Cable Products

YOFC
Smart Link Better Life.

Yangtze Optical Fibre and Cable Joint Stock Limited Company

Stock Code: 601869.SH 06869.HK

ADD: No.9 Optics Valley Avenue, Wuhan, Hubei, China(P.C.: 430073)

Tel: 400-006-6869 **Email:** 400@yofc.com

en.yofc.com

Facebook: Yangtze Optical Fibre and Cable Joint Stock Limited Company

LinkedIn: Yangtze Optical Fibre and Cable Joint Stock Limited Company

WeChat

YOFC
Smart Link Better Life.

Smart Link Better Life.

Yangtze Optical Fibre and Cable Joint Stock Limited Company (also known as 'YOFC') established in Wuhan, Hubei Province in May 1988, is a technologically innovative enterprise specializing in optical fibre preforms, optical fibres, optical fibre cables and integrated solutions, and also a global leading supplier in these areas.

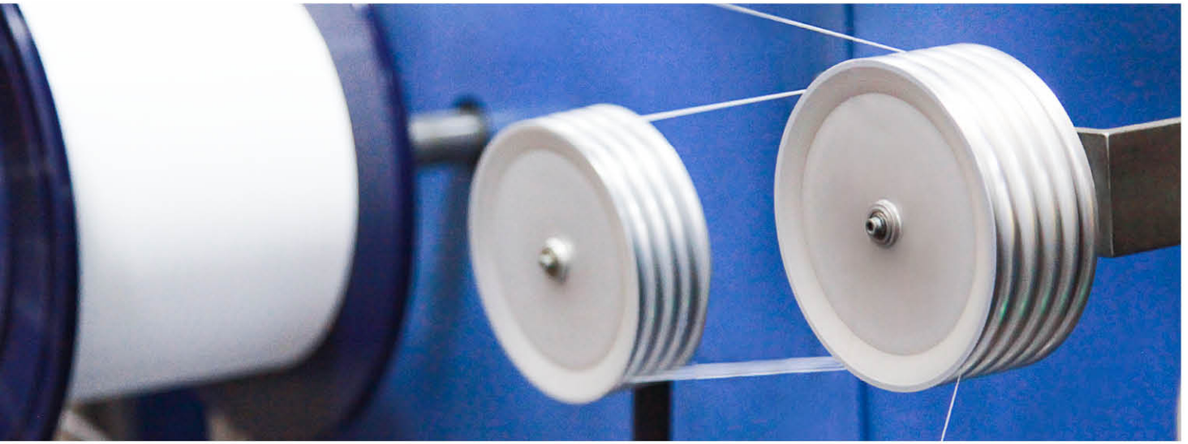
YOFC was listed in the Hong Kong Stock Exchange on December 10, 2014(Stock Code: 06869.HK), and listed in the Shanghai Stock Exchange on July 20, 2018 (Stock Code: 601869.SH), and is the only A&H shares company in China's optical fibre and cable industry as well as the first one in Hubei Province.

YOFC mainly produces and sells different types of optical fibre preforms, optical fibres and optical fibre cables that are widely applied in telecommunications industry, customized optical modules, specialty optical fibres, active optical cables, submarine cables, RF coaxial cables and accessories, etc. YOFC is also equipped with some solutions and services such as system integration and communication engineering design. Providing a variety of different products and solutions for world's telecommunications industry and other industries (e,g. Public utility, Transportation, Oil & Chemistry and Medication etc.), YOFC has offered its products and services to over 90 countries and regions around the world.

Through introduction, digestion, absorption and re-innovation since its establishment, YOFC has carried out a way to successfully revitalize national industry. YOFC has mastered 3 types of optical fibre preform manufacturing technology (PCVD/VAD/OVD), and honored many awards & reputations such as National Enterprise Technical Center, the 9th place in the 2020 Top 100 Intelligent Manufacturing Enterprises in China, the Second Class National Science and Technology Progress Award(3 times), the China Quality Award, the European Quality Award, etc. In addition, YOFC has obtained over 900 invention patents at home and abroad, and was nominated the support organization for State Key Laboratory in optical fibre and optical fibre cable manufacturing technology. It's also one of the significant members in ITU-T and IEC in setting international standards.

Adhering to the mission of 'Smart Link Better Life', YOFC devotes itself to becoming the leader in information transmission and smart links through its core value 'Client Focus Accountability Innovation Stakeholder Benefits', and builds its strategies in the following 5 aspects: Overall business growth; Internationalization; Diversification; Technological innovation & digital transformation; Synergy growth of capital operation.

Contents



Naming Rules for Outdoor Optical Cables of YOFC

Class
GY-outdoor
GP-sewer
GL-micro-trench

Strength member
(Void)- metallic strength member
F-non-metallic strength member (FRP)
H-non-metallic strength member + aramid yarns
G-glass fibre yarns
A-aramid yarns

Structural features
D-fibre ribbon
G-slotted core
X-uni- tube
T-water-blocking compound-filled
(Void)-dry water blocking
C-self-supporting
Z-flame-retardant
B-flat shape
8-figure-8

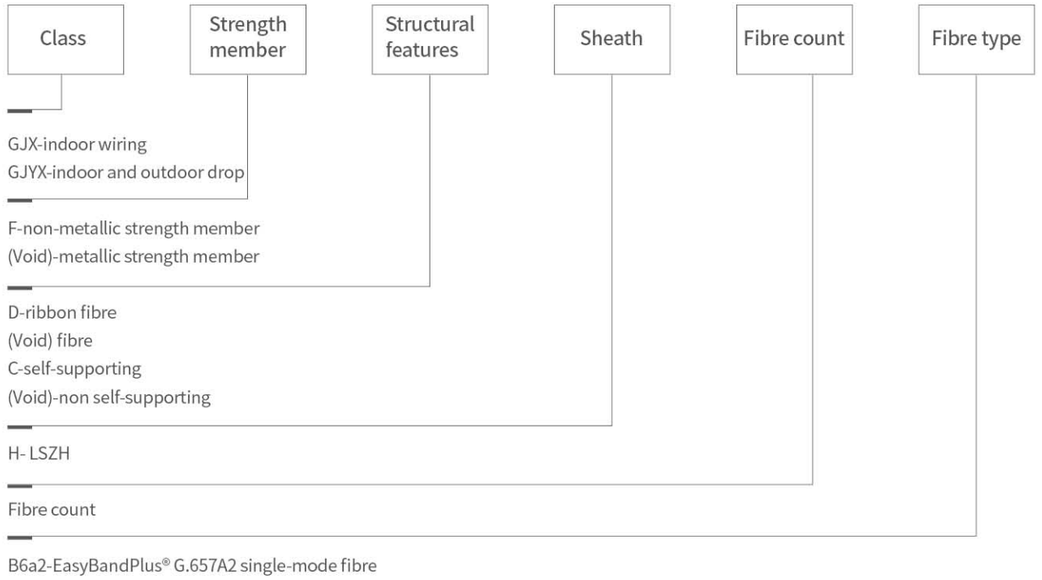
Sheath
Y-PE sheath
A-aluminum tape armor + PE sheath
S -steel tape armor + PE sheath
W-steel tape armor + PE sheath with embedded parallel steel wires
F-glass fibre tape+ PE sheath

Outer sheath
33-steel wire armor + PE sheath
53-steel tape armor + PE sheath
54-steel tape armor + PE sheath + nylon sheath
63-glass fibre yarn armor + PE sheath
333-double steel wire armors + PE sheath
53+33-steel tape armor + PE sheath + steel wire armor + PE sheath
53+333-steel tape armor + PE sheath + double steel wire armors + PE sheath

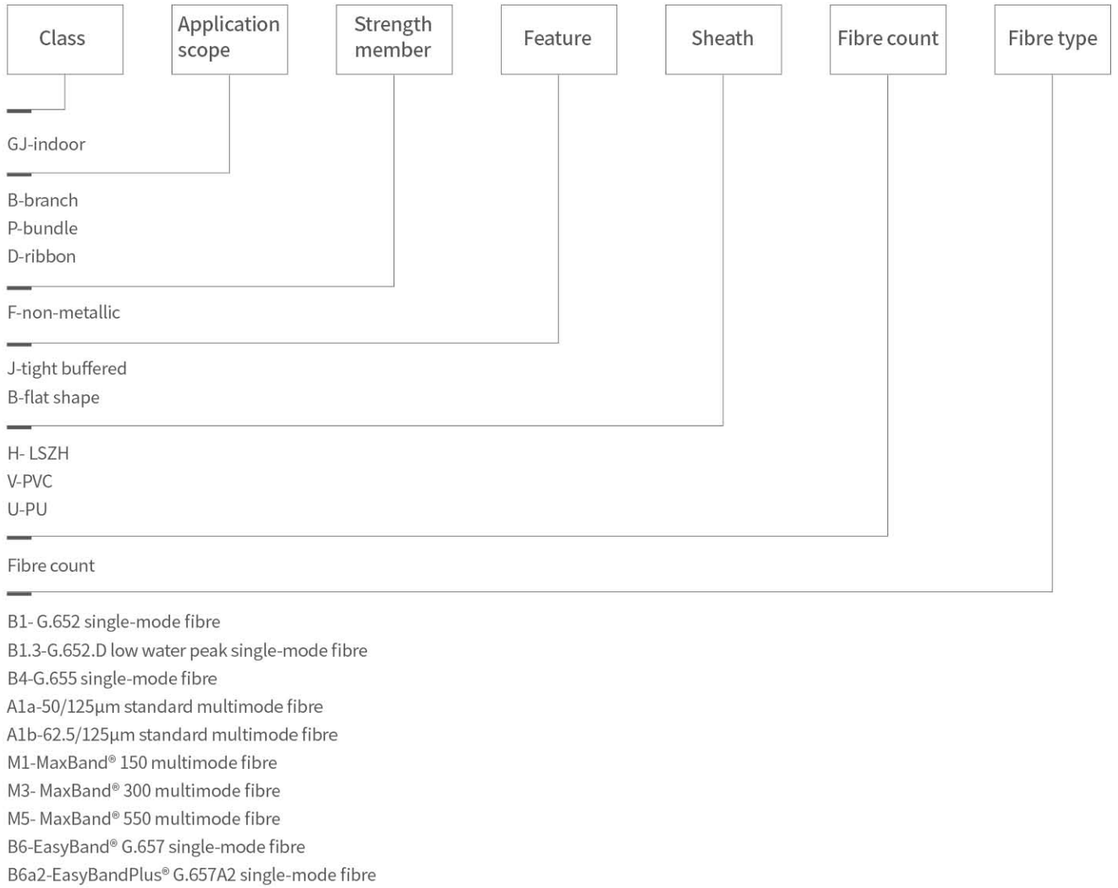
Fibre count

Fibre type
B1- G.652 single-mode fibre
B1.3-G.652.D low water peak single-mode fibre
B4-G.655 single-mode fibre
A1a-50/125μm standard multimode fibre
A1b-62.5/125μm standard multimode fibre
M1-MaxBand® 150 multimode fibre
M3- MaxBand® 300 multimode fibre
M5- MaxBand® 550 multimode fibre
B6-EasyBand® G.657 single-mode fibre
B6a2-EasyBandPlus® G.657A2 single-mode fibre

Naming Rules for Indoor Bow-type Drop Optical Cables of YOFC



Naming Rules for Indoor Flexible Optical Cables of YOFC



Conventional Optical Cable Types

1. Optical Cable Types

Fig. No.	Type	Core Network/Backbone Network/ Arterial				Metropolitan Area Network/ Access Network				FTTH				
										Feeder			Distribution	Drop
/	/	Buried	Aerial	Self-supporting aerial	Underwater	Duct	Aerial	Self-supporting aerial	Underwater	Duct	Aerial	Self-supporting aerial	/	/
1-1	GYTA		✓			✓	✓			✓	✓			
1-2	GYTS04		✓			✓	✓			✓	✓			
1-3	GYTS		✓			✓	✓			✓	✓			
1-4	GYFS		✓			✓	✓			✓	✓			
1-5	GYTY53	✓				✓				✓				
1-6	GYFY53	✓				✓				✓				
1-7	GYTA(S)53	✓				✓				✓				
1-8	GYTA(S)33/333	✓			✓	✓			✓	✓				
1-9	GYTA53+33/333	✓			✓	✓			✓	✓				
1-10	GYFTY		✓			✓	✓			✓	✓			
1-11	GYFTA(S)		✓			✓	✓			✓	✓			
1-12	GYFTY63		✓			✓	✓	✓		✓	✓	✓		
1-13	GYFY63		✓			✓	✓	✓		✓	✓	✓		
1-14	GYFTA53	✓				✓				✓				
1-15	GY(F)XTY		✓			✓	✓			✓	✓			
1-16	GYXTW		✓			✓	✓			✓	✓			
1-17	GYDTA		✓			✓	✓			✓	✓		✓	
1-18	GYDXTW		✓			✓	✓			✓	✓		✓	
1-19	ADSS-I			✓				✓				✓	✓	
1-20	ADSS-II			✓				✓				✓	✓	
1-21	ADSS-III			✓				✓				✓	✓	
1-22	GY(F)TC8A(S)			✓				✓				✓	✓	
1-23	GYFC8Y			✓				✓				✓	✓	
1-24	GYFC8Y53			✓				✓				✓	✓	
1-25	GYXTC8A(S)			✓				✓				✓	✓	
1-26	GJXFH													✓
1-27	GJXH													✓
1-28	GJXFDH/GJXDH													✓
1-29	GJYX(F)CH											✓		✓
1-30	GJYX(F)DCH											✓		✓
1-31	GJYXFHA/ GJYXFHS									✓	✓			✓
1-32	GJYXFH03									✓	✓			✓

Note: 1. Feeder segment of a FTTH network refers to the part from OLT to optical distribution point.
2. Distribution segment of a FTTH network refers to the part from optical distribution point to access point for subscriber.
3. Drop segment of a FTTH network refers to the part from access point for subscriber to ONU.
4. The cables listed in the table can be identified with color stripes. Their structures can be designed on request.
5. For specific technical characteristics of optical cables, please refer to technical specifications of YOFC.

2. Cable Structure & Description

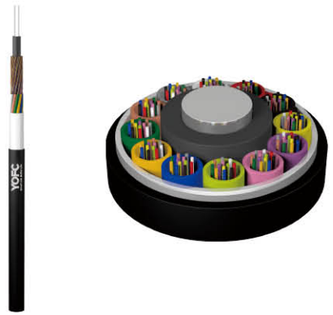
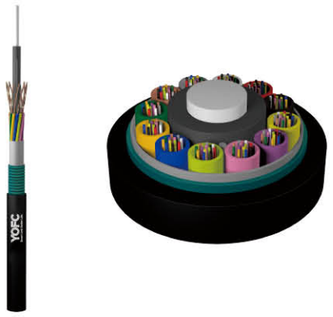
Fig. No.	Cable Structure	Description
1-1		GYTA • Stranded loose tube: high modulus plastic, filled with tube filling compound • Central strength member: steel wire or PE-coated steel wire • Longitudinal water blocking material: cable filling compound • Armor: laminated aluminum tape • Outer sheath: black PE sheath
1-2		GYTS04 • Stranded loose tube: high modulus plastic, filled with tube filling compound • Central strength member: steel wire or PE-coated steel wire • Longitudinal water blocking material: cable filling compound • Armor: corrugated steel tape • Inner sheath: black PE sheath • Outer sheath: nylon sheath
1-3		GYTS • Stranded loose tube: high modulus plastic, filled with tube filling compound • Central strength member: steel wire or PE-coated steel wire • Longitudinal water blocking material: cable filling compound • Armor: corrugated steel tape • Outer sheath: black PE sheath
1-4		GYFS • Stranded loose tube: high modulus plastic, filled with tube filling compound • Central strength member: FRP or PE-coated FRP • Longitudinal water blocking material: water blocking tape and yarns • Armor: corrugated steel tape • Outer sheath: black PE sheath

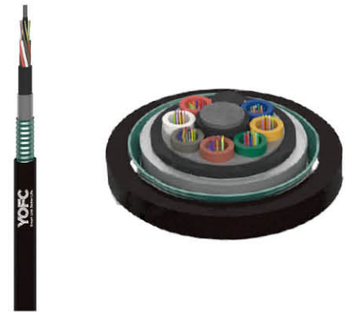
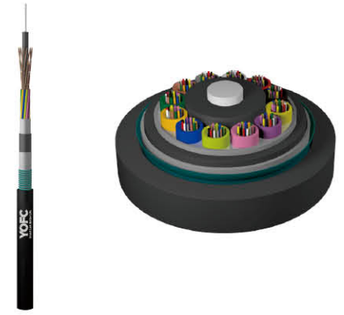
Fig. No.	Cable Structure	Description
1-5		GYTY53 • Stranded loose tube: high modulus plastic, filled with tube filling compound • Central strength member: steel wire or PE-coated steel wire • Longitudinal water blocking material: cable filling compound • Inner sheath: black PE sheath • Armor: corrugated steel tape • Outer sheath: black PE sheath
1-6		GYFY53 • Stranded loose tube: high modulus plastic, filled with tube filling compound • Central strength member: FRP or PE-coated FRP • Longitudinal water blocking material: water blocking tape and yarns • Inner sheath: black PE sheath • Armor: corrugated steel tape • Outer sheath: black PE sheath
1-7		GYTA(S)53 • Stranded loose tube: high modulus plastic, filled with tube filling compound • Central strength member: steel wire or PE-coated steel wire • Longitudinal water blocking material: cable filling compound • Armor: laminated aluminum tape(or corrugated steel tape) • Inner sheath: black PE sheath • Armor: corrugated steel tape • Outer sheath: black PE sheath
1-8		GYTA(S)33/333 • Stranded loose tube: high modulus plastic, filled with tube filling compound • Central strength member: steel wire or PE-coated steel wire • Longitudinal water blocking material: cable filling compound • Armor: laminated aluminum tape(or corrugated steel tape) • Inner sheath: black PE sheath • Armor: steel wire • Outer sheath: black PE sheath

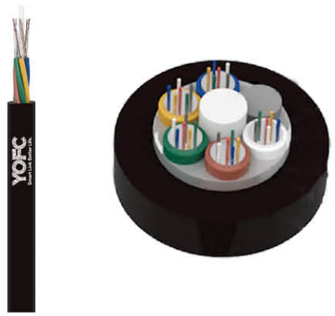
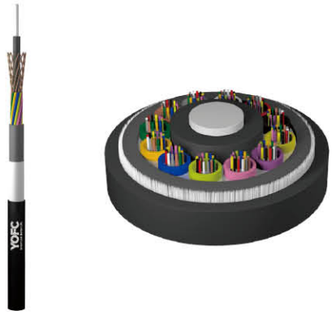
Fig. No.	Cable Structure	Description
1-9		GYTA53+33/333 • Stranded loose tube: high modulus plastic, filled with tube filling compound • Central strength member: steel wire or PE-coated steel wire • Longitudinal water blocking material: cable filling compound • Armor: laminated aluminum tape • Inner sheath: black PE sheath • Armor: corrugated steel tape • Middle sheath: black PE sheath • Armor: steel wire • Outer sheath: black PE sheath
1-10		GYFTY • Stranded loose tube: high modulus plastic, filled with tube filling compound • Central strength member: FRP or PE-coated FRP • Longitudinal water blocking material: cable filling compound • Outer sheath: black PE sheath
1-11		GYFTA(S) • Stranded loose tube: high modulus plastic, filled with tube filling compound • Central strength member: FRP or PE-coated FRP • Longitudinal water blocking material: cable filling compound • Armor: laminated aluminum tape(or corrugated steel tape) • Outer sheath: black PE sheath
1-12		GYFTY63 • Stranded loose tube: high modulus plastic, filled with tube filling compound • Central strength member: FRP or PE-coated FRP • Longitudinal water blocking material: cable filling compound • Inner sheath: black PE sheath • Non-metallic armor: glass fibre yarns • Outer sheath: black PE sheath

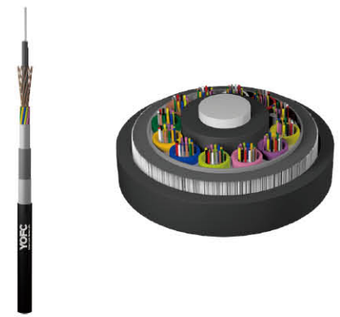
Fig. No.	Cable Structure	Description
1-13		GYFY63 • Stranded loose tube: high modulus plastic, filled with tube filling compound • Central strength member: FRP or PE-coated FRP • Longitudinal water blocking material: water blocking tape and yarns • Inner sheath: black PE sheath • Non-metallic armor: glass fibre yarns • Outer sheath: black PE sheath
1-14		GYFTA53 • Stranded loose tube: high modulus plastic, filled with tube filling compound • Central strength member: FRP or PE-coated FRP • Longitudinal water blocking material: cable filling compound • Armor: laminated aluminum tape • Inner sheath: black PE sheath • Armor: corrugated steel tape • Outer sheath: black PE sheath
1-15		GY(F)XTY • Uni-tube: high modulus plastic, filled with tube filling compound • Strength member: two FRPs (or steel wires) in parallel • Outer sheath: black PE sheath
1-16		GYXTW • Uni-tube: high modulus plastic, filled with tube filling compound • Strength member: two steel wires in parallel • Armor: corrugated steel tape • Outer sheath: black PE sheath

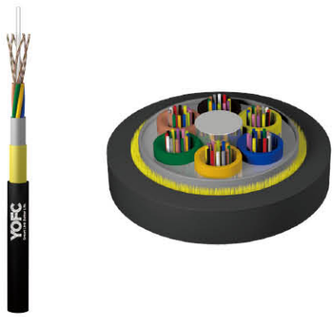
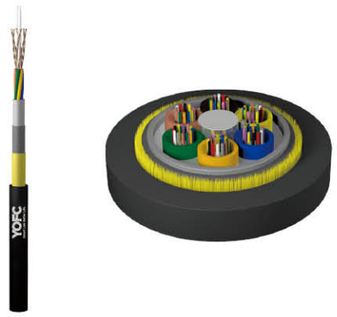
Fig. No.	Cable Structure	Description
1-17		**GYDTA** • Stranded loose tube (fibre ribbons): high modulus plastic, filled with tube filling compound • Central strength member: steel wire or PE-coated steel wire • Longitudinal water blocking material: cable filling compound • Armor: laminated aluminum tape • Outer sheath: black PE sheath
1-18		**GYDXTW** • Uni-tube(fibre ribbons): high modulus plastic, filled with tube filling compound • Strength member: four steel wires in parallel • Armor: corrugated steel tape • Outer sheath: black PE sheath
1-19		**ADSS-I** • Stranded loose tube: high modulus plastic, filled with tube filling compound • Central strength member: FRP or PE-coated FRP • Longitudinal water blocking material: water blocking tape and yarns • Non-metallic armor: aramid yarns • Outer sheath: black PE sheath(or anti-tracking sheath)
1-20		**ADSS-II** • Stranded loose tube: high modulus plastic, filled with tube filling compound • Central strength member: FRP or PE-coated FRP • Longitudinal water blocking material: water blocking tape and yarns • Inner sheath: black PE sheath • Non-metallic armor: aramid yarns • Outer sheath: black PE sheath(or anti-tracking sheath)

Fig. No.	Cable Structure	Description
1-21		**ADSS-III** • Stranded loose tube: high modulus plastic, filled with tube filling compound • Central strength member: FRP or PE-coated FRP • Longitudinal water blocking material: cable filling compound • Inner sheath: black PE sheath • Non-metallic armor: aramid yarns • Outer sheath: black PE sheath(or anti-tracking sheath)
1-22		**GY(F)TC8A(S)** • Stranded loose tube: high modulus plastic, filled with tube filling compound • Central strength member: steel wire (or FRP) or PE-coated steel wire (or FRP) • Longitudinal water blocking material: cable filling compound • Messenger: stranded steel wires • Armor: laminated aluminum tape(or corrugated steel tape) • Outer sheath: black PE sheath
1-23		**GYFC8Y** • Stranded loose tube: high modulus plastic, filled with tube filling compound • Central strength member: FRP or PE-coated FRP • Longitudinal water blocking material: water blocking tape and yarns • Messenger: stranded steel wires • Outer sheath: black PE sheath
1-24		**GYFC8Y53** • Stranded loose tube: high modulus plastic, filled with tube filling compound • Central strength member: FRP or PE-coated FRP • Longitudinal water blocking material: water blocking tape and yarns • Messenger: stranded steel wires • Inner sheath: black PE sheath • Armor: corrugated steel tape • Outer sheath: black PE sheath

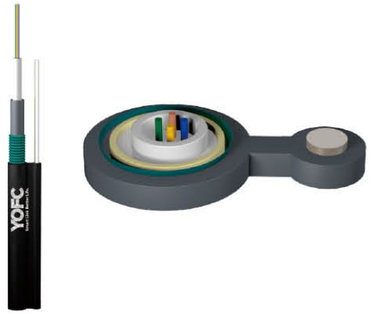
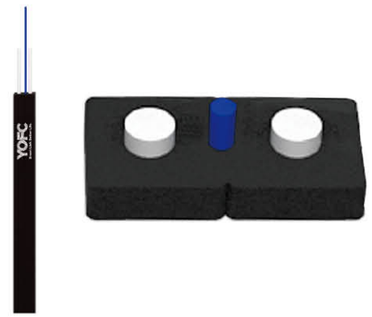
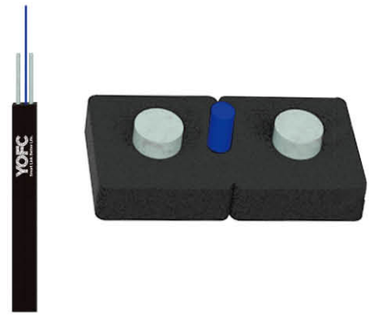
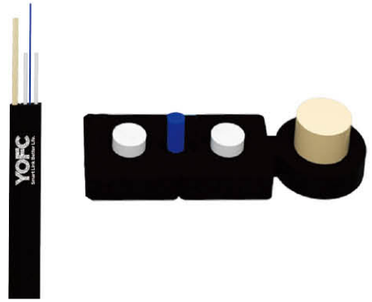
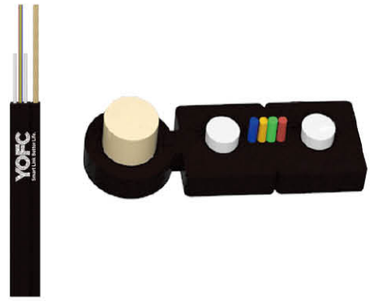
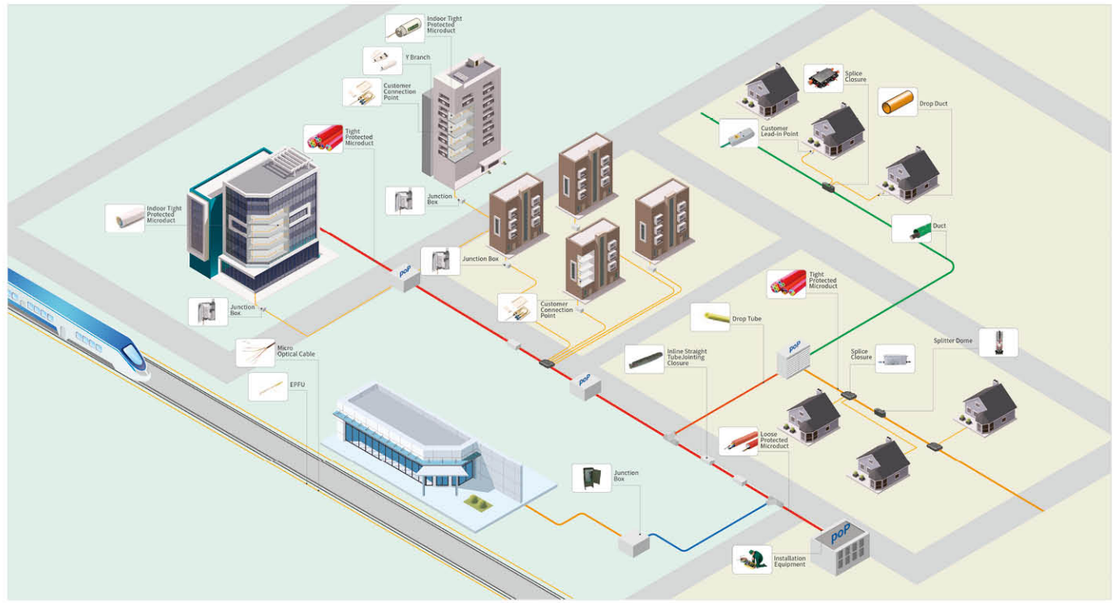
Fig. No.	Cable Structure	Description
1-25		GYXTC8A(S) • Uni-tube: high modulus plastic, filled with tube filling compound • Messenger: steel wire • Armor: laminated aluminum tape(or corrugated steel tape) • Outer sheath: black PE sheath
1-26		GJXFH • Optical fibre in central • Strength member: two FRPs in parallel • Outer sheath: black LSZH sheath
1-27		GJXH • Optical fibre in central • Strength member: two steel wires in parallel • Outer sheath: black LSZH sheath
1-28		GJXFDH/ GJXDH • Fibre ribbon in central • Strength member: two FRPs(or steel wires) in parallel • Outer sheath: black LSZH sheath

Fig. No.	Cable Structure	Description
1-29		GJYXFCH/ GJYXCH • Optical fibre in central • Strength member: two FRPs(or steel wires) in parallel • Messenger: steel wire • Outer sheath: black LSZH sheath
1-30		GJYXFDCH/ GJYXDCH • Fibre ribbon in central • Strength member: two FRPs(or steel wires) in parallel • Messenger: steel wire • Outer sheath: black LSZH sheath
1-31		GJYXFHA/ GJYXFHS • A bow-type drop optical cable in central • Strength member: two FRPs in parallel • Longitudinal water blocking material: water blocking tape and yarns • Armor: laminated aluminum tape(or corrugated steel tape) • Outer sheath: black PE sheath
1-32		GJYXFH03 • A bow-type drop optical cable in central • Strength member: two FRPs in parallel • Longitudinal water blocking material: water blocking tape and yarns • Outer sheath: black PE sheath

Note: The cable structures listed in the table above are basic types recommended. Cable structure can be customized.
For specific technical characteristics of cables, please refer to technical specifications of YOFC.

Air-blown Micro Cables for C-NET



Since the first introduction of the technology of air-blown micro ducts and micro cables by YOFC to China in 2004, after many years' technological absorption and innovation, YOFC is capable of designing overall solutions and providing a full range of air-blown micro ducts and micro cables. YOFC has the construction capabilities and accomplished cases in long-haul highways, urban loop networks, interoffice telephone trunks, duct expansion and FTTx networks, etc.

YOFC possesses professional technicians in air-blown micro ducts and micro cables and can provide overall solutions and technical support services for factories, enterprises, schools, hospitals, public institutions, business centers, subscribers in residential areas and villa.

By integrating the overall product chain of micro ducts and auxiliary protective products, YOFC provides safe and efficient solutions of air-blown micro ducts and micro cables. YOFC takes strict quality control and project management to ensure the quality of various kinds of integrated products, to guarantee the construction quality and provide customers with satisfactory services.

Merits of Air-blown Micro Ducts and Micro Cables

The technology of air-blown micro ducts and micro cables is a kind of high-tech. Compared with optical cables laid in the traditional ways, air-blown micro cables have the following merits:

- It improves duct utilization and increases fibre density

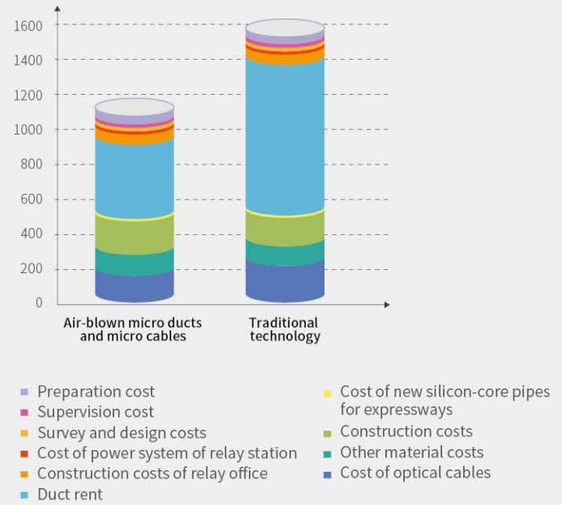
The technology of air-blown micro ducts and micro cables minimizes the sizes of cables, ducts and accessories, fully exploiting duct space and saving construction costs.

- It reduces construction costs and thus increases economic benefits

Compared with the traditional ways of laying cables, construction costs with this technology are low. Thus duct rent can be reduced remarkably and the management interface can be defined clearly. It is the best technology for collaborative construction and sharing of resources.

- It allows more flexible network construction

Air-blown micro ducts and micro cables are applicable to the whole FTTx network. They require only one-time installation in the feeder segment and can be branched at the drop section on request. Complex procedures like splice of traditional cables are avoided, thus allowing much more flexible network construction.



Advantages of YOFC's air-blown micro ducts and micro cables solutions

- YOFC is capable of the design and construction of air-blown solutions for all optical networks. It has Class B qualification for system integration of communication information network
- YOFC can provide the full range of micro ducts and micro cables (2~576F)
- YOFC can provide construction equipments and relevant accessories for air-blown micro ducts and micro cables
- YOFC can provide customized products
- YOFC has rich engineering experiences and many successful cases
- YOFC is able to conduct comprehensive performance tests and trainings of air-blown micro ducts and micro cables

Application Cases

- Case of backbone network

Background: The project is on a highway, with the total length of 206km.

Implementation method: First, two ø10/8mm micro ducts are blown into a ø40/33mm silicon duct. Then, a 96F stranded loose tube micro cable and a 48F stranded loose tube micro cable are blown into the micro ducts respectively.

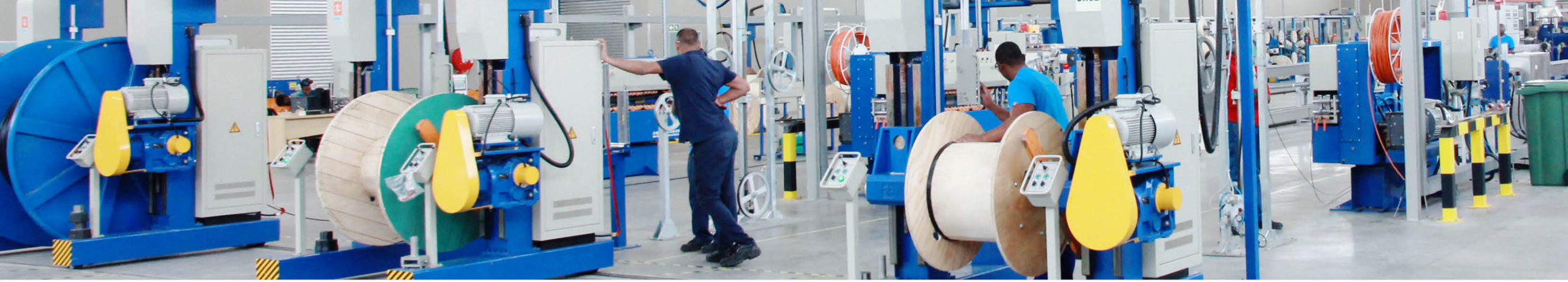
Achievements: Multiple optical cables, as the trunk cables, have shared one silicon core duct, improving duct utilization and saving the costs of construction and operation. The success of this case not only provides a solution to meet the demands of existing business for optical fibres, but also proves the applicability of the micro ducts and micro cables technology to secondary trunk line.

- Case of metropolitan area network

Background: The project lies in an old urban area, where there is a shortage of duct resources.

Implementation method: First, three ø10/8 micro ducts are laid in a ø30/25mm PE duct through manual pulling. Then, a 48F stranded loose tube air-blown micro cable is blown into one of the micro ducts.

Achievements: This solution has been provided to meet the demands of the existing lines for optical fibres in the old urban area, and space has been reserved for future expansion. Duct utilization has been improved remarkably.



- Case of application on bridge in metropolitan area network

Background: This project runs across a bridge, with the total length of 3.7km. A distance as long as 1.7km is required for one time of blowing.

Implementation method: The length of micro cable per reel used for this project is as long as 4km, to reduce losses at joints. Reservation boxes for micro ducts and micro cables are used, effectively protecting the micro ducts reserved for this project.

Achievements: The construction costs of ducts have been reduced remarkably, the speed of construction has been accelerated, and it is convenient for operators and customers to use the duct resources in the future.

- Case of FTTH in access network

Background: This project is a Fibre-To-The-Home project for new residential quarters, where the highest building is of 15 stories.

Implementation method: A 40/33mm silicon core duct is laid by burying from the computer room for the residential quarters to each building. Eight micro ducts in red and eight in blue with the diameter of 5/3.5mm should be pulled manually into the silicon core ducts. After entering the basement of each building, the micro ducts are pulled through the vertical shaft for weak current to each storey. Protected with corrugated tubes, the micro ducts are directly led into indoor distribution boxes at homes. The entire work of air blowing is completed in the computer room. 1F EPFUs are blown into 5/3.5mm micro ducts.

Achievements: The FTTH project has been accomplished safely and efficiently.

- Case of FTTB in access network

Background: This project is in an old residential quarter, where the optical cables are required to pass through underground PVC ducts (O.D.: 110mm) and vertical PVC ducts (O.D.: 30mm) going into buildings. Optical cables have already been laid in some of the ducts, with some right angles and bends.

Implementation method: Micro ducts with the diameter of 10/8mm are laid in ducts by means of manual pulling directly from 1-3# cross connecting cabinets to the distribution box for each building, and then 12F stranded loose tube air-blown micro cables are blown into the micro ducts. Micro ducts with the diameter of 5/3.5mm are laid in ducts by means of manual pulling directly from other cross connecting cabinets to the distribution box for each building, and then 2F EPFUs are blown into the micro ducts.

Achievements: Difficulties in the installation have been solved.

Performance Comparison of Air-blown Micro Cables

YOFC provides a full range of air-blown micro cables including enhanced performance fibre units, uni-tube air-blown micro cable, stranded loose tube air-blown micro cable, and down sized air-blown micro cable using special fibres. Different categories of air-blown micro cables have different features and applications.

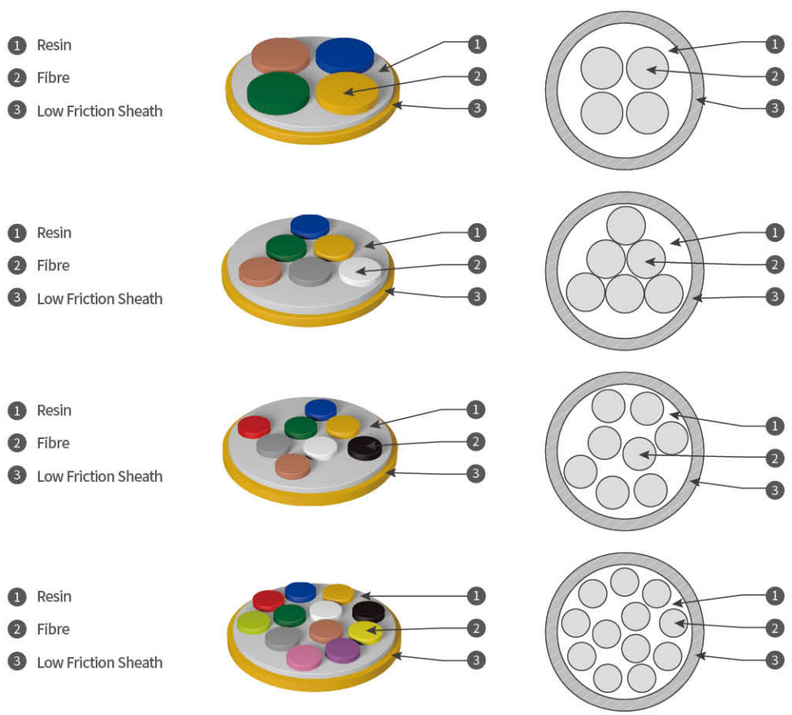
Category	Characteristics	Blowing effect	Application
Enhanced Performance Fibre Units	Small size, light weight, good anti-bending performance, suitable for indoor installation	Good	FTTH
Uni-tube air-blown micro cable	Small size, light weight, good resistances to tension and crush	Better	Power system, lighting-prone areas
Stranded Loose Tube air-blown micro cable	High fibre density, high duct utilization, much less initial investment	Best	Metropolitan area networks, access networks and FTTH

Enhanced Performance Fibre Units (EPFU)

Optical fibres and filler elements are arranged in curing photosensitive resins to form a cable core. A low friction sheath is extruded outside the core.

Features

- Using G.657.A2 bending insensitive fibres with a small bending radius, applicable to indoor laying
- Small size and light weight
- Unique design of sheath ensuring good air blowing performance



Technical Characteristics

Type	Fibre count	O.D. (mm)	Weight (Kg/km)	Tensile strength Long/short term (N)	Crush resistance short term (N/100mm)
EPFU-02B6a2	2	1.1	1.1	0.15G/0.5G	100
EPFU-04B6a2	4	1.1	1.1	0.15G/0.5G	100
EPFU-06B6a2	6	1.3	1.3	0.15G/0.5G	100
EPFU-08B6a2	8	1.5	1.8	0.15G/0.5G	100
EPFU-12B6a2	12	1.6	2.2	0.15G/0.5G	100

Note: G is the weight of optical cable per km.

Blowing Characteristics

Fibre count	2	4	6	8	12
Duct diameter	5.0/3.5 mm	5.0/3.5 mm	5.0/3.5 mm	5.0/3.5 mm	5.0/3.5 mm
Blowing pressure	8bar / 10bar	8bar / 10bar	8bar / 10bar	8bar / 10bar	8bar / 10bar
Blowing distance	500m/1000 m	500m/1000 m	500m/1000 m	500m/1000 m	500m/800 m
Blowing time	15min/30min	15min/30min	15min/30min	15min/30min	15min/30min

Environmental Characteristics

- Transport/storage temperature: -40°C ~ +70°C

Applications

- The cable can be used as the indoor drop cable in FTTH networks and can be laid by air blowing with a handheld device, to connect the family multimedia information boxes with the access point for subscribers

Delivery Length

- Standard length: 2,000m; other lengths are also available

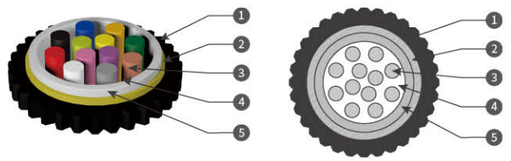
Uni-tube Air-blown Micro Cable (GCYFXTY)

Optical fibres are housed in a loose tube that is made of high-modulus plastic and filled with tube filling compound. Aramid yarns are placed outside the loose tube as the strength member, then a sheath with grooves is extruded. This type of cable is particularly applicable to air-blowing constructions in access networks.

Features

- Small size and light weight
- Tube filling compound providing key protection for fibres
- Unique design of sheath with grooves ensuring good air blowing performance
- Allowing to blow by phases to reduce initial investment
- High blowing speed up to 50m/min, and long blowing distance up to 1000m
- Allowing to blow out and replace with new cables to keep technical superiority
- Allowing to cut micro ducts anywhere anytime for branch without influences on other cables, saving manholes, hand holes and cable joints

1. PE Sheath with Groove
2. Aramid Yarn
3. Fibre
4. Tube Filling Compound
5. Loose Tube



Technical Characteristics

Type	O.D. (mm)	Weight (Kg/km)	Tensile strength Long/short term (N)	Crush Long/short term (N/100mm)
GCYFXTY-2B1.3	2.3	4	0.15G/0.5G	150/450
GCYFXTY -4B1.3	2.3	4	0.15G/0.5G	150/450
GCYFXTY -6B1.3	2.3	4	0.15G/0.5G	150/450
GCYFXTY -8B1.3	2.3	4	0.15G/0.5G	150/450
GCYFXTY -12B1.3	2.3	4	0.15G/0.5G	150/450
GCYFXTY -24B1.3	2.7	6.5	0.15G/0.5G	150/450

Note: G is the weight of optical cable per km.

Environmental Characteristics

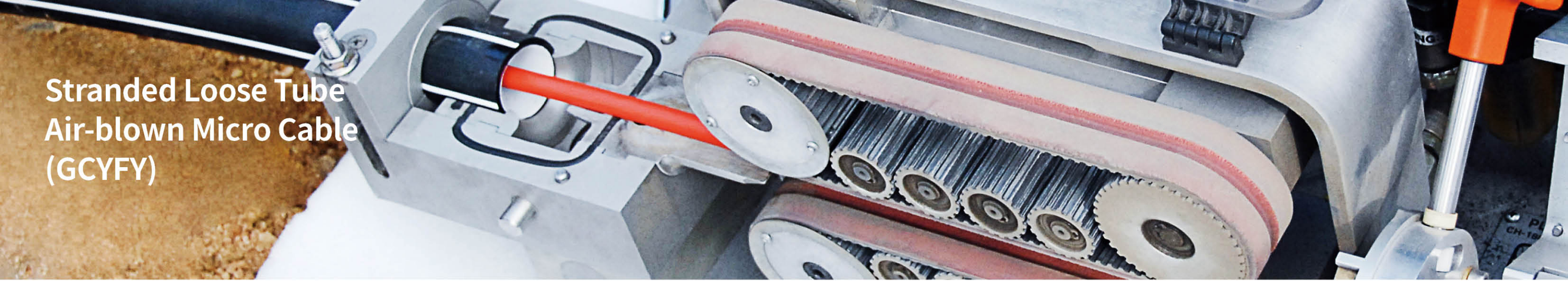
- Transport/storage temperature: -20°C ~ +70°C

Applications

- The cable can be used as the drop cable of distribution segments in FTTH networks and can be laid by air blowing to connect the branch point with the access point for subscribers. The cable is also applicable in backbone networks , metropolitan area networks and access networks

Delivery Length

- Standard length: 2,000m; other lengths are also available



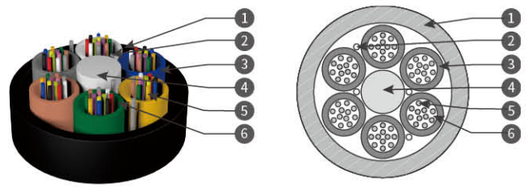
Stranded Loose Tube Air-blown Micro Cable (GCYFY)

Optical fibres are housed in loose tubes that are made of high-modulus plastic and filled with tube filling compound. The tubes (and fillers) are stranded around a non-metallic central strength member and surrounded with dry water-blocking material to form a cable core. An extremely thin outer PE sheath is extruded outside the core.

Features

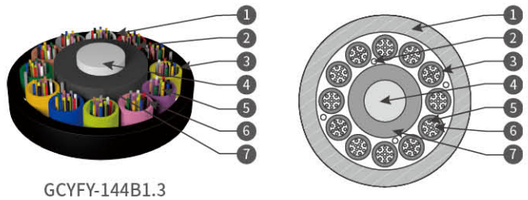
- Small size and light weight
- Tube filling compound providing key protection for fibres
- High fibre density, allowing full use of duct holes
- Allowing to blow by phases to reduce initial investment
- High blowing speed up to 50m/min, and long blowing distance up to 1000m
- Allowing to blow out and replace with new cables to keep technical superiority
- Avoiding destructive excavations and no need to pay high fees for deploying permission, applicable for constructions in crowded metropolitan area networks
- Allowing to cut micro ducts anywhere anytime for branch without influences on other cables, saving manholes, hand holes and cable joints

1. PE Sheath
2. Water Blocking Yarn
3. Loose Tube
4. Strength Member
5. Fibre
6. Tube Filling Compound



GCYFY-12-72B1.3

1. PE Sheath
2. Water Blocking Yarn
3. Loose Tube
4. Strength Member
5. Fibre
6. Tube Filling Compound
7. PE Layer



GCYFY-144B1.3

Technical Characteristics

Type	O.D. (mm)	Weight (Kg/km)	Tensile strength Long/short term (N)	Crush Long/short term (N/100mm)	Number of tubes/fibre count per tube
GCYFY-12B1.3	4.5	16	0.3G/1.0G	150/500	2/6
GCYFY-24B1.3	4.5	16	0.3G/1.0G	150/500	4/6
GCYFY-36B1.3	4.5	16	0.3G/1.0G	150/500	6/6
GCYFY-24B1.3	5.4	26	0.3G/1.0G	150/500	2/12
GCYFY-48B1.3	5.4	26	0.3G/1.0G	150/500	4/12
GCYFY-72B1.3	5.4	26	0.3G/1.0G	150/500	6/12
GCYFY-96B1.3	6.1	33	0.3G/1.0G	150/500	8/12
GCYFY-144B1.3	7.9	52	0.3G/1.0G	150/500	12/12
GCYFY-192B1.3	7.9	52	0.3G/1.0G	150/500	16/12
GCYFY-216B1.3	7.9	52	0.3G/1.0G	150/500	18/12
GCYFY-288B1.3	9.3	80	0.3G/1.0G	150/500	24/12
GCYFY-144B1.3	7.3	42	0.3G/1.0G	150/500	6/24
GCYFY-192B1.3	8.8	76	0.3G/1.0G	150/500	8/24
GCYFY-288B1.3	11.4	110	0.3G/1.0G	150/500	12/24
GCYFY-432B1.3	11.4	105	0.3G/1.0G	150/500	18/24
GCYFY-576B1.3	13.4	140	0.3G/1.0G	150/500	24/24

Note: G is the weight of optical cable per km.

Environmental Characteristics

- Transport/storage temperature: -40°C ~ +70°C

Applications

- The cable can be used as the drop cable of feeder segments in FTTH networks and can be laid by air blowing to connect the branch point with the access point for subscribers. The cable is also applicable in backbone networks , metropolitan area networks and access networks.

Delivery Length

- Standard length: 2,000m; other lengths are also available.

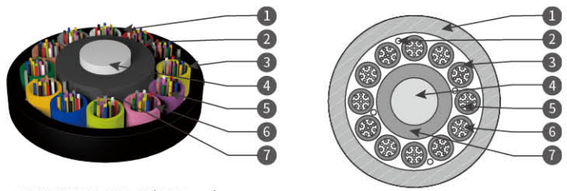
Down Sized Stranded Loose Tube Air-blown Micro Cable

The bending insensitive optical fibres, Easy Band® Plus-Mini(200 µm), are housed in loose tubes that are made of high-modulus plastic and filled with tube filling compound. The tubes (and fillers) are stranded around a non-metallic central strength member and surrounded with dry water-blocking material to form a cable core. An extremely thin outer PE sheath is extruded outside the core. This type of cable is particularly applicable to air-blowing constructions in access networks.

Features

- Smaller size, lighter weight and higher fibre density
- Tube filling compound providing key protection for fibres
- Allowing to blow by phases to reduce initial investment
- High blowing speed up to 50m/min, and long blowing distance up to 1000m
- Allowing to blow out and replace with new cables to keep technical superiority
- Avoiding destructive excavations and no need to pay high fees for deploying permission, applicable to constructions in crowded metropolitan area networks
- Allowing to cut micro ducts anywhere anytime for branch without influences on other cable, saving manholes, hand holes and cable joints

1. PE Sheath
2. Water Blocking Yarn
3. Loose Tube
4. Strength Member
5. Fibre
6. Tube Filling Compound
7. PE Layer



GCYFY-144 B6a2 (200µm)

Technical Characteristics

Type	O.D. (mm)	Weight (Kg/km)	Tensile strength Long/short term (N)	Crush Long/short term (N/100mm)	Number of tubes/fibre count per tube
GCYFY - 24B62(200µm)	4.5	16	0.3G/1G	150/500	2/12
GCYFY - 48B62(200µm)	4.5	16	0.3G/1G	150/500	4/12
GCYFY - 72B62(200µm)	4.5	16	0.3G/1G	150/500	6/12
GCYFY - 96B62(200µm)	5.6	26	0.3G/1G	150/500	8/12
GCYFY - 144B62(200µm)	7.2	43	0.3G/1G	150/500	12/12
GCYFY - 192B62(200µm)	7.8	48	0.3G/1G	150/500	16/12
GCYFY - 216B62(200µm)	7.8	48	0.3G/1G	150/500	18/12
GCYFY - 240B62(200µm)	7.8	48	0.3G/1G	150/500	20/12
GCYFY - 288B62(200µm)	8.1	58	0.3G/1G	150/500	24/12
GCYFY - 144B62(200µm)	6.2	32	0.3G/1G	150/500	6/24
GCYFY - 192B62(200µm)	7.2	48	0.3G/1G	150/500	8/24
GCYFY - 240B62(200µm)	8.1	58	0.3G/1G	150/500	10/24
GCYFY - 288B62(200µm)	9.3	80	0.3G/1G	150/500	12/24
GCYFY - 432B62(200µm)	9.6	78	0.3G/1G	150/500	18/24
GCYFY - 576B62(200µm)	11.2	110	0.3G/1G	150/500	24/24

Note: G is the weight of optical cable per km.

Environmental Characteristics

- Transport/storage temperature: -40℃ ~ +70℃

Applications

- The cable can be used as the drop cable of distribution segments in FTTH networks and can be laid by air blowing to connect the branch point with the access point for subscribers. The cable is also applicable in backbone networks , metropolitan area networks and access networks.

Delivery Length

- Standard length: 2,000m; other lengths are also available.

Optical Cable for Route Shortage

With the rapid development of metropolitan area networks and access networks, less and less urban duct and hole resources are available. The improvement of urban municipal construction management makes it harder and harder to acquire approval for excavation and installation of cable systems. However, the communication network structure is scattered geographically, thus the mass installation of optical cables is facing the conflict between high costs and low utilization. The aforesaid problems bring challenges to optical cable routing constructions, i.e., route selections and route shortage.

Based on the experiences in network constructions and fair superiority in manufacture of optical cables, YOFC has proposed special optical cables for route shortage. The optical cable products for different routing scenarios are listed as follows:

- Ducting waiver® sewer optical cable
- Roader® micro-trench optical cable
- Down sized 300F composite duct micro cable (GYTA(RS))
- Down sized 60~144F duct micro cable (GYTA)

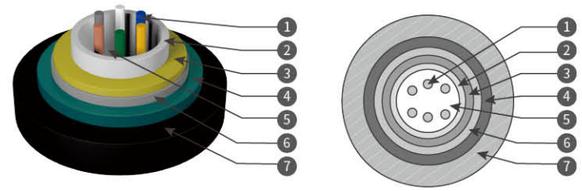
Roader® Micro-trench Optical Cable (GLFXTS)

It is a kind of optical cable with small diameter, which can be laid by cutting a narrow trench on the road surface, burying the optical cable in it and then back filling it to the original road conditions. This optical cable consists of single-mode/multimode fibres, a loose tube, aramid yarns as the strength member, a steel tape armor and a PE sheath. It is featured with light weight, good flexibility, easy installation, low costs and fast installation speed, etc.

Features

- Accurate process control ensuring good mechanical and temperature performances
- The material of loose tubes with good hydrolysis resistance and relatively high strength
- Tube filling compound providing the key protection for fibres
- Excellent crush resistance and flexibility
- Water resistance of optical cable is ensured by the following measures:
  - Special water blocking compound filled in loose tubes
  - Laminated steel tape armor
  - Cable filling compound ensuring longitudinal water resistance

1. Fibre
2. Loose Tube
3. Aramid Yarn
4. PSP
5. Tube Filling Compound
6. Water-blocking Tape
7. PE Sheath



Technical Characteristics

Type	Fibre count	Tube diameter (mm)	Cable diameter (mm)	Cable weight (Kg/km)	Crush Long/short term (N/100mm)	Tensile strength Long/short term (N)	Bending radius Dynamic/static (mm)
GLFXTS-02-12Xn	2~12	3.0	8.5	70	300/1000	300/1000	20D/10D

Note: 1. Xn refers to fibre type. For details, see naming rules for optical cables of YOFC.
2. For color arrangement of fibres and loose tubes, see the color sequence.
3. D is cable diameter.

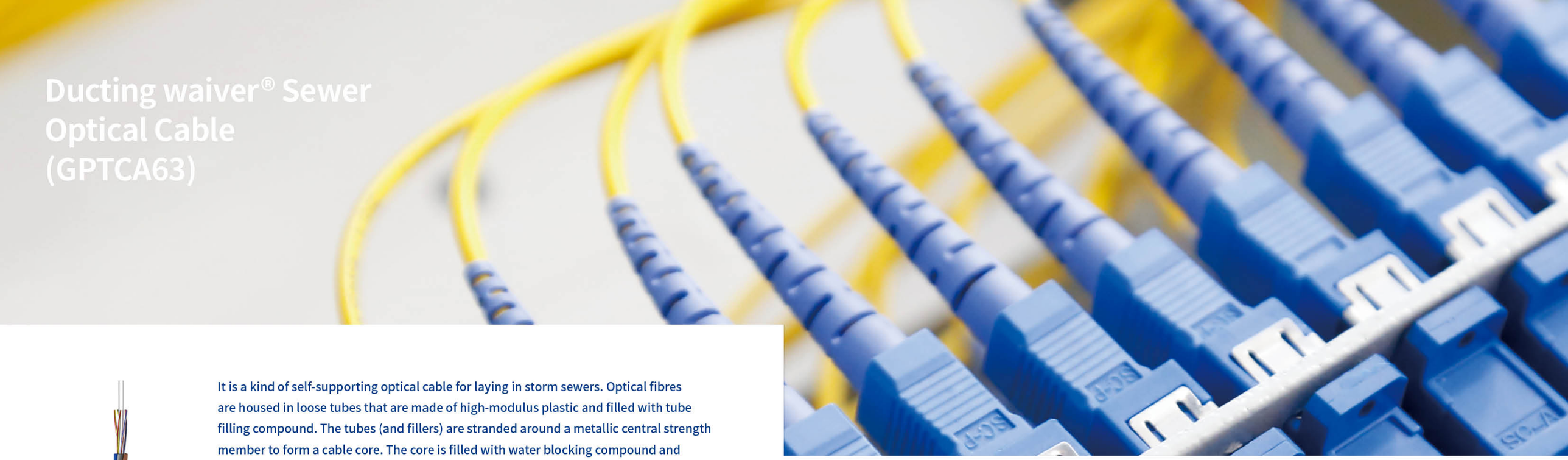
Environmental Characteristics

- Transport/storage temperature: -40°C ~ +70°C

Delivery Length

- Standard length: 2,000m; other lengths are also available.

Ducting waiver® Sewer Optical Cable (GPTCA63)

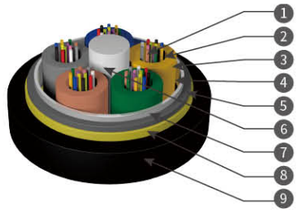


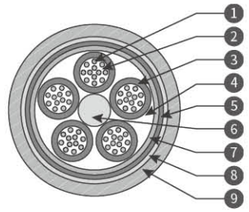
It is a kind of self-supporting optical cable for laying in storm sewers. Optical fibres are housed in loose tubes that are made of high-modulus plastic and filled with tube filling compound. The tubes (and fillers) are stranded around a metallic central strength member to form a cable core. The core is filled with water blocking compound and armored with laminated aluminum tape . Then a PE inner sheath is extruded and aramid yarns are placed outside the inner sheath as the strength member, Finally, a PE outer sheath is extruded.

Features

- Accurate process control ensuring good mechanical and temperature performances
- The material of loose tubes with good hydrolysis resistance and relatively high strength
- Tube filling compound providing key protection for fibres
- Excellent crush resistance and flexibility
- Water resistance of optical cable is ensured by the following measures:
  - Special water blocking compound filled in loose tubes
  - Laminated aluminum tape armor
  - Cable filling compound ensuring longitudinal water resistance

1. Fibre
2. Tube Filling Compound
3. Loose Tube
4. Cable Filling Compound
5. PE Inner Sheath
6. Strength Member
7. APL
8. Aramid Yarn
9. PE Outer Sheath





Technical Characteristics

Type	Stranded units	Max. fibre count per tube	Cable diameter (mm)	Cable weight (Kg/km)	Crush Long/short term (N/100mm)	Max. tension (N)	Bending radius Dynamic/static (mm)
GPTCA63-04-30Xn	5	6	13.0	143	1000/2200	2500	20D/10D
GPTCA63-32-36Xn	6	6	14.0	190	1000/2200	2500	20D/10D
GPTCA63-38-48Xn	8	6	14.5	195	1000/2200	3500	20D/10D
GPTCA63-50-72Xn	6	12	15.3	202	1000/2200	4500	20D/10D
GPTCA63-74-96Xn	8	12	17.0	260	1000/2200	5500	20D/10D
GPTCA63-98-120Xn	10	12	19.2	305	1000/2200	6500	20D/10D

Note: 1. Xn refers to fibre type. For details, see naming rules for optical cables of YOFC.
2. For color arrangement of fibres and loose tubes, see the color sequence.
3. D is cable diameter.

Environmental Characteristics

- Transport/storage temperature: -40°C ~ +70°C

Delivery Length

- Standard length: 2,000m; other lengths are also available.

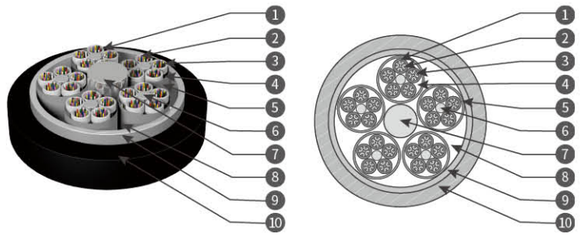
Down Sized 300F Composite Duct Micro Cable (GYTA (RS))

The bending insensitive optical fibres, Easy Band® Plus-Mini(200 μm), are housed in loose tubes that are made of high-modulus plastic and filled with tube filling compound. The loose tubes with smaller size are stranded to form sub-units. The composite structure is formed by stranding sub-units, armoring with laminated aluminum tape and then extruding a PE outer sheath. This structure allows the optical cable to exceed 216 fibres (in 18 units), which enhances installation density of fibres in ducts.

Features

- Accurate process control ensuring good mechanical and temperature performances
- The material of loose tubes with good hydrolysis resistance and relatively high strength
- Tube filling compound providing the key protection for fibres
- Using small-sized B6a2 fibres with good micro and macro bending performance
- High fibre density
- Comply with IEC60794-3-11(2007): Optical fibre cables- Part 3-11
- Water resistance of optical cable is ensured by the following measures:
  - Special water-blocking compound filled in loose tubes
  - Laminated aluminum tape armor
  - Cable filling compound ensuring longitudinal water resistance

1. Loose Tube
2. 200μm B6a2 Fibre
3. Tube Filling Compound
4. Cable Filing Compound
5. Polyester Yarn
6. Strength Member
7. Strength Member
8. Cable Filling Compound
9. APL
10. PE Sheath



Technical Characteristics

Type	Stranded units	Fibre count	Cable diameter (mm)	Cable weight (Kg/km)	Sheath thickness (mm)	Bending radius Dynamic/static (mm)
GYTA(RS)-300B6a2(200μm)	5×5	300	13.5	182	1.5	20D/10D

Note: 1. For color arrangement of fibres and loose tubes, see the color sequence.
2. D is cable diameter.

Mechanical Characteristics

- Tensile strength (N) – long/short term: 300/1000
- Crush resistance (N/100mm) – long/short term: 300/1000

Color Sequence of Sub-units

Sub-unit No.	1	2	3	4	5
Yarn color	Red	Yellow	White	White	White

Environmental Characteristics

- Transport/storage temperature: -40℃ ~ +70℃

Mechanical Performance Tests and Criteria

Test	Testing method	Conditions	Acceptance criteria
Tensile	IEC60794-1-21 method E1	TM = 1000N TL = 30% of TM.	The maximum fibre strain should not be higher than 0.6% under TM load Additional attenuation ⩽0.1dB after test No damage to outer jacket and inner elements
Impact	IEC60794-1-21 method E4	Impact energy: 3J Impact number: 1 Impact points: 3	Additional attenuation ⩽0.1dB after test No damage to outer jacket and inner elements
Crush	IEC60794-1-21 method E3	Load: 1000N/100mm Duration time: 1min	Additional attenuation ⩽0.1dB after test No damage to outer jacket and inner elements
Torsion	IEC60794-1-21 method E7	Cycles:5 Length under test: 2m Turns: ± 180°	Additional attenuation ⩽0.1dB after test No damage to outer jacket and inner elements
Repeated bending	IEC60794-1-21 method E6	Bending radius: 20*D Cycles: 25	No damage to outer jacket and inner elements

Note: TM is short term tensile strength, TL is long term tensile strength.

Delivery Length

- Standard length: 2,000m; other lengths are also available.

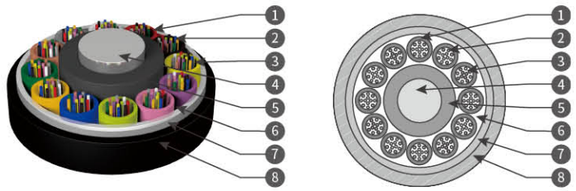
Down Sized 60~144F Duct Micro Cable (GYTA)

The bending insensitive optical fibres, Easy Band® Plus-Mini(200 µm), are housed in loose tubes that are made of high-modulus plastic and filled with tube filling compound. The loose tubes with smaller size are stranded to form a cable core. The core is armored with laminated aluminum tape. Then a PE outer sheath is extruded. This structure has a smaller size to enhance installation density of fibres in ducts.

Features

- Accurate process control ensuring good mechanical and temperature performances
- The material of loose tubes with good hydrolysis resistance and relatively high strength
- Tube filling compound providing the key protection for fibres
- Using small-sized B6a2 fibres with good micro and macro bending performance
- Comply with IEC60794-3-11(2007): Optical fibre cables- Part 3-11
- Water resistance of optical cable is ensured by the following measures:
  - Special water-blocking compound filled in loose tubes
  - Laminated aluminum tape armor
  - Cable filling compound ensuring longitudinal water resistance

1. Loose Tube
2. 200µm B6a2 Fibre
3. Tube Filling Compound
4. Strength Member
5. PE Layer
6. Cable Filling Compound
7. APL
8. PE Sheath



Technical Characteristics

Type	Stranded units	Fibre count	Cable diameter (mm)	Cable weight (Kg/km)	Sheath thickness (mm)	Bending radius Dynamic/static (mm)
GYTA≤60B6a2(200µm)	5	≤60	6.9	48	1.2	20D/10D
GYTA-62-72B6a2(200µm)	6	62-72	7.1	53	1.2	20D/10D
GYTA-74-96B6a2(200µm)	8	74-96	8.1	72	1.2	20D/10D
GYTA-98-120B6a2(200µm)	10	98-120	9.0	89	1.2	20D/10D
GYTA-122-144B6a2(200µm)	12	122-144	9.8	110	1.2	20D/10D

Note: 1. For color arrangement of fibres and loose tubes, see the color sequence. 2. D is cable diameter.

Mechanical Characteristics

Type	Tensile strength (N) Long/short term	Crush (N/100mm) Long/short term
GYTA≤60B6a2(200µm)	240/800	300/1000
GYTA-62-72B6a2(200µm)	300/850	300/1000
GYTA-74-96B6a2(200µm)	350/1200	300/1000
GYTA-98-120B6a2(200µm)	450/1400	300/1000
GYTA-122-144B6a2(200µm)	700/2000	300/1000

Environmental Characteristics

- Transport/storage temperature: -40℃ ~ +70℃
- Compound flow: No filling compound or coating compound drop out of optical cable at 70℃
- Water penetration: No water comes out within 24 hours after 1m water head is applied to the entire cross section of 3m long optical cable

Mechanical Performance Tests and Criteria

Test	Testing method	Conditions	Acceptance criteria
Tensile	IEC60794-1-21 method E1	TM = according to above table TL = 30% of TM.	The maximum fiber strain should not be higher than 0.6% under TM load Additional attenuation ≤0.1dB after test No damage to outer jacket and inner elements
Impact	IEC60794-1-21 method E4	Impact energy: 3J Impact number: 1 Impact points: 3	Additional attenuation ≤0.1dB after test No damage to outer jacket and inner elements
Crush	IEC60794-1-21 method E3	Load: 1000N/100mm Duration time: 1min	Additional attenuation ≤0.1dB after test No damage to outer jacket and inner elements
Torsion	IEC60794-1-21 method E7	Cycles:5 Length under test: 2m Turns: ± 180°	Additional attenuation ≤0.1dB after test No damage to outer jacket and inner elements
Repeated Bending	IEC60794-1-21 method E6	Bending radius: 20*D Cycles: 25	No damage to outer jacket and inner elements

Note: TM is short term tensile strength, TL is long term tensile strength.

Delivery Length

- Standard length: 2,000m; other lengths are also available.

Biologically Protective Optical Cables

YOFC provides optical cables that are resistant to biological hazards caused by rodents, termites and birds, etc. after installation. Optical cables are often damaged by rodents, especially in the southwestern hilly areas, where optical cables in backbone networks are damaged heavily by rodents, resulting in numerous economic losses. Termites not only bite optical cables, but also release formic acid to corrode metal components and sheaths of optical cables. Currently mature methods of protection against biological hazards include physical methods and chemical methods, the former involves metallic or non-metallic armors and nylon sheaths while the latter involves anti-rodent additives.

Physical methods	Metallic armors	Stainless steel tape	Protection from rodent and birds
		Steel wire	
	Non-metallic armors	FRP	Protection from rodent and birds
		Glass yarn	Protection from rodent
	Nylon sheath	Nylon outer sheath	Protection from termite
Chemical method	Chemical additives		Protection from rodent and termite

Product Series of YOFC

YOFC developed a series of anti-rodent, anti-termite and anti-bird optical cables using new materials based on studies on habits of such animals.

Feature	Type	Structural characteristics	Function
Uni-tube	GYGXZY04	Glass fibre tape, nylon sheath	Protection from rodent, termite and lightning
	GYXTY53	Stainless steel tape armor, steel wire armor	Protection from rodent and birds
	GYXTS	Stainless steel tape armor, steel wire armor	Protection from rodent and birds
	GYXTY	Stainless steel wire armor	Protection from rodent and birds
	GYKFXTY	FRP armor	Protection from rodent, birds and lightning
Stranded loose tube	GYKTA53	Aluminum tape and stainless steel tape armor	Protection from rodent
	GYFTA54	Stainless steel tape armor, nylon sheath	Protection from rodent and termite
	GYFTY83(FS)	Flat FRP tape armor	Protection from rodent
	GYFTY73	FRP tape armor	Protection from rodent, birds and lightning
	GYKTS	Stainless steel tape armor	Protection from rodent and birds
Special	GJFJKH	Stainless Steel Flexible Hose	Indoor protection from rodent

Merits of YOFC's biologically protective optical cables

- Mature technology provides good protection from biological hazards
- Complete types of optical cables are provided for diverse levels of protection against different levels of hazards in different areas to save resources and costs
- Multiple functions are available in one optical cable with resistances to rodent, birds and lightning, etc.
- Physical methods are employed which are green and environment-friendly

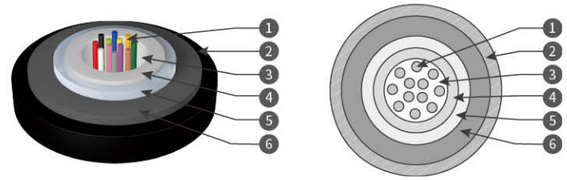
Uni-tube Non-metallic Anti-rodent & Anti-termite Optical Cable (GYGXZY04)

Optical fibres are housed in a loose tube that is made of high-modulus plastic and filled with tube filling compound. The tube is armored by a layer of glass fibre yarn. Then a LSZH inner sheath and a special nylon outer sheath is extruded.

Features

- Good mechanical and temperature performances
- All-dielectric design, applicable to lightning-prone areas
- Small size and light weight
- Tube filling compound providing the key protection for fibres
- Glass fibre yarns providing certain anti-rodent performance
- Nylon outer sheath with high hardness providing certain anti-termite performance

1. Fibre
2. PA Outer Sheath
3. Tube Filling Compound
4. Loose Tube
5. Glass Fibre Yarn
6. LSZH Inner Sheath



Technical Characteristics

Type	Cable diameter (mm)	Diameter of uni-tube (mm)	Cable weight (Kg/km)	Tensile strength Long/short term (N)	Crush Long/short term (N/100mm)	Bending radius Dynamic/static (mm)
GYGXZY04-02~12Xn	7.5	2.8	50	600/1500	300/1000	20D/10D

Note: 1. Xn refers to fibre type. For details, see naming rules for optical cables of YOFC.
2. For color arrangement of fibres and loose tubes, see the color sequence.
3. D is cable diameter.

Environmental Characteristics

- Transport/storage temperature: -40°C ~ +70°C

Delivery Length

- Standard length: 2,000m; other lengths are also available.

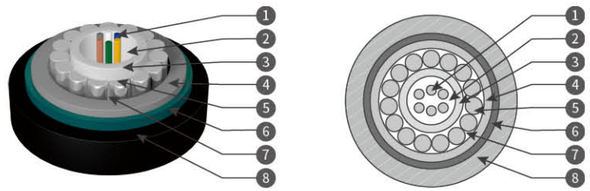
Uni-tube Anti-rodent Optical Cable(GYXTY53)

Single-mode/multimode fibres are housed in a loose tube that is made of high-modulus plastic and filled with tube filling compound. Steel wires is wrapped outside the loose tube. Then a PE inner sheath is extruded and armored with corrugated steel tape. Finally, a PE outer sheath is extruded.

Features

- Accurate process control ensuring good mechanical and temperature performances
- The material of loose tubes with good hydrolysis resistance and relatively high strength
- Tube filling compound providing the key protection for fibres
- Excellent crush resistance and flexibility
- Small size and light weight, easy for installation
- Steel wire and steel tape armors providing excellent anti-rodent performance
- Applicable to duct, aerial and buried installations

1. Fibre
2. Tube Filling Compound
3. Loose Tube
4. PE Inner Sheath
5. Steel Wire
6. PSP
7. Cable Filling Compound
8. PE Sheath



Technical Characteristics

Type (in 2F increments)	Fibre count	Tube size (mm)	Nominal thickness of sheath (mm)	Cable diameter (mm)	Cable weight (kg/km)	Tensile strength Long/short term (N)	Crush Long/short term (N/100mm)
GYXTY53-2-12 Xn	2-12	2.5	2.0	10.9	144	600/1500	1000/3000
GYXTY53-14-18Xn	14-18	2.8	2.0	11.2	155	1000/3000	1000/3000
GYXTY53-20-24Xn	20-24	3.2	2.0	11.6	167	1000/3000	1000/3000
GYXTY53-26-30Xn	26-30	3.5	2.0	11.9	178	1000/3000	1000/3000
GYXTY53-32-36Xn	32-36	3.8	2.0	12.2	186	1000/3000	1000/3000

Note: 1. Xn refers to fibre type. For details, see naming rules for optical cables of YOFC.
2. For color arrangement of fibres, see the color sequence.

Environmental Characteristics

- Transport/storage temperature: -40°C ~ +70°C

Delivery Length

- Standard length: 2,000m; other lengths are also available.

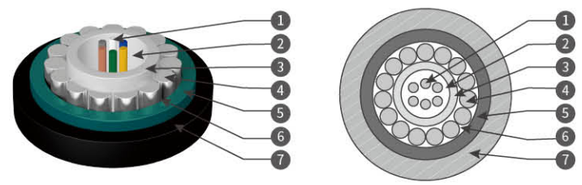
Uni-tube Anti-rodent Optical Cable(GYXTS)

Single-mode/multimode fibres are housed in a loose tube that is made of high-modulus plastic and filled with tube filling compound. The loose tube is armored with steel wires and corrugated steel tape. Then a PE outer sheath is extruded.

Features

- Accurate process control ensuring good mechanical and temperature performances
- The material of loose tubes with good hydrolysis resistance and relatively high strength
- Tube filling compound providing key protection for fibres
- Excellent crush resistance and flexibility
- Wrapped steel wires providing good anti-rodent performance
- Small size and light weight, easy for installation
- Applicable to duct and aerial installations

1. Fibre
2. Tube Filling Compound
3. Loose Tube
4. Steel Wire
5. PSP
6. Cable Filling Compound
7. PE Sheath



Technical Characteristics

Type (in 2F increments)	Fibre count	Tube size (mm)	Nominal thickness of sheath (mm)	Cable diameter (mm)	Cable weight (kg/km)	Tensile strength Long/short term (N)	Crush Long/short term (N/100mm)
GYXTS-2-12 Xn	2-12	2.5	2.0	8.8	108	600/1500	1000/3000
GYXTS-14-18Xn	14-18	2.8	2.0	9.2	116	1000/3000	1000/3000
GYXTS-20-24Xn	20-24	3.2	2.0	9.6	126	1000/3000	1000/3000
GYXTS-26-30Xn	26-30	3.5	2.0	9.8	137	1000/3000	1000/3000
GYXTS-32-36Xn	32-36	3.8	2.0	10.1	142	1000/3000	1000/3000

Note: 1. Xn refers to fibre type. For details, see naming rules for optical cables of YOFC.
2. For color arrangement of fibres, see the color sequence.

Environmental Characteristics

- Transport/storage temperature: -40°C ~ +70°C

Delivery Length

- Standard length: 2,000m; other lengths are also available.

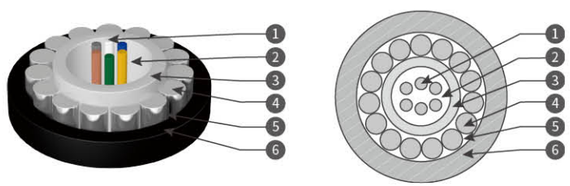
Uni-tube Anti-rodent Optical Cable(GYXTY)

Single-mode/multimode fibres are housed in a loose tube that is made of high-modulus plastic and filled with tube filling compound. The loose tube is armored with steel wires. Then a PE outer sheath is extruded.

Features

- Accurate process control ensuring good mechanical and temperature performances
- The material of loose tubes with good hydrolysis resistance and relatively high strength
- Tube filling compound providing key protection for fibres
- Excellent crush resistance and flexibility
- Wrapped steel wires providing good anti-rodent performance
- Small size and light weight, easy for installation
- Applicable to duct and aerial installations

1. Fibre
2. Tube Filling Compound
3. Loose Tube
4. Steel Wire
5. Cable Filling Compound
6. PE Sheath



Technical Characteristics

Type (in 2F increments)	Fibre count	Tube size (mm)	Nominal thickness of sheath (mm)	Cable diameter (mm)	Cable weight (Kg/km)	Tensile strength Long/short term (N)	Crush Long/short term (N/100mm)
GYXTY-2-12 Xn	2-12	2.5	2.0	7.7	76	600/1500	1000/3000
GYXTY-14-18Xn	14-18	2.8	2.0	8.0	84	1000/3000	1000/3000
GYXTY-20-24Xn	20-24	3.2	2.0	8.4	93	1000/3000	1000/3000
GYXTY-26-30Xn	26-30	3.5	2.0	8.7	101	1000/3000	1000/3000
GYXTY-32-36Xn	32-36	3.8	2.0	9.0	107	1000/3000	1000/3000

Note: 1. Xn refers to fibre type. For details, see naming rules for optical cables of YOFC.
2. For color arrangement of fibres, see the color sequence.

Environmental Characteristics

- Transport/storage temperature: -40°C ~ +70°C

Delivery Length

- Standard length: 2,000m; other lengths are also available.

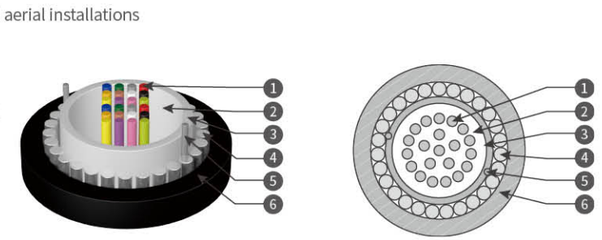
Non-metallic Anti-bird Optical Cable(GYKFXTY)

GYKFXTY is a kind of light-weight anti-bird outdoor communication optical cable, which features with non-metallic strength members, uni-tube, semi-dry design and a PE outer sheath. Single-mode fibres are housed in a loose tube that is made of high-modulus plastic and filled with tube filling compound. Then the tube is armored with FRP rods and a PE outer sheath is extruded.

Features

- Accurate process control ensuring good mechanical and temperature performances
- The material of loose tubes with good hydrolysis resistance and relatively high strength
- Tube filling compound providing key protection for fibres
- Excellent crush resistance and flexibility
- FRP armor providing good anti-bird and anti-rodent performance
- Small size and light weight, easy for installation
- Applicable to duct and aerial installations

1. Fibre
2. Tube Filling Compound
3. Loose Tube
4. FRP
5. Water Blocking Yarn
6. PE Sheath



Technical Characteristics

Type	Cable diameter (mm)	Diameter of uni-tube (mm)	Cable weight (Kg/km)	Tensile strength Long/short term (N)	Crush Long/short term (N/100mm)	Bending radius Dynamic/static (mm)
GYKFXTY-02~12Xn	7.6	2.4	49	600/1500	1000/2000	25D/12.5D
GYKFXTY-14~24Xn	8.2	3.0	64	600/1500	1000/2000	25D/12.5D
GYKFXTY-26~36Xn	8.8	3.6	75	600/1500	1000/2000	25D/12.5D
GYKFXTY-38~48Xn	9.2	4.0	81	600/1500	1000/2000	25D/12.5D

Note: 1. Xn refers to fibre type. For details, see naming rules for optical cables of YOFC.
2. For color arrangement of fibres, see the color sequence.
3. D is cable diameter.

Environmental Characteristics

- Transport/storage temperature: -40°C ~ +70°C

Delivery Length

- Standard length: 2,000m; other lengths are also available.

Anti-rodent Optical Cable (GYKTA53)

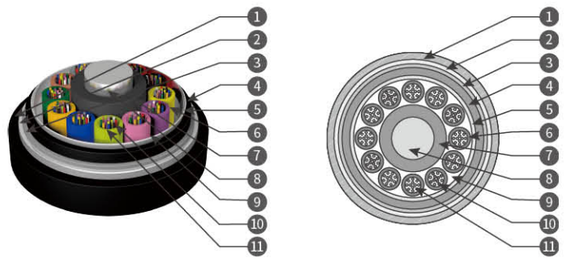
with Double Metallic Armors

GYFTA53 is a kind of outdoor communication optical cable, which consists of a central metallic strength member, stranded loose tubes, a laminated aluminum tape armor, a PE inner sheath, a stainless steel tape armor and a PE outer sheath. Single-mode fibres are housed in loose tubes that are made of high-modulus plastic and filled with tube filling compound. The tubes are stranded around the central strength member to form a cable core. The core is filled with cable filling compound and armored with laminated aluminum tape. Then a PE inner sheath is extruded and armored with stainless steel tape. Finally, a PE outer sheath is extruded.

Features

- Accurate process control ensuring good mechanical and temperature performances
- The material of loose tubes with good hydrolysis resistance and relatively high strength
- Tube filling compound providing key protection for fibres
- Excellent crush resistance
- Metallic armors providing good anti-rodent performance
- Applicable to duct and buried installations

1. PE Outer Sheath
2. Stainless Steel Tape
3. Cable Filling Compound
4. PE Inner Sheath
5. APL
6. Loose Tube
7. PE Layer
8. Strength Member
9. Cable Filling Compound
10. Fibre
11. Tube Filling Compound



Technical Characteristics

Type	Units	Cable diameter (mm)	Cable weight (Kg/km)	Tensile strength Long/short term (N)	Crush Long/short term (N/100mm)	Bending radius Dynamic/static (mm)
GYKTA53-02~36Xn	6	13.0	199	1500/3000	1000/3000	20D/10D
GYKTA53-38~72Xn	6	15.0	244	1500/3000	1000/3000	20D/10D
GYKTA53-74~96Xn	8	16.8	290	1500/3000	1000/3000	20D/10D
GYKTA53-98~120Xn	10	17.8	333	1500/3000	1000/3000	20D/10D
GYKTA53-122~144Xn	12	20.0	389	1500/3000	1000/3000	20D/10D

Note: 1. Xn refers to fibre type. For details, see naming rules for optical cables of YOFC.
2. For color arrangement of fibres and loose tubes, see the color sequence.
3. D is cable diameter.

Environmental Characteristics

- Transport/storage temperature: -40°C ~ +70°C

Delivery Length

- Standard length: 2,000m; other lengths are also available.

Anti-rodent and Anti-termite Optical Cable(GYFTA54)

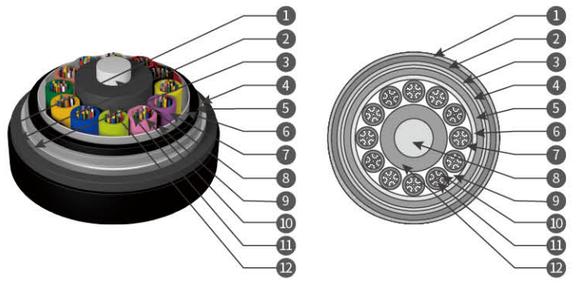
with Double Metallic Armors and Nylon Sheath

GYFTA54 is a kind of outdoor communication optical cable, which consists of a non-metallic central strength member, stranded loose tubes, a laminated aluminum tape armor, a PE inner sheath, a stainless steel tape armor, a PE middle sheath and a nylon outer sheath. Single-mode fibres are housed in loose tubes that are made of high-modulus plastic and filled with tube filling compound. The tubes are stranded around the central member to form a cable core. The core is filled with cable filling compound and armored with laminated aluminum tape. Then a PE inner sheath is extruded and armored with stainless steel tape. Finally, a middle PE sheath and a nylon outer sheath is extruded.

Features

- Accurate process control ensuring good mechanical and temperature performances
- The material of loose tubes with good hydrolysis resistance and relatively high strength
- Tube filling compound providing key protection for fibres
- Excellent crush resistance
- Metallic armors providing good anti-rodent performance
- Nylon outer sheath with high hardness providing certain anti-termite performance
- Applicable to duct and buried installations

1. PA Outer Sheath
2. PE Middle Sheath
3. Stainless Steel Tape
4. Cable Filling Compound
5. PE Inner Sheath
6. APL
7. Loose Tube
8. Strength Member
9. Cable Filling Compound
10. Fibre
11. Tube Filling Compound
12. PE Layer



Technical Characteristics

Type	Units	Cable diameter (mm)	Cable weight (Kg/km)	Tensile strength Long/short term (N)	Crush Long/short term (N/100mm)	Bending radius Dynamic/static (mm)
GYFTA54-24Xn	6	14.4	225	900/2700	1000/3000	20D/10D
GYFTA54-48Xn	6	15.0	250	900/2700	1000/3000	20D/10D
GYFTA54-72Xn	6	15.0	250	900/2700	1000/3000	20D/10D
GYFTA54-96Xn	8	16.8	300	900/2700	1000/3000	20D/10D
GYFTA54-144Xn	12	20.0	370	900/2700	1000/3000	20D/10D
GYFTA54-288Xn	24	22.4	465	900/2700	1000/3000	20D/10D

Note: 1. Xn refers to fibre type. For details, see naming rules for optical cables of YOFC.
2. For color arrangement of fibres and loose tubes, see the color sequence.
3. D is cable diameter.

Environmental Characteristics

- Transport/storage temperature: -40℃ ~ +70℃

Delivery Length

- Standard length: 2,000m; other lengths are also available.

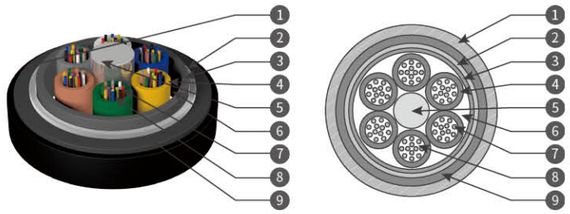
Non-metallic Anti-rodent Optical Cable(GYFTY83 (FS))

GYFTY83 (FS) is designed with physical and chemical anti-rodent methods. Single-mode/multimode fibres are housed in loose tubes that are made of high-modulus plastic. The tubes are stranded around a central strength member to form a cable core. The core is filled with cable filling compound. Then an inner PE sheath is extruded and armored with flat FRP. Finally, an anti-rodent PE middle sheath and a PE outer sheath is extruded.

Features

- Accurate process control ensuring good mechanical and temperature performances
- The material of loose tubes with good hydrolysis resistance and relatively high strength
- Tube filling compound providing key protection for fibres
- Combination of physical and chemical anti-rodent methods
- Flat FRP armor providing the physical anti-rodent performance
- Anti-rodent sheath providing the chemical anti-rodent performance, which effectively delays the diffusion of anti-rodent additives to protect working environment and construction safety
- All-dielectric design, applicable to lightning-prone areas
- Applicable to aerial and duct installations with anti-rodent and anti-lightning requirements

1. PE Outer Sheath
2. Flat FRP
3. PE Inner Sheath
4. Loose Tube
5. Strength Member
6. Cable Filling Compound
7. Fibre
8. Tube Filling Compound
9. Anti-rodent Middle Sheath



Technical Characteristics

Type GYFTY83(FS)	Units	Max. fibre count per tube	Diameter (mm)	Cable weight (kg/km)	Tensile strength Long/short term (N)	Crush Long/short term (N/100mm)	Bending radius Dynamic/static (mm)
2~72Xn	6	12	14.0	190	1500/4500	1000/3000	15D/25D

Note: 1. Xn refers to fibre type. For details, see naming rules for optical cables of YOFC.
2. For color arrangement of fibres and loose tubes, see the color sequence.
3. D is cable diameter.

Environmental Characteristics

- Transport/storage temperature: -40°C ~ +70°C

Delivery Length

- Standard length: 2,000m; other lengths are also available.

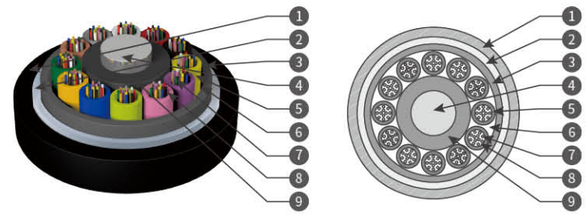
Non-metallic Anti-rodent Optical Cable(GYFTY73)

GYFTY73 is designed with physical anti-rodent measure. Single-mode/multimode fibres are housed in loose tubes that are made of high-modulus plastic. The tubes are stranded around a central strength member to form a cable core. The core is filled with cable filling compound. Then an inner PE sheath is extruded and armored with FRP tape. Finally, a PE outer sheath is extruded.

Features

- Physical anti-rodent method, green and environment-friendly
- Accurate process control ensuring good mechanical and temperature performances
- The material of loose tubes with good hydrolysis resistance and relatively high strength
- Tube filling compound providing key protection for fibres
- FRP tape armor providing good anti-rodent performance
- All-dielectric design, applicable to lightning-prone areas
- Applicable to aerial and duct installations with anti-rodent and anti-lightning requirements

1. PE Outer Sheath
2. FRP Tape
3. PE Inner Sheath
4. Strength Member
5. Loose Tube
6. Cable Filling Compound
7. Fibre
8. Tube Filling Compound
9. PE Layer



Technical Characteristics

Type GYFTY73	Units	Max. fibre count per tube	Diameter (mm)	Cable weight (kg/km)	Tensile strength Long/short term (N)	Crush Long/short term (N/100mm)	Bending radius Dynamic/static (mm)
2~72Xn	6	12	13.2	132	1000/3000	300/1000	10D/20D

Note: 1. Xn refers to fibre type. For details, see naming rules for optical cables of YOFC.
2. For color arrangement of fibres and loose tubes, see the color sequence.
3. D is cable diameter.

Environmental Characteristics

- Transport/storage temperature: -40°C ~ +70°C

Delivery Length

- Standard length: 2,000m; other lengths are also available.

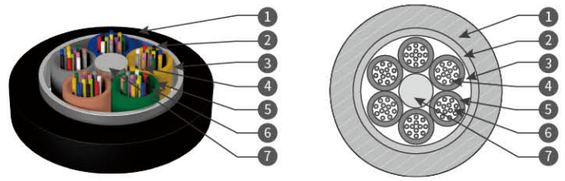
Anti-rodent & Anti-bird Optical Cable(GYKTS)

GYKTS is a kind of outdoor communication optical cable, which consists of a central metallic strength member, stranded loose tubes, a stainless steel tape armor and a PE outer sheath. Single-mode fibres are housed in loose tubes that are made of high-modulus plastic and filled with tube filling compound. The tubes are stranded around the central strength member to form a cable core. The core is filled with cable filling compound and armored with stainless steel tape. Then a PE outer sheath is extruded.

Features

- Accurate process control ensuring good mechanical and temperature performances
- The material of loose tubes with good hydrolysis resistance and relatively high strength
- Tube filling compound providing key protection for fibres
- Metallic armor providing good anti-rodent performance
- Excellent crush resistance
- Applicable to duct and aerial installations

1. PE Sheath
2. Stainless Steel Tape
3. Cable Filling Compound
4. Fibre
5. Loose Tube
6. Tube Filling Compound
7. Central Strength Member



Technical Characteristics

Type	Units	Cable diameter (mm)	Cable weight (Kg/km)	Tensile strength Long/short term (N)	Crush Long/short term (N/100mm)	Bending radius Dynamic/static (mm)
GYKTS-02~30Xn	5	9.8	108	600/1500	1000/2000	20D/10D
GYKTS-32~36Xn	6	10.4	129	600/1500	1000/2000	20D/10D
GYKTS-38~60Xn	5	10.6	132	600/1500	1000/2000	20D/10D
GYKTS-62~72Xn	6	12.1	161	600/1500	1000/2000	20D/10D

Note: 1. Xn refers to fibre type. For details, see naming rules for optical cables of YOFC.
2. For color arrangement of fibres and loose tubes, see the color sequence.
3. D is cable diameter.

Environmental Characteristics

- Transport/storage temperature: -40°C ~ +70°C

Delivery Length

- Standard length: 2,000m; other lengths are also available.

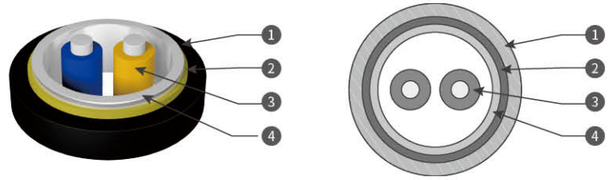
Stainless Steel Flexible Hose Optical Cable(GJFJKH)

Tight buffered fibres are housed in a metallic hose made of stainless steel tape. The hose is wrapped with aramid yarns, then a LSZH outer sheath is extruded. The tight buffered fibres are made by extruding a buffer layer on the surface of optical fibres.

Features

- All-dry design, green and environment-friendly
- Aramid yarns ensuring tensile strength and providing good protection for tight buffered fibres
- Metallic hose with good flexibility providing certain anti-rodent performance
- Outer sheath with flame-retardant performance, applicable to indoor installation
- Small size and light weight, easy for installation
- Applicable to indoor anti-rodent use

1. LSZH Sheath
2. Aramid Yarn
3. Tight Buffered Fibre
4. Helical Steel Hose



Technical Characteristics

Type	Fibre diameter (mm)	Cable diameter (mm)	Cable weight (Kg/km)	Tensile strength Long/short term (N)	Crush Long/short term (N/100mm)	Bending radius Dynamic/static (mm)
GJFJKH-1Xn	0.9	3.0	18	100/200	3000/5000	20D/10D
GJFJKH-2Xn	0.9	4.8	38	200/400	3000/5000	20D/10D
GJFJKH-2Xn	0.6	3.0	24	100/200	3000/5000	20D/10D

Note: 1. Xn refers to fibre type. For details, see naming rules for optical cables of YOFC.
2. For color arrangement of tight buffered fibres, see the color sequence.
3. D is cable diameter.

Environmental Characteristics

- Transport/storage temperature: -20°C ~ +60°C

Delivery Length

- Standard length: 2,000m; other lengths are also available.

Optical Cables for Distributed Base Stations

Solutions for 4G Business

With the construction of 4G networks and'Broadband China', communication cables and equipments keep extending toward the subscribers. The power supply for equipments of remote base stations, communication rooms, access points for subscribers has become a tough problem. The solution of DC remote power supply by hybrid optical and electrical cables can not only facilitate the centralized construction and maintenance of power supply devices in the network, but also realize the efficient cable transmission of electric energy and optical signals. In addition to solving the aforesaid problems, the solution of DC remote power supply by hybrid optical and electrical cables can reduce the costs of construction and maintenance, and enhance efficiency.

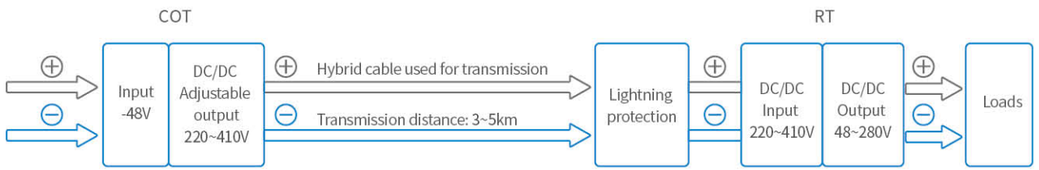
Principle of remote power supply

DC remote power supply system is consisted of central office terminal (COT) and remote terminal (RT). The power of COT can be boosted from DC 48V to DC 220~410V (adjustable) and transmitted to RT by hybrid optical and electrical cables, and then dropped to DC 48V (DC 280V might be converted to AC220V) to supply to the loads(RRU, optical fibre repeater, small micro base station, ONU, etc.). By this way, maintenance-free power is all-weather supplied.

Merits of remote power supply

Different solutions of remote power supply are available for different scenarios. Remote power supply has the following merites:

- The base station can work normally when the city electricity is failed
- Complex work with the local power authority and subscribers for the connection to the city electricity are avoided
- Extra costs for AC power supply are avoided
- Site selection is flexible, not affected by city electricity
- Outdoor UPS is saved, and the costs for long-term power maintenance are saved
- Hybrid cables are easy to install, with no need to install special electrical cables, saving route investments
- Safe and reliable: the transmission lines are protected from open circuit, short circuit, power leakage, strong current and lightning, etc.



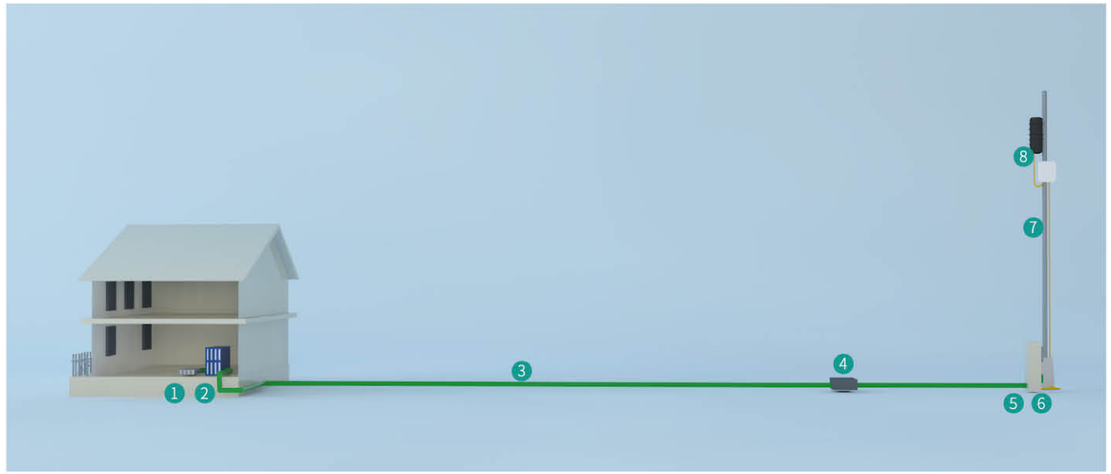
Note: 1. COT: Central Office Terminal
2. RT: Remote Terminal
3. RRU: Radio Remote Unit
4. ONU: Optical Network Unit
5. UPS: Uninterrupted Power Supply
6. ODB: Optical Distribution Box
7. RF: Radio Freqency

Applications

1. Point-to-point

- Scenario: network with single RRU or multiple RRUs
- Applicable to the situation where RT devices are gathered at one point but far away from COT.

1 COT 2 ODB 3 Hybrid optical and electrical stranded loose tube cable 4 Joint box for hybrid cable
5 ODB (lightning-proof) 6 RT 7 Hybrid optical and electrical tight buffered patch cord 8 RF patch cord



2. Point-to-multipoint

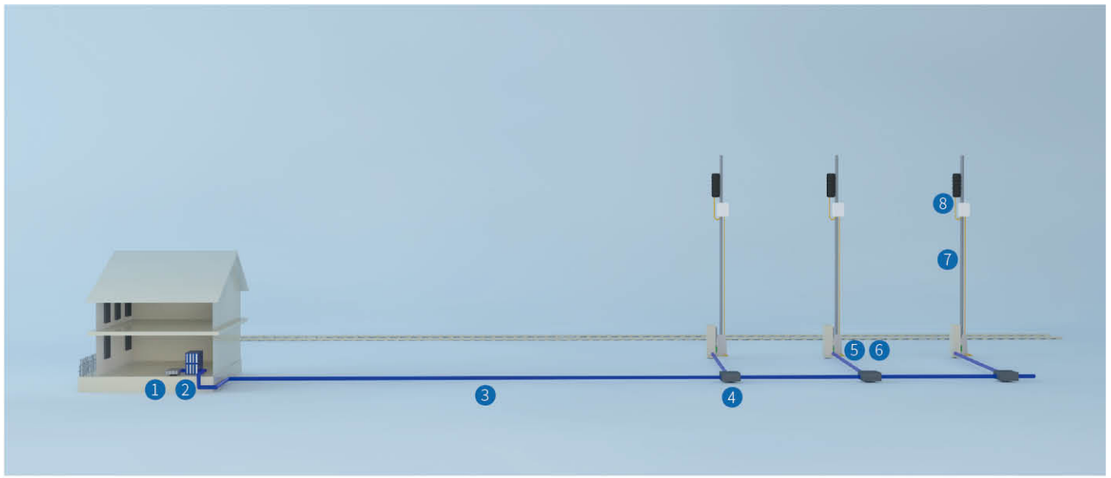
- Scenario: indoor 4G coverage
- Applicable to the situation where RT devices are scattered far away.

1 COT 2 ODB 3 Hybrid optical and electrical stranded loose tube cable 4 Joint box for hybrid cable
5 ODB (lightning-proof) 6 RT 7 Hybrid optical and electrical tight buffered patch cord 8 RF patch cord

3. Cascade

- Scenario: network covering highways, railways and tunnels
- Applicable to the situation where multiple base stations are distributed far away from each other in one direction.

1 COT
2 ODB
3 Hybrid optical and electrical stranded loose tube cable
4 Joint box for hybrid cable
5 ODB (lightning-proof)
6 RT
7 Hybrid optical and electrical tight buffered patch cord
8 RF patch cord



S/N	Product	Type	Features
1	Hybrid Optical and Electrical Cable Applied in Access Network	GDTA,GDTS	Duct or aerial installation
		GDTA53	Buried installation
		GDTC8S	Self-supporting aerial installation
2	Hybrid Optical Cable Applied to Wireless RRU	GDFJAH	Indoor & outdoor
		GDFJAHP	Indoor & outdoor
		GJYFJH	Indoor & outdoor
		GJYWFJH	Indoor & outdoor
		GJYXFH	Indoor & outdoor
		GDFKJH	Indoor & outdoor, stainless steel hose armored

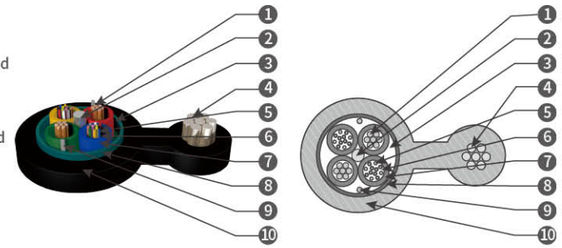
Figure-8 Hybrid Optical and Electrical Cable(GDTC8S)

Single-mode/multimode fires are housed in loose tubes that are made of high-modulus plastic and filled with tube filling compound. In the center of cable is a metallic strength member. The tubes and copper wires are stranded around the central strength member to form a cable core. The core is filled with cable filling compound and armored with corrugated steel tape. Stranded steel wires are applied as the messenger. Finally, a figure-8 PE outer sheath is extruded.

Features

- Accurate process control ensuring good mechanical and temperature performances
- Optical and electrical hybrid design, solving the problem of power supply and signal transmission and providing the centralized monitoring and maintenance of power for equipment
- Improving manageability of power and reducing coordination and maintenance of power supply
- Reducing procurement costs and saving construction costs
- Mainly used to connect BBU and RRU in DC remote power supply system for distributed base station
- Applicable to self-supporting aerial installation

1 Copper Wire
2 Strength Member
3 Cable Filling Compound
4 Steel Wire
5 Fibre
6 Tube Filling Compound
7 Loose Tube
8 PSP
9 Ripcord
10 PE Sheath



Technical Characteristics

Type	Cable size Cable diameter * cable height (mm)	Cable weight (Kg/km)	Tensile strength Long/short term (N)	Crush Long/short term (N/100mm)	Bending radius Dynamic/static (mm)
GDTC8S-2~24Xn+2×2.5	13.1×20.6	297	1000/3000	1000/3000	20D/10D

Note: Xn refers to fibre type. D is cable diameter. Cross sectional area of copper wires for this type of optical cable is 2.5mm².

Environmental Characteristics

- Transport/storage temperature: -40°C ~ +70°C

Delivery Length

- Standard length: 2,000m; other lengths are also available.

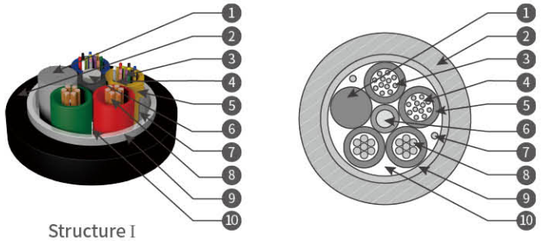
Hybrid Optical and Electrical Stranded Loose Tube Cable (GDTA)

Single-mode/multimode fibres are housed in loose tubes that are made of high-modulus plastic and filled with tube filling compound. In the center of cable is a metallic strength member. The tubes and copper wires (of required specifications) are stranded around the central strength member to form a cable core. The core is filled with cable filling compound and armored with laminated aluminum tape. Then, a PE sheath is extruded.

Features

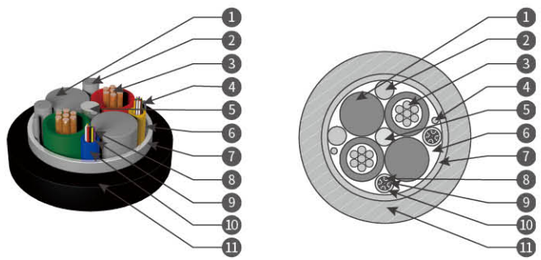
- Accurate process control ensuring good mechanical and temperature performances
- Optical and electrical hybrid design, solving the problem of power supply and signal transmission and providing the centralized monitoring and maintenance of power for equipment
- Improving manageability of power and reducing coordination and maintenance of power supply
- Reducing procurement costs and saving construction costs
- Mainly used to connect BBU and RRU in DC remote power supply system for distributed base station
- Applicable to duct and aerial installations

1. Filler
2. PE Sheath
3. Fibre
4. Tube Filling Compound
5. Loose Tube
6. Strength Member
7. Ripcord
8. Copper Wire
9. APL
10. Cable Filling Compound



Structure I

1. Filler
2. Filler
3. Copper Wire
4. Ripcord
5. Strength Member
6. Cable Filling Compound
7. APL
8. Fibre
9. Tube Filling Compound
10. Loose Tube
11. PE Sheath



Structure II

Technical Characteristics

Type	O.D. (mm)	Weight (Kg/km)	Tensile strength Long/short term (N)	Crush Long/short term (N/100mm)	Structure
GDTA-02~24Xn+2×1.5	11.2	132	600/1500	300/1000	Structure I
GDTA-02~24Xn+2×2.5	12.3	164	600/1500	300/1000	Structure I
GDTA-02~24Xn+2×4.0	14.4	212	600/1500	300/1000	Structure II
GDTA-02~24Xn+2×5.0	14.6	258	600/1500	300/1000	Structure II
GDTA-02~24Xn+2×6.0	15.4	287	600/1500	300/1000	Structure II
GDTA-02~24Xn+2×8.0	16.5	350	600/1500	300/1000	Structure II

Note: 1. Xn refers to fibre type.
2. 2*1.5/2*2.5/2*4.0/2*6.0/2*8.0 indicates the number and size of copper wires.
3. Hybrid cables with different numbers and sizes of copper wires can be provided on request.
4. Hybrid cables with different fibre counts can be provided on request.

Electrical Performance of Conductor

Cross section (mm^2)	Max. DC resistance of single conductor (20 °C)(Ω/km)	Insulation resistance (20°C)(MΩ.km)	Dielectric strength KV, DC 1min		
		Between each conductor and other metal members connected in cable	Between conductors	Between conductor and metallic armor	Between conductor and steel wire
1.5	13.3	No less than 5,000	5	5	3
2.5	7.98				
4.0	4.95				
5.0	3.88				
6.0	3.30				
8.0	2.47				

Environmental Characteristics

- Transport/storage temperature: -40°C ~ +70°C

Delivery Length

- Standard length: 2,000m; other lengths are also available.

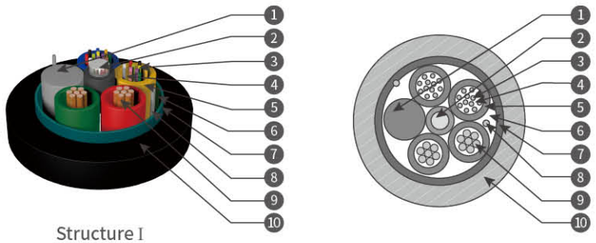
Hybrid Optical and Electrical Stranded Loose Tube Cable (GDTS)

Single-mode/multimode fibres are housed in loose tubes that are made of high-modulus plastic and filled with tube filling compound. In the center of cable is a metallic strength member. The tubes and copper wires (of required specifications) are stranded around the central strength member to form a cable core. The core is filled with cable filling compound and armored with corrugated steel tape. Then, a PE sheath is extruded.

Features

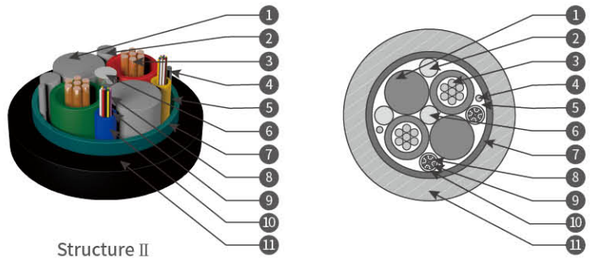
- Accurate process control ensuring good mechanical and temperature performances
- Optical and electrical hybrid design, solving the problem of power supply and signal transmission and providing the centralized monitoring and maintenance of power for equipment
- Improving manageability of power and reducing coordination and maintenance of power supply
- Reducing procurement costs and saving construction costs
- Mainly used to connect BBU and RRU in DC remote power supply system for distributed base station
- Applicable to duct and aerial installations

1. Filler
2. Strength Member
3. Fibre
4. Tube Filling Compound
5. Loose Tube
6. Cable Filling Compound
7. PSP
8. Ripcord
9. Copper Wire
10. PE Sheath



Structure Ⅰ

1. Filler
2. Filler
3. Copper Wire
4. Ripcord
5. Cable Filling Compound
6. Strength Member
7. PSP
8. Fibre
9. Tube Filling Compound
10. Loose Tube
11. PE Sheath



Structure Ⅱ

Technical Characteristics

Type	O.D. (mm)	Weight (Kg/km)	Tensile strength Long/short term (N)	Crush Long/short term (N/100mm)	Structure
GDTS-02~24Xn+2×1.5	11.6	157	600/1500	300/1000	Structure Ⅰ
GDTS-02~24Xn+2×2.5	12.5	190	600/1500	300/1000	Structure Ⅰ
GDTS-02~24Xn+2×4.0	14.6	241	600/1500	300/1000	Structure Ⅱ
GDTS-02~24Xn+2×5.0	15.0	282	600/1500	300/1000	Structure Ⅱ
GDTS-02~24Xn+2×6.0	15.7	300	600/1500	300/1000	Structure Ⅱ
GDTS-02~24Xn+2×8.0	16.9	383	600/1500	300/1000	Structure Ⅱ

Note: 1. Xn refers to fibre type.
2. 2*1.5/2*2.5/2*4.0/2*6.0/2*8.0 indicates the number and and size of copper wires.
3. Hybrid cables with different numbers and sizes of copper wires can be provided on request.
4. Hybrid cables with different fibre counts can be provided on request.

Electrical Performance of Conductor

Cross section (mm^2)	Max. DC resistance of single conductor (20 °C)(Ω/km)	Insulation resistance (20°C)(MΩ.km)	Dielectric strength KV, DC 1min		
		Between each conductor and other metal members connected in cable	Between conductors	Between conductor and metallic armor	Between conductor and steel wire
1.5	13.3	No less than 5,000	5	5	3
2.5	7.98				
4.0	4.95				
5.0	3.88				
6.0	3.30				
8.0	2.47				

Environmental Characteristics

- Transport/storage temperature: -40°C ~ +70°C

Delivery Length

- Standard length: 2,000m; other lengths are also available.

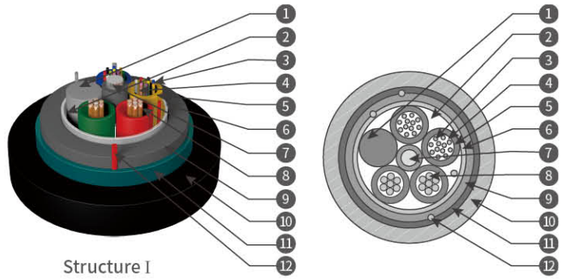
Hybrid Optical and Electrical Stranded Loose Tube Cable (GDTA53)

Single-mode/multimode fibres are housed in loose tubes that are made of high-modulus plastic and filled with tube filling compound. In the center of cable is a metallic strength member. The tubes and copper wires (of required specifications) are stranded around the central strength member to form a cable core. The core is filled with cable filling compound and armored with laminated aluminum tape. Then an PE inner sheath is extruded and armored with corrugated steel tape. Finally, a PE outer sheath is extruded.

Features

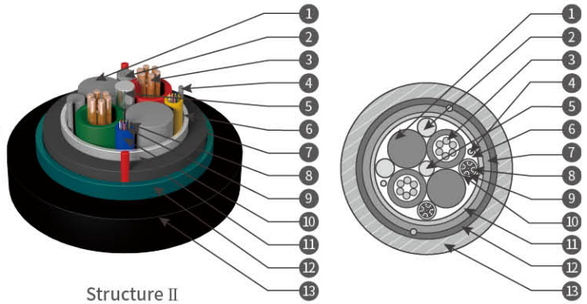
- Accurate process control ensuring good mechanical and temperature performances
- Optical and electrical hybrid design, solving the problem of power supply and signal transmission and providing the centralized monitoring and maintenance of power for equipment
- Improving manageability of power and reducing coordination and maintenance of power supply
- Reducing procurement costs and saving construction costs
- Mainly used to connect BBU and RRU in DC remote power supply system for distributed base station
- Applicable to buried installation

1. Filler
2. Cable Filling Compound
3. Fibre
4. Tube Filling Compound
5. Loose Tube
6. APL
7. Strength Member
8. Copper Wire
9. PE Inner Sheath
10. PE Outer Sheath
11. PSP
12. Ripcord



Structure I

1. Filler
2. Filler
3. Copper Wire
4. Ripcord
5. Strength Member
6. Cable Filling Compound
7. PE Inner Sheath
8. Fibre
9. Tube Filling Compound
10. Loose Tube
11. APL
12. PSP
13. PE Outer Sheath



Structure II

Technical Characteristics

Type	O.D. (mm)	Weight (Kg/km)	Tensile strength Long/short term (N)	Crush Long/short term (N/100mm)	Structure
GDTA53-02~24Xn+2*1.5	15.1	290	1000/3000	1000/3000	Structure I
GDTA53-02~24Xn+2*2.5	15.5	312	1000/3000	1000/3000	Structure I
GDTA53-02~24Xn+2*4.0	18.2	358	1000/3000	1000/3000	Structure II
GDTA53-02~24Xn+2*5.0	18.6	390	1000/3000	1000/3000	Structure II
GDTA53-02~24Xn+2*6.0	19.9	435	1000/3000	1000/3000	Structure II
GDTA53-02~24Xn+2*8.0	20.8	478	1000/3000	1000/3000	Structure II

Note: 1. Xn refers to fibre type.
2. 2*1.5/2*2.5/2*4.0/2*6.0/2*8.0 indicates the number and and size of copper wires.
3. Hybrid cables with different numbers and sizes of copper wires can be provided on request.
4. Hybrid cables with different fibre counts can be provided on request.

Electrical Performance of Conductor

Cross section (mm^2)	Max. DC resistance of single conductor (20 °C)(Ω/km)	Insulation resistance (20°C)(MΩ.km)	Dielectric strength KV, DC 1min		
		Between each conductor and other metal members connected in cable	Between conductors	Between conductor and metallic armor	Between conductor and steel wire
1.5	13.3	No less than 5,000	5	5	3
2.5	7.98				
4.0	4.95				
5.0	3.88				
6.0	3.30				
8.0	2.47				

Environmental Characteristics

- Transport/storage temperature: -40°C ~ +70°C

Delivery Length

- Standard length: 2,000m; other lengths are also available.

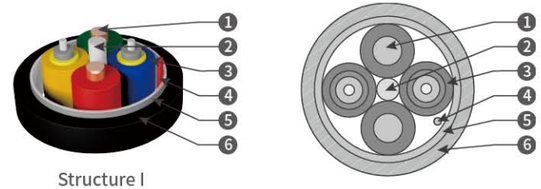
Hybrid Optical and Electrical Cable (GDFJAH)

Tight buffered fibres are surrounded with a layer of aramid yarns as the strength member. A LSZH inner sheath is extruded on the tight buffered fibre to form an optical sub-unit. Then optical sub-units and copper wires are stranded around a non-metallic central strength member to form a cable core. The core is armored with laminated aluminum tape. Finally, a LSZH outer sheath is extruded. Other sheath materials are available on request.

Features

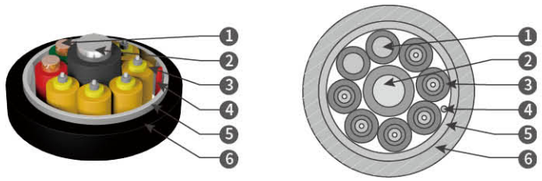
- Good mechanical and temperature performances
- Excellent crush resistance and flexibility
- All-dry hybrid structure, supporting bulk data transmission and power supply for RRU devices
- Mainly applied to local fibre remote for short distance at wireless base stations, applicable to the construction of indoor distributed base stations

1. Copper Wire
2. Strength Member
3. Optical Sub-unit
4. Ripcord
5. APL
6. LSZH Sheath



Structure I

1. Copper Wire
2. Strength Member
3. Optical Sub-unit
4. Ripcord
5. APL
6. LSZH Sheath



Structure II

Technical Characteristics

Type	Type of structure	Cable diameter (mm)	Cable weight (Kg/km)	Tensile strength Long/short term (N)	Crush Long/short term (N/100mm)	Bending radius Dynamic/static (mm)
GDFJAH-2Xn+2*0.75	I	7.5	80	200/400	500/1000	20D/10D
GDFJAH-2Xn+2*1.0	I	8.0	88	200/400	500/1000	20D/10D
GDFJAH-2Xn+2*1.5	I	9.6	105	200/400	500/1000	20D/10D
GDFJAH-2Xn+2*2.0	I	10.3	119	200/400	500/1000	20D/10D
GDFJAH-2Xn+2*4.0	I	11.5	159	200/400	500/1000	20D/10D
GDFJAH-6Xn+2*0.5	II	10.5	110	200/400	500/1000	20D/10D

Note: Xn refers to fibre type, and G.657.A2 fibre is recommended. D is cable diameter. Copper wires with different cross sectional areas are available on request.

Environmental Characteristics

- Transport/storage temperature: -40°C ~ +70°C

Delivery Length

- Standard length: 2,000m; other lengths are also available.

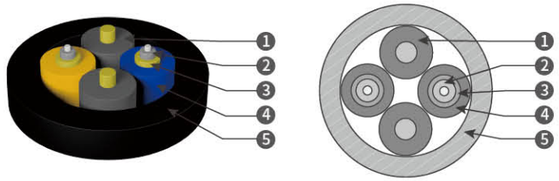
Tight Buffered Optical Cable(GJYFJH)

Tight buffered fibres are surrounded with a layer of aramid yarns as the strength member. A LSZH inner sheath is extruded on the tight buffered fibre to form an optical sub-unit. Then optical sub-units and fillers are stranded into a cable core. Finally, a LSZH sheath is extruded outside the core. The fillers can be made of other high-strength yarns and other sheath materials are available on request.

Features

- Good mechanical and temperature performances
- Excellent crush resistance and flexibility
- Small size and light weight, supporting bulk data transmission
- Mainly applied to horizontal and vertical cabling at wireless base stations, applicable to FTTA(fibre to the antenna)

1. Strength Filler
2. Tight Buffered Fibre
3. Aramid Yarn
4. Sub-unit Sheath
5. Outer Sheath



Technical Characteristics

Type	Optical unit diameter (mm)	Cable diameter (mm)	Cable weight (Kg/km)	Tensile strength Long/short term (N)	Crush Long/short term (N/100mm)	Bending radius Dynamic/static (mm)
GJYFJH-02Xn	2.0	7.0	42.3	200/400	500/1000	20D/10D

Note: Xn refers to fibre type. D is cable diameter.

Environmental Characteristics

- Transport/storage temperature: -20℃ ~ +60℃

Delivery Length

- Standard length: 2,000m; other lengths are also available.

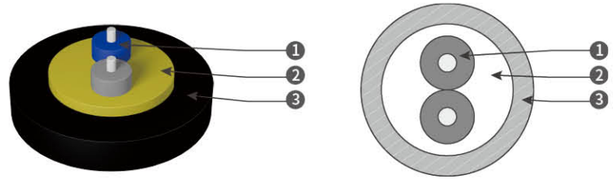
Tight Buffered Micro Optical Cable(GJYWFJH)

Tight buffered fibres are surrounded with a layer of aramid yarns as the strength member. Then a LSZH sheath is extruded. The strength member can be made of other high-strength yarns and other sheath materials are available on request.

Features

- Good mechanical and temperature performances
- Good crush resistance and flexibility
- Small size and light weight, supporting bulk data transmission
- Mainly applied to horizontal and vertical cabling at wireless base stations, applicable to FTTA(fibre to the antenna)

1. Tight Buffered Fibre
2. Aramid Yarn
3. Sheath



Technical Characteristics

Type	Fibre diameter (mm)	Cable diameter (mm)	Cable weight (Kg/km)	Tensile strength Long/short term (N)	Crush Long/short term (N/100mm)	Bending radius Dynamic/static (mm)
GJYWFJH-02Xn	0.9	4.8	28.3	200/400	500/1000	20D/10D

Note: Xn refers to fibre type. D is cable diameter.

Environmental Characteristics

- Transport/storage temperature: -20℃ ~ +60℃

Delivery Length

- Standard length: 2,000m; other lengths are also available.

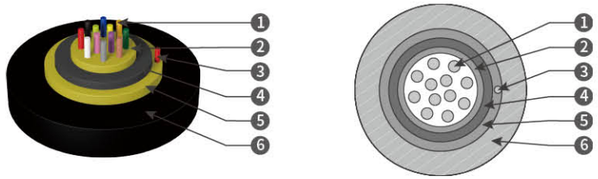
Multi-core MPO Optical Cable(GJYXFH)

Optical fibres are surrounded with a layer of aramid yarns as the strength member. Then a LSZH sheath is extruded and another layer of aramid yarns is placed outside the inner sheath. Finally a LSZH outer sheath is extruded. The strength members can be made of other high-strength yarns and other sheath materials are available on request.

Features

- Good mechanical and temperature performances
- Good crush resistance and flexibility
- Small size and light weight, supporting bulk data transmission
- Mainly applied to horizontal and vertical cabling at wireless base stations, applicable to FTTA(fibre to the antenna)
- Reducing the cable cost of FTTA, with the combined use of MPO connectors and splitters

1. Fibre
2. Aramid Yarn
3. Ripcord
4. Inner Sheath
5. Aramid Yarn
6. Outer Sheath



Technical Characteristics

Type	Inner sheath diameter (mm)	Cable diameter (mm)	Cable weight (Kg/km)	Tensile strength Long/short term (N)	Crush Long/short term (N/100mm)	Bending radius Dynamic/static (mm)
GJYXFH-12Xn	2.8	7.0	38.3	200/400	500/1000	20D/10D

Note: Xn refers to fibre type. D is cable diameter.

Environmental Characteristics

- Transport/storage temperature: -20℃ ~ +60℃

Delivery Length

- Standard length: 2,000m; other lengths are also available.

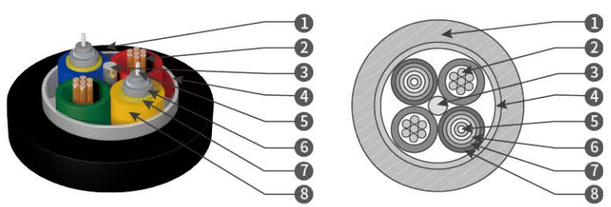
Hybrid Optical and Electrical Cable (GDFKJH)

Tight buffered fibres are surrounded with a helical steel hose and a layer of aramid yarns as the strength member, and then a LSZH sheath is extruded to form an optical sub-unit. Optical sub-units and copper wires are stranded around a non-metallic central strength member to form a cable core. The core is wrapped with water blocking tape. Finally, a LSZH outer sheath is extruded. Other sheath materials are available on request.

Features

- Good mechanical and temperature performances
- Stainless steel hose armor providing better protection to fibres
- Good crush resistance and flexibility
- All-dry hybrid structure, supporting bulk data transmission and power supply for RRU devices
- Mainly applied to local fibre remote for short distance at wireless base stations, applicable to the construction of indoor distributed base stations

1. Outer Sheath
2. Copper Wire
3. Strength Member
4. Water Blocking Tape
5. Tight Buffered Fibre
6. Helical Steel Hose
7. Aramid Yarn
8. Sub-unit Sheath



Technical Characteristics

Type	Optical unit diameter (mm)	Cable diameter (mm)	Cable weight (Kg/km)	Tensile strength Long/short term (N)	Crush Long/short term (N/100mm)	Bending radius Dynamic/static (mm)
GDFKJH-2Xn+2*1.5	3.0	9.5	110	400/800	500/1000	20D/10D

Note: Xn refers to fibre type. D is cable diameter. Cross sectional area of copper conductor for this type of optical cable is 1.5mm².

Environmental Characteristics

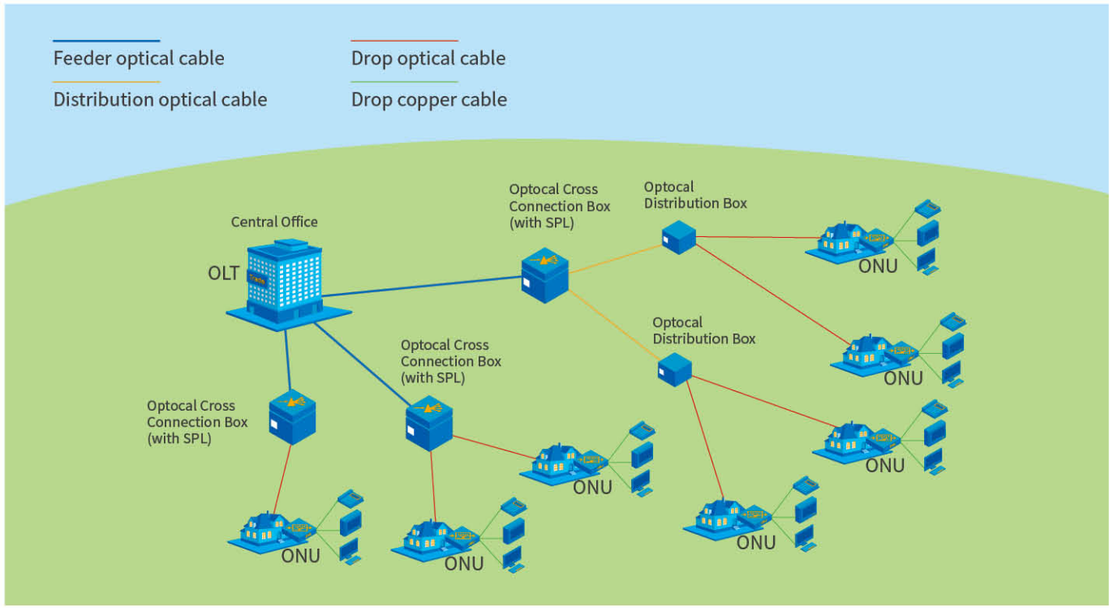
- Transport/storage temperature: -20℃ ~ +60℃

Delivery Length

- Standard length: 1,000m; other lengths are also available.

Optical Cables for Networks in Rural Areas

With the development of urban broadband and the improvement of rural economic level, the demands for broadband networks in rural areas are increasing. However, it is hard to realize the FTTH in rural areas because of the high construction costs and large regional differences etc. Based on the characteristics of cabling in rural areas, YOFC integrates different types of optical cable and ODN products and provides solutions for cabling in rural areas.



Model/Scenario of Access to Optical Network in Rural Area

Characteristics of Optical Networks in Rural Area

FTTH networks are divided into urban FTTH networks and non-urban FTTH networks. The optical network in rural areas, which is non-urban network, is also consisted of the feeder segment, the distribution segment and the drop segment. Central office is connected to the optical distribution point via feeder cables, and then connected to the access point via distribution cables, and finally to the home via drop cables. Compared to the urban FTTH networks, the construction of a networks in rural areas is distinctive in cabling due to the environmental differences. At first, the villages with large areas are irregularly scattered and the number of subscribers is small. Secondly, it is difficult to deploying cable in rural areas which are often in hilly regions, where cabling in straight line is not possible. Furthermore, in the lightning-prone and rainy areas of the hilly regions, the resistance to electromagnetic interference is required for optical cables. Therefore, the following aspects should be taken into consideration in the construction of optical networks in rural areas:

- Low cost: The construction costs of networks should be as low as possible since return on investment(ROI) in rural areas is low
- Interregional differences: Conditions like temperature, humidity and rodent control differ violently among regions, which have influences on products and construction
- Utilization of existing resources: Existing resources in rural areas, such as poles, lines and ducts, should be used as much as possible
- Simple construction: Construction in rural areas should be as simple as possible, since the operators and constructors are less skillful

Products and Merits

YOFC provides optical cables for networks in rural areas, which have the following merits:

- Optimized product design to meet the application requirements at optimal costs
- Diverse optical cable products to meet different application requirements
- Maximum utilization of existing pole and line resource
- Easy construction and convenient operation

Typical Optical Cable Products of YOFC for Optical Networks in Rural Areas

Network layer	Type	Structural characteristics
Feeder segment	GYTA/GYTS	Conventional stranded loose tube
Distribution segment	GYAXZY	Uni-tube
	GYGXZY	Uni-tube
	GTJGA	Slotted-core
	GYQFTXBY	Flat-shape
	GYAXTC8Y GYAXTC8Y-J	Figure-8
Drop segment	GJXH	Conventional bow-type drop cable

Note: For selection of types of optical cables for the feeder and drop segments, it is suggested to refer to the conventional types for FTTH networks. For specific technical characteristics, please refer to technical specifications of YOFC.

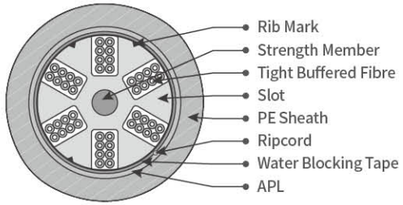
Application Cases

- FTTX project

The upgrading of FTTH networks in rural areas has been accomplished with the maximum utilization of existing pole resource, by using slotted-core tight buffered optical cables (GTJGA) and optical cable distribution boxes(ODBs), which make it easy for pulling and branching optical cables.

- Project of 'broadband villages'

Sichuan became the first province in China with province-wide coverage of optical networks, by using self-supporting uni-tube optical cables and insulated armor clamps, maximium use of the existing utility poles.



In-situ branching of slotted-core tight buffered optical cable

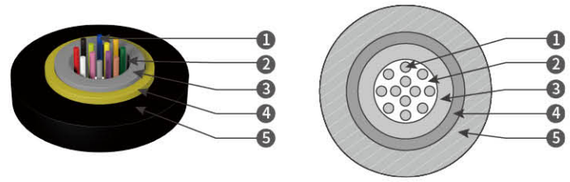
Uni-tube Non-metallic Armored Optical Cable (GYAXZY)

Optical fibres are housed in a loose tube that is made of high-modulus plastic and filled with tube fulling compound. The tube is armored with a layer of aramid yarns as the strength member. Then a LSZH sheath is extruded.

Features

- Good mechanical and temperature performances
- All-dielectric design, applicable to lightning-prone areas
- Aramid yarns ensuring tensile strength of optical cable
- Small size and light weight, easy for installation
- Different tensile strength can be designed on request for short-distance self-supporting aerial and duct installations

1. Fibre
2. Tube Filling Compound
3. Loose Tube
4. Aramid Yarn
5. LSZH Sheath



Technical Characteristics

Type	Cable diameter (mm)	Diameter of uni-tube (mm)	Cable weight (Kg/km)	Tensile strength Long/short term (N)	Crush Long/short term (N/100mm)	Bending radius Dynamic/static (mm)
GYAXZY-02~12Xn	6.0	3.0	42	600/1500	300/1000	20D/10D

Note: 1. Xn refers to fibre type. For details, see naming rules for optical cables of YOFC.
2. For color arrangement of fibres, see the color sequence.
3. D is cable diameter.

Applications

- In the distribution segment of optical cable networks in rural areas, the cable can be used as drop cables for self-supporting aerial installation to connect branching points with access points for subscribers.

Environmental Characteristics

- Transport/storage temperature: -40°C ~ +70°C

Delivery Length

- Standard length: 2,000m; other lengths are also available.

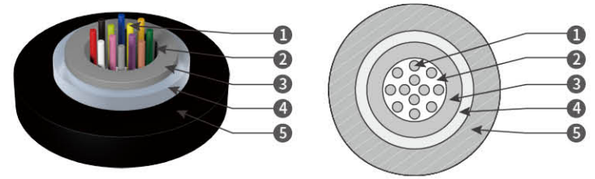
Uni-tube Non-metallic Armored Optical Cable (GYGXY)

Optical fibres are housed in a loose tube that is made of high-modulus plastic and filled with tube filling compound. The tube is armored with a layer of glass fibre tape. Then a PE sheath is extruded.

Features

- Good mechanical and temperature performances
- All-dielectric design, applicable to lightning-prone areas
- Small size and light weight, easy for installation
- Glass fibre tape armor providing certain anti-rodent performance

1. Fibre
2. Tube Filling Compound
3. Loose Tube
4. Glass Fibre Tape
5. Sheath



Technical Characteristics

Type	Cable diameter (mm)	Diameter of uni-tube (mm)	Cable weight (Kg/km)	Tensile strength Long/short term (N)	Crush Long/short term (N/100mm)	Bending radius Dynamic/static (mm)
GYGXY-02~12Xn	6.0	3.0	35	600/1500	300/1000	20D/10D

Note: 1. Xn refers to fibre type. For details, see naming rules for optical cables of YOFC.
2. For color arrangement of fibres, see the color sequence.
3. D is cable diameter.

Applications

- In the distribution segment of optical network in rural areas, the cable can be used as drop cables for self-supporting aerial installation to connect branching points with access points for subscribers.

Environmental Characteristics

- Transport/storage temperature: -40°C ~ +70°C

Delivery Length

- Standard length: 2,000m; other lengths are also available.

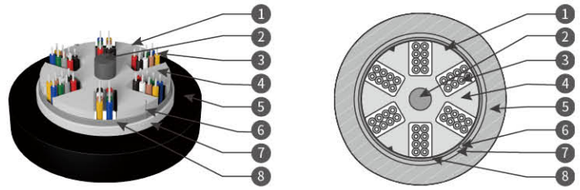
Slotted-core Tight Buffered Optical Cable (GTJGA)

Tight buffered fibres are housed in slots in different numbers as needed. A phosphated steel wire is used as the central strength member. The slotted core is wrapped with water-blocking tape and a rip cord is placed outside the tape. Then the core is armored with laminated aluminum tape and a PE sheath is extruded.

Features

- All-dry design, improving efficiency of construction and splicing
- Easy for branching of a single fibre
- Good mechanical and temperature performances
- Applicable to outdoor duct or aerial installations, and vertical installation

1. Rib Mark
2. Strength Member
3. Tight Buffered Fibre
4. Slot
5. Sheath
6. Ripcord
7. APL
8. Water Blocking Tape



Technical Characteristics

Type	Slot No.	Fibre count/slot	Buffer	Fibre diameter (mm)	Diameter of strength member (mm)	Cable diameter (mm)	Nominal thickness of sheath (mm)	Cable weight (kg/km)
GTJGA-24Xn	6	4	PVC	0.55	1.6	11.5	1.2	125
GTJGA-48Xn	6	8	PVC	0.55	1.6	12.8	1.2	140

Note: 1. Xn refers to fibre type. For details, see naming rules for optical cables of YOFC.
2. For color arrangement of fibres, see the color sequence.
3. D is cable diameter.

Applications

- In the distribution segment of optical networks in rural areas, the cable can be used as drop cables for non self-supporting aerial installation to connect branching points with access points for subscribers.

Environmental Characteristics

- Storage temperature: -40℃ ~+70℃

Delivery Length

- Standard length: 2,000m; other lengths are also available.

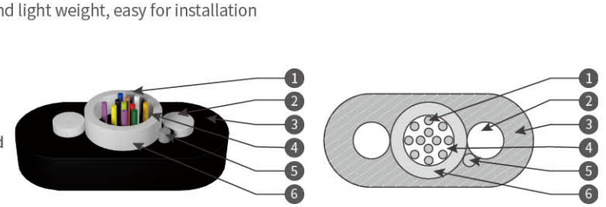
Flat-shape & Self-supporting Uni-tube Optical Cable (GYFXBY)

Optical fibres are housed in a loose tube that is made of high-modulus plastic and filled with tube filling compound. Two glass fibre reinforced plastic (FRP) rods are placed outside the tube in parallel, and water-blocking yarns is placed between the tube and the rods, then a flat-shape PE sheath is extruded .

Features

- Accurate process control ensuring good mechanical and temperature performances
- Unique flat shape providing excellent crush resistance, applicable to special wedge clamps for installation
- Two FRP strength members in parallel close to the tube, easy for stripping
- All-dielectric design, applicable to lightning-prone areas
- Uni-tube, small size and light weight, easy for installation

1. Fibre
2. Strength Member
3. Sheath
4. Tube Filling Compound
5. Water Blocking Yarn
6. Loose Tube



Technical Characteristics

Type	Tube diameter (mm)	FRP diameter (mm)	Cable size WxH (mm)	Tensile strength Long/short term (N)	Crush Long/short term (N/100mm)	Bending radius Dynamic/static	Cable weight (kg/km)
GYFXBY-02~24Xn	3.0	1.6	8.1×4.6	400/1400	1000/5000	30H/15H	35±5

Note: 1. Xn refers to fibre type. For details, see naming rules for optical cables of YOFC.
2. For color arrangement of fibres, see the color sequence.
3. 30H/15H of bending radius indicates 30/15 times height respectively.

Applications

- In the distribution segment of optical networks in rural areas, the cable can be used as drop cables for self-supporting aerial installation to connect branching points with access points for subscribers.

Environmental Characteristics

- Storage temperature: -40℃ ~+70℃

Delivery Length

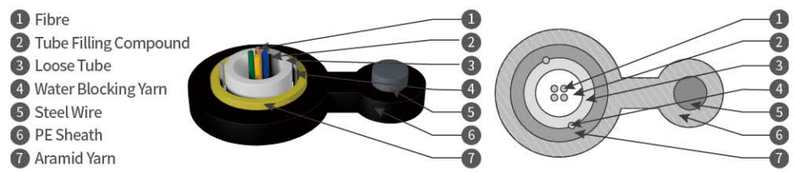
- Standard length: 2,000m; other lengths are also available.

Figure-8 Self-supporting Uni-tube Optical Cable (GYAXTC8Y/ GYAXTC8Y-J)

Optical fibres are housed in a loose tube that is made of high-modulus plastic and filled with tube filling compound. The tube is surrounded with dry water blocking materials and armored with aramid yarns. A single steel wire or stranded steel wires are applied as the messenger. Finally, a figure-8 PE sheath is extruded.

Features

- Figure-8 design, easy for self-supporting aerial installation, reducing installation costs
- Good mechanical and temperature performances
- Small size, light weight and soft, easy for installation
- Applicable to short distance self-supporting aerial installation



Technical Characteristics

Type	Tube diameter (mm)	Wire diameter (mm)	O.D. WxH (mm)	Tensile strength Long/short term (N)	Crush Long/short term (N/100mm)	Bending radius Dynamic/static (mm)	Cable weight (kg/km)
GYAXTC8Y-02~12Xn	3.0	1.6	5.4×9.5	600/1500	300/1000	110/50	45±5
GYAXTC8Y-12~24Xn	3.2	1.6	5.6×9.8	600/1500	300/1000	110/50	45±5
GYAXTC8-J-02~12Xn	2.8	7×0.6	4.4×9.2	600/1500	300/1000	110/50	45±5
GYAXTC8Y-J-12~24Xn	3.2	7×0.6	5.0×9.6	600/1500	300/1000	110/50	50±5

Note: 1. Xn refers to fibre type. For details, see naming rules for optical cables of YOFC.
2. For color arrangement of fibres, see the color sequence.
3. Single galvanized steel wire is used as messenger wire for GYAXTC8Y, while stranded galvanized steel wires are used as messenger wire for GYAXTC8Y-J.

Applications

- In the distribution segment of optical networks in rural areas, the cable can be used as drop cables for the self-supporting aerial installation to connect branching points with access points for subscribers.

Environmental Characteristics

- Storage temperature: -40℃ ~+70℃

Delivery Length

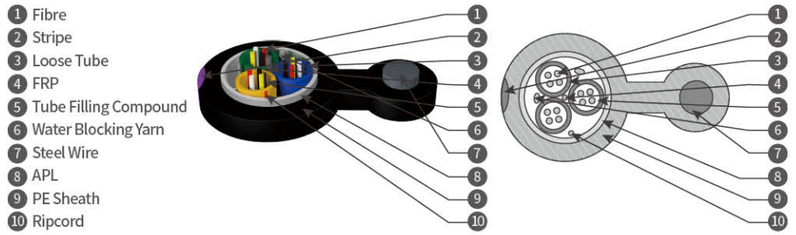
- Standard length: 2,000m; other lengths are also available.

3-Unit Figure-8 Self-supporting Micro Optical Cable (GYFC8A (3U))

Optical fibres are housed in 3 loose tubes that are made of high-modulus plastic and filled with tube filling compound. The tubes are stranded around the central strength member to form a cable core. The core is surrounded with water blocking yarns and armored with laminated aluminum tape. A steel wire is applied as the messenger. Finally, a figure-8 PE sheath is extruded. This type of cable is typically applicable to self-supporting aerial installation.

Features

- Figure-8 design, easy for self-supporting aerial installation, reducing installation costs
- Good mechanical and temperature performance
- Small size, light weight and soft, easy for installation
- Applicable to short distance self-supporting aerial installation



Technical Characteristics

Type	Cable size WxH (mm)	Size of messenger wire (mm)	Cable weight (Kg/km)	Tensile strength Long/short term (N)	Crush Long/short term (N/100mm)	Bending radius Dynamic/static (mm)
GYFC8A(3U)-02~12Xn	12.5×7.5	1.6	62	600/1500	300/1000	160/80

Note: 1. Xn refers to fibre type. For details, see naming rules for optical cables of YOFC.
2. For color arrangement of fibres and loose tubes, see the color sequence.

Environmental Characteristics

- Transport/storage temperature: -40℃ ~ +70℃

Delivery Length

- Standard length: 2,000m; other lengths are also available.

Optical Cables for Rail Transit

With the increase of operation length, the corresponding demands for communication devices of rail transit keep increasing. Optical cables are widely used in rail transit for their remarkable safety, electromagnetic compatibility, reliability, multi-interfaces and extendibility. Meanwhile, the safety of rail transit has become more and more important. For the optical cables, the most serious accident is fire. Once the cable is damaged by fire, the communication might be interrupted, making it impossible to monitor the signals and control the key devices, thus making it difficult for the rescue, real-time monitor and equipment control. Therefore, the communication cables are required to guarantee the normal communication in the case of emergencies. Based on flame-retardant & fire-resistant optical cables, YOFC has developed optical cables for rail transit. The cables can maintain normal communication and operation of key equipments, send alarms and minimize losses caused by fire.

Fire Scene1

Fire Scene2

Merits of YOFC's Optical Cables for Rail Transport:

- A full range of optical cables and all-round measures are provided, including cabling in limited space and emergency treatment, etc.
- Easy for construction and maintenance, with low later-stage costs
- Optical cables of different fire-resistance levels are available for different applications on request
- Special fire-resistant structure and materials are used, which are environment friendly
- Comply with relevant standards including IEC60754-1&2, IEC 60332-1&3, IEC 60331 and IEC61034, etc.

Recommended Optical Cable Products of YOFC for Rail Transit:

Type	Structural characteristics
GYFZY	Non-metallic+ fire-resistant layer +flame-retardant sheath
GYTZA	Single APL armor + single flame-retardant sheath
GYTZA53	Single APL armor + single PSP armor + double flame-retardant sheaths
GYZS	Single fire-resistant layer + single PSP armor + single flame-retardant sheath
GYZS53	Double fire-resistant layers + double PSP armors + double flame-retardant sheaths
GYZS53+33	Double fire-resistant layers + double PSP armors +Single steel wire armor + 3 flame-retardant sheaths
GYFZA04+33	APL armor and steel wire armor + fire-resistant layer + anti-termite layer+flame-retardant sheath

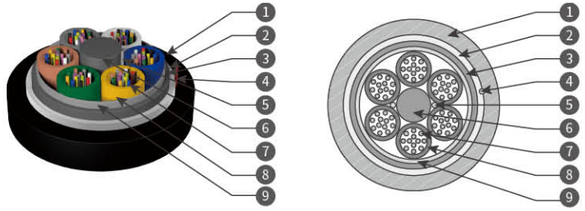
All Dielectric Fire-resistance Stranded Loose Tube Optical Cable (GYFZY)

Optical fibres are housed in loose tubes that are made of high-modulus plastic and filled with tube filling compound. The tubes (and fillers) are stranded around a non-metallic central strength member to form a cable core. The core is armored with a layer of fire resistance tape and glass fibre yarns. Then, a LSZH outer sheath is extruded.

Features

- Accurate process control ensuring good mechanical and temperature performances
- The material of loose tubes with good hydrolysis resistance and relatively high strength
- Small size and light weight, easy for installation
- Fire-resistant layer and LSZH sheath ensuring good fire-resistance and flame-retardant performances
- All-dielectric design, applicable to lightning-prone areas
- Comply with IEC60331(no cooling), IEC60754-1&2, IEC61034 and IEC60332-3-24

1. LSZH Sheath
2. Glass Fibre Yarn
3. Fire Resistance Tape
4. Ripcord
5. Water Blocking Yarn
6. Strength Member
7. Fibre
8. Loose Tube
9. Water Blocking Tape



Technical Characteristics

Type	Units	Fillers	Cable diameter (mm)	Cable weight (Kg/km)	Tensile strength Long/short term (N)	Crush Long/short term (N/100mm)
GYFZY-6Xn	6	5	10.8	120	600/1500	300/1000
GYFZY-12Xn	6	4	10.8	120	600/1500	300/1000
GYFZY-24Xn	6	2	10.8	120	600/1500	300/1000
GYFZY-48Xn	6	2	12.4	180	600/1500	300/1000
GYFZY-72Xn	6	0	12.4	180	600/1500	300/1000
GYFZY-96Xn	8	0	13.6	220	600/2000	300/1000

Note: 1. Xn refers to fibre type. For details, see naming rules for optical cables of YOFC.
2. For color arrangement of fibres and loose tubes, see the color sequence.

Environmental Characteristics

- Transport/storage temperature: -40°C ~ +70°C

Delivery Length

- Standard length: 2,000m; other lengths are also available

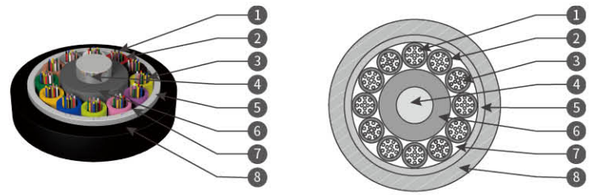
Flame-retardance Stranded Loose Tube Optical Cable (GYTZA)

Optical fibres are housed in loose tubes that are made of high-modulus plastic and filled with tube filling compound. The tubes (and fillers) are stranded around a metallic central strength member to form a cable core. The core is armored with laminated aluminum tape. Then, a LSZH outer sheath is extruded.

Features

- Accurate process control ensuring good mechanical and temperature performances
- The material of loose tubes with good hydrolysis resistance and relatively high strength
- LSZH sheath ensuring good flame-retardant performance
- Water resistance of optical cable is ensured by the following measures:
  - Special water-blocking compound filled in loose tubes
  - Laminated aluminum tape armor
  - Water-blocking material ensuring longitudinal water resistance

1. Fibre
2. Loose Tube
3. Tube Filling Compound
4. Strength Member
5. APL
6. PE Layer
7. Cable Filling Compound
8. LSZH Sheath



Technical Characteristics

Type GYTZA	Units	Max. fibre count per tube	Cable diameter (mm)	Cable weight (Kg/km)	Tensile strength Long/short term (N)	Crush Long/short term (N/100mm)
2~30Xn	5	6	9.2	85	600/1500	300/1000
32~36Xn	6	6	10.2	107	600/1500	300/1000
38~60Xn	5	12	10.4	110	600/1500	300/1000
62~72Xn	6	12	11.4	130	600/1500	300/1000
74~96Xn	8	12	13.6	165	600/1500	300/1000
98~120Xn	10	12	14.8	195	600/2000	300/1000
122~144Xn	12	12	16.4	236	600/2500	300/1000

Note: 1. Xn refers to fibre type. For details, see naming rules for optical cables of YOFC.
2. For color arrangement of fibres and loose tubes, see the color sequence.

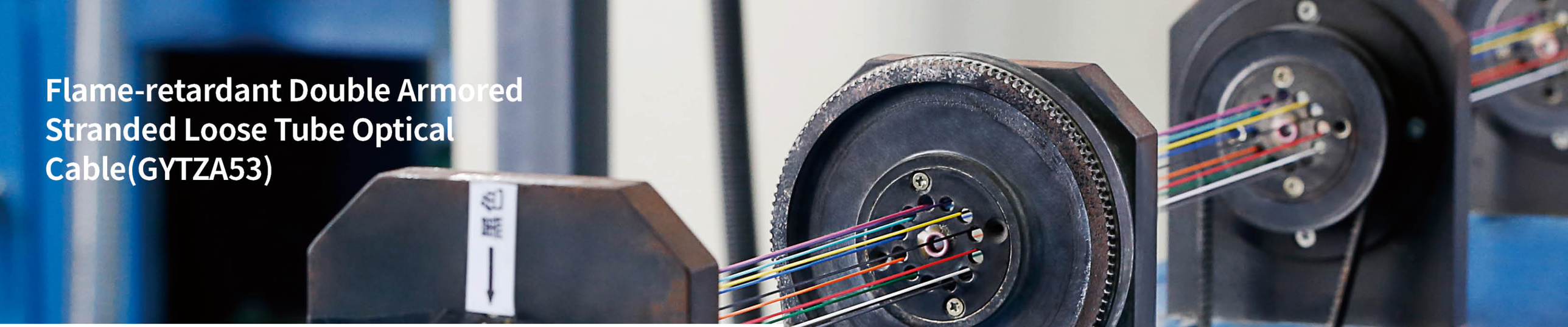
Environmental Characteristics

- Transport/storage temperature: -40°C ~ +70°C

Delivery Length

- Standard length: 2,000m; other lengths are also available

Flame-retardant Double Armored Stranded Loose Tube Optical Cable(GYTZA53)

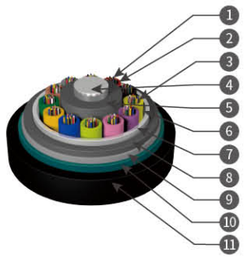


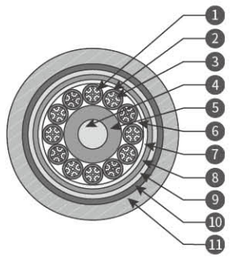
Optical fibres are housed in loose tubes that are made of high-modulus plastic and filled with tube filling compound. The tubes (and fillers) are stranded around a metallic central strength member to form a cable core. The core is armored with laminated aluminum tape. Then a LSZH inner sheath is extruded and armored with corrugated steel tape. Finally, a LSZH outer sheath is extruded.

Features

- Accurate process control ensuring good mechanical and temperature performances
- The material of loose tubes, with good hydrolysis resistance and relatively high strength
- LSZH sheath ensuring good flame-retardant performance
- Excellent crush resistance
- Water resistance of optical cable is ensured by the following measures:
  - Special water-blocking compound filled in loose tubes
  - Laminated aluminum tape and steel tape armor
  - Water-blocking material ensuring longitudinal water resistance

1. Fibre
2. Loose Tube
3. Tube Filling Compound
4. Strength Member
5. PE Layer
6. Cable Filling Compound
7. APL
8. LSZH Inner Sheath
9. Cable Filling Compound
10. PSP
11. LSZH Outer Sheath





Technical Characteristics

Type GYTZA53	Units	Max. fibre count per tube	Cable diameter (mm)	Cable weight (Kg/km)	Tensile strength Long/short term (N)	Crush Long/short term (N/100mm)
2~36Xn	6	6	13.0	199	1000/3000	1000/3000
38~72Xn	6	12	15.0	244	1000/3000	1000/3000
74~96Xn	8	12	16.8	290	1000/3000	1000/3000
98~120Xn	10	12	17.8	333	1000/3000	1000/3000
122~144Xn	12	12	20	389	1000/3000	1000/3000
146~216Xn	18	12	20	385	1000/3000	1000/3000

Note: 1. Xn refers to fibre type. For details, see naming rules for optical cables of YOFC.
2. For color arrangement of fibres and loose tubes, see the color sequence.

Environmental Characteristics

- Transport/storage temperature: -40℃ ~ +70℃

Delivery Length

- Standard length: 2,000m; other lengths are also available.

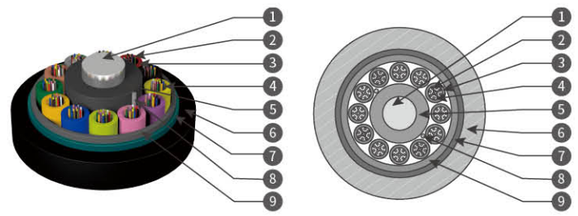
Semi-dry Fire-resistance Steel Tape Armored Optical Cable (GYZS)

Optical fibres are housed in loose tubes that are made of high-modulus plastic and filled with tube filling compound. The tubes (and fillers) are stranded around a metallic central strength member to form a cable core. The core is armored with a layer of fire resistance tape and corrugated steel tape. Then, a LSZH outer sheath is extruded.

Features

- Accurate process control ensuring good mechanical and temperature performances
- The material of loose tubes, with good hydrolysis resistance and relatively high strength
- Fire-resistant layer and LSZH sheath ensuring good fire-resistance and flame-retardant performances
- Excellent crush resistance
- Comply with IEC60331(no cooling), IEC60754-1&2, IEC61034 and IEC60332-3-24

1. Strength Member
2. Fibre
3. Loose Tube
4. Tube Filling Compound
5. PE Layer
6. LSZH Sheath
7. PSP
8. Water Blocking Yarn
9. Fire Resistance Tape



Technical Characteristics

Type	Units	Fillers	Cable diameter (mm)	Cable weight (Kg/km)	Tensile strength Long/short term (N)	Crush Long/short term (N/100mm)
GYZS-6Xn	6	5	13.0	210	600/1500	300/1000
GYZS -12Xn	6	4	13.0	210	600/1500	300/1000
GYZS -24Xn	6	2	13.0	210	600/1500	300/1000
GYZS -48Xn	6	2	13.0	230	1000/3000	300/1000
GYZS -72Xn	6	0	13.0	230	1000/3000	300/1000
GYZS -96Xn	8	0	14.4	260	1000/3000	300/1000

Note: 1. Xn refers to fibre type. For details, see naming rules for optical cables of YOFC.
2. For color arrangement of fibres and loose tubes, see the color sequence.

Environmental Characteristics

- Transport/storage temperature: -40°C ~ +70°C

Delivery Length

- Standard length: 2,000m; other lengths are also available.

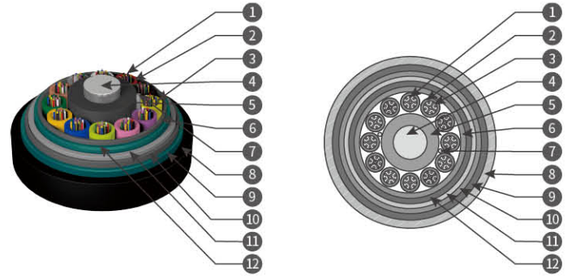
Semi-dry Fire-resistance Double-armored Optical Cable(GY (F) ZS53)

Optical fibres are housed in loose tubes that are made of high-modulus plastic and filled with tube filling compound. The tubes (and fillers) are stranded around a metallic(or non-metallic) central strength member to form a cable core. The core is armored with a layer of fire resistance tape and corrugated steel tape. Then a LSZH inner sheath is extruded and armored with another layer of fire resistance tape and corrugated steel tape. Finally, a LSZH outer sheath is extruded.

Features

- Accurate process control ensuring good mechanical and temperature performances
- The material of loose tubes with good hydrolysis resistance and relatively high strength
- Fire-resistant layers and LSZH sheaths ensuring good fire resistance and flame-retardant performances
- Excellent crush resistance
- Comply with IEC60331(no cooling), IEC60754-1&2, IEC61034 and IEC60332-2-24

1. Fibre
2. Loose Tube
3. Tube Filling Compound
4. Strength Member
5. PE Layer
6. Fire Resistance Tape
7. Water Blocking Yarn
8. LSZH Outer Sheath
9. PSP
10. Fire Resistance Tape
11. LSZH Inner Sheath
12. PSP



Technical Characteristics

Type	Units	Fillers	Cable diameter (mm)	Cable weight (Kg/km)	Tensile strength Long/short term (N)	Crush Long/short term (N/100mm)
GYZS53-6Xn	6	5	16.8	360	600/1500	1000/3000
GYZS53 -12Xn	6	4	16.8	360	600/1500	1000/3000
GYZS53 -24Xn	6	2	16.8	360	600/1500	1000/3000
GYZS53 -48Xn	6	2	16.8	380	1000/3000	1000/3000
GYZS53 -72Xn	6	0	16.8	380	1000/3000	1000/3000
GYZS53 -96Xn	8	0	18	430	1000/3000	1000/3000
GYZS53 -144Xn	12	0	21.2	540	1000/3000	1000/3000

Note: 1. Xn refers to fibre type. For details, see naming rules for optical cables of YOFC.
2. For color arrangement of fibres and loose tubes, see the color sequence.
3. Technical characteristics of strength member may be customized.

Environmental Characteristics

- Transport/storage temperature: -40°C ~ +70°C

Delivery Length

- Standard length: 2,000m; other lengths are also available.

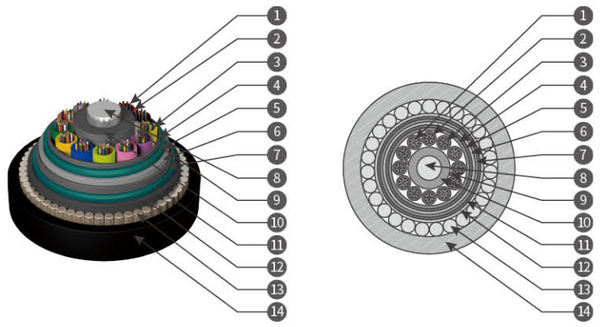
Multi-armored Fire-resistance Optical Cable (GYZS53+33)

Optical fibres are housed in loose tubes that are made of high-modulus plastic and filled with tube filling compound. The tubes (and fillers) are stranded around a metallic central strength member to form a cable core. The core is armored with a layer of fire resistance tape and corrugated steel tape. Then a LSZH inner sheath is extruded and armored with another layer of fire resistance tape and corrugated steel tape. Then a LSZH middle sheath is extruded and wrapped with steel wires. Finally, a LSZH outer sheath is extruded.

Features

- Accurate process control ensuring good mechanical and temperature performances
- The material of loose tubes with good hydrolysis resistance and relatively high strength
- Fire-resistant layers and LSZH sheaths ensuring good fire resistance and flame-retardant performances
- Excellent crush resistance
- Comply with IEC60331(no cooling), IEC60754-1&2, IEC61034 and IEC60332-2-24

1. Fibre
2. Loose Tube
3. Tube Filling Compound
4. Fire Resistance Tape
5. PSP
6. LSZH Inner Sheath
7. Fire Resistance Tape
8. Strength Member
9. Water Blocking Yarn
10. PE Layer
11. PSP
12. LSZH Middle Sheath
13. Steel Wire
14. LSZH Outer Sheath



Technical Characteristics

Type	Units	Fillers	Cable diameter (mm)	Cable weight (Kg/km)	Tensile strength Long/short term (N)	Crush Long/short term (N/100mm)
GYZS53+33-6Xn	6	5	22.8	950	2000/5000	1000/3000
GYZS53+33 -12Xn	6	4	22.8	950	2000/5000	1000/3000
GYZS53+33 -24Xn	6	2	22.8	950	2000/5000	1000/3000
GYZS53+33 -48Xn	6	2	22.8	950	2000/5000	1000/3000
GYZS53+33 -72Xn	6	0	22.8	950	2000/5000	1000/3000
GYZS53+33 -96Xn	8	0	24.4	1100	2000/5000	1000/3000
GYZS53+33 -144Xn	12	0	27.4	1300	2000/5000	1000/3000

Note: 1. Xn refers to fibre type. For details, see naming rules for optical cables of YOFC.
2. For color arrangement of fibres and loose tubes, see the color sequence.

Environmental Characteristics

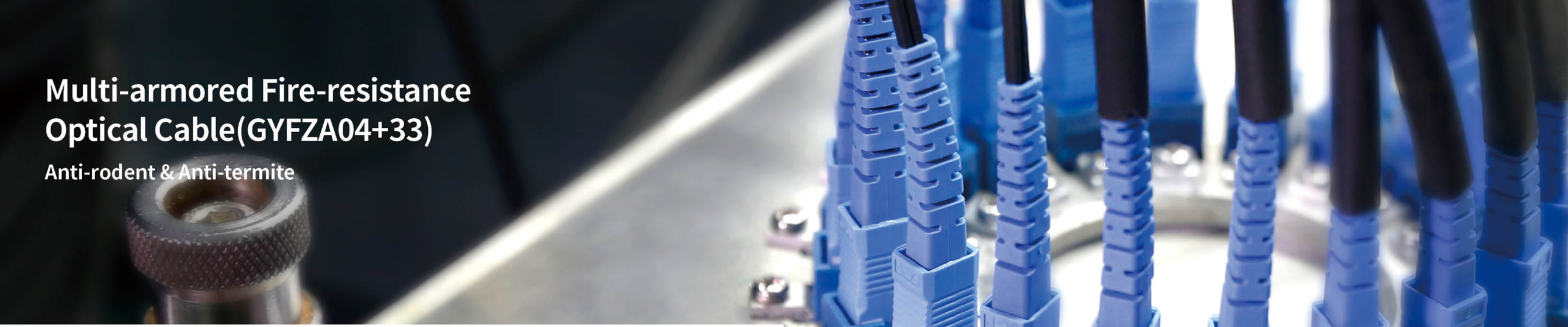
- Transport/storage temperature: -40℃ ~ +70℃

Delivery Length

- Standard length: 2,000m; other lengths are also available.

Multi-armored Fire-resistance Optical Cable(GYFZA04+33)

Anti-rodent & Anti-termite

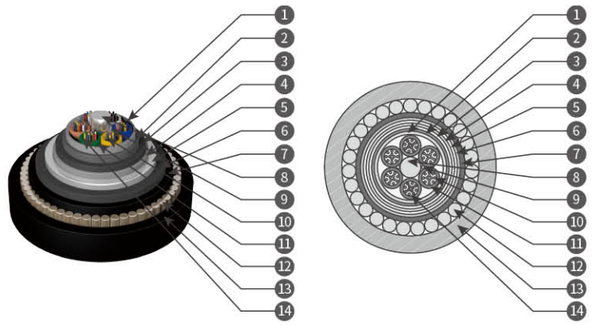


Optical fibres are housed in loose tubes that are made of high-modulus plastic and filled with tube filling compound. The tubes (and fillers) are stranded around a non-metallic central strength member to form a cable core. The core is covered by a fire resistance layer. A LSZH inner sheath is extruded and armored with laminated aluminum tape. Then a PE second sheath and a nylon third sheath is extruded and wrapped with steel wires. Finally, a LSZH outer sheath is extruded.

Features

- Accurate process control ensuring good mechanical and temperature performances
- The material of loose tubes, with good hydrolysis resistance and relatively high strength
- Fire-resistant layer and LSZH sheaths ensuring good fire resistance and flame-retardant performances
- Nylon sheath with high hardness providing certain anti-termite performance
- Excellent crush resistance
- Comply with IEC60331(no cooling), IEC60754-1&2, IEC61034 and IEC60332-3-24

1. Water Blocking Tape
2. Fire Resistance Tape
3. LSZH Inner Sheath
4. Water Blocking Tape
5. APL
6. HDPE Second Sheath
7. PA Sheath
8. Strength Member
9. Water Blocking Yarn
10. Fibre
11. Loose Tube
12. Steel Wire
13. LSZH Outer Sheath
14. Tube Filling Compound



Technical Characteristics

Type	Units	Fibre count per tube	Cable diameter (mm)	Cable weight (Kg/km)	Tensile strength Long/short term (N)	Crush Long/short term (N/100mm)
GYFZA04+33-4Xn	6	4	19.1	580	3000/5000	2000/4000
GYFZA04+33-12Xn	6	4	19.1	580	3000/5000	2000/4000
GYFZA04+33 -24Xn	6	4	19.1	580	3000/5000	2000/4000
GYFZA04+33 -48Xn	6	12	20	650	3000/5000	2000/4000
GYFZA04+33-72Xn	6	12	20	650	3000/5000	2000/4000
GYFZA04+33 -96Xn	8	12	21.6	730	3000/5000	2000/4000

Note: 1. Xn refers to fibre type. For details, see naming rules for optical cables of YOFC.
2. For color arrangement of fibres and loose tubes, see the color sequence.

Environmental Characteristics

- Transport/storage temperature: -40°C ~ +70°C

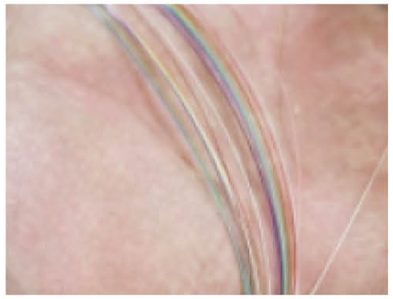
Delivery Length

- Standard length: 2,000m; other lengths are also available.

All-dry Outdoor Optical Cables

Features of All-dry Optical Cables

- No need to remove gel and clean fibres before splicing, saving costs and enhancing efficiency
- Light weight, easy for installation and maintenance
- No water-blocking compound, environment friendly
- Non-metallic strength member, providing better anti-lightning performance



All-dry Optical Cable (GYA)
Time for cleaning: 03:40:14

Gel-filled Optical Cable (GYTA)
Time for cleaning: 07:41:15

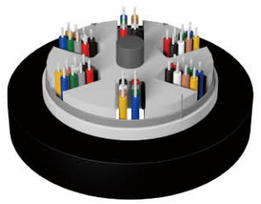
All-dry optical cables are applicable to duct, aerial, buried and other installations in core network, access network and FTTH.

Product Series

YOFC provides the full range of all-dry optical cable products with years of technology accumulation.

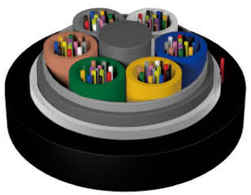
(All-dry) Stranded Loose Tube Optical Cable

(All-dry) Non-metallic Uni-tube Optical Cable

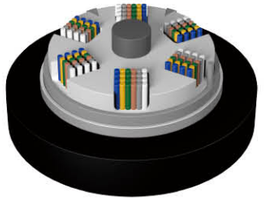


Slotted-core Tight Buffered Optical Cable

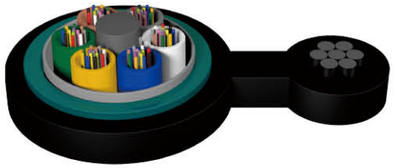
(All-dry) Flat-shape & Self-supporting Uni-tube Optical Cable (GYQFXBY)



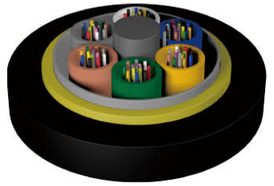
(All-dry) Fire-resistant Stranded Loose Tube Optical Cable



(All-dry) Slotted-core Fibre Ribbon Optical Cable (GYDGA)



(All-dry) Self-supporting Figure-8 Optical Cable (GYFC8S)



(All-dry) All Dielectric Self-supporting Aerial Optical Cable

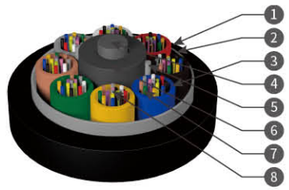
(All-dry) Stranded Loose Tube Optical Cable (GYFY/A/S)

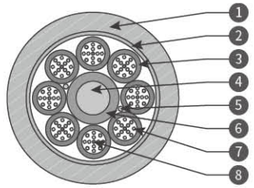
Optical fibres are housed in loose tubes that are made of high-modulus plastic and filled with water blocking yarns. The tubes are stranded around the central strength member to form a cable core. The core is covered by water-blocking tape (and armored with laminated aluminum tape or corrugated steel tape). Finally, a PE outer sheath is extruded.

Features

- All-dry design improving efficiency of construction and splicing
- Light weight, easy for long distance installation
- Accurate process control ensuring good mechanical and temperature performances
- Applicable to duct, aerial and vertical installations

1. PE Sheath
2. Water Blocking Tape
3. Loose Tube
4. Strength Member
5. Water Blocking Yarn
6. PE Layer
7. Fibre
8. Water Blocking Yarn





Technical Characteristics

Fibre count	Tube diameter	Units	Cable diameter (mm)			Sheath thickness (mm)	Cable weight (kg/km)		
			GYFY	GYFA	GYFS		GYFY	GYFA	GYFS
12~60Xn	2.4	5	11.0	12.0	12.5	1.8	100	120	130
62~72Xn	2.4	6	11.6	12.5	13.0	1.8	105	125	140
74~96Xn	2.4	8	13.0	14.0	14.5	1.8	120	150	175
98~120Xn	2.4	10	14.8	16.0	16.3	1.8	160	190	225
122~144Xn	2.4	12	16.0	17.0	17.5	1.8	180	210	245
146~216Xn	2.4	18	16.0	17.0	17.5	1.8	190	225	265
218~288Xn	2.4	24	18.1	19.5	19.9	1.8	255	275	310

Note: 1. Xn refers to fibre type. For details, see naming rules for optical cables of YOFC.
2. For color arrangement of fibres and loose tubes, see the color sequence.

Environmental Characteristics

- Transport/storage temperature: -40°C ~+70°C

Delivery Length

- Standard length: 2,000m; other lengths are also available.

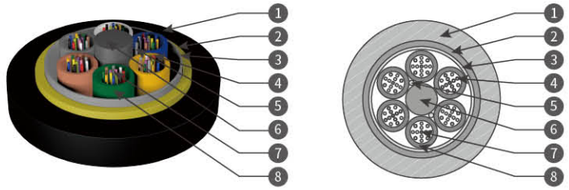
(All-dry) All Dielectric Self-supporting Aerial Optical Cable

Optical fibres are housed in loose tubes that are made of high-modulus plastic and filled with water blocking yarns. The tubes (and fillers) are stranded around the central strength member to form a cable core. The core is covered by water blocking tape and armored with aramid yarns. Finally, a PE(or AT) outer sheath is extruded.

Features

- Accurate process control ensuring good mechanical and temperature performances
- All-dry design improving efficiency of construction and splicing
- Small size, light weight and soft, applicable for self-supporting aerial installation
- Aramid yarns providing good tensile performance

1. PE or AT Sheath
2. Aramid Yarn
3. Water Blocking Tape
4. Fibre
5. Water Blocking Yarn
6. Strength Member
7. Water Blocking Yarn
8. Loose Tube



Technical Characteristics

Fibre count	Tube diameter (mm)	Stranded units	Diameter of strength member (mm)	Diameter of coated strength member (mm)	Cable diameter (mm)
12~72Xn	2.4	6	2.6	-	11.6
96Xn	2.4	8	3.5	4.2	12.9
144Xn	2.4	12	3.5	7.2	15.9
288Xn	2.4	24	3.5	4.8	18.5

Note: 1. Xn refers to fibre type. For details, see naming rules for optical cables of YOFC.
2. For color arrangement of fibres and loose tubes, see the color sequence.

Environmental Characteristics

- Transport/storage temperature: -40°C ~+70°C

Note: For detailed installation requirements for span/sag, etc., please refer to technical standards of YOFC.

Delivery Length

- Standard length: 2,000m; other lengths are also available

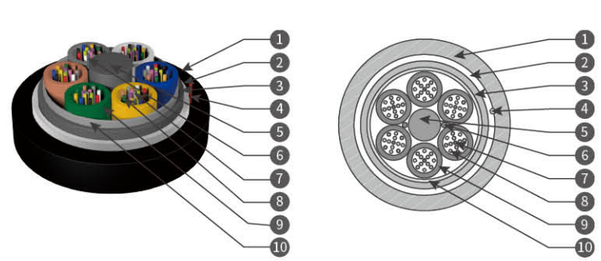
(All-dry) Fire-resistance Stranded Loose Tube Optical Cable (GYFZY)

Optical fibres are housed in loose tubes that are made of high-modulus plastic and filled with water blocking yarns. The tubes (and fillers) are stranded around the central strength member to form a cable core. The core is amored with a layer of fire resistance tape and glass fibre yarns. Then, a LSZH outer sheath is extruded.

Features

- All-dry design improving efficiency of construction and splicing
- Light weight, easy for long distance installation
- Accurate process control ensuring good mechanical and temperature performances
- All-dielectric design, applicable to lightning-prone areas
- Fire-resistant layer and LSZH sheath ensuring good fire resistance and flame-retardant performances
- Applicable to duct, aerial and vertical installations

1. LSZH Sheath
2. Glass Fibre Yarn
3. Fire Resistance Tape
4. Ripcord
5. Strength Member
6. Water Blocking Yarn
7. Water Blocking Yarn
8. Fibre
9. Loose Tube
10. Water Blocking Tape



Technical Characteristics

Type	Tube diameter (mm)	Stranded units	Cable diameter (mm)	Cable weight (Kg/km)	Tensile strength Long/short term (N)	Crush Long/short term (N/100mm)	Bending radius Dynamic/static (mm)
GYFZY(All Dry)-02-72Xn	2.4	6	12.5	160	600/2000	1000/2000	20D/10D
GYFZY(All Dry)-074-96Xn	2.4	8	13.5	195	900/2700	1000/2000	20D/10D
GYFZY(All Dry)-098~144Xn	2.4	12	16.4	257	900/2700	1000/2000	20D/10D

Note: 1. Xn refers to fibre type. For details, see naming rules for optical cables of YOFC.
2. For color arrangement of fibres and loose tubes, see the color sequence.
3. D is cable diameter.

Environmental Characteristics

- Transport/storage temperature: -40°C ~+70°C

Delivery Length

- Standard length: 2,000m; other lengths are also available

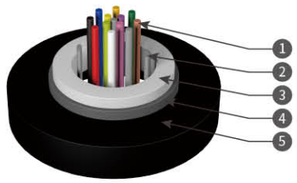
(All-dry) Non-metallic Uni-tube Optical Cable (GYFXZY)

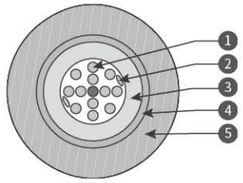
Optical fibre are housed in a loose tube that is made of high-modulus plastic and filled with water blocking yarns. The tube is armored with the non-metallic strength member. Then a LSZH outer sheath is extruded.

Features

- All-dry design improving efficiency of construction and splicing
- Accurate process control ensuring good mechanical and temperature performances
- All-dielectric design, applicable to lightning-prone areas
- Small size and light weight, easy for installation
- Glass fibre armor providing certain anti-rodent performance
- Applicable to vertical and aerial installations

1. Fibre
2. Water Blocking Yarn
3. Loose Tube
4. Strength Member
5. Sheath





Technical Characteristics

Type	Cable diameter (mm)	Diameter of Uni-tube (mm)	Tensile strength Long/short term (N)	Crush Long/short term (N/100mm)	Bending radius Dynamic/static (mm)
GYFXZY(ALL Dry)-02~12Xn	5.0	2.5	200/400	300/1000	20D/10D
GYFXZY(ALL Dry)-12~24Xn	5.5	3.0	300/600	300/1000	20D/10D

Note: 1. Xn refers to fibre type. For details, see naming rules for optical cables of YOFC.
2. For color arrangement of fibres and loose tubes, see the color sequence.
3. D is cable diameter.

Environmental Characteristics

- Transport/storage temperature: -40℃ ~ +70℃

Delivery Length

- Standard length: 2,000m; other lengths are also available

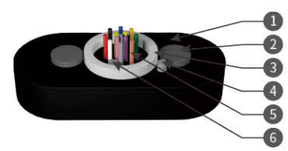
(All-dry) Flat-shape & Self-supporting Uni-tube Optical Cable (GYQFXBY)

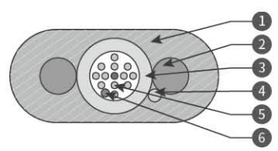
Optical fibres are housed in a loose tube that is made of high-modulus plastic and filled with water block yarns. Two FRPs are placed in parallel outside the tube, and a flat-shape PE sheath is extruded.

Features

- All-dry design improving efficiency of construction and splicing
- Good structure design and accurate process control ensuring good mechanical and temperature performances
- Unique flat shape providing excellent crush resistance, applicable to special wedge clamps for installation
- Uni-tube, small cable structure, light weight, easy for installation
- All-dielectric design, applicable to lightning-prone areas

1. Sheath
2. Strength Member
3. Loose Tube
4. Water Blocking Yarn
5. Fibre
6. Water Blocking Yarn





Technical Characteristics

Type	Tube diameter (mm)	FRP diameter (mm)	O.D. W x H (mm)	Tensile strength Long/short term (N)	Crush Long/short term (N/100mm)	Bending radius Dynamic/static	Cable weight (kg/km)
GYQFXBY02~12Xn	2.5	1.8	8.1×4.1	400/1400	1000/5000	30H/15H	35

Note: 1. Xn refers to fibre type. For details, see naming rules for optical cables of YOFC.
2. For color arrangement of fibres and loose tubes, see the color sequence.
3. 30H/15H of bending radius indicates 30/15 times height respectively.

Environmental Characteristics

- Transport/storage temperature: -40℃ ~ +70℃

Delivery Length

- Standard length: 2,000m; other lengths are also available

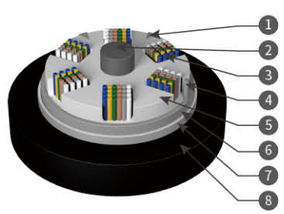
Slotted-core Fibre Ribbon Optical Cable (GYDGA)

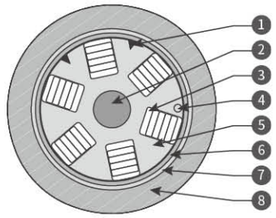
Fibre ribbons are housed in slots (with a metal central strength member) to form a cable core. The core is wrapped with water-blocking tape and armored with laminated aluminum tape. Then a PE outer sheath is extruded.

Features

- Good structure design and accurate process control ensuring good mechanical and temperature performances
- All-dry design improving efficiency of construction and splicing
- Excellent crush resistance
- High fibre density, small size and light weight, easy for installation
- Applicable in FTTH networks with requirements for high fibre density

1. Rib Mark
2. Strength Member
3. Optical Fibre Ribbon
4. Ripcord
5. Slot
6. Water Blocking Tape
7. APL
8. PE Sheath





Technical Characteristics

Type	Slot No.	Fibre ribbon per slot	Diameter of strength member (mm)	O.D. (mm)	Cable weight (kg/km)
4-fibre ribbon					
GYDGA-48Xn-4F	6	2	2.6	12.6	150
GYDGA-96Xn-4F	6	4	2.6	13.2	155
GYDGA-144Xn-4F	6	6	2.6	14.1	180
GYDGA-216Xn-4F	9	6	2.6	17.6	250
GYDGA-288Xn-4F	12	6	2.6	19.5	310
GYDGA-300Xn-4F	12+1	6+3	2.6	20.6	340
6-fibre ribbon					
GYDGA-72Xn-6F	3	4	2.3	13.6	140
GYDGA-120Xn-6F	5	4	2.6	14.1	145
GYDGA-144Xn-6F	6	4	2.6	15.8	200
GYDGA-216Xn-6F	6	6	2.6	17.6	250
GYDGA-288Xn-6F	8	6	2.6	19.9	320
GYDGA-336Xn-6F	7	8	2.6	19.9	320
GYDGA-384Xn-6F	8	8	2.6	20.6	360
GYDGA-432Xn-6F	9	8	2.6	21.5	390
8-fibre ribbon					
GYDGA-432Xn-8F	6	9	7×1.2	21.5	400
GYDGA-480Xn-8F	6	10	7×1.2	21.5	400

Note: 1. Xn refers to fibre type. For color identification of fibre, see YOFC' s instructions for fibre ribbons.
2. XF refers to type of fibre ribbon. For example, 4F means four-fibre ribbon.
3. For optical cables below 300F, usually 4F or 6F ribbons are used; for optical cables above 300F, usually 6F or 8F ribbons are used.

Environmental Characteristics

- Transport/storage temperature: -40℃ ~ +70℃

Delivery Length

- Standard length: 2,000m; other lengths are also available.

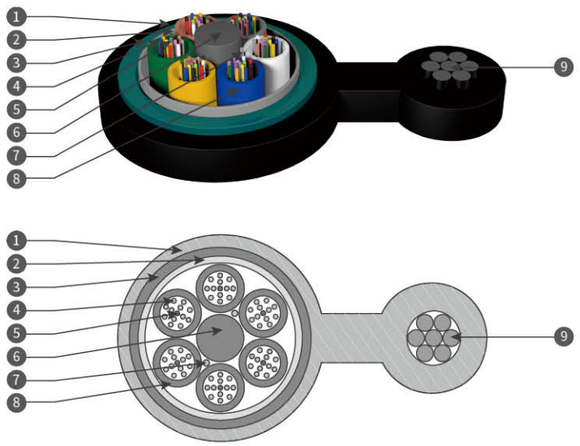
(All-dry) Self-supporting Figure-8 Optical Cable (GYFC8S)

Optical fibres are housed in loose tubes that are made of high-modulus plastic and filled with water blocking yarns. The tubes (and fillers) are stranded around the central strength member to form a cable core. The core is covered by water blocking tape and armored with steel tape. Stranded steel wires are applied as the messenger. Finally, a figure-8 PE outer sheath is extruded.

Features

- All-dry design improving efficiency of construction and splicing
- Good structure design and accurate process control ensuring good mechanical and temperature performances
- Easy for self-supporting aerial installation, reducing installation costs
- Excellent crush resistance

1 PE Sheath
2 Water Blocking Tape
3 PSP
4 Fibre
5 Water Blocking Yarn
6 Strength Member
7 Water Blocking Yarn
8 Loose Tube
9 Stranded Steel Wire



Technical Characteristics

Fibre count	Tube diameter (mm)	Tubes	Diameter of strength member (mm)	Diameter of coated strength member (mm)	Diameter of cable core (mm)	Fillers
06~12Xn	2.4	1	2.25	-	12.5	4
24Xn	2.4	2	2.25	-	12.5	3
36Xn	2.4	3	2.25	-	12.5	2
48Xn	2.4	4	2.25	-	12.5	1
72Xn	2.4	6	2.6	-	13.0	0
96Xn	2.4	8	3.5	4.2	14.5	0
120Xn	2.4	10	3.5	5.6	16.3	0
144Xn	2.4	12	3.5	7.2	17.5	0
288Xn	2.4	24	3.5	4.8	20.0	0

Note: 1. Xn refers to fibre type. For details, see naming rules for optical cables of YOFC.
2. For color arrangement of fibres and loose tubes, see the color sequence.

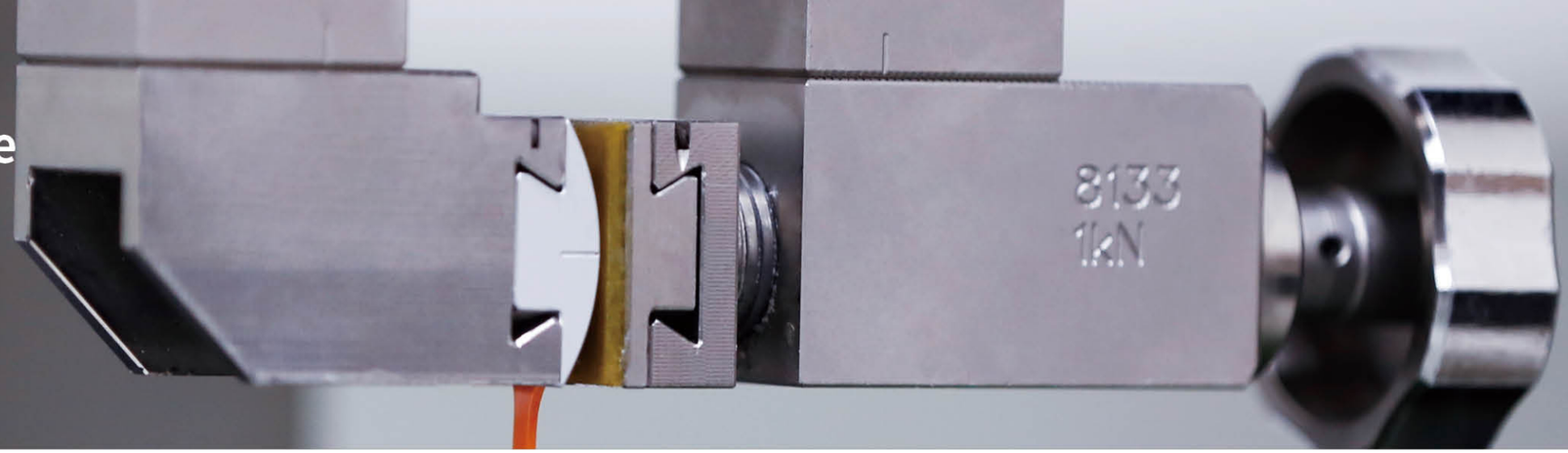
Environmental Characteristics

- Transport/storage temperature: -40℃ ~ +70℃

Delivery Length

- Standard length: 2,000m; other lengths are also available.

(All-dry) Stranded Loose Tube Armored Optical Cable (GYFY53)

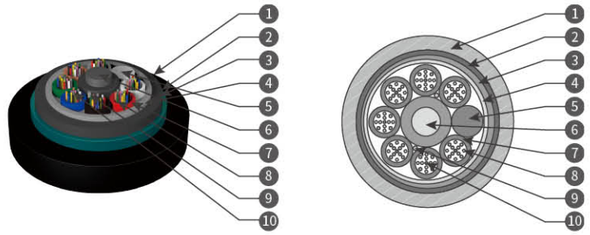


Optical fibres are housed in loose tubes that are made of high-modulus plastic and filled with water block yarns. The tubes (and fillers) are stranded around the central strength member to form a cable core. The core is covered by water-blocking tape. Then an inner sheath is extruded and armored with corrugated steel tape. Finally, an outer PE sheath is extruded.

Features

- All-dry design improving efficiency of construction and splicing
- Light weight, easy for long distance installation
- Accurate process control ensuring good mechanical and temperature performances
- Excellent crush resistance and flexibility
- Applicable to duct and aerial installations

1. PE Outer Sheath
2. PSP
3. PE Inner Sheath
4. Water Blocking Tape
5. Filler
6. Strength Member
7. Loose Tube
8. Fibre
9. Water Blocking Yarn
10. Water Blocking Yarn



Technical Characteristics

Type	Fibre count	Units	Tubes	Cable diameter (mm)	Cable weight (kg/km)	Tensile strength Long/short term (N)	Crush Long/short term (N/100mm)
GYFY53-12Xn-All Dry	12	6	1	15.3	170	900/2700	1000/3000
GYFY53-24Xn-All Dry	24	6	2	15.3	170	900/2700	1000/3000
GYFY53-36Xn-All Dry	36	6	3	15.3	170	900/2700	1000/3000
GYFY53-48Xn-All Dry	48	6	4	15.3	170	900/2700	1000/3000
GYFY53-72Xn-All Dry	72	6	6	15.3	170	900/2700	1000/3000
GYFY53-96Xn-All Dry	96	8	8	16.9	220	900/2700	1000/3000
GYFY53-144Xn-All Dry	144	12	12	19.9	310	900/2700	1000/3000
GYFY53-288Xn-All Dry	288	24	24	22.5	380	900/2700	1000/3000

Note: 1. Xn refers to fibre type. For details, see naming rules for optical cables of YOFC.
2. For color arrangement of fibres and loose tubes, see the color sequence.

Environmental Characteristics

- Transport/storage temperature: -40°C ~ +70°C

Delivery Length

- Standard length: 2,000m; other lengths are also available.

Optical Cables for Vertical Wiring in Buildings

Exposed corner clip

Linear clip

Right-angled turning clip

Optical cables for vertical wiring in buildings, which is a major component of the drop segment in FTTx networks, refer to the drop cables going from ducts in buildings into rooms. Vertical wiring is mainly applied to high-storey buildings, super high-storey buildings, buildings with high-density subscribers and large information processing centers such as data centers.

Features

- Good flame-retardant performance ensuring communication under fire conditions
- Small size and light weight, allowing large transmission capacity in limited space
- Good mechanical performance, including anti-bending and good tensile performances
- Anti-corrosion, water blocking, flame-retardant and environment-friendly
- Allowing branching, easy for connection

Product Series

Type	Feature
GJJA	Fishing-line Optical Cable
GJFJH	Duplex Optical Cable
GJFJBV	Duplex Flat Optical Cable
GJPFJV	Multi-core Bundle Optical Cable
GJBFJV-I	Multi-core Branch Optical Cable I
GJBFJV-II	Multi-core Branch Optical Cable II
GJBFJVH	Large Fibre Count Mixed Branch Optical Cable
GJPFH	Indoor Micro-tube Breakout Optical Cable for Vertical Wiring
GJPFXJH	Indoor Breakout Optical Cable for Vertical Wiring
GJPFWQH	Indoor Micro-tube Breakout Optical Cable for Vertical Wiring

Comply with ICEA-596, GR-409 and IEC 60794-2-10/11

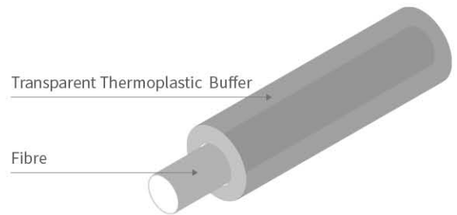
Fishing-line Optical Cable(GJJA)

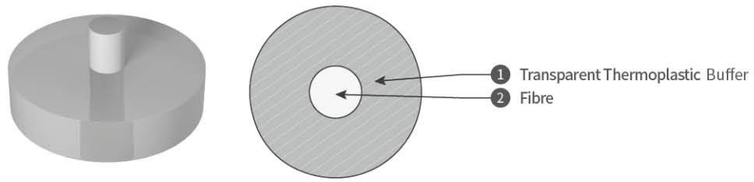
Features

- Using G657B3 optical fibres, with excellent anti-bending performance
- Small size, precisely controlled route
- Transparent, suitable for indoor application
- Compatiable with G.652D and G.657A2 optical fibres

Applications

- Indoor wiring





Technical Characteristics

Type	Cable diameter (mm)	Cable weight (Kg/km)	Tensile strength Long/short term (N)	Bending radius Dynamic/static (mm)	Crush Long/short term (N/100mm)	Storage temperature (°C)
GJJA	0.90	0.7	3/6	60/30	100/500	-20~+60

Delivery Length

- Standard length: 2,000m; other lengths are also available

Duplex Optical Cable (GJFJH)

The duplex cable uses two 900μm or 600μm tight buffered fibres as optical transmission medium, covered with aramid yarns as the strength member, then a LSZH sheath is extruded. Other sheath materials are available on request.

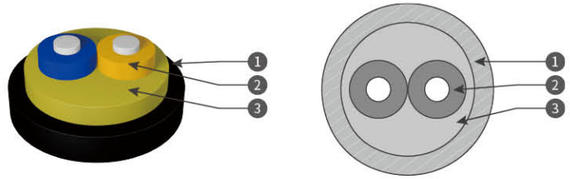
Features

- Tight buffered fibres with excellent strippability
- Good flame-retardant performance
- Aramid yarns providing excellent tensile performance
- Anti-corrosion, water blocking, flame-retardant and environment-friendly

Applications

- Fibre jumper or pigtail
- Indoor riser level and vertical cabling
- Interconnection between instruments and communication equipments

1. TPU/LSZH Sheath
2. Tight Buffered Fibre
3. Aramid Yarn



Technical Characteristics

Type	Cable diameter (mm)	Cable weight (kg/km)	Tensile strength Long/short term (N)	Bending radius Dynamic/static (mm)	Crush Long/short term (N/100mm)	Storage temperature (℃)
GYFJU-2Xn	3.5	12.6	400/800	60/30	500/1000	-20~+60

Note: 1. D is cable diameter.
2. Xn refers to fibre type.

Delivery Length

- Standard length: 2,000m; other lengths are also available

Duplex Flat Optical Cable(GJFJBV)

The duplex flat optical cable uses two 900μm or 600μm tight buffered fibres as optical transmission medium, covered with aramid yarns as the strength member. A PVC inner sheath is extruded on each fibres, then a flat PVC outer sheath is extruded. Other sheath materials are available on request.

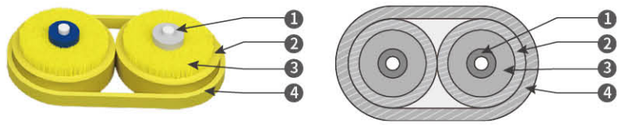
Features

- Tight buffered fibres with excellent strippability
- Good flame-retardant performance
- Aramid yarns providing excellent tensile performance
- Compact arrangement of fibres due to flat structure
- Anti-corrosion, water blocking, flame-retardant and environment-friendly

Applications

- Duplex optical fibre connecting jumper or pigtail
- Indoor riser level and vertical cabling
- Interconnection between instruments and communication equipment

1. Tight Buffered Fibre
2. Inner Sheath
3. Aramid Yarn
4. Outer Sheath



Technical Characteristics

Type	Cable size (mm)	Cable weight (kg/km)	Tensile strength Long/short term (N)	Bending radius Dynamic/static (mm)	Crush Long/short term (N/100mm)	Storage temperature (℃)
GJFJBV-2Xn	3.0×5.4	13.8	100/200	60/30	100/500	-20~+60
GJFJBV-2Xn	3.8×7.0	20	100/200	80/40	100/500	-20~+60

Note: Xn refers to fibre type.

Delivery Length

- Standard length: 2,000m; other lengths are also available

Multi-core Bundle Optical Cable(GJPFJV)

The multi-core bundle optical cable uses several 900μm or 600um tight buffered fibres as optical transmission medium, covered with aramid yarns as the strength member, then a PVC sheath is extruded. Other sheath materials are available on request.

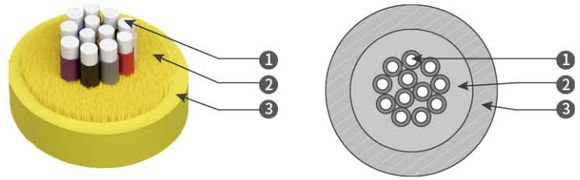
Features

- Tight buffered fibres with excellent strippability
- Good flame-retardant performance
- Aramid yarns providing excellent tensile performance
- Anti-corrosion, water blocking, flame-retardant and environment-friendly
- All-dielectric design, applicable to lightning-prone areas

Applications

- Multi-core optical fibre flexible connector
- Indoor cabling

1. Tight Buffered Fibre
2. Aramid Yarn
3. Sheath



Technical Characteristics

Type	Cable diameter (mm)	Cable weight (kg/km)	Tensile strength Long/short term (N)	Bending radius Dynamic/static (mm)	Crush Long/short term (N/100mm)	Storage temperature (°C)
GJPFJV-4Xn	5.2	16.2	200/660	20D/10D	300/1000	-20~+60
GJPFJV-6Xn	5.5	20	200/660	20D/10D	300/1000	-20~+60
GJPFJV-8Xn	6.2	26	200/660	20D/10D	300/1000	-20~+60
GJFJBV-2Xn	6.5	31.5	200/660	20D/10D	100/500	-20~+60

Note: 1. D is cable diameter.
2. Xn refers to fibre type.

Delivery Length

- Standard length: 2,000m; other lengths are also available

Multi-core Branch Optical Cable I(GJBFJV-I)

The multi-core branch cable I uses several simplex optical cables (made of 900μm tight buffered fibre and aramid yarns) as optical sub-units. Sub-units are stranded around a non-metallic central strength member to form a cable core. Then a PVC sheath is extruded on the core. Other sheath materials are available on request.

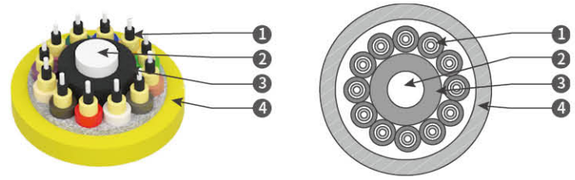
Features

- High tensile strength due to stranded structure and non-metallic central strength member
- Anti-corrosion, water blocking, flame-retardant and environment-friendly
- All-dielectric design, applicable to lightning-prone areas

Applications

- Connection between communication equipments
- Indoor cabling

1. Simplex Cable
2. Central Strength Member
3. PE Layer
4. Sheath



Technical Characteristics

Type	Cable diameter (mm)	Cable weight (kg/km)	Tensile strength Long/short term (N)	Bending radius Dynamic/static (mm)	Crush Long/short term (N/100mm)	Storage temperature (°C)
GJBFJV-4Xn	7.2	45.5	200/660	20D/10D	300/1000	-20~+60
GJBFJV-6Xn	9.0	63	200/660	20D/10D	300/1000	-20~+60
GJBFJV-8Xn	10.0	84	200/660	20D/10D	300/1000	-20~+60
GJBFJV-12Xn	12.5	148	200/660	20D/10D	300/1000	-20~+60

Note: 1. D is cable diameter.
2. Xn refers to fibre type.

Delivery Length

- Standard length: 2,000m; other lengths are also available

Multi-core Branch Optical Cable II(GJBFJV-II)

The multi-core branch cable II uses several simplex optical cables (made of 900μm tight buffered fibre and aramid yarns) as optical sub-units. Sub-units are stranded together to form a cable core. Then a PVC sheath is extruded on the core. Other sheath materials are available on request.

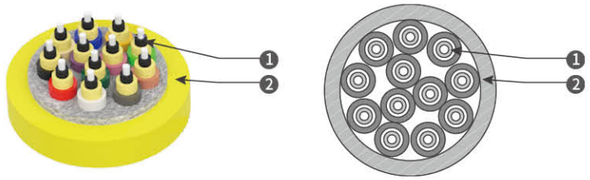
Features

- High tensile strength due to stranded structure
- Anti-corrosion, water blocking, flame-retardant and environment-friendly
- All-dielectric design, applicable to lightning-prone areas

Applications

- Connection between communication equipments
- Indoor cabling

1. Simplex Cable
2. Sheath



Technical Characteristics

Type	Cable diameter (mm)	Cable weight (kg/km)	Tensile strength Long/short term (N)	Bending radius Dynamic/static (mm)	Crush Long/short term (N/100mm)	Storage temperature (°C)
GJBFJV-12Xn	10.8	115	200/660	20D/10D	300/1000	-20~+60

Note: 1. D is cable diameter.
2. Xn refers to fibre type.

Delivery Length

- Standard length: 2,000m; other lengths are also available

Large Fibre Count Mixed Branch Optical Cable(GJBFJVH)

The large fibre count mixed branch optical cable uses 6F optical cables (made of 900μm tight buffered fibre and aramid yarns) as optical sub-units. Sub-units are stranded around a non-metallic central strength member to form a cable core. Then a PVC sheath is extruded on the core. Other sheath materials are available on request.

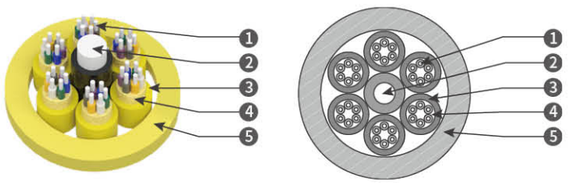
Features

- High tensile strength due to stranded structure and non-metallic central strength member
- High fibre density, large capacity and compact structure
- Anti-corrosion, water blocking, flame-retardant and environment-friendly
- All-dielectric design, applicable to lightning-prone areas

Applications

- Indoor cabling
- Backbone cabling system in building

1. Tight Buffered Fibre
2. Strength Member
3. Six-fibre Cable
4. Aramid Yarn
5. Sheath



Technical Characteristics

Type	Cable diameter (mm)	Cable weight (kg/km)	Tensile strength Long/short term (N)	Bending radius Dynamic/static (mm)	Crush Long/short term (N/100mm)	Storage temperature (°C)
GJFHBJV-36Xn	15.6	320	400/1320	680/340	300/1000	-20~+60
GJFHBJV-48Xn	17.6	340	400/1320	680/340	300/1000	-20~+60
GJFHBJV-64Xn	22.0	360	400/1320	680/340	300/1000	-20~+60
GJFHBJV-72Xn	22.5	650	400/1320	680/340	300/1000	-20~+60
GJFHBJV-96Xn	25.5	680	400/1320	680/340	300/1000	-20~+60

Note: Xn refers to fibre type.

Delivery Length

- Standard length: 2,000m; other lengths are also available

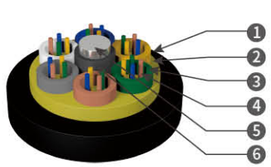
Indoor Micro-tube Breakout Optical Cable for Vertical Wiring (GJPFH)

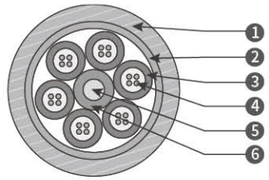
The indoor micro-tube breakout optical cable uses micro-tubes (made of optical fibres and special material) as optical sub-units. Sub-units are stranded around a non-metallic central strength member to form a cable core. Then a PVC sheath is extruded on the core. Other sheath materials are available on request.

Features

- Accurate process control ensuring good mechanical and temperature performances
- Good structure design, easy for branching and splicing
- Small size and light weight, easy for installation
- LSZH sheath ensuring good flame-retardant performance
- Especially applicable to vertical wiring in buildings

1. Sheath
2. Aramid Yarn
3. Micro Tube
4. Optical Fibre
5. Strength Member
6. PE Layer





Technical Characteristics

Type	Cable diameter (mm)	Fibre count per tube	Cable weight (Kg/km)	Tensile strength Long/short term (N)	Crush Long/short term (N/100mm)	Bending radius Dynamic/static (mm)
GJPFH-12Xn(2MB)	5.5	2	25	200/660	300/1000	20D/10D
GJPFH-24Xn(2MB)	7.1	2	40	200/660	300/1000	20D/10D
GJPFH-24Xn(4MB)	5.8	4	28	200/660	300/1000	20D/10D
GJPFH-24Xn(6MB)	6.1	6	31	200/660	300/1000	20D/10D
GJPFH-48Xn(4MB)	7.6	4	47	200/660	300/1000	20D/10D
GJPFH-48Xn(6MB)	6.5	6	35	200/660	300/1000	20D/10D
GJPFH-48Xn(12MB)	7.0	12	38	200/660	300/1000	20D/10D

Note: 1. Xn refers to fibre type. Bending insensitive single-mode fibre is recommended. D is cable diameter.
2. 2MB refers to 2F micro-tubes, and the others illustrated in the same way.

Environmental Characteristics

- Transport/storage temperature: -20°C ~ +60°C

Delivery Length

- Standard length: 2,000m; other lengths are also available.

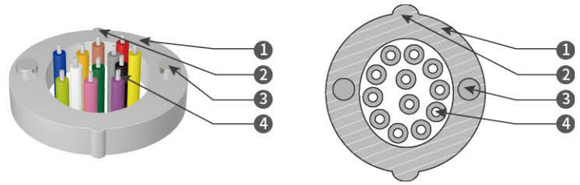
Indoor Breakout Optical Cable for Vertical Wiring (GJPFXJH)

Several 900μm tight buffered fibres are housed in the LSZH sheath with a special cross section. Two FRPs are placed in parallel as the strength member. An external mark of the sheath indicates the direction of opening.

Features

- All-dry design, easy for branching and splicing
- Small size and light weight, easy for installation
- LSZH sheath ensuring good flame-retardant performance
- Accurate process control ensuring good mechanical and temperature performances
- Especially applicable to pre-connection

1. Sheath
2. Sheath Mark
3. Strength Member
4. Tight Buffered Fibre



Technical Characteristics

Type	Cable diameter (mm)	Cable weight (Kg/km)	Tensile strength Long/short term (N)	Crush Long/short term (N/100mm)	Bending radius Dynamic/static (mm)
GJPFXJH-2~12Xn	8.5	60	200/500	300/1000	20D/10D
GJPFXJH-16~24Xn	10.5	125	200/500	300/1000	20D/10D

Note: 1. Xn refers to fibre type. Bending insensitive single-mode fibre is recommended.
2. For color arrangement of fibres and loose tubes, see the color sequence.
3. D is cable diameter.

Environmental Characteristics

- Transport/storage temperature: -20°C ~ +60°C

Delivery Length

- Standard length: 1,000m; other lengths are also available.

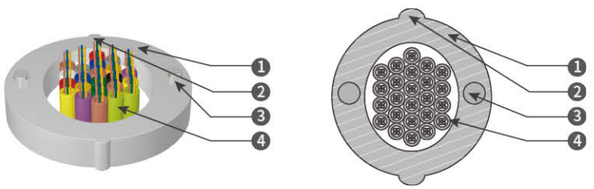
Indoor Micro-tube Breakout Optical Cable for Vertical Wiring (GJPFWQH)

The indoor micro-tube breakout optical cable uses micro-tube (made of optical fibres and special material) as optical sub-units. Sub-units are housed in the LSZH sheath with a special cross section. Two FRPs are placed in parallel as the strength member. An external mark of the sheath indicates the direction of opening.

Features

- Good structure design, easy for branching and splicing
- Small size and light weight, easy for installation
- LSZH sheath ensuring good flame-retardant performance
- Accurate process control ensuring good mechanical and temperature performances
- Especially applicable to pre-connection

1. Sheath
2. Sheath Mark
3. Strength Member
4. Micro Tube



Technical Characteristics

Type	Cable diameter (mm)	Cable weight (Kg/km)	Tensile strength Long/short term (N)	Crush Long/short term (N/100mm)	Bending radius Dynamic/static (mm)
GJPFWQH-12~36Xn	8.5	60	200/500	300/1000	20D/10D
GJPFWQH-48~96Xn	13.5	138	200/500	300/1000	20D/10D

Note: 1. Xn refers to fibre type. Bending insensitive single-mode fibre is recommended.
2. For color arrangement of fibres and loose tubes, see the color sequence.
3. D is cable diameter.

Environmental Characteristics

- Transport/storage temperature: -20°C ~ +60°C

Delivery Length

- Standard length: 1,000m; other lengths are also available.

Color Arrangement Rules of YOFC

Color Arrangement of Fibres in Loose Tube

- YOFC's fibre color sequence is Standard Fibre Color Sequence, which complies with Standard TIA/EIA-598-2014.

Standard Fibre Color Sequence

Fibre No.	1	2	3	4	5	6	7	8	9	10	11	12
Color	Blue	Orange	Green	Brown	Grey	White	Red	Black	Yellow	Violet	Pink	Aqua

Note: 1. If there are less than 12 fibres in a loose tube, the color sequence is followed continuously, starting from No. 1..
2. In the standard color sequence, No. 6 white color can be replaced by natural color, which is called W color sequence.
3. Color arrangement can be customized.

Color Arrangement of Loose Tubes

- YOFC's loose tube color sequence is Standard Tube Color Sequence, which complies with Standard TIA/EIA-598-2014.

Full Color Sequence

Tube No.	1	2	3	4	5	6	7	8	9	10	11	12
Color	Blue	Orange	Green	Brown	Grey	White	Red	Black	Yellow	Violet	Pink	Aqua

Color Sequence of Tight Buffered Fibres

- YOFC's color sequence of tight buffered fibres is the full color sequence, and complies with Standard YD/T1258.

Standard Fibre Color Sequence

Fibre No.	1	2	3	4	5	6	7	8	9	10	11	12
Color	Blue	Orange	Green	Brown	Grey	White	Red	Black	Yellow	Violet	Pink	Aqua

Note: Color arrangement can be customized.

Colors of Cable Sheaths

- Colors of cable sheaths comply with YD/T1258.
- Default color for single-mode fibre: yellow
- Default color for multimode fibre: orange

Note: Color arrangement can be customized.