



Air Blown Micro Optical Fiber Cable

Specializing in designing, manufacturing cables
and providing customized services for our customers



Air Blown Micro Optical Fiber Cable for FTTx Network

Introduction:

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

Airblown 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.

Performance Comparison of Air-blown Micro Cables:

ZION 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 Unit (EPFU)	<ol style="list-style-type: none"> 1. Small size 2. Light Weight 3. Good Bending performance 4. Suitable Indoor installation 	3Stars***	FTTH
Uni-Tube air-blown micro cable (GCYFXTY)	<ol style="list-style-type: none"> 1. Small size 2. Light Weight 3. Good tensile and crush resistance 	4Stars****	Power system Lighting-prone areas
Stranded Loose Tube air-blown micro cable (GCYFY)	<ol style="list-style-type: none"> 1. High fibre density 2. High duct utilization 3. Much less initial investment 	5Stars*****	FTTH Metropolitan area Access networks



EPFU

Enhanced Performance Fibre Units Air-Blown Micro Optical Fiber Cable For FTTx Network FTTH

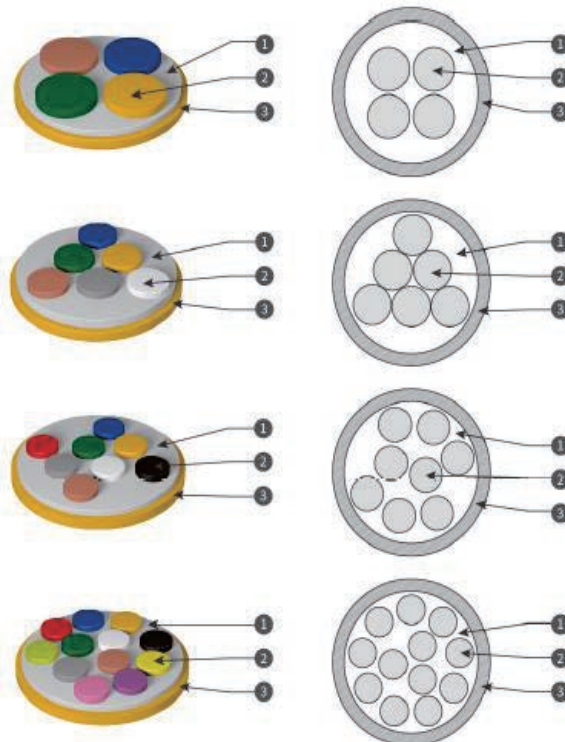
Introduction:

Optical fibers and filler elements are placed in parallel in the photosensitive resin to form the cable core. Finally, a low-friction material is extruded outside the core to form an outer sheath, Designed with special grooves to advance blowing distance and can be used to lay the optical cable using air blowing equipment.

Features:

- 2、4、6、8 and 12 fibres options. G657A2 Bending insensitive fibers.
- Stable structure, good mechanical and temperature performance.
- Designed with special grooves to advance blowing distance.
- Lightweight and proper stiffness , repeat installation.
- Designed with no gel, easy stripping and handling.
- Better costs advantage compared to traditional product.
- Complete accessories, less manpower, lower installation time.

Cross Section:



1, Resin 2, Fibress 3, Low Friction Groove Sheath

Environmental Characteristics:

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



Performance Comparison of Air-blown Micro Cables:

Category	Characteristics	Blowing effect	Application
Enhanced Performance Fibre Unit (EPFU)	1.Small size 2.Light Weight 3. Good Bending performance 4. Suitable Indoor installation	3Stars***	FTTH
Uni-Tube air-blown micro cable (GCYFXTY)	1.Small size 2.Light Weight 3.Good tensile and crush resistance	4Stars****	Power system Lighting-prone areas
Stranded Loose Tube air-blown micro cable (GCYFY)	1.High fibre density 2.High duct utilization 3.Much less initialvestment	5Stars*****	FTTH Metropolitan area Access networks

Technical Characteristics:

Type	Fiber count	Diameter mm	Weight (kg/km)	Tensile Strength Long/Short(N)	Crush Resistance short(N/100mm)
EPFU-02 G657A2	2	1.15±0.05	1.15±0.05	0.15G/0.5G	100
EPFU-04 G657A2	4	1.15±0.05	1.15±0.05	0.15G/0.5G	100
EPFU-06 G657A2	6	1.15±0.05	1.15±0.05	0.15G/0.5G	100
EPFU-08 G657A2	8	1.15±0.05	1.15±0.05	0.15G/0.5G	100
EPFU-12 G657A2	12	1.15±0.05	1.15±0.05	0.15G/0.5G	100

Note: G is the weight of optical cable 1kilometer

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/1000m	500m/1000m	500m/1000m	500m/1000m	500m/800m
Blowing time	15min/30min	15min/30min	15min/30min	15min/30min	15min/30min

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:2000m;Other length available



Enhanced Performance Fibre Units (EPFU) Air-blown Micro Optical Fibre Cables for C-NET

Micro air-blown fiber unit (MABFU)

Introduction:

MABFU is the important part of the air blown fibre cable, and it is the most popular product of the indoor optical fibre cables for generic cabling in Europe, Japan, South Korea and so on.

The MABFU is the product that with small diameter, lightweight, highly flexibility and proper stiffness, and it can be blown into the microduct of 5.0/3.5mm. The fibres are coated with a soft acrylate resin which provides excellent dimensional and thermal stability to cushion the fibres, in addition, the resin can be easily stripped in connecting the fibres. The outer sheath is a thermoplastic that is of low friction.

The surface of the sheath is designed with special grooves, compared to the surface of the traditional optical fibre cable, it provides not only the high level of mechanical protection, but also the perfect blowing performance.

Features and Benefits:

- 2、4、6、8 and 12 fibres options.
- Stable structure, good mechanical and temperature performance.
- Designed with special grooves to advance blowing distance.
- Lightweight and proper stiffness, repeat installation.
- Designed with no gel, easy stripping and handling.
- Better costs advantage compared to traditional product.
- Complete accessories, less manpower, lower installation time.

Cross Section:



Standards:

Unless otherwise specified in this specification, all requirements shall be mainly in accordance with the following standard specifications.

Optical Fibre:	ITU-T G.652、G.657 IEC 60793-2-50
Optica Cable:	IEC 60794-1-2、IEC 60794-5



Basic Performance :

Fibre Count	2 Fibres	4 Fibres	6 Fibres	8 Fibres	12 Fibres
Outer Diameter (mm)	1.15±0.05	1.15±0.05	1.35±0.05	1.15±0.05	1.65±0.05
Weight (g/m)	1.0	1.0	1.3	1.8	2.2
Min Bend radius (mm)	50	50	60	80	80
Temperature	Storage: -30°C ~ +70°C Operation: -30°C ~ +70°C Installation: -5°C ~ +50°C				
Cable service life	25 years				

Note: It is recommended that the structure of 2 fibres unit consist of 2 filled fibres, for it is proved that 2 fibres unit with 2 filled fibres is better than the one with zero or one filled fibre in the blowing performance and the fibre stripping-ability

Testing parameter :

Fibre Unit Attenuation

Fibre Type	SM G.652D 、 G.657
Attenuation	0.40dB/km max @1310nm
	0.30dB/km max @1550nm

Blowing Test :

Fibre Count	2 Fibres	4 Fibres	6 Fibres	8 Fibres	12 Fibres
Test equipment	PLUMETTAZ: UM25, ERICSSON: F, CATWAY: FBT-1.1				
Standard duct	5.0/3.5 mm				
Pressure	7bar / 10bar				
Typical blowing distance	500m/1000 m	500m/1000 m	500m/1000 m	500m/1000 m	500m/800 m
Typical blowing time	10min/18min	10min/18min	12min/18min	13min/18min	15min/18min

Mechanical Performance :

Test	Standard	Parameters	Test Results
Tension	EN 18700 A1/501 IEC 60794-1-2-E1	Load is 1×W	Additional attenuation ≤0.05dB after test
Bend	IEC 60794-1-2--E11A	Diam 40mm×3turns 5 cycles at 20°C	Additional attenuation ≤0.05dB,after test
Crush	IEC 60794-1-2-E3	100 N, 60s	Additional attenuation ≤0.05dB,after test

All optical testing proceeded at 1550 nm



Environment Performance :

Test	Standard	Parameters	Test Results
Temperature Cycle	IEC 60794-1-2-F1	-30°C, +70°C, (2 cycles)	Absolute attenuation ≤0.5dB/km,during test Additional attenuation ≤0.1dB/km, during and after test
Water Soak	IEC 60794-5	1000 hours in water, 18°C~22°C	(Test after temp cycle) ≤0.07dB/km Change compared to start value
Damp Heat Cycle	IEC 60068-2-38	25°C, 65°C, 25°C, 65°C, 25°C,-10°C, 25°C	Absolute attenuation ≤0.5dB/km,during test Additional attenuation ≤0.1dB/km, during and after test

All optical testing proceeded at 1550 nm

Fibre Color Code :

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

Sheath Color:

- Yellow

Delivery Length :

Standard delivery lengths are 1000m, 2000m, 3000m, 4000m, 6000m with a tolerance of -0.5~+1%.
For more options, please contact the customer service.

Packaging :

Free coiling in the pan.

Fibre Count	Length (m)	Pan Size Φ×H (mm)	Weight (Gross) (kg)
2~4 Fibres	2000 m	φ510 × 200	8
	4000 m	φ510 × 200	10
	6000 m	φ510 × 300	13
6 Fibres	2000 m	φ510 × 200	9
	4000 m	φ510 × 300	12
8 Fibres	2000 m	φ510 × 200	9
	4000 m	φ510 × 300	14
12 Fibres	1000 m	φ510 × 200	8
	2000 m	φ510 × 200	10
	3000 m	φ510 × 300	14
	4000 m	φ510 × 300	15





GCYFXTY

Uni-tube Air-Blown Micro Optical Fiber Cable For FTTx Network Power system Lighting-prone areas

Introduction:

Optical fibres are housed in a loose tube that is made of high-modulus plastic and filled with tube filling compounds. 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

Cross Section:



1, PE Sheath with Groove 2, Aramid Yarn 3, Fibress 4, Tube Filling Compound 5, Loose Tube

Performance Comparison of Air-blown Micro Cables:

Category	Characteristics	Blowing effect	Application
Enhanced Performance Fibre Unit (EPFU)	1.Small size 2.Light Weight 3. Good Bending performance 4. Suitable Indoor installation	3Stars***	FTTH
Uni-Tube air-blown micro cable (GCYFXTY)	1.Small size 2.Light Weight 3.Good tensile and crush resistance	4Stars****	Power system Lighting-prone areas
Stranded Loose Tube air-blown micro cable (GCYFY)	1.High fibre density 2.High duct utilization 3.Much less initialvestment	5Stars*****	FTTH Metropolitan area Access networks



Technical Characteristics:

Type	Fiber count	Diameter mm	Weight (kg/km)	Tensile Strength Long/Short(N)	Crush Resistance Long/short (N/100mm)
GCFXYTY-02 G657A2	2	2.3±0.05	4.0±0.1	0.15G/0.5G	150/450
GCFXYTY-04 G657A2	4	2.3±0.05	4.0±0.1	0.15G/0.5G	150/450
GCFXYTY-06 G657A2	6	2.3±0.05	4.0±0.1	0.15G/0.5G	150/450
GCFXYTY-08 G657A2	8	2.3±0.05	4.0±0.1	0.15G/0.5G	150/450
GCFXYTY-12 G657A2	12	2.3±0.05	4.0±0.1	0.15G/0.5G	150/450
GCFXYTY-24 G657A2	24	2.7±0.05	6.5±0.1	0.15G/0.5G	150/450

Note: G is the weight of optical cable 1kilometer

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/1000m	500m/1000m	500m/1000m	500m/1000m	500m/800m
Blowing time	15min/30min	15min/30min	15min/30min	15min/30min	15min/30min

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:2000m;Other length availabe



GCFY

Stranded Loose Tube Air-blown Micro Fiber Optic Cable for FTTH Metropolitan area Access networks

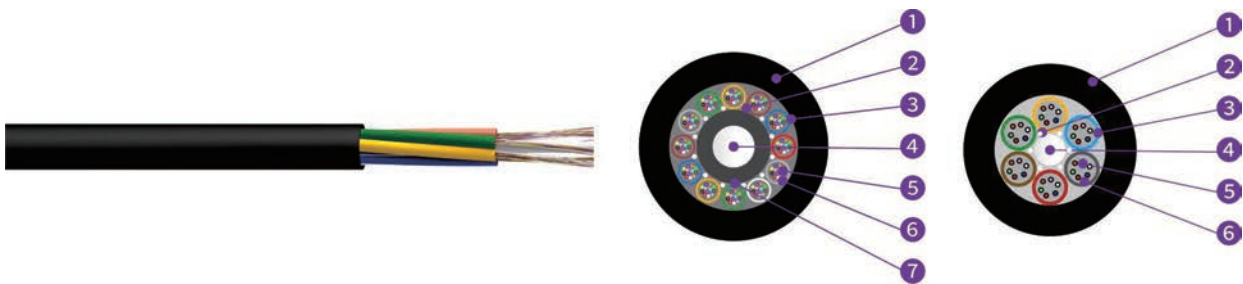
Introduction:

Optical fibres are housed in a loose tube that is made of high-modulus plastic and filled with tube filling compounds. 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

Cross Section:



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

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Stranded Loose Tube air-blown micro cable (GCFYF)	1.High fibre density 2.High duct utilization 3.Much less initialvestment	5Stars*****	FTTH Metropolitan area Access networks



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:2000m;Other length available

Technical Characteristics:

Type	Fiber count Tube*Fibers	Diameter mm	Weight (kg/km)	Tensile Strength Long/Short(N)	Crush Resistance Long/short (N/100mm)
GCFY-12 G657A2	12 (2*6)	4.5±0.1	16	0.3G/1.0G	150/500
GCFY-24 G657A2	24 (4*6)	4.5±0.1	16	0.3G/1.0G	150/500
GCFY-36 G657A2	36 (6*6)	4.5±0.1	16	0.3G/1.0G	150/500
GCFY-24 G657A2	24 (2*12)	5.4±0.1	26	0.3G/1.0G	150/500
GCFY-48 G657A2	48 (4*12)	5.4±0.1	26	0.3G/1.0G	150/500
GCFY-72 G657A2	72 (6*12)	5.4±0.1	26	0.3G/1.0G	150/500
GCFY-96 G657A2	96 (8*12)	6.1±0.1	33	0.3G/1.0G	150/500
GCFY-144 G657A2	144 (12*12)	7.9±0.1	52	0.3G/1.0G	150/500
GCFY-192 G657A2	192 (16*12)	7.9±0.1	52	0.3G/1.0G	150/500
GCFY-216 G657A2	216 (18*12)	7.9±0.1	52	0.3G/1.0G	150/500
GCFY-288 G657A2	288 (24*12)	9.3±0.1	80	0.3G/1.0G	150/500
GCFY-144 G657A2	144 (6*24)	7.3±0.1	42	0.3G/1.0G	150/500
GCFY-192 G657A2	192 (8*24)	8.8±0.1	76	0.3G/1.0G	150/500
GCFY-288 G657A2	288 (12*24)	11.4±0.1	110	0.3G/1.0G	150/500
GCFY-432 G657A2	432 (18*24)	11.4±0.1	115	0.3G/1.0G	150/500
GCFY-576 G657A2	576 (24*24)	13.4±0.1	140	0.3G/1.0G	150/500

Note: G is the weight of optical cable 1kilometer

Environmental Characteristics:

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



GCFY-Small Stranded Loose Tube Air-blown Micro Fiber Optic Cable for FTTH

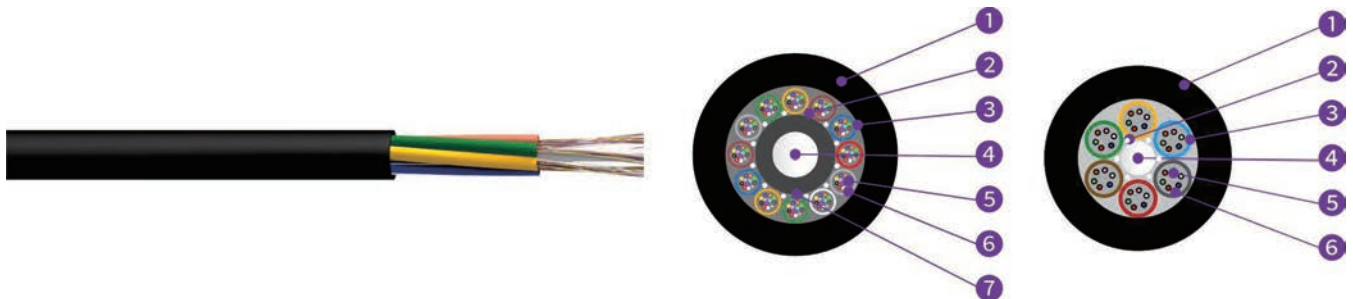
Introduction:

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Features:

- Smaller Diameter 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

Cross Section:



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

Performance Comparison of Air-blown Micro Cables:

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Stranded Loose Tube air-blown micro cable (GCFYF)	1.High fibre density 2.High duct utilization 3.Much less initial investment	5Stars*****	FTTH Metropolitan area Access networks



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:2000m;Other length available

Technical Characteristics:

Type	Fiber count Tube*Fibers	Diameter mm	Weight (kg/km)	Tensile Strength Long/Short(N)	Crush Resistance Long/short (N/100mm)
GCFY-24 G657A2	24 (2*12)	4.5±0.1	16	0.3G/1.0G	150/500
GCFY-48 G657A2	48 (4*12)	4.5±0.1	16	0.3G/1.0G	150/500
GCFY-72 G657A2	72 (6*12)	4.5±0.1	16	0.3G/1.0G	150/500
GCFY-96 G657A2	96 (8*12)	5.6±0.1	26	0.3G/1.0G	150/500
GCFY-144 G657A2	144 (12*12)	7.2±0.1	43	0.3G/1.0G	150/500
GCFY-192 G657A2	192 (16*12)	7.8±0.1	48	0.3G/1.0G	150/500
GCFY-216 G657A2	216 (18*12)	7.8±0.1	48	0.3G/1.0G	150/500
GCFY-240 G657A2	240 (20*12)	7.8±0.1	48	0.3G/1.0G	150/500
GCFY-288 G657A2	288 (24*12)	8.1±0.1	58	0.3G/1.0G	150/500
GCFY-144 G657A2	144 (6*24)	6.2±0.1	32	0.3G/1.0G	150/500
GCFY-192 G657A2	192 (8*24)	7.2±0.1	48	0.3G/1.0G	150/500
GCFY-240 G657A2	240 (10*24)	8.1±0.1	58	0.3G/1.0G	150/500
GCFY-288 G657A2	288 (12*24)	9.3±0.1	80	0.3G/1.0G	150/500
GCFY-432 G657A2	432 (18*24)	9.6±0.1	78	0.3G/1.0G	150/500
GCFY-576 G657A2	576 (24*24)	11.2±0.1	110	0.3G/1.0G	150/500

Note: G is the weight of optical cable 1kilometer

Environmental Characteristics:

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

● GLOBAL MARKET



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