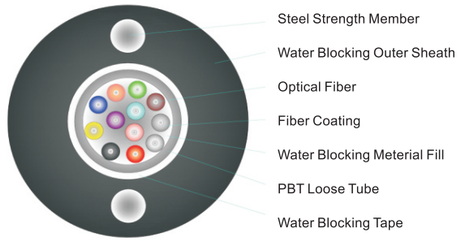
Laying method

Conduit,aerial,direct buried,shelf

Technology Parameters:

Fiber Count		2-12
Outer Diameter(mm)		6.5-9.5
Max.tensile strength(N)	Short-term	1500
	Long-term	800
Max.Crush Resistance ($N/100mm^2$)	Short-term	2000
	Long-term	1000
Max.Bending Radius	Dynamic	15D
	Static	10D

Unitube Non-armored Cable



GYXTY

Cable Description

The fibers, 250um, are positioned in a loose tube made of a high modulus plastic. The tubes are filled with a water-resistant filling compound. Over the tube, water-blocking material is applied to keep the cable watertight. Two parallel steel wires are placed at the two sides. The cable is completed with a polyethylene (PE) sheath.

Cable Application

Aerial

Cable Charateristics

- Good mechanical and temperature performance
- High strength loose tube that is hydrolysis resistant
- Special tube filling compound ensure a critical protection of fiber
- Two parallel steel wires ensure tensile strength
- PE sheath protects cable form ultraviolet radiation
- Small diameter,light weigth and friendly installation
- Long delivery length

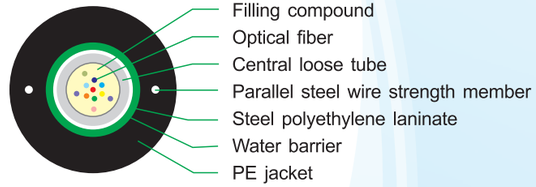
Technical Specification

Cable Type	Fiber Count	Cable Diameter(mm)	Cable Weight(kg/km)	Tensile Strength Long/Short term(N)	Crush Resistance Lomg/Short term (N/100mm)	Bending RadiusStatic/ Dynamic(mm)
GYXTY-2~12	2~12	8.0	62	600/1500	300/1000	10D/20D

Armoured Loose Tube Cable (Central Bundled,Outdoor)GYXTW

Characteristics

- The two parallel round steel wires enhance tensile strength,tension-resistance and crush resistance
- Good mechanical performance,jacket with good ultra violet resistant property
- Small outer diameter,lightweight,tight structure, excellent bending property and suitable to installation and operation



Applications

Long distance and Local Area Network(LAN)communication

Laying methods: Conduit,Aerial

Temperature range: -40℃~+70℃

Fiber Count		2、4、6、8	10、12
Outer Diameter(mm)		8. 3	9. 0
Nominal weight(kg/km)		66	82
Max.tensile strength(N)	Short-term	1500	
	Long-term	600	
Min.Bending Radius	Dynamic	20D	
	Static	10D	
Max.Crush Resistance（N/100mm^2）		3000	

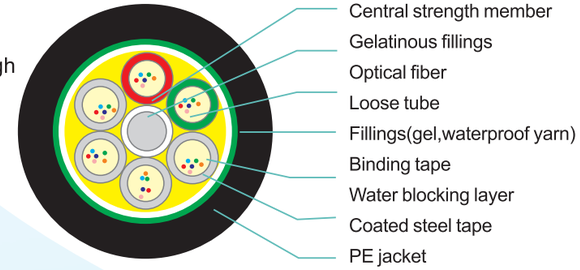
Loose Tube Stranded Cable With Steel Tape(GYTS)

Description:

- Loose tubes(or some fillers)stranded around the metal central strength member
- Bound by corrugated longitudinal steel tape with outer PE jacket
- The tube is made of good temperature property material.A number of single or multi-mode fibers double-coated are contained in the loose tube.

Characteristics:

- Accurate fiber excess length ensures good performance under mechanical stress and good temperature performance.
- Material of loose tube with good temperature property and high Young's modulus,the tubes filled with moisture resistant gel for fibers to ensure the long term stability in transmission for two long wavelength windows.
- The central strength member makes use of high Young's modulus phosphatized steel wire
- The loose tubes and all in terstices of cable core filled with moisture-proof and water blocking compound ensure no longitudinal water ingress.
- Longitudinal corrugated steel tape laminated at both sides bonding to PE sheath ensures not only radial moisture-proof but also reinforces the crush resistance of cable.
- High density polyethylene PE jacket possesses good ultra violet radiation re sistant property.



Applications Long distance and Local Area Network(LAN)communication

Laying methods: Conduit,Aerial

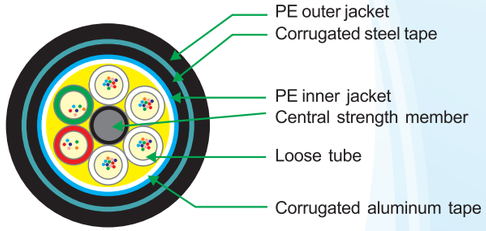
Temperature range: -40℃~+70℃

Fiber count: 2~288

Outer Diameter: 10.5~18.8 ± 0.5mm

Weight: 112~343kgs

Loose tube aluminum with Steel tape Armour GYTA53



Cable construction

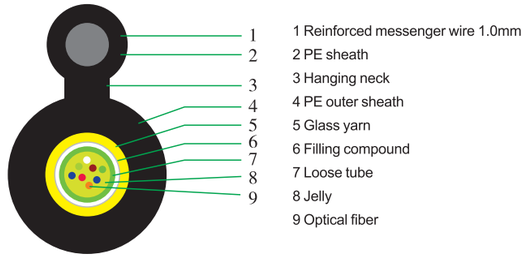
Loose tubes (or some with fillers)stranded around the central strength member to form the cable core,the cable core longitudinally bound by aluminum ployethylene laminate,further bonded to the PE inner jacket, moisture barrier and then corrugated steel tape laminated with polyethylene onboth sides, the PE outer jacket consisted of medium density polyethylene extruded under vacuum condition.

Characteristics

- High tensile strength,good performance on mechanical stress,crush resistance,temperature and transmission.
- High Young's modulus phosphatized steel wire as central strength member,PE buffer extruded to outside of steel wire when necessary
- The loose thbes,cable core and all interstices filled with moisture-proof gel and compound,prevent water ingress longitudinally
- The aluminiunm tape laminated on both sides with polyethylene and closely bonded to PE inner sheath possesses the function of radial moisture-proof for the cable.
- Armoured with longitudinal corrugated steel tape laminated with polyethylene
- Longitudinal water blocking tape at the inner side of the steel tape tightly bonded to the MDPE sheath ensures radial moisture-proof and reinforces mechanical crush resistance as well as prevents water ingress longitudinally.

Item		Properties and Requirements
Fiber Count		2~144
Min.Bending Radius	Dynamic	25Xdiameter of cable
	Static	12. 5Xdiameter of cable
Temperature Range		-40℃~+60℃
Nominal Weight(kg/km)		Depends on Different Specifications
Laying method		Direct Buried

▶ Central Tube Figure 8 Self-support Fiber Optic Cable with 1.0mm Steel Wire



1 Reinforced messenger wire 1.0mm
2 PE sheath
3 Hanging neck
4 PE outer sheath
5 Glass yarn
6 Filling compound
7 Loose tube
8 Jelly
9 Optical fiber

Model :GYXTC8S

Introduce : Loose tube cable is a design that has high tensile strength and flexibility in a compact cable size. Our loose tube cable provides excellent optical transmission and physical performance.
Excellent water proof layer.
Steel tape armored, excellent anti-crush properties.
Good anti-bullet properties.
Messenger wire as the support member made excellent anti-pull performance and easy installation.

Dimension and Properties			
General properties		Unit	ominal value
Fiber count (G.652D)		PC	Up to 12
Max. No of loose tube		PC	1
Fiber No. per tube		PC	12
Loose tube		Material	PBT
Cable Diameter		mm	3.2*7.2
Messenger Wire		Material	Steel wire
Outer PE Sheath	Diameter	mm	1.4
	Material		MDPE
Max. allowable pulling force		N	1000/3000
Armoured		Material	Corrugated steel tape
Crush resistance		N/100mm	1000/1500

▶ GYTC8S Optical Cable

Laying method

Self-support aerial installation

Structural features

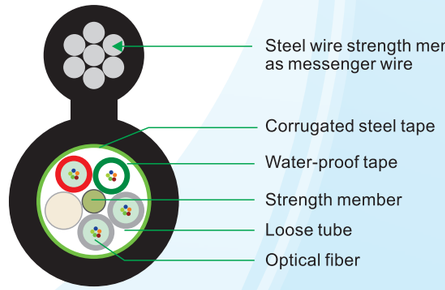
- Central loose tubes with jelly compound inside to protect the cladding fiber
- Corrugated steel tape laminated with plastic at both sides bonding to PE sheath
- The cross-section in fig8 shape
- Incorporates stranded steel messenger wire

Properties

Messenger wire as self-supporting part,high tensile strength,easy for erection

Applications

Outdoor communication,Lon g distance and local aree network(LAN)communication



Cross-section drawing

Environmental and mechanical characteristics:

Temperature range		℃	-20℃~+70℃
Nominal Weight		'g/m	195
Out Diameter		10.5 ± 0.3mm × 17.8mm ± 0.3mm	
Min.Bending Radius(mm)	Dynamic	mm	20H
	Static	mm	10H
Max.Tension (N)	Short-term	N	4800
	Long-term	N	2500
Max.Crushing Resistance(N/100mm^2)		N/100mm^2	1000

▶ GYTXC8Y Optical Fiber Cable

Laying method

Self-support aerial installation

Structural features

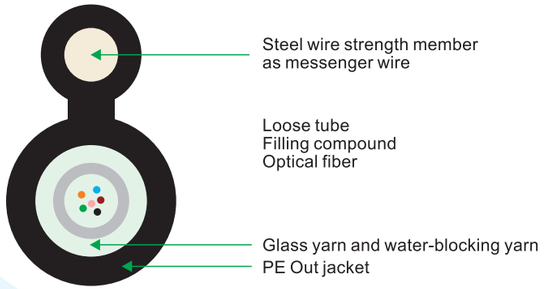
- Central loose tube with jelly compound inside to protect the cladding fiber
- Corrugated steel tape laminated with plastic at both sides bonding to PE sheath
- The cross-section in fig8 shape
- Incorporates stranded steel messenger wire

Properties

Messenger wire as self-supporting part,high tensile strength,easy for erection

Applications

Outdoor communication,Long distance and local area network(LAN)communication



Cross-section drawing

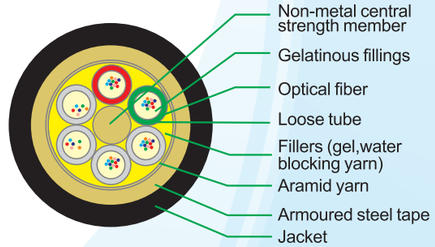
Environmental and mechanical characteristics:

Temperature range		℃	–20℃~+70℃
Nominal Weight		'g/m	78.0
Out Diameter		7.2 ± 0.3mm × 17.8mm ± 0.3mm	
Min.Bending Radius(mm)	Dynamic	mm	20H
	Static	mm	10H
Max.Tension (N)	Short-term	N	1200
	Long-term	N	400
Max.Crushing Resistance(N/100mm^2)		N/100mm^2	1000

▶ Loose Tube Stranded Cable With Non-metal Central Strength Meeber And Steel Tape (GYFTS)

Characteristics:

- Accurate fiber excess length ensures good mechanical and temperature performance.
- The central strength member is made of high Young's modulus glass fiber reinforced plastic rod (FRP)
- The non-metal central strength member avoids breakdown between central strength member and steel tape caused by lightning induction.
- The loose tubes are filled with special filling compound for crucial protection of the optical fibers.
- Complete water blocking construction ensures good water blocking and moisture-proof perfomance.
- Stictly control of production process and raw materials.
- The longitudinal binding steel tape functions as protection as well as reinforcting the crush resistance and mechanical performance.
- The jacket possesses good ultra violet radiation resistant property.



Description:

- Loose tube cable with non-metal central strength member,and polyethylene coated steel armour
- Loose tubes (or some fillers) stranded around the non-metal central strength member.
- All the interstices of cable core are filled with water blocking compound.

Outer diameter: 12.6-18.0 mm

Weight: 130kg-300kg

Applications:

Outdoor communication,long distance and local area network communication

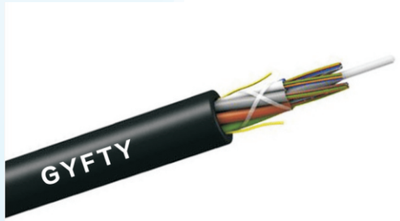
Cable specifications:

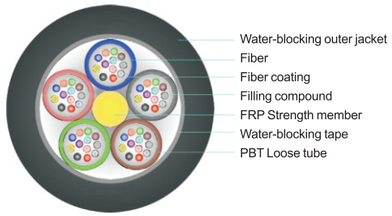
Laying method: Aerial

Temperature range: -40℃~+70℃

Fiber count: 2-144

Stranded Loose Tube Non-metallic Strength Member Non-armored Cable





GYFTY

Cable Description

The fiber,250um, are positioned in a loose tube made of a high modulus plastic. The tubes are filled with a water-resistant filling compound. A fiber Reinforced Plastic(FRP) locates in the center of core as a non-metallic strength member. The tubes(and fillers) are stranded around the strength member into a compact and cirular core. After the cable core is filled with the filling compound to protect it from water ingress. The cable is completed with a PE sheath.

Cable Application

Duct, Aerial

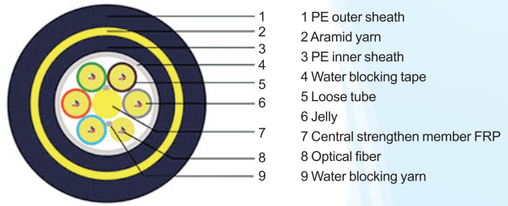
Cable Charateristics

- Good mechanical and temperature performance
- High strength loose tube that is hydrolysis resistant
- Special tube filling compound ensure a critical protection of fiber
- Crush resistance and flexibility
- The following measures are taken to ensure the cable watertight
- Single Fiber Reinforced Plastic as the central strength member
- Loose tube filling compound
- 100% cable core filling

Technical Specification

Cable Type	Fiber Count	Cable Diameter(mm)	Cable Weight(kg/km)	Tensile Strength Long/Short term(N)	Crush Resistance Lomg/Short term (N/100mm)	Bending RadiusStatic/ Dynamic(mm)
GYFTY-32~36	2~36	8.8	70	400/1000	300/1000	10D/20D

ADSS CABLE



Introduce : Characteristics

1. Can be installed without shutting off the power
2. Light weight and small diameter reducing the load caused by ice and wind and the load on towers and backbone.
3. Large span lengths and the largest span is over 1000m.
4. Good performance of tensile strength and temperature.
5. The design life span is 30 years.

Item	Description		
Model No	ADSS-12B1.3-PE-100	ADSS-24B1.3-PE-100	ADSS-48B1.3-PE-100
1.Fiber count	12	24	48
2. Cable Diameter	11.6±0.2mm		12.4±0.2mm
3. Cable Weight	112KG		129KG
4. Central Strength member			
-Material	FRP		
-Diameter	2.0mm		
5. Loose Tube			
-Material	PBT		
-Outer diameter	1.6-2.0mm		
-Thickness	0.3mm		
-No of loose tube	2	4	4
-Type of filling compound	Jelly		
6. Filler			
-Material	PP		
-Outer diameter	1.6-2.0mm		
–No of filler	4	4	4
7. Tube Assembly			
-Tube Layout	1+6		
-Stranding type	SZ		
8.Water-blocking system			
-Material	Water blocking tape		
9. Core wrap			
-Material	Polyester tape		
10.?Aramid Yarn			
-Material	Kevlar		
11. Inner sheath			
-Material	MDPE		
-Thickness	1.0mm±0.2mm		
12.Outer Sheath			
-Material	HDPE		
-Thickness	1.8mm±0.2mm		
13.?Sheath marking			
-Type of marking	Laser printing		

▶ OM4 FIBER

PRODUCT SPECIFICATIONS				
Geometry Characteristics				
Core Diameter(μm)			50 ± 2.5	
Core Non-Circularity(%)			=5.0	
Cladding Diameter(μm)			125.0 ± 1.0	
Cladding Non-Circularity(%)			± 1.0	
Coating Diameter(μm)			245 ± 7	
Coating/Cladding Concentricity Error(μm)			=12.0	
Coating Non-Circularity(%)			=6.0	
Core/Cladding Concentricity Error(μm)			=1.0	
Delivery Length(km/reel)			Up to 8.8	
Optical characteristics				
Attenuation(dB/km)	850nm		≤2.3	
	1300nm		=0.6	
		Ma×Ban®-Om2+	Ma×Ban®-OM3	Ma×Ban®-OM4
		-Bond Insonsitivo	-Bond Insonsitivo	-Bond Insonsitivo
OFL Bandwidth(MHZ.km)	850nm			
	1300nm		≥1500	≥3500
Effective Modal Bandwidth@850(MHZ.km)		≥700≥1500	≥500	≥500
Application support distance on		≥500≥500	≥2000	≥4700
10 Gigabit Ethernet SX 850nm(m)		≥950≥2000		
Gigabit Ethernm LX 1300nm(m)			300	550
40&100 Gigabit Ethernet 850nm(m)		150300	1000	1100
DMD Specification		7501000	600	600
Numerical Aperture		600600	100	150
Group Refractive Index		100	See Note 1	
	850nm	See Note 1	0.200 ± 0.015	
	1300nm	0.200 ± 0.015	1.482	
Zero Dispersion Wavelength(nm)		1.482	1.477	
Zero dispersion Siope (ps/(nm^2 km	1295-1300nm	1.477	1295-1320	
	1300-1320nm	1295-1320	≤0.001?(λ-1190)	
		≤0.001®(λ-1190)	≤0.11	
Macronbending Induced loss		≤0.11		@1300nm
2 tums @ 15nm radius		@850nm		≤0.3
2 tums @ 7.5 nm radius		≤0.1		≤0.5
Backscatter Characteristics	(1300nm)	≤0.2		
Step(Mean of bidlrectional measurement)(dB)			≤0.10	
Irregularities over fiber length and point discontiuity(dB)			≤0.10	
Attonuation uniformity(dB/km)			≤0.08	
Environmental Characteristics	(850nm&1300nm)			
Temperature dependence Induced attenuation				
at-60℃to+85℃(Db/km)				
Temperature-hunidity cycling Induced attenuation			≤0.10	
at-10℃to+85℃.98%RH(dB/km)				
Watersoak dependence Induced attenuation			≤0.10	
at 23℃ for 30 days(dB/km)				
Damp heat dependence Induced attenuation			≤0.10	
at 85℃ and 85% Rh.for 30 days(dB/km)				
Dry heat aging at 85℃ (dB/km)			≤0.10	
Mechanical Specification			≤0.10	
Proof test	(N)		≤9.0	
	(%)		≥1.0	
	(kpsi)		≥100	
Coating strip force (N)	typical average force		1.5	
	peak force		≥1.3≤8.9	
Dynamic stross corrosion susceptinility paramotor nd			≥27	

▶ MaxBand® 300 Fibre

Characteristics	Conditions	Specified Values	Units
Optical characteristics			
Attenuation	850nm	≤2.5	[dB/km]
	1300nm	≤0.7	[dB/km]
Overfilled Modal Bandwidth	850nm	≥1500	[MHz·km]
	1300nm	≥500	[MHz.km]
Effectuve Modal Bandwidth	850nm	≥2000	[MHz.km]
10 Gb/s Etjermet link distance SX	850nm	≤300	[m]
Differential Mode Delay Note:A minimum,effective system mode bandwidth-length product of 2000 MHz·km is achieved when combining this 50/125 μm fibre with transmitters meeting the following transmitter power power distrbution(per FOTP-203):Flux at radius 4.5 μm: ≤30% amd Encirdled Flux at radius 19 μm:≥86%. (Ref:TIA-492AAAC)	850nm	Any one of the following template [ps/m]: DMD Templates / DMD inner Mask (Radius 5~18μm) / DMD Outer Mask (Radius 0~23μm) 1 ≤0.33 ≤0.33 2 ≤0.27 ≤0.35 3 ≤0.26 ≤0.40 4 ≤0.25 ≤0.50 5 ≤0.24 ≤0.60 6 ≤0.23 ≤0.70	
Numerical Aperture (NA)		0.200 ± 0.015	
Group index of refraction (typical)	850nm	1.482	
	1300nm	1.477	
Zero dispersion wavelength		≥1295 ≤1320	[nm]
Zero dispersion slope	1295~1300 nm	≤0.001	[(λ0~1190)ps/(nm²·km)]
	1300~1320nm	≤0.11	[ps/(nm²·km)]
Backscatter characteristics	1300nm	0.200 ± 0.015	
Step (Mean of bidrectional measurement)		≤0.10	[dB]
Irregularities over fibere length and point discontinuity		≤0.10	[dB]
Difference backscatter coefficient (bidirectional measurement)		≤0.08	[dB/km]
Geometrical charaeteristics			
Core diameter		50 ± 2.5	[μm]
Core non-circularity		≤6.0	[%]
Cladding diameter		125.0 ± 1.0	[μm]
Cladding non-circularity		≤1.0	[%]
Coating diameter		242 ± 7	[μm]
Coating/chadding concentricity error		≤12.0	[μm]
Coating non-circularity		≤6.0	[%]
Core/cladding concentricity error		≤1.5	[μm]
Environmental characteristics	850 nm,1300 nm		
Temperature dependence Induced attenuation	-60℃ to+85℃	≤0.10	[dB/km]
Temperature humidity cycling Induced attenuation	-10℃ to+85℃.,90%R.H.	≤0.20	[dB/km]
Damp heat dependence Induced attenuation	85℃,85%R.H.,30 days	≤0.20	[dB/km]
Watersoak dependence Induced attenuation	20℃ for 30 days	≤0.20	[dB/km]
Mechanical characteristics			
Proof test	off line	≥9.0	[N]
		≥1.0	[%]
		≥100	[KPSI]
Bending Dependence Induced Attenuation	850 nm,1300 nm 100 turns,75 ,,mm diameter	≤0.50	[dB]
Coating strip force	Typical average force	1.7	[N]
	Peak force ≥1.3	≤8.9	[N]
Dynamic stress corrosion susceptibility parameter (nd, Typical)		≥27	

▶ HiBand Fiber

Characteristics	Conditions	Specified Values			Units
Optical characteristics		50μm	62.5μm	50um and 62.5μm	
Attenuation	850nm	≤2.5	≤3.0		[dB/km]
	1300nm	≤0.7	≤0.7		[dB/km]
Fibre capacity	Gigabit ethernet	SX(850nm)	LX(1300nm)		
	Standard50μm	550	550		[m]
	Standard62.5μm	275	550		[m]
	HiBand50μm	750	2000		[m]
	HiBand 62.5μm	500	1000		[m]
Numerical Aperture (NA)	850 nm	0.200 ± 0.015	0.200 ± 0.015		
Grpip index of refraction(Typical)	1300 nm	1.482 1.477	1.496 1.491		
Backscatter characteristics	1300 nm				
Step (mean of bidirectional,measuremernt)				≤0.10	[dB]
Irregularities over fibre length and point discontinuity				≤0.10	[dB]
Difference backscatter coefficient(bidirectional measurement)		≤0.08	≤0.2		[dB/km]
Geometrical characteristics					
Core diameter		50 ± 2.5	62.5 ± 2.5		[μm]
Cladding diameter				125.0 ± 1.0	[%]
Cladding mon-circularity				≤1.0	[μm]
Coating diameter				242 ± 7	[%]
Coating/cladding concentricity error				≤12.0	[μm]
Coating non-circularity				≤6.0	[%]
Core/cladding concentricity error				≤1.5	[μm]
Environmental characteristics	850 nm, 1300 nm				
Temperature dependence Induced attenuation	-60℃ to+85℃			≤0.10	[dB/km]
Temperature -humidity cycling Induced attenuation	-10℃ to+85℃.,90%R.H.			≤0.20	[dB/km]
Damp heat dependence Induced attenuation	85℃,85%R.H.,30 days			≤0.20	[dB/km]
Watersoak dependence Induced attenuation	20℃ for 30 days			≤0.20	[dB/km]
Mechabucal characteristics					
	0ff line			≥9.0 ≥1.0 ≥100	[N] [%] [KPSI]
Bending Dependence Induced Attenuation	850 nm,1300 nm 100 turns,75 mm diameter			≤0.50	[dB]
Coating strip force	Typical average force			1.7	[N]
	Peak force	≥1.3		≤8.9	[N]
Dynamic stress corrosion susceptibility parameter ($n_{d,Typical}$)				≥27	

▶ GIMM[62.5/125 μ m]Fibre

Characteristics	Conditions		Specified Values	Units
Optical characteristics				
Attenuation	850nm	≤2.7	≤3.0	[dB/km]
	1300nm	≤0.6	≤0.7	[dB/km]
Overfilled Modal Bandwidth	850 nm	≥2000	≥160	[MHZ· km]
	1300nm	≥600	≥500	[MHZ· km]
Numerical Aperture (NA)			0.275 ± 0.015	
Group index of refraction (Typical)	850 nm 1300nm		1.496 1.491	
Backscatter characteristics	1300 nm			
Step (mean of bidirectional measuremernt)			≤0.10	[dB]
Irregularities over fibre length and point discontinuity			≤0.10	[dB]
Difference backscatter coefficient(bidirectional measurement)			≤0.10	[dB/km]
Geometrical characteristics				
Core diameter			62.5 ± 2.5	[μm]
Cladding diameter			125.0 ± 1.0	[μm]
Cladding mon-circularity			≤1.0	[%]
Coating diameter			242 ± 7	[μm]
Coating/cladding concentricity error			≤12.0	[μm]
Coating non-circularity			≤6.0	[%]
Core/cladding concentricity error			≤1.5	[μm]
Environmental characteristics	850 nm, 1300 nm			
Temperature dependence Induced attenuation	-60℃ to+85℃		≤0.10	[dB/km]
Temperature -humidity cycling Induced attenuation	-10℃ to+85℃.,90%R.H.		≤0.20	[dB/km]
Damp heat dependence Induced attenuation	85℃,85%R.H.,30 days		≤0.20	[dB/km]
Watersoak dependence Induced attenuation	20℃ for 30 days		≤0.20	[dB/km]
Mechabucal characteristics				
Proof test	0ff line		≥9.0 ≥1.0 ≥100	[N] [%] [KPSI]
Bending Dependence Induced Attenuation	850 nm,1300 nm 100 turns,75 ,,mm diameter		≤0.50	[dB]
Coating strip force	typical average force		1.7	[N]
	Peak force	≥13	≤8.9	[N]
Dynamic stress corrosion susceptibility parameter ($n_{d,Typical}$)			≥27	

▶ GIMM[50/125 μm]Fibre

Characteristics	Conditions		Specified Values		Units
Optical characteristics					
Attenuation	850 nm	≤2.3	≤2.5	≤2.7	[dB/km]
	1300nm	≤0.55	≤0.70	≤0.80	[dB/km]
Overfilled Modal Bandwidth	850 nm	≥2000	≥400	≤400	[MHZ·km]
	1300nm	≥600	≥800	≤800	[MHZ.km]
Numerical Aperture (NA)			0.275 ± 0.015		
Grpip index of refraction(Typical)	850 nm		1.496		
	1300nm		1.491		
Backscatter characteristics	1300 nm				
Step (mean of bidirectional,measuremernt)			≤0.10		[dB]
Irregularities over fibre length and point discontinuity			≤0.10		[dB]
Difference backscatter coefficient(bidirectional measurement)			≤0.10		[dB/km]
Geometrical characteristics					
Core diameter			50 ± 2.5		[μm]
Cladding diameter			125.0 ± 1.0		[μm]
Cladding mon-circularity			≤1.0		[%]
Coating diameter			242 ± 7		[μm]
Coating/cladding concentricity error			≤12.0		[μm]
Coating non-circularity			≤6.0		[%]
Core/cladding concentricity error			≤1.5		[μm]
Environmental characteristics	850 nm, 1300 nm				
Temperature dependence Induced attenuation	-60℃ to+85℃		≤0.10		[dB/km]
Temperature-humidity cycling Induced attenuation	-10℃ to+85℃.,90%R.H.		≤0.20		[dB/km]
Damp heat dependence Induced attenuation	85℃,85%R.H.,30 days		≤0.20		[dB/km]
Watersoak dependence Induced attenuation	20℃ for 30 days		≤0.20		[dB/km]
Mechabucal characteristics					
Proof test	Off line		≥9.0		[N]
			≥1.0		[%]
			≥100		[KPSI]
Bending Dependence Induced Attenuation	850 nm,1300 nm 100 turns,75 mm diameter		≤0.50		[dB]
Coating strip force	typical average force	≥13	1.7		[N]
	Peak force		≤8.9		[N]
Dynamic stress corrosion susceptibility parameter ($n_{d,Typical}$)			≥27		

▶ G652 FIBER

CHARACTERISTLCS	CONDITIONS	SPECIFIED VALUES	UNITS
Optical Characteristics			
Attenuation	1310nm	≤0.34	[dB/km]
	1383nm	≤0.34	[dB/km]
	1550nm	≤0.20	[dB/km]
	1625nm	≤0.24	[dB/km]
Attenuation vs.Wavelength Max.a differece	1285-1330nm	≤0.03	[dB/km]
	1525-1575nm	≤0.02	[dB/km]
Dispersion coefficient	1285-1340nm	≥3.4 ≤3.4	[ps/(nm·km)]
	1550nm	≤0.8	[ps/(nm.km)]
	1625nm	≤22	[ps/(nm.km)]
Zero dispersion wavelength		≤1312 ± 12	[nm]
zero dispersion slope		≤0.091	[ps/(nm.km)]
Typical value		0.086	[ps/(nm.km)]
PMD			
Maximun Individual Fibre		≤0.2	[ps/√km]
Lind Design Value	(M=20.Q=0.01%)	≤0.1	[ps/√km]
		≤0.4	[ps/√km]
Typical value		≤1260	[nm]
Cable cutoff wavelengthycc	1310nm	8.8~9.6	[nm]
Mode field diameter(Mfd)	1550nm	9.9~10.9	[nm]
Effective group index of refraction(Netf)	1310nm	1.466	
	1550nm	1.467	
Point discontinuities	1310nm	≤0.05	[dB]
	1550nm	≤0.05	[dB]
Geometrical Characteristics			
Cladding diameter		125 ± 1.0	[μm]
Cladding non-circularity		≤1.0	[%]
Coating diameter		245 ± 7	[μm]
Coating-cladding concentricity error		≤12.0	[μm]
Coating non-circularity		≤6.0	[%]
Core-cladding concentricity error		≤6.0	[μm]
Curl (radius)		≥4	[m]
Delivery length		2.1 to 50.4	[km/reem]
Environmental Characteristics	(1310nm, 1550nm&1625nm)		
Temperature dependence Induced attenuation at	850 nm, 1300 nm	≤0.05	[dB/km]
Temperature- humidity cycling Induced attenuation at	-10℃ to+85℃, 98%	≤0.05	[dB/km]
Watersoak dependence Induced attenuation at		≤0.05	[dB/km]
Damp heat dependence Induced attenuation at	85℃ and 858%RH, for 30 days	≤0.05	[dB/km]
Dry heat aging at		≤0.05	[dB/km]
Mechabucal characteristics			
Proof test		≥9.0	[N]
		≥1.0	[%]
		≥100	[kpsi]
Macro-bend induced attenation			
1 turn around a mandrel of 32 mm diameter		≤0.50	[dB]
10 turns around a mandrel of 50 mm diameter	1310nm& 155nm	≤0.50	[dB]
10 turns around a mandrel of 60 mm diameter		≤0.50	[dB]
Coating strip force	typical average force	1.7	[N]
	peak force	≥1.3 ≤8.9	[N]
Dynamic stress corrosion susceptibility parameter nd		≥20	

G657A1 FIBER

CHARACTERISTICS	CONDITION	SPECIFIED VALUES	UNITS
Optical Characteristics			
Attenuation	1310nm	≤0.35	[dB/km]
	1383nm(after H_2-aging)	≤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	1285 ~ 1330nm	≤0.03	[dB/km]
Max a difference	1525 ~ 1575nm	≤0.02	[dB/km]
Dispersion coefficient	1285 ~ 1340nm	≥-3.4 ≤3.4	[ps/(nm.km)]
	1550nm	≤18	[ps/(nm.km)]
	1625nm	≤22	[ps/(nm.km)]
Zero Dispersion wavelength		1300-1324	[nm]
Zero dispersion slope		≤0.092	[ps/(nm2.km)]
Typical value		0.086	[ps/(nm2.km)]
PMD			
maximum Individual Fiber		≤0.2	[ps/√km]
Link Design Value (M=20,Q=0.01%)		≤0.1	[ps/√km]
Typical value		0.04	[ps/√km]
Cable cutoff wavelength λ cc		≤1260	[nm]
Mode field diameter(MDF)	1310nm	8.4-9.2	[um]
	1550nm	9.3 ~ 10.3	[um]
Effective group index of refraction(Netf)	1310nm	1.466	
	1550nm	1.467	
Point discontinuities	1310nm	≤0.05	[dB]
	1550nm	≤0.05	[dB]
Geometrical Characteristics			
Cladding diameter		125.0 ± 0.7	[um]
Cladding non-circularity		≤0.7	[%]
Coating Diameter		245 ± 5	[um]
Coating-cladding concentricity error		≤12.0	[um]
Coating non-circularity		≤6.0	[%]
Core-cladding concentricity error		≤0.5	[um]
Curl(radius)		≥4	[m]
Delivery length		2.1to50.4	[Km/reel]
Environmental Characteristics	(1310nm,1550nm和1625nm)		
Temperature dependence Induced attenuation at	60℃ below zero to 85℃	≤0.05	[dB/km]
Temperature-humidity cycling induced attenuation at	10℃below zero to 85℃ 98% RH	≤0.05	[dB/km]
Watersoak dependence Induced attenuation at	23℃ for 30days	≤0.05	[dB/km]
Damp heat dependence Induced attenuation at	85℃ and 85% RH,	≤0.05	[dB/km]
Dry heat aging at	for 30 days	≤0.05	[dB/km]
Mechanical Specification	85℃		
Proof Test		≥9.0	[N]
	off line	≥1.0	[%]
		≥100	[kpsi]
Macro-bend induced attenation			
10 turns around a mandrel of 30mm diameter		≤0.25	[dB]
10 turns around a mandrel of 30mm diameter	1550	≤1.0	[dB]
1 turns around a mandrel of 20mm diameter	1625	≤0.75	[dB]
1 turns around a mandrel of 20mm diameter	1550	≤1.5	[dB]
Coating Strip force	1625	1.7	[N]
	typical average force	≥1.3 ≤8.9	[N]
Dynamic stress corrosion susceptibility parameter nd	peak force	≥20	

G657A2 FIBER

CHARACTERISTLCS	CONDITIONS		SPECIFIED VALUES		UNITS
Optical Characteristics					
Attenuation	1310nm		≤0.35		[dB/km]
	1383nm (Afte H2-aging)		≤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	1285 ~ 1330nm		≤0.03		[dB/km]
Max. a difference	1525~1575nm		≤0.02		[dB/km]
Zero Dispersion wavelength			1300-1324		[nm]
Zero dispersion slope			≤0.092		[[s/(nm2.km0)]
PMD					
Maximun Individual Fibre			≤0.2		[ps/√km]
Lind Design Value (M=20.Q=0.01%)			≤0.1		[ps/√km]
Typical value			0.0.4		[ps/√km]
Cable cutoff wavelength cc			≤1260		[nm]
Mode field diameter(MFD)	1310nm		8.4-9.2nm		[nm]
	1550nm		9.3~10.3		[nm]
Effecive group index of refraction(Netf)	1310nm		1.466		
	1550nm		1.467		
Point discontinuities	1310nm		≤0.05		[dB]
	1550nm		≤0.05		[dB]
Geometrical Characteristics					
Cladding diameter			125.0 ± 1.0		[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			≤6.0		[μm]
Curl (radius)			≥4		[m]
Delivery length			2.1 To 50.4		[km/reem]
Environmental Characteristics	(1310nm, 1550nm&1625nm)				
Temperature dependence Induced attenuation at	60℃ below zero to85℃		≤0.05		[dB/km]
Temperature-humidity cycling induced attenuation at	10℃ below zero to85℃98% RH		≤0.05		[dB/km]
Watersoak dependence Induced attenuation at	23℃ for 30days		≤0.05		[dB/km]
Damp heat dependence Induced attenuation at	85℃ and 858%RH, for 30 days		≤0.05		[dB/km]
Dry heat aging at	85℃		≤0.05		[dB/km]
Mechanical Specification					
Proof Test	off line		≥9.0		[N]
			≥1.0		[%]
			≥100		(kpsi)
Macro-bend induced attenation					
10 turns around a mandrel of 15mm radius	1550nm	≥9.0	≤0.03		[dB]
10 turns around a mandrel of 10mm radius	1625nm	≥1.0	≤0.1		[dB]
1turn around a mandrel of 10mm radius	1550nm	≥100	≤0.1		[dB]
1turn around a mandrel of 10mm radius	1625nm		≤0.2		[dB]
1turn around a mandrel of 7.5mm radius	1550nm		≤0.2		[dB]
1turn around a mandrel of 7.5mm radius	1625nm		≤0.5		[dB]
Coating Strip force	typical average force		1.7		[N]
	peak force		≥1.3	≤8.9	[N]
Dynamic stress corrosion susceptibility parameter nd(typical)			≥27		