



FROG ENGINEERING

FIBER CABLE CATALOG

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Optical Fiber Characteristics

ITU-TG652	
Cladding diameter	125±0.7um
Mode field diameter	
At 1310nm	From 9.2±0.4um
Attenuation	
At 1310nm	0.36dB/km max.
At 1550nm	0.22dB/km max.
Chromatic dispersion	
At 1310nm	2.8ps/nm.km)
From 1285 to 1330nm	3.5ps/nm.km)
At 1550nm	18ps/nm.km)
From 1525 to 1575nm	20ps/nm.km)
PMD (Polarization mode dispersion)	≅ 0.2ps/√km

ITU-T G655	
Cladding diameter	125±1.0um
Mode field diameter	
At 1550nm	From 9.2±10.0um
Attenuation	
At 1550nm	0.25dB/km max.
At 1625nm	0.27dB/km max.
Chromatic dispersion	
From 1530to 1565nm	From 2.0 to 6.15ps/NM.km)
From 1565to 1625nm	From 4.5 to 12.4ps/NM.km)
PMD (Polarization mode dispersion)	≅ 0.5ps/√km

Note: Various kind of single mode fiber or multimode fiber is available upon customer request.

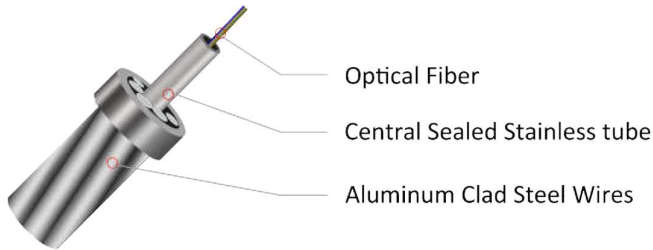
Typical Designs of Central Stainless-Steel Tube OPGW

Description

The central stainless-steel tube is surrounded by single or double layers of aluminum clad steel wires (ACS) or mix ACS wires and aluminum alloy wires. are the most widely used cables, their design is fully adapted to the most common electric line needs.

Characteristics

1. High quality IEC607948 IEEE1138 standards for designing, testing and producing with grade A materials available to ensure long-term reliability.
2. Engineering support supervising and providing its own line of accessories hardware.
3. Seal stainless steel tube superior protection to the fiber optical to moisture and extreme environmental conditions such as lightning
4. To construct OPGW must cut power, resulting in greater loss, thus OPGW must be used in constructing high pressure line over 110kv;
5. Apply to the transformation of old lines.



Standards

ITU-TG.652	Characteristics of a single mode optical fiber
ITU-TG.655	Characteristics of a non-zero dispersion -shifted single mode fibers optical
EIA/TIA598 B	Color coding of fiber optic cables
IEC 60794-4-10	Aerial optical cables along electrical power lines-family specification for OPGW
IEC 60794-1-2	Optical fiber cables -part test procedures
IEEE1138-2009	IEEE Standard for testing and performance for optical ground wire for use on electric utility power lines
IEC 61232	Aluminum -Clad steel wire for electrical purposes
IEC60104	Aluminum magnesium silicon alloy wire for overhead line conductors
IEC 61089	Round wire concentric lay overhead electrical stranded conductors.

Typical design for Single Layer

Specification	Fiber Count	Diameter (mm)	Weight (kg/km)	RTS(KN)	Short Circuit (KA2s)
OPGW-32(40.6;4.7)	12	7.8	243	40.6	4.7
OPGW-42(54.0;8.4)	24	9	313	54	8.4
OPGW-42(43.5;10.6)	24	9	284	43.5	10.6
OPGW-54(55.9;17.5)	36	10.2	394	67.8	13.9
OPGW-61(73.7;175)	48	10.8	438	73.7	17.5
OPGW-61(55.1;24.5)	48	10.8	358	55.1	24.5
OPGW-68(80.8;21.7)	54	11.4	485	80.8	21.7
OPGW-75(54.5;41.7)	60	12	459	63	36.3
OPGW-76(54.5;41.7)	60	12	385	54.5	41.7

Typical design for Double Layer

Specification	Fiber Count	Diameter(mm)	Weight (kg/km)	RTS(KN)	Short Circuit (KA2s)
OPGW-96[121.7;42.2]	12	13	671	121.7	42.2
OPGW-127[141.0;87.9]	24	15	825	141	87.9
OPGW-127[77.8;128.0]	24	15	547	77.8	128
OPGW-145(121.0;132.2)	28	16	857	121	132.2
OPGW-163(138.2;183.6)	36	17	910	138.2	186.3
OPGW-163(99.9;213.7)	36	17	694	99.9	213.7
OPGW-183(109.7;268.7)	48	18	775	109.7	268.7
OPGW-183(118.4;261.6)	48	18	895	118.4	261.6

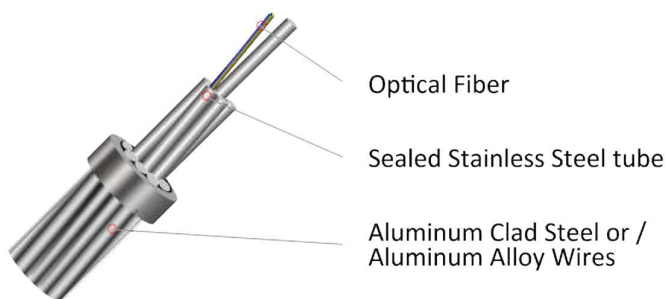
Typical Designs of Stranded Stainless-Steel Tube OPGW

Description

The stainless-steel tube is stranded by double or three layers of aluminum clad steel wires (ACS) or mix ACS wires and aluminum alloy wires.

Characteristics

1. High quality IEC607948 IEEE1138 standards for designing, testing and producing with grade A materials available to ensure long-term reliability.
2. Engineering support supervising and providing its own line of accessories hardware.
3. Larger tensile strength and fault current capacity to reach a better balance of electrical and mechanical performance.



Typical design for Double Layer

Specification	Fiber Count	Diameter(mm)	Weight (kg/km)	RTS(KN)	Short Circuit (KA2s)
OPGW-89[55.4;62.9]	24	12.6	381	55.4	62.9
OPGW-110[90.0;86.9]	24	14	600	90	86.9
OPGW-104[64.6;85.6]	28	13.6	441	64.6	85.6
OPGW-127[79.0;129.5]	36	15	537	79	129.5
OPGW-137[85.0;148.5]	36	15.6	575	85	148.5
OPGW-145[98.6;162.3]	48	16	719	98.6	162.3

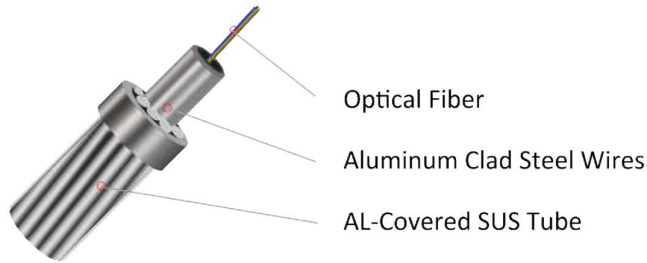
Typical design for Three Layer

Specification	Fiber Count	Diameter(mm)	Weight (kg/km)	RTS(KN)	Short Circuit (KA2s)
OPGW-232[343.0;191.4]	28	20.15	1696	343	191.4
OPGW-254[116.5;554.6]	36	21	889	116.5	554.6
OPGW-347[366.9;687.7]	48	24.7	2157	366.9	687.7
OPGW-282[358.7;372.1]	96	22.5	1938	358.7	372.1

Typical Designs of Central AL-covered Stainless-Steel Tube OPGW

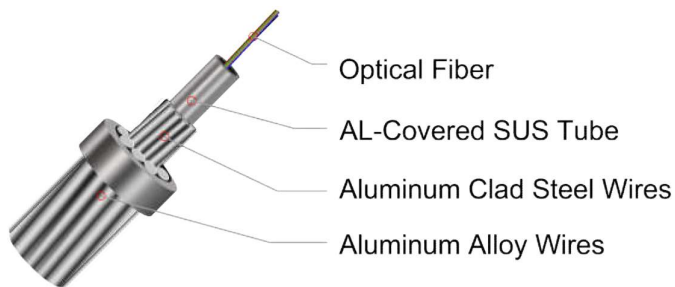
Description

The central Al-covered steel tube is surrounded by single or double layers of aluminum clad steel wires (ACS) or mix ACS wires and aluminum alloy wires. Al-covered Stainless Steel tube design increases the cross section of AL, to reach a better fault current and lightning resistance performance. Apply to the transmission line which requires small diameter and large fault current.



Typical Design for Single Layer

Specification	Fiber Count	Diameter(mm)	Weight (kg/km)	RTS(KN)	Short Circuit (KA2s)
OPGW-80(82.3;46.8)	24	11.9	504	82.3	46.8
OPGW-70(54.0;8.4)	24	11	432	70.1	33.9
OPGW-80(84.6;46.7)	48	12.1	514	84.6	46.7



Typical Design for Double Layer

Specification	Fiber Count	Diameter(mm)	Weight (kg/km)	RTS(KN)	Short Circuit (KA2s)
OPGW-143(87.9;176.9)	36	15.9	617	87.9	176.9

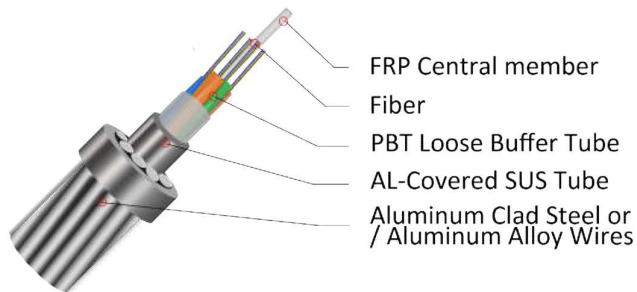
Typical Designs of Aluminum Tube OPGW

Description

The Aluminum tube is surrounded by single or double layers of aluminum clad steel wires (ACS) or mix ACS wires and aluminum alloy wires. Good anti-corrosion performance. Material and structure are uniform, with good resistance to vibration fatigue

Characteristics

1. Good anti-corrosion performance.
2. Material and structure are uniform, with good resistance to vibration fatigue.
3. Short circuit current has small effect on the optical fiber transmission properties.
4. Good anti-lightning performance.



Typical Design

Specification	Fiber Count	Diameter(mm)	Weight (kg/km)	RTS(KN)	Short Circuit (KA2s)
OPGW-113 (87.9;176.9)	48	14.8	600	70.1	33.9
OPGW-70 (81;41)	24	12	500	81	41
OPGW-66 (79;36)	36	11.8	484	79	36
OPGW-77 (72;36)	36	12.7	503	72	67

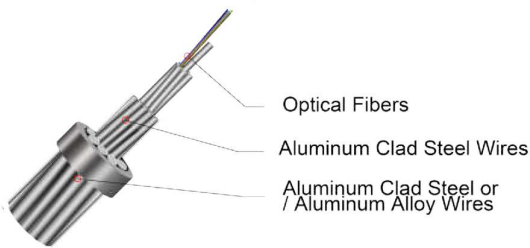
Typical Designs of OPPC

Description

The Aluminum tube is surrounded by single or double layers of aluminum clad steel wires (ACS) or mix ACS wires and aluminum alloy wires Aluminum wires / Aluminum alloy wires Optical fibers. Aluminum OPPC cables have the dual functions performance functions of phase conductors with communication capabilities.

Characteristic

1. Replacing one or several wires of the traditional conductor with stainless steel tube and strand the tube with AS/steel wires and AL/AA wires.
2. Replacing one of the three phase conductors with OPPC, thus to form a transmission line which consists of one OPPC and two phase conductors.
3. OPPC can meet durative high temperature resistant which verified by Temperature Cycling test and Short Current test.
4. OPPC is applied to middle & high voltage power lines without ground wires such as 10kV, 35kV, 66kV and so on.
5. Telecommunications for middle & high voltage power lines in urban and rural areas; Providing optical cables for building distribution automation station.



Typical Design

Specification	Fiber Count	Diameter(mm)	Weight (kg/km)	RTS(KN)	Ampacity (40°C -70°C)	Ampacity (40°C -90°C)	Ampacity (40°C-90°C)
OPPC-240/30	16	21.7	890	76.6	445A	639A	639A
OPPC-70/10	16	17.4	598	52.8	351A	495A	495A
OPPC-120/25	24	15.9	523	49	308	432A	432A
OPPC-150/35	24	17.6	641	64.5	348	492A	492A

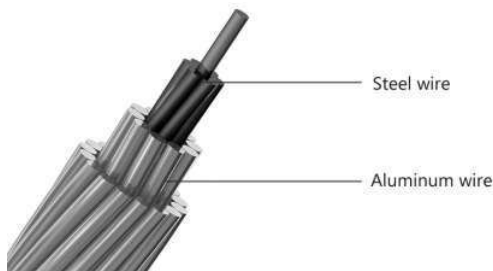
Typical Designs of ACSR

Description

ACSR has simple structure, convenient installation and maintenance, low budget cost, large transmission capacity, and is conducive to the laying of special geographical conditions such as crossing rivers and valleys. It has good electrical conductivity and sufficient mechanical strength, high tensile strength etc. Therefore, it is widely used in overhead transmission and distribution lines of various voltage levels

Characteristics

1. Used as bare overhead transmission conductor and as primary and secondary distribution conductor and messenger support ACSR offers optimal strength for line design. Variable steel core stranding enables desired strength to be achieved without sacrificing ampacity.
2. ACSR conductors are recognized for their record of economy, dependability and favorable strength/weight ratio. ACSR conductors combine the light weight and good conductivity of aluminum with the high tensile strength and ruggedness of steel. In-line design, this can provide higher tensions, less sag and longer span lengths than obtainable with most other types of overhead conductors.
3. The steel strands are added as mechanical reinforcement.



Code Name	Size	No./Dia. of Stranding Wires		Approx. Overall Dia. mm	Approx. Weight kg/km
	AWG or MCM	Aluminum	Steel		
		No./mm	No./mm		
Turkey	6	6/1.68	1/1.68	5.04	54
Quail	2/0	6/3.78	1/3.78	11.34	273
Partridge	266.8	26/2.57	7/2.00	16.28	546
Chickadee	397.5	18/3.77	1/3.77	18.85	642
Brant	397.5	24/3.27	7/2.18	19.61	762
Ibis	397.5	26/3.14	7/2.44	19.88	814

Typical Design

Remark:

We can produce AAAC conductor too

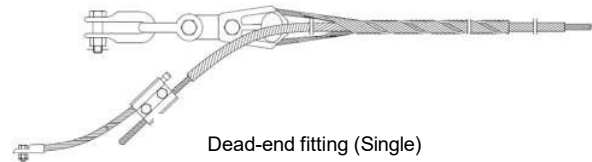
Accessories Hardware

Tension Assembly

Preformed tension especially designed for OPGW cable Includes grounding clamps for tower connection, when the distance between two anchor towers is greater than maximum length of OPGW cable drums, there are special tension assemblies for installation in suspension towers, allowing a cable joint to be included.

Structure

- Straight shackle (Galvanized fogged steel)
- Extension Link (Galvanized laminated steel)
- Dead end --(Compression aluminum clad steel)
- Thimble ---(Cast galvanized steel)
- Protection Splice--(Compression aluminum clad steel)
- 6. Ground clamp --(Aluminum)



Configuration

There are three types of assemblies for installation in tension towers:

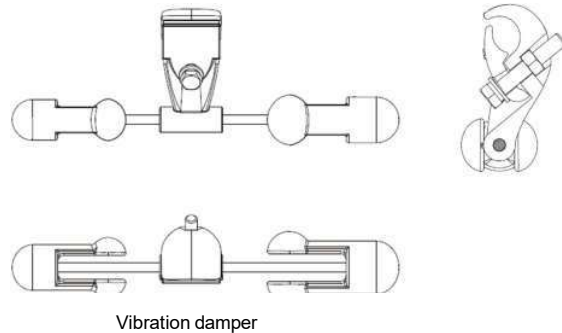
- Passing tension assembly: for intermediate towers
- Splicing tension assembly: for towers with joint boxes
- Final tension assembly: for final towers

Dampers

The dampers are used to absorb the cable vibrations, The number of dampers is determined by the environmental conditions, the distance between towers, the type of OPGW cable and the installation parameters

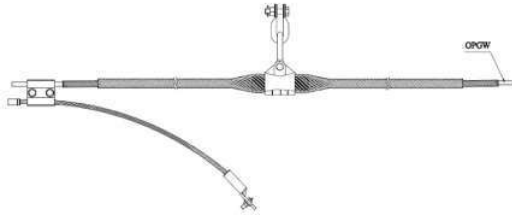
Structure

- Securing clamp (Aluminum alloy)
- Messenger cable (Galvanized steel wire)
- Counter weights (Galvanized forged steel)

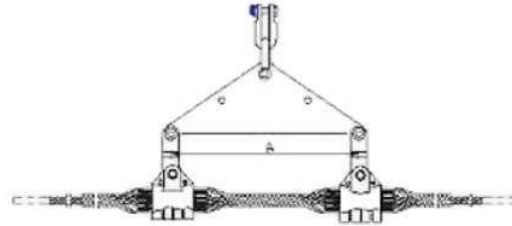


Suspension Clamp

Assembly with reinforced suspension clamp and neoprene inner covering, especially designed for OPGW cables includes grounding clamps for tower connection.



Suspension clamp (Single)



Suspension clamp (Double)

Structure

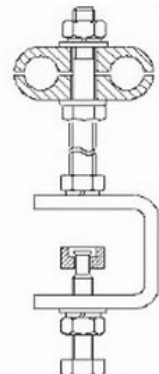
- > straight shackle (Galvanized forged steel)
- > Parallel connection clamp (Aluminum)
- > Armored grid suspension clamp--(Aluminum)
- > Preformed rods (Aluminum Alloy)
- > Grounding clamp (Aluminum)

Down-lead Clamp

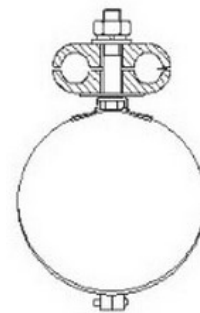
The down-lead clamp clamps are used to fix the cable to the tower in the down lead to the joint box

Structure

- Clamp (Aluminum)
- M-12-rod (Galvanized steel)
- Support body (Galvanized steel)
- Lock screw (stainless steel)



Wire Clamp for tower



Wire Clamp for pole

All-dielectric Self-supporting Aerial Installation Cable —ADSS

Description

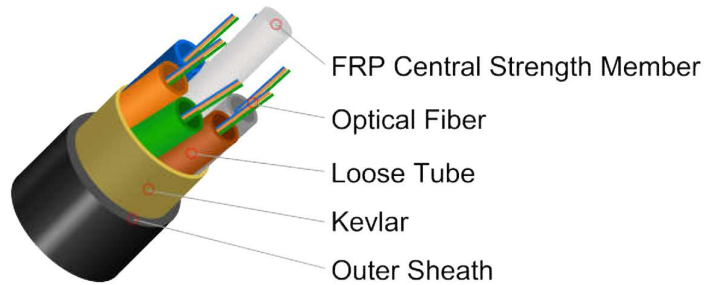
The mini-span ADSS Fiber optic cable is ideal for installation in distribution as well as transmission environments, even when live-line installations are required. As its name indicates, there is no support or messenger wire required, so the installation is achieved in a single pass.

Application

Self-support Aerial installation

Characteristics

1. Suitable for use on distribution and high voltage transmission lines with mini spans or self-supporting installation for telecommunication.
2. Track -Resistant outer jacket available for the high voltage line where space potentials up to 35kv.
3. Gel-Filled buffer tubes are S-Z stranded
4. Instead of Aramid yarn or glass yarn, there is no support or messenger wire required. Aramid yarn is used as the strength member to assure the tensile and strain performance for mini span (usually below 100 meters)
5. Fiber counts from 4-24 fibers



Technical Parameter

Span (meter)	Weight(kg/km)	Diameter(mm)	Initial Tension (N)	
			Unload	Load
12fibers				
50	110	9.0~10.5	892	1479
100	110	9.0~10.5	1338	2043
150	110	9.0~10.5	2232	3286
200	110	12.2	3280	4800
24fibers				
50	115	9.0~10.5	904	1486
150	115	9.0~10.5	2261	3304
200	115	12.2	3322	4826

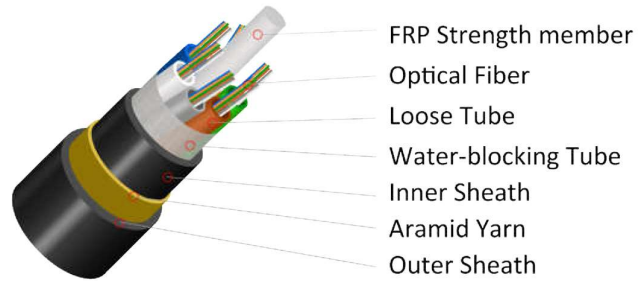
Standard All-dielectric Self-supporting Fiber Optic Cable—ADSS

Description

Aramid yarn is used as the strength member to assure the tensile and strain Performance. Mainly installed at existing 220kV or lower voltage power lines. Two Jacket and stranded loose tube options.

Characteristics

1. Two Jacket and stranded loose tube design.
Stable performance and compatibility with all common fiber types
2. Instead of Aramid yarn or glass yarn, there is no support or messenger wire required. Aramid yarn is used as the strength member to assure the tensile and strain performance
3. Mainly installed at existing 220kV or lower voltage power lines.



Technical Parameter

Span (meter)	Weight(kg/km)	Diameter(mm)	Initial Tension (N)	
			Unload	Load
12 fibers per tube				
100	132	12.2	6000	6280
200	134	12.4	6900	71020
300	138	12.6	8200	84520
400	144	13.00	11500	12020
500	148	13.30	12200	12400
600	162	13.60	17500	17852
700	173	13.90	21600	22200
800	178	14.20	24200	24320

Tactical Fiber Optic Cable

Description

The Simplex cable uses single 900μm tight buffered fiber as fiber optic transmission medium, covered with aramid yarn as strength member, then extruded with thermoplastic polyurethane sheath.

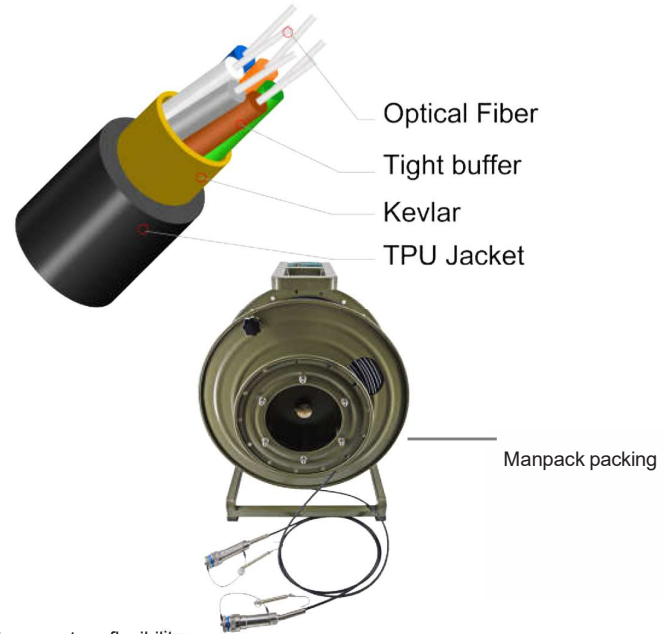
Application

1. Military communication system
2. Coal, oil, natural gas, geological exploration
Broadcast television, temporary communication

Temperature Range

Operation: -20°C to 60°C

Storage: -20°C to 60°C



Characteristics

1. Flexibility, ease of storage and operation
2. Polyurethane sheath provides wear resistant, oil resistant, low temperature flexibility
3. Aramid yarn strength with stable tension, high tensile and high pressure to prevent rat bite, cutting, bending.
4. Cable soft, good toughness, installation, maintenance convenient.

Standards

Comply with standard YD/T1258.2-2003 and IEC 60794-2-10/11

Technical Parameter

Fiber counts	Cable diameter (mm)	Weight (kg/km)	Tensile strength(N)		Crush Resistance(N/100mm)		Minimum bending radius (mm)	
			Short-term	Long-term	Short-term	Long-term	Static	Dynamic
2~4	5	10	600	400	200	300	60	30
6~7	5.2	11.5	600	400	200	300	60	30
10~12	6	12.8	600	400	200	300	60	30

Tactical Fiber Optic Cable with Helical Armored

Description

The Simplex fiber optic cable uses single 900µm tight buffered Tube structure as fiber optic transmission medium, covered with aramid yarn as strength member, then extruded with thermoplastic polyurethane sheath.

Application

1. Military communication system
2. Coal, oil, natural gas, geological exploration
Broadcast television, temporary communication

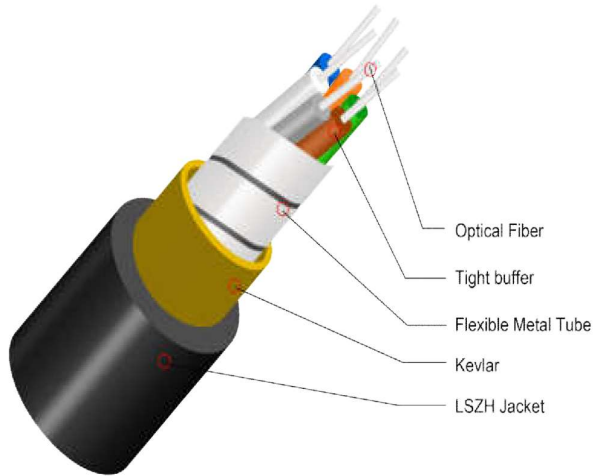
Temperature Range

Operating: -20°C to 60°C

Storage: -20°C to 60°C

Characteristics

1. Flexibility, ease of storage and operation.
2. Stainless steel armored protection for fiber.
3. Polyurethane sheath provides wear resistant, oil resistant, low temperature flexibility
4. Aramid yarn strength with stable tension, high tensile and high pressure to prevent rodent bite, cutting, bending.
5. Cable soft, good toughness, installation, maintenance convenient.



Standards

Comply with standard YD/T1258.3-2003 and IEC 60794-2-10/11

Technical Specification

Fiber counts	Cable diameter (mm)	Weight (kg/km)	Tensile strength(N)		Crush Resistance		Minimum bending radius (mm)	
			Short-term	Long-term	Short-term	Long-term	Static	Dynamic
2~4	5	12	1400	2200	4000	3000	60	30
6~8	7	13.5	1400	2200	4000	3000	60	30
10~12	9	15	1400	2200	4000	3000	60	30

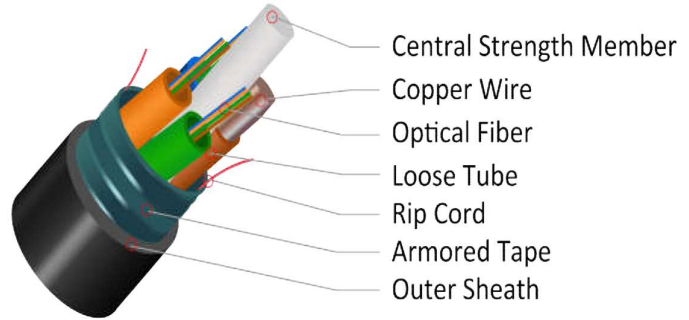
Hybrid Fiber Optic Cable with Steel Tape

Description

In the hybrid fiber optic cable, single-mode/multimode fibers are positioned in loose tubes, which are made of high modulus plastics and filled with water-blocking materials. Loose tubes and required insulated copper wires are stranded around the metallic central strength member into a compact and circular cable core. For certain high fiber count cables, the strength member would be covered with polyethylene (PE). The PSP is longitudinally applied around the cable core, before a PE sheath is extruded over it.

Application

1. Suitable where the cable needs to transmit light and electric signal.
2. Mobile operators deploying an RRU



Characteristics

1. The composite cable provides the equipment electricity and signal transmission, and improves central monitoring and maintenance for equipment Power.
2. To reduce the coordination and maintenance of power suppl
3. Combines optical fiber (multimode or single mode) and copper conductor for DC power in a single, lightweight aluminum corrugated cable.

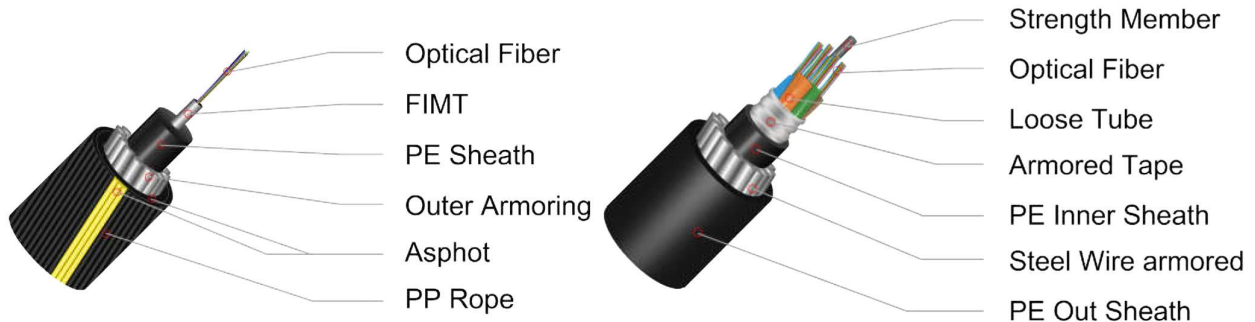
Technical Specification

Cable Type	Fiber counts	Cable Diameter (mm)	Weight (kg/km)	Tensile Strength(N)		Crush Resistance (N/100mm)	
				Long -Term	Short -Term	Long -Term	Short -Term
GDTS-2~24 2×1.5	2-24	11.2	132	600	1500	300	1000
GDTS-2~24 2×2.5	2-24	12.3	164	600	1500	300	1000
GDTS-2~24 2×4.0	2-24	13.4	212	600	1500	300	1000
GDTS-2~24 2×5.0	2-24	14.6	258	600	1500	300	1000
GDTS-2~24 2×6.0	2-24	15.4	287	600	1500	300	1000
GDTS-2~24 2×8.0	2-24	16.5	350	600	1500	300	1000

Submarine optical fiber cable

Description

Stranded Loose Tube Cable with Aluminum and Steel Tape plus Steel Wire Armor GYTA53+333. Steel wire used as the central strength member. Special tube filling compound ensure a critical protection of fiber. Crush resistance and flexibility.



GYTA53+33

GYTA53+333

Application

Submarine water and vertical shaft

Characteristics

1. Excellent mechanical and temperature performance
2. Better tensile strength performance with steel Wires

Technical Specification

Cable Type	Fiber Count	Cable Diameter (mm)	Cable Weight (Kg/km)	Tensile Strength Long/Short Term (N)
Deep-sea cable	6	22.3	800	19000/29000
GYTA53+333	2~36	25.2	1640	20000/40000
GYTA53+333	38~60	26.4	1740	20000/40000
GYTA53+333	60~72	27.0	1780	20000/40000
GYTA53+333	74~96	29.0	1980	20000/40000
GYTA53+333	98~120	30.2	2170	20000/40000

ASU80 Brazil Type Fiber Optic Cable

Description

The fiber cable structure is placed inside the 250µm colored fiber in the PBT loose tube, and two FRP as strengthen member, Cable surface is extruded with a PE outer sheath.

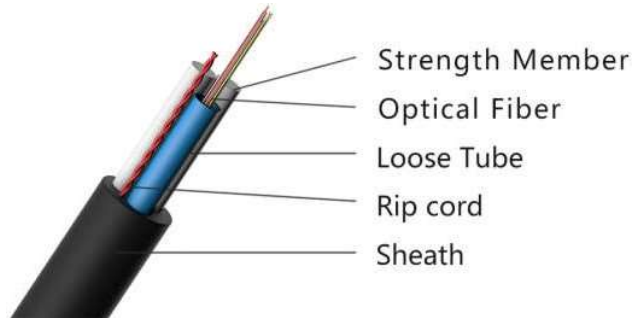
Application

Aerial/ Duct

Temperature Range

Operating: -40°C to +70°C

Storage: -40°C to +70°C



Characteristics

1. Small size and lightweight, saves on shipping costs
2. Two FRP as strength member to provide good tensile performance
3. Gel Filled, good waterproof performance
4. Excellent ultraviolet prevention with PE sheath. Small diameter, light weight and installation friendliness
5. Low replacement cost, easy to save budget

Standards

Comply with standard IEC60794

Technical Parameters

Cable Type (increased by 2fibers)	Fiber Count	Cable Diameter mm	Cable Weight kg/km	Tensile Strength Long/Short Term N	Crush Resistance Long/Short Term N/100mm	Bending Radius Static/Dynamic mm
ASU 2 ~12	2 ~ 12	6.6	42	800/1600	300/1000	10D/20D

Micro Duct Fiber Cable (Air Blown) Cable (GYCFTY)

Description

Micro air blown fiber optic cable is mainly used in access network and metropolitan area network. By air-blowing installation technology, without excavation surface in tiny pipe installation, also can be installed in the existing cable pipe, saving pipeline resources, maximizing network capacity. The micro-optical cable technology reduces the early stages of the fiber optic cable construction, minimizes cost related to increased network demands and speeds up the return on investment. This is a good solution of FTTH deployments.

Application

Duct

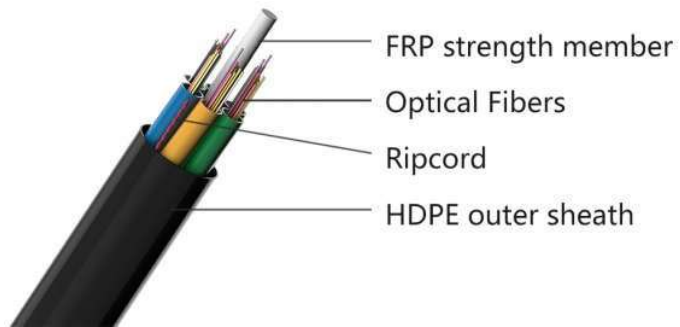
Temperature Range

Operating: -40°C to +70°C

Storage: -40°C to +70°C

Characteristics

1. Micro module optical fibers and jelly inside
2. Easy to strip the micro module by ripcord
3. Aramid yarns and water-blocking yarns
4. Outer sheath: HDPE, with 2 FRP embedded in the sheath symmetrically



Standards

Comply with standard YD/T 901-2009 as well as IEC 60794-1

Technical Parameters

Cable Type (increased by 2fibers)	Fiber Count	Cable Diameter mm	Cable Weight kg/km	Tensile Strength Short Term N	Crush Resistance Short Term N/100mm	Bending Radius Static/Dynamic mm
GYCFTY /S2 ~94	2 ~ 94	5.6	30	550	100	10D/20D
GYCFTY/S 96 ~142	96 ~142	6.4	40	550	100	10D/20D
GYCFTY/S 144	144	7.8	55	550	100	10D/20D
GYCFTY/S 288	288	10	85	550	100	10D/20D

Micro Duct Fiber Unit (Air Blown) EPFU Cable

Description

Enhanced Performance Fiber Unit (EPFU) is a high-performance air-blown optical fiber bundle is formed by curing optical fibers or fillers into photosensitive resin in a certain arrangement, and then extruding a special low-friction sheath.

Application

Duct

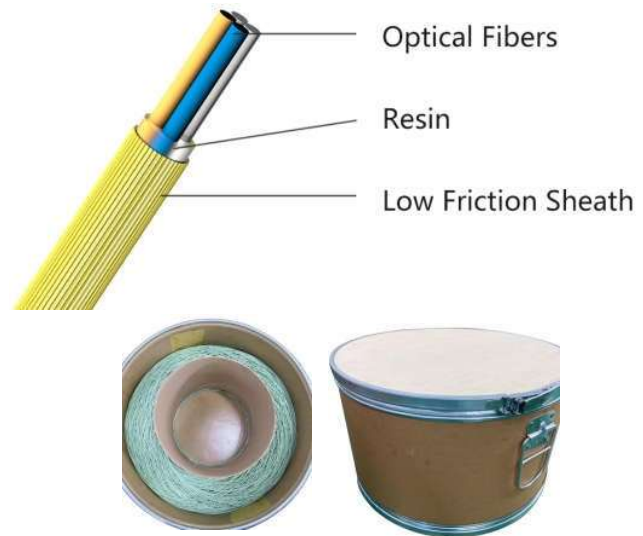
Temperature Range

Operating: -10°C to +60°C

Storage: -20°C to +70°C

Characteristics

1. Designed with special grooves to increase blowing distance
2. Light weight and proper stiffness, repeat installation.
3. Designed with no gel, easy stripping and handling.
4. Better costs advantage compared to traditional product.
5. Complete accessories, less manpower, lower installation time.



Standards

Comply with standard YD/T 901-2009 as well as IEC 60794-1

Technical Parameters

Cable Type (increased by 2fibers)	Fiber Count	Cable Diameter mm	Cable Weight kg/km	Tensile Strength Short Term N	Crush Resistance Short Term N/100mm	Bending Radius Static/Dynamic mm
EPFU /S2 ~4	2 ~ 4	1.2	1.2	550	100	10D/20D
EPFU /S6	6	1.4	1.6	550	100	10D/20D
EPFU /S8	8	1.6	2.3	550	100	10D/20D
EPFU /S12	12	1.8	2.9	550	100	10D/20D

Stranded Loose Tube Cable with Aluminum Tape/Steel Tape (GYTA/GYTS)

Description

In the GYTA/S cable, single-mode/multimode fibers are positioned in the loose tubes, the tubes are filled with water blocking filling compound. Tubes and fillers are stranded around the strength member into a circular cable core. An APL/PSP is applied around the core, which is filled with a compound to protect it. Then the cable is completed with a PE sheath.

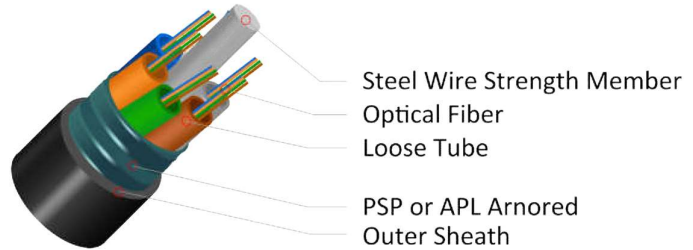
Application

Duct/Aerial

Temperature Range

Operating: -40°C to +70°C

Storage: -40°C to +70°C



Characteristics

1. The following measures are taken to ensure the water blocking performance of the cable.
2. Single steel wire used as the central strength member
3. Special water-blocking filling compound in the loose tube.
4. 100% cable core filling

Standards

Comply with standard YD/T 901-2009 as well as IEC 60794-1

Technical Parameters

Cable Type (increased by 2fibers)	Fiber Count	Cable Diameter mm	Cable Weight kg/km	Tensile Strength Long/Short Term N	Crush Resistance Long/Short Term N/100mm	Bending Radius Static/Dynamic mm
GYTA/S2 ~ 30	2 ~ 30	9.5	80	600/1500	300/1000	10D/20D
GYTA/S 32 ~ 36	32 ~ 36	9.7	97	600/1500	300/1000	10D/20D
GYTA/S 38 ~60	38 ~60	10.5	109	600/1500	300/1000	10D/20D
GYTA/S62 ~72	62 ~72	11.5	126	600/1500	300/1000	10D/20D
GYTA/S74 ~96	74 ~96	13.2	153	600/1500	300/1000	10D/20D
GYTA/S98 ~120	98 ~120	14.6	182	600/2000	300/1000	10D/20D
GYTA/S122 ~ 144	122 ~ 144	16.5	221	600/2500	300/1000	10D/20D
GYTA/S 146 ~ 216	146 ~ 288	16.5	221	600/2500	300/1000	10D/20D

Stranded Loose Tube Cable with Aluminum Tape and Steel Tape (Double Sheaths) (GYTA53)

Description

In the GYTA53 cable, single-mode/multimode fibers are positioned in the loose tubes, the tubes are filled with water blocking filling compound. Tubes and fillers are stranded around the strength member into a circular cable core. An Aluminum Polyethylene Laminate (APL) is applied around the core. Which is filled with the filling compound to protect it. Then the cable is completed with a thin PE sheath. After PSP is applied over the inner sheath, the cable is completed with a PE outer sheath.

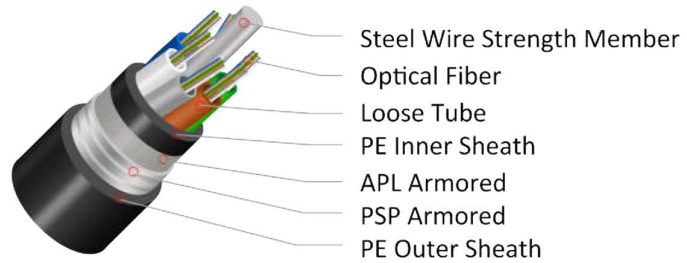
Application

Direct burial

Temperature Range

Operating: -40°C to +70°C

Storage: -40°C to +70°C



Characteristics

The following measures are taken to ensure the water blocking performance of the cable:

1. Single steel wire used as the central strength Member
2. Special water-blocking filling compound in the loose tube
3. 100% cable core filling, APL and PSP moisture barrier

Standards

Comply with stand YD/T 901-2009 as well as IEC 60794-1

Technical Parameters

Cable Type (increased by 2fibers)	Fiber Count	Cable Diameter mm	Cable Weight kg/km	Tensile Strength Long/Short Term N	Crush Resistance Long/Short Term N/100mm	Bending Radius Static/Dynamic mm
GYTA53 2 ~ 36	2 ~ 36	13.7	190	1000/3000	1000/3000	10D/20D
GYTA53 38 ~ 72	38 ~ 72	15.3	229	1000/3000	1000/3000	10D/20D
GYTA53 74~96	74~96	15.9	244	1000/3000	1000/3000	10D/20D
GYTA53 98 ~120	98 ~120	18.0	288	1000/3000	1000/3000	10D/20D
GYTA53 122 ~144	122 ~144	19.2	325	1000/3000	1000/3000	10D/20D

Stranded Loose Tube Cable with Steel Tape (Double Sheaths) (GYTY53)

Description

In the GYTY53 cable, single-mode/multimode fibers are positioned in the loose tubes, the tubes are filled with water blocking filling compound. Tubes and fillers are stranded around the strength member into a circular cable core. Then the cable is completed with a PE sheath. Which is filled with the filling compound to protect it. After PSP is applied over the inner sheath, the cable is completed with a PE outer sheath.

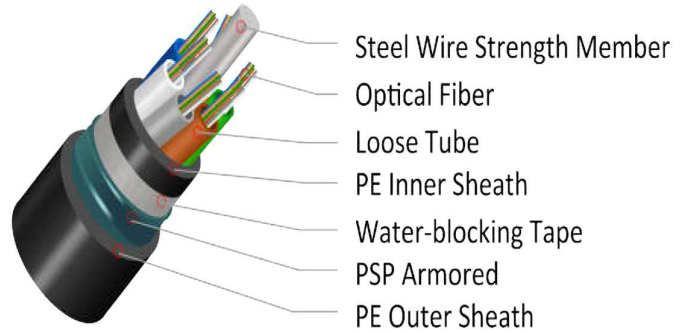
Application

Direct burial

Temperature Range

Operating: -40°C to +70°C

Storage: -40°C to +70°C



Characteristics

The following measures are taken to ensure the water blocking performance of the cable:

1. Single steel wire used as the central strength member
2. Special water-blocking filling compound in the loose tube
3. 100% cable core filling, APL and PSP moisture barrier

Standards

Comply with stand YD/T 901-2009 as well as IEC 60794-1

Technical Parameters

Cable Type (increased by 2fibers)	Fiber Count	Cable Diameter mm	Cable Weight kg/km	Tensile Strength Long/Short Term N	Crush Resistance Long/Short Term N/100mm	Bending Radius Static/Dynamic mm
GYTY53 2 ~36	2 ~36	6	12.6	184	1000/3000	1000/3000
GYTY53 38 ~ 72	38 ~ 72	12	14.0	216	1000/3000	1000/3000
GYTY53 74 ~ 96	74 ~ 96	12	15.7	260	1000/3000	1000/3000
GYTY53 98 ~ 120	98 ~ 120	12	17.4	301	1000/3000	1000/3000
GYTY53 122 ~ 144	122 ~ 144	12	19.0	354	1000/3000	1000/3000

Stranded Loose Tube Cable with Non-metallic Central Strength Member (GYFTY)

Description

In the GYFTY cable, single-mode/multimode fibers are positioned in the loose tubes, while the loose tubes strand together around non-metallic central strength member (FRP) into a compact and circular cable core. The strength member would be covered with polyethylene (PE). The water-blocking materials are distributed into the interstices of the cable core. The cable is completed with a PE sheath.

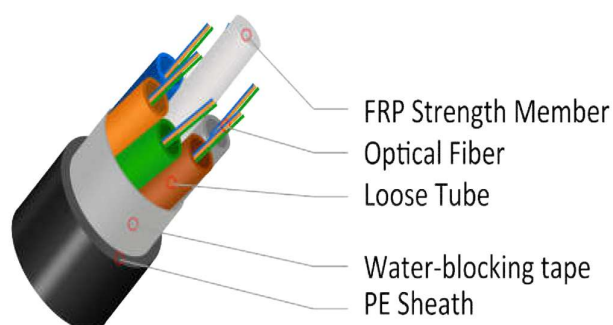
Application

Duct/Aerial

Temperature Range

Operating: -40°C to +70°C

Storage: -40°C to +70°C



Characteristics

1. Excellent mechanical and temperature Performance. Critical protection to fibers.
2. Excellent ultraviolet prevention with PE sheath; excellent crush resistance and flexibility

Standards

Comply with stand YD/T 901-2009 as well as IEC 60794-1

Technical Parameters

Cable Type (Increased by 2fibers)	Fiber Count	Tubes	Fillers	Cable Diameter mm	Cable Weight kg/km	Tensile Strength Long/Short Term N	Crush Resistance Long/Short Term N/100mm	Bending Radius Static/Dynamic mm
GYFTY 2 ~ 12	8 ~ 12	2	5	11.0	97	600/1500	300/1000	10D/20D
GYFTY 14 ~18	14 ~18	3	4	11.0	97	600/1500	300/1000	10D/20D
GYFTY 20 ~ 24	20 ~ 24	4	3	11.0	97	600/1500	300/1000	10D/20D
GYFTY 26 ~ 30	26 ~ 30	5	2	11.0	97	600/1500	300/1000	10D/20D
GYFTY 32 ~ 36	32 ~ 36	6	1	11.0	97	600/1500	300/1000	10D/20D

Figure-8 Cable with Steel Tape/Aluminum Tape (GYTC8S/GYTC8A)

Description

In the GYTC8S/GYTC8A cable, single-mode/multimode fibers are positioned in the loose tubes, while the loose tubes strand together around metallic central strength member into a compact and circular cable core, and the water-blocking materials are distributed into interstices of it. After a PSP/APL is applied around the cable core, this part of cable accompanied with the stranded wires as the supporting part are completed with a PE sheath to be a figure-8 structure.

Application

Self-supporting Aerial

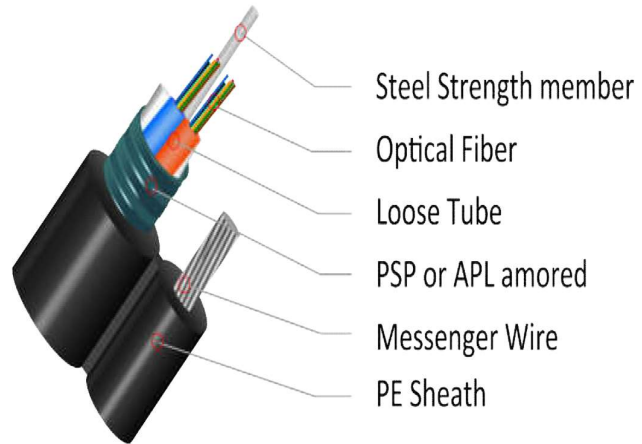
Temperature Range

Operating: -40°C to +70°C

Storage: -40°C to +70°C

Characteristics

1. Excellent mechanical and temperature performance
2. Critical protection to fibers.



Standards

Comply with stand YD/T 901-2009 as well as IEC 60794-1

Technical Parameters

Cable Type (Increased by 2 fibers)	Fiber Count	Cable Diameter mm	Cable Weight kg/km	Tensile Strength		Crush Resistance	
				Long/Short Term N	Long/Short Term N	Long/Short Term N/100mm	Long/Short Term N/100mm
GYTC8S/A 2 ~ 30	2 ~ 30	9.5 x 19.1	160.0	2000/6000		300/ 1000	
GYTC8S/A 32 ~ 36	32 ~ 36	10.1 x 19.7	170.0	2000/6000		300/ 1000	
GYTC8S/A 38 ~ 60	38 ~ 60	10.8 x 20.4	180.0	2000/6000		300/ 1000	
GYTC8S/A 62 ~ 72	62 ~ 72	12.4 x 22.0	195.0	2000/6000		300/ 1000	
GYTC8S/A 74 ~ 96	74 ~ 96	13.1 x 22.7	222.0	2000/6000		300/ 1000	
GYTC8S/A 98~ 120	98~ 120	15.7 x 22.3	238.0	2000/6000		300/ 1000	
GYTC8S/A 122~ 144	122~ 144	15.5 x 25.1	273.0	2000/6000		300/ 1000	

Figure-8 Cable with Steel Tape (GYXTC8S)

Description

In the GYXTC8S cable, single-mode/multimode fibers are positioned in the loose tube, which is made of high modulus plastic materials and filled with filling compound. PSP is longitudinally applied around the loose tube, and water-blocking materials are distributed into interstices of it. Then, this part of cable accompanied with the stranded wires as the supporting part are completed with a PE sheath to be a figure-8 structure

Application

Self-supporting aerial

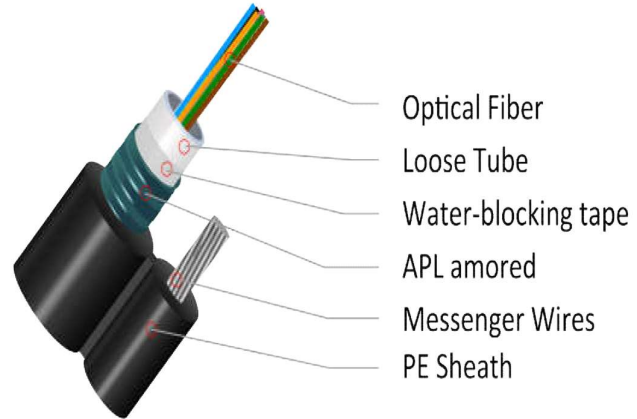
Temperature Range

Operating: -40°C to +70°C

Storage: -40°C to +70°C

Characteristics

1. Excellent mechanical and temperature performance
2. Critical protection to fibers.



Standards

Comply with stand YD/T 1155-2001 as well as IEC60794-1.

Technical Parameters

Cable Type (Increased by 2fibers)	Fiber Count	Max Fibers in Tubes	Cable Weight kg/km	Cable Diameter mm	Tensile Strength Long/Short Term N	Crush Resistance Long/Short Term N/100mm
GYXTC8S2 ~ 8	2 ~ 8	8	117.0	8.1 x 16.9	2000/6000	300/1000
GYXTC8S10 ~12	10 ~12	12	121.0	8.3 x 17.0	2000/6000	300/1000

Small Figure 8 Fiber Optic Cable (GYXTC8Y)

Description

This cable is built with loose tube with single mode or multimode fibers and steel wire as the messenger wire, formed like "Figure 8". After aramid yarn is applied over the inner sheath, the cable is completed with a PE outer sheath.

Application

Self-supporting Aerial for FTTH Solution.

Temperature Range

Operating: -40°C to +70°C

Storage: -40°C to +70°C

Characteristics

1. Accurate optical fiber excess length ensures good mechanical and temperature performance.
2. High strength loose tube that is hydrolysis resistant and special tube filling compound adds flexibility.
3. Figure 8 self-supporting type structure possesses high tensile strength and is convenient for aerial installation and its installation cost is cheap.
4. The service life of the products will be more 30 years.
5. Light, flexible, easy for the laying and it is used for FTTH solution.



Standards

Comply with stand YD/T 1155-2001 as well as IEC60794-1.

Technical Parameters

Cable Type (Increased by 2fibers)	Fiber Count	Max. Fibers in Tubes	Cable Weight kg/km	Cable Diameter mm	Tensile Strength N	Crush Resistance N/100mm
GYXTC8Y2 ~ 12	2 ~ 12	12	47.0	5.4 x 9.5	500	700

Indoor Simplex Fiber Optic Cable (GJFJV-Single fiber)

Description

The Simplex cable uses single 900µm or 600µm tight buffered fiber as fiber optic transmission medium, covered with aramid yarn as strength member, then extruded with a PVC sheath. Other sheath materials, like LSZH and TPU, are available on request

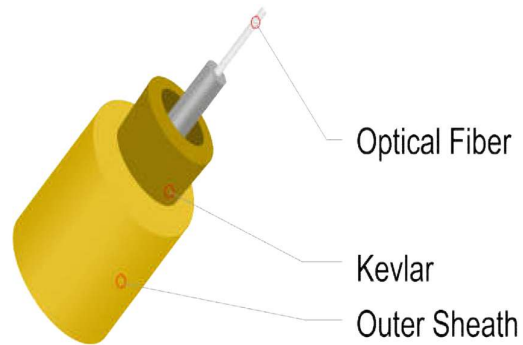
Application

1. Indoor riser level and plenum level cable distribution
2. Optical fiber jumper or pigtail communication
3. Suitable for communication equipment served

Temperature Range

Operating: -20°C to 60°C

Storage: -20°C to 60°C



Characteristic

1. Excellent stripping ability with tight buffered fiber
2. Excellent flame-retardant properties
3. High tensile strength due to aramid strength member
4. Excellent corrosion resistant, waterproof, flame retardant and environmental-friendly properties of the outer sheath

Standards

Comply with standard YD/T1258.2-2003 and IEC 60794-2-10/11

Technical Parameter

Cable Diameter (mm)	Tight Buffer diameter (mm)	Weight (kg/km)	Tensile Strength		Crush Resistance		Bending Radius	
			Long	Short Term N	Long	Short Term N/100mm	Static	Dynamic mm
1.6±0.2	0.6	2.5	100	60	100	500	60	30
1.8±0.2	0.6	3.5	100	60	100	500	60	30
3.0±0.2	0.9	8	100	60	100	500	60	30

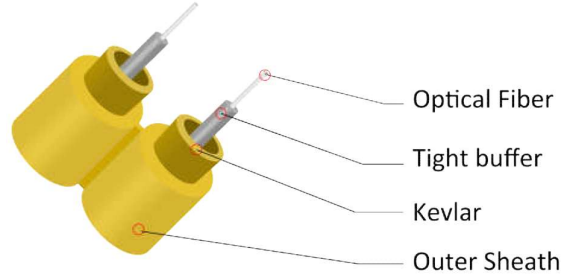
Indoor Zip-cord Interconnect Fiber Optic Cable (GJFJV)

Description

The zip-cord interconnect cable uses two 900µm or 600µm tight buffered fibers as fiber optic transmission medium, covered with aramid yarn as strength member, then extruded with a PVC sheath. Other sheath materials, like LSZH and TPU, are available on request.

Application

1. Duplex fiber flexible connection jumper or pigtail
2. Indoor riser level and plenum level cabling
3. Instruments communication equipment interconnection



Temperature Range

Operating: -20°C to 60°C

Storage: -20°C to 60°C

Characteristics

1. Excellent stripping ability with tight buffered fiber
2. High tensile strength due to aramid strength member
3. Excellent corrosion resistant, waterproof, flame retardant and environmental-friendly properties of the outer sheath

Standards

Comply with standard YD/T1258.2-2003 and IEC 60794-2-10/11

Technical Parameter

Cable Diameter(mm)	Tight Buffer diameter (mm)	Weight (kg/km)	Tensile Strength		Crush Resistance		Bending Radius	
			Long/Short Term N	Long/Short Term N/100mm	Static/Dynamic mm	Static/Dynamic mm		
1.6*3.3	0.6	4.8	150	80	500	100	60	30
1.6*3.7	0.6	0.6	150	80	500	100	60	30
2.0*4.1	0.9	0.9	150	80	500	100	60	30
2.4*5.0	0.9	0.9	150	80	500	100	60	30
2.8*5.8	0.9	0.9	150	80	500	100	60	30
3.0*6.2	0.9	0.9	150	80	500	100	60	30

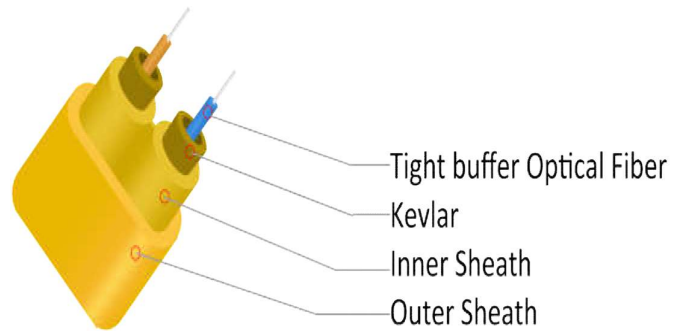
Indoor Duplex Flat Fiber Optic Cable (GJFJBV)

Description

The duplex flat cable uses two 900µm or 600µm tight buffered fibers as fiber optic transmission medium, covered with Kevlar aramid yarn as strength member while each fiber is extruded with a PVC inner sheath, then extruded with a flat PVC outer sheath. Other sheath materials, like LSZH and TPU, are available upon request.

Application

1. Duplex optical fiber flexible connection jumper or pigtail
2. Indoor riser level and plenum level cabling
3. Instruments communication equipment interconnection



Temperature Range

Operating: -20°C to 60°C

Storage: -20°C to 60°C

Characteristics

1. Excellent stripping ability with tight buffered fiber
2. Excellent flame-retardant properties
3. High tensile strength due to aramid strength member
4. Excellent corrosion resistant, waterproof, flame retardant and environmental-friendly properties of the outer sheath

Standards

Comply with standard YD/T1258.2-2003 and IEC 60794-2-10/11

Technical Parameter

Cable Diameter(mm)	Inner Jacket diameter(mm)	Weight(kg/km)	Tensile Strength		Crush Resistance		Bending Radius	
			Long/Short Term N		Long/Short Term N/100mm		Static/Dynamic mm	
3.0*5.0	1.8	56	300	800	1000	500	60	30
3.2*5.6	2	65	300	800	1000	500	60	30
4.0*7.0	3	88	300	800	1000	500	60	30

Indoor Multi-Purpose Break-out Fiber Optic Cable I (GJBFJV)

Description

The multi-core branch cable, It takes several simplex cables (900μm tight buffered fiber with aramid yarn strength member) as the sub-units which are stranded around the central strength member to form the cable core, then extruded with a PVC sheath. Other sheath materials, like TPU or LSZH, are available on request.

Application

1. Connecting lines between communication equipment
2. Indoor cabling

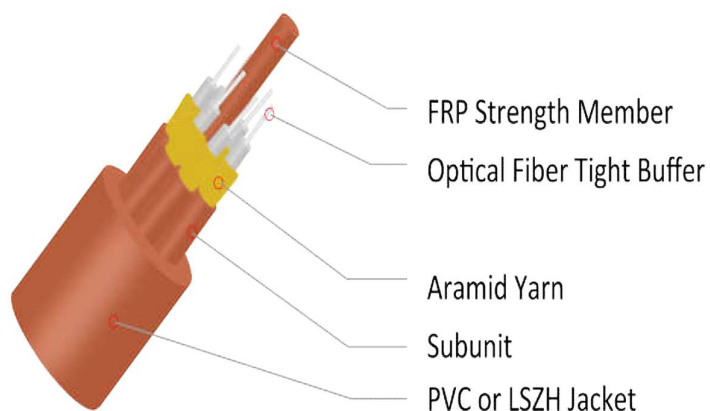
Temperature Range

Operating: -20°C to 60°C

Storage: -20°C to 60°C

Characteristics

1. Excellent stripping ability with tight buffered fiber
2. High tensile strength due to aramid strength member
3. Excellent corrosion resistant, waterproof, flame retardant and environmental-friendly properties of the outer sheath



Standards

Comply with standard YD/T1258.2-2003 and IEC 60794-2-10/11

Technical Parameter

Fiber Counts	Cable Diameter(mm)	Weight Kg/Km	Tensile Strength		Crush Resistance		Bending Radius	
			Long	Short Term N	Long	Short Term N/100mm	Static	Dynamic mm
4	7.2±0.4	45.5	200	660	1000	300	10D	20D
6	9.0±0.4	63	200	660	1000	300	10D	20D
8	10.0±0.4	84	200	660	1000	300	10D	20D
12	12.5±0.4	148	200	660	1000	300	10D	20D
24	12.5±0.4	202	400	1320	1000	300	10D	20D

Indoor Multi-Purpose Distribution Fiber Optic Cable II (GJFJV)

Description

The multi-purpose distribution cable uses several 900µm or 600µm tight buffered fibers as fiber optic transmission medium, covered with aramid yarn as strength member, then extruded with a PVC sheath. Other sheath materials, like LSZH, PVC and TPU, are available on request.

Application

1. Multi-core fiber flexible connector
2. Indoor cabling

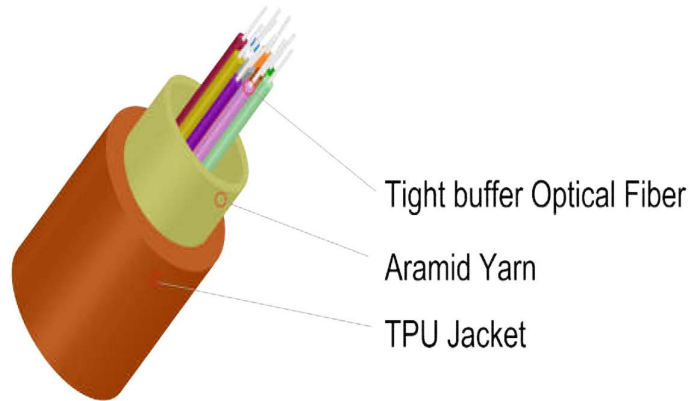
Temperature Range

Operating: -20°C to 60°C

Storage: -20°C to 60°C

Characteristics

1. Excellent strip ability with tight buffered fiber.
2. High tensile strength due to aramid strength member
3. Excellent corrosion resistant, waterproof, flame retardant and environmental- friendly properties of the outer sheath



Standards

Comply with standard YD/T1258.2-2003 and IEC 60794-2-10/11

Technical Parameter

Fiber Counts	Cable Diameter(mm)	Weight Kg/Km	Tensile Strength		Crush Resistance		Bending Radius	
			Long/Short Term N		Long/Short Term N/100mm		Static/Dynamic mm	
4	5.2±0.4	16.2	130	440	1000	300	60	30
6	5.5±0.4	20	130	440	1000	300	60	30
8	6.2±0.4	26	130	440	1000	300	60	30
12	6.5±0.4	31.5	200	660	1000	300	60	30
24	8.2±0.4	50.5	200	660	1000	300	60	30
36	9.0±0.4	70.5	200	660	1000	300	60	30
48	10.5±0.4	88.5	200	660	1000	300	60	30

Indoor Multi-Purpose Distribution Fiber Optic Cable III (GJPFJV)

Description

The GJPFJV multi-purpose distribution cable uses 6-fiber sub-units (900µm tight buffer, aramid yarn as strength member). A fiber reinforced plastic (FRP) located in the center of core acts as a non-metallic strength member. The sub-units are stranded around the cable core. The cable is completed with a LSZH or PVC jacket.

Application

1. Backbone distribution cable in building
2. Indoor cabling

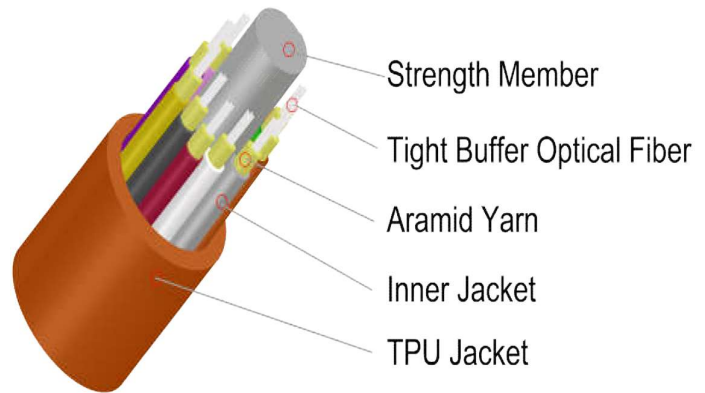
Temperature Range

Operating: -20°C to 60°C

Storage: -20°C to 60°C

Characteristics

1. Excellent stripping ability with tight buffered fiber.
2. High tensile strength due to aramid strength member.
3. Excellent corrosion resistant, waterproof, flame retardant and environmental- friendly properties of the outer sheath



Standards

Comply with standard YD/T1258.2-2003 and IEC 60794-2-10/11

Technical Parameter

Fiber Counts	Cable Diameter(mm)	Weight (Kg/Km)	Tensile Strength		Crush Resistance		Bending Radius	
			Long/Short Term N		Long/Short Term N/100mm		Static/Dynamic mm	
24	15.5±0.4	205	1500	500	1500	600	10D	20D
36	17.5±0.4	255	1500	500	1500	600	10D	20D
48	17.5±0.4	255	1500	500	1500	600	10D	20D
72	19.5±0.4	320	1500	500	1500	600	10D	20D
96	22.0±0.4	395	1500	500	1500	600	10D	20D
144	28.0±0.4	579	1500	500	1500	600	10D	20D

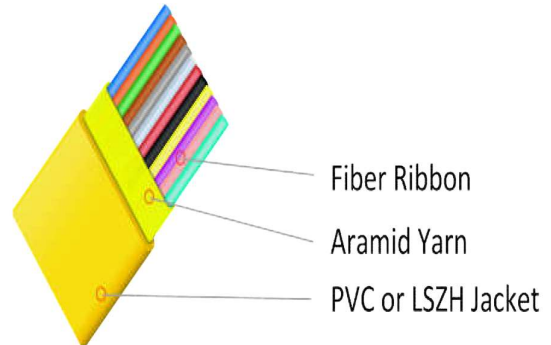
Indoor Flat Fiber Ribbon Fiber Optic Cable (GJDFBV)

Description

The GJDFBV flat ribbon cable uses fiber ribbon as optical transmission medium, covered with aramid yarn as strength member, then extruded with a PVC sheath. Other sheath materials, like LSZH and TPU, are available on request.

Application

1. Ribbon fiber flexible connection jumper
2. Various indoor cabling solutions.
Especially useful in new layouts.



Temperature Range

Operating: -20°C to 60°C

Storage: -20°C to 60°C

Characteristics

1. Excellent stripping ability with tight buffered fiber
2. High tensile strength due to aramid strength member
3. Excellent corrosion resistant, waterproof, flame retardant and environmental- friendly properties of the outer sheath.

Standards

Comply with standard YD/T1258.2-2003 and IEC 60794-2-10/11

Technical Parameter

Fiber Counts	Cable Diameter(mm)	Weight (kg/km)	Tensile Strength		Crush Resistance		Bending Radius	
			Long	Short Term N	Long	Short Term N/100mm	Static	Dynamic mm
2	2.5*3.5	7.3	200	80	500	200	30	50
4	2.5*3.5	7.4	200	80	500	200	30	50
6	2.5*4.0	8.2	200	80	500	200	30	50
8	2.5*4.5	9.3	200	80	500	200	30	50
12	2.5*5.0	10	200	80	500	200	30	50

FTTH Bow-type Drop Cable

Description

The typical bow-type drop optical cable includes central optical fibers with 2 parallel KFRP or steel wire as the strength members placed on both sides, a LSZH or PVC sheath is extruded outside.

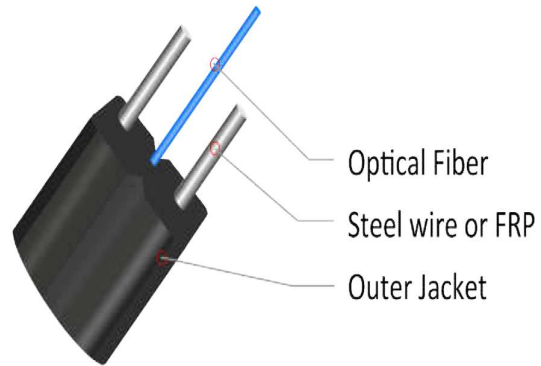
Application

1. All types of fiber cables with different structures
2. High performance optical network operations
3. High speed optical routes in buildings (FTTX)

Temperature Range

Operating: -20°C to 60°C

Storage: -20°C to 60°C



Characteristics

1. Simple structure, light weight, high tensile strength
2. Novel groove design, ease of strip and splice. Simplified installation and maintenance
3. Low smoke, zero halogen and flame-retardant sheath, environment-friendly.

Standards

Comply with standard YD/T1258.2-2003 and IEC 60794-2-10/11

Technical Parameter

Cable Type	Cable Diameter(mm)	Weight (kg/km)	Tensile Strength		Crush Resistance		Bending Radius	
			Long/Short Term N	Long/Short Term N	Long/Short Term N/100mm	Long/Short Term N/100mm	Static/Dynamic mm	Static/Dynamic mm
GJXFH-1	2.0*3.0	8	60	30	1000	300	15	30
GJXFH-2	2.0*3.0	8.5	60	30	1000	300	15	30
GJXFH-4	2.0*4.0	10	60	30	1000	300	15	30
GJXH-1	2.0*3.0	9	60	30	1000	300	15	30
GJXH-2	2.0*3.0	9.5	60	30	1000	300	15	30
GJXH-4	2.0*4.0	10	60	30	1000	300	15	30

FTTH Self-supporting Bow-type Drop Cable

Description

The typical self-supporting bow-type drop fiber optic cable consists of GJXFH/GJXH cable and an additional strength member (steel wire or stranded steel wire).

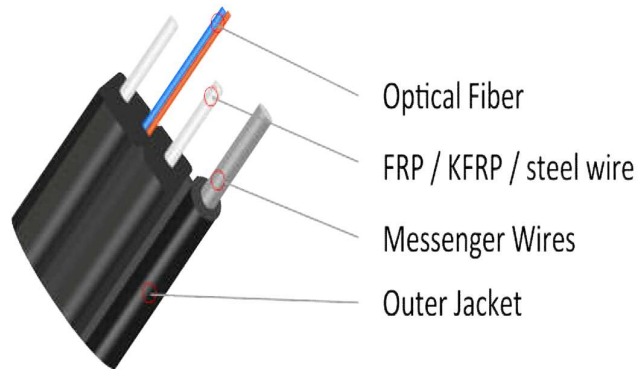
Application

1. All types of fiber cables with different structures
2. High performance optical network operating
3. High speed optical routes in buildings (FTTX)

Temperature Range

Operating: -20°C to 60°C

Storage: -20°C to 60°C



Characteristics

1. Innovative groove design, easily strip and splice, simplified installation and maintenance, higher tensile strength
2. Suitable as cable extension from outdoor (as aerial cable) to indoor.
3. Low smoke, zero halogen and flame-retardant sheath; Safe and environment-friendly.

Standards

Comply with standard YD/T1258.2-2003 and IEC 60794-2-10/11

Technical Parameter

Cable Type	Cable Diameter(mm)	Weight (kg/km)	Tensile Strength		Tensile Strength		Bending Radius	
			Long	Short Term N	Long	Short Term N	Static	Dynamic mm
GJXFH-1	2.0*5.0	21	60	30	1000	300	15	30
GJXFH-2	2.0*5.0	21	60	30	1000	300	15	30
GJXFH-4	2.0*5.6	21.5	60	30	1000	300	15	30
GJXH-1	2.0*5.0	21	60	30	1000	300	15	30
GJXH-2	2.0*5.0	21	60	30	1000	300	15	30
GJXH-4	2.0*5.6	21.5	60	30	1000	300	15	30