



SPECIFICATION

Optical Fiber Cable (GYFS)

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1. Product description

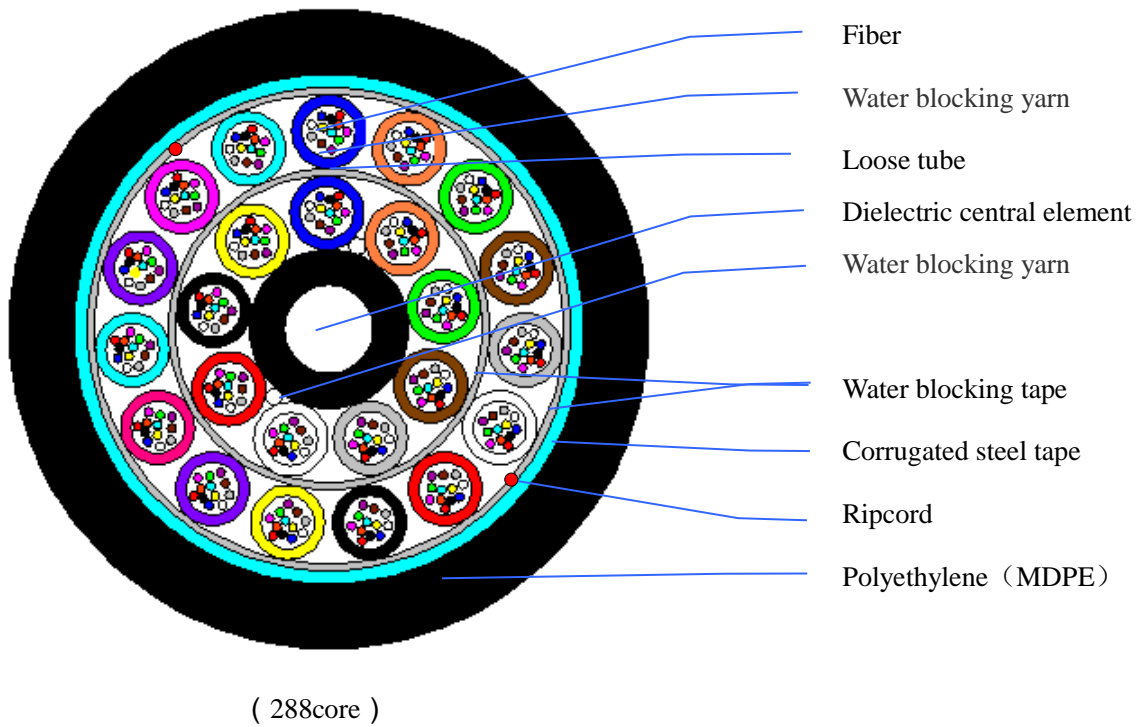
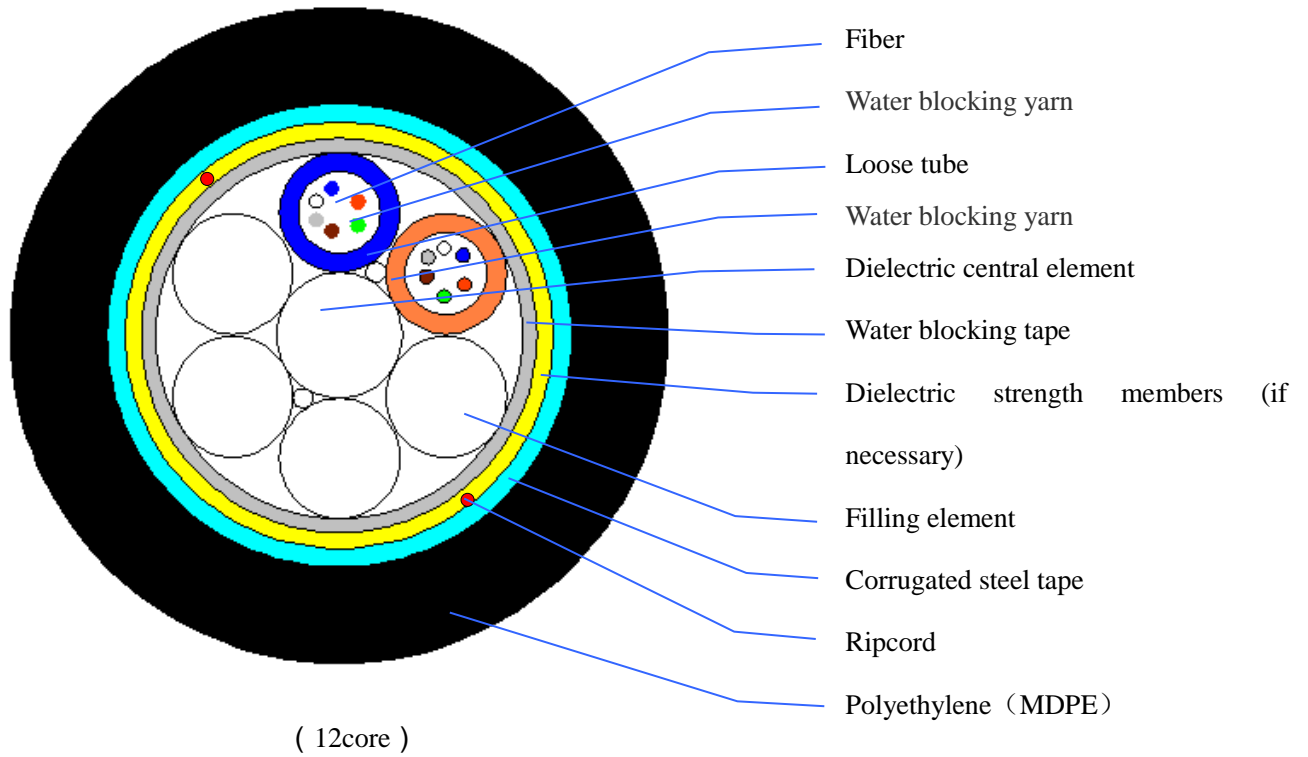
GYFS is gel-free, single-jacket, single-armored cable for direct burial and duct. GYFS is from 2-count to 432-count suitable for a variety of system configurations. The loose tube is made of PBT, freeing the fiber from environmental hazards to ensure a high transmission reliability and quality. Gel-free indicates there are water-blocking yarns in the loose tubes and water-blocking tape under the armored layer, meaning no mess or cleanup. The structure of cable is additionally reinforced with the single armor: corrugated steel tape, which has extra protection against crush and rodent. GYFS is easy to strip with two ripcords under the armored layer. The jacket is rugged and durable medium density polyethylene.

2. Features and Benefits

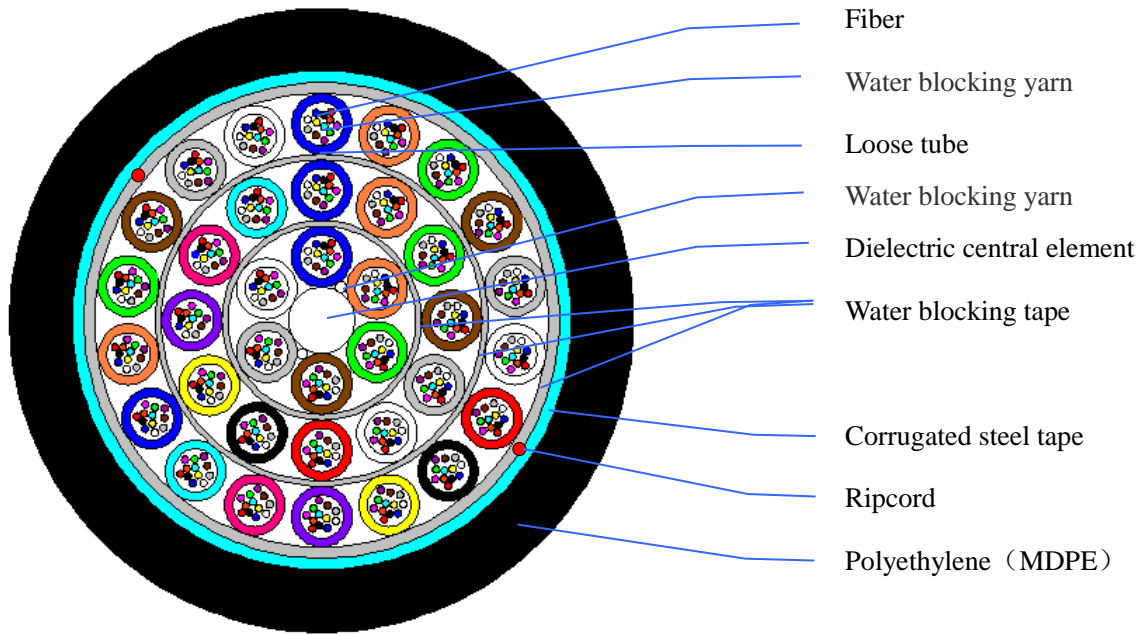
- 2.1 High transmission reliability and quality
- 2.2 Gel-free: no mess or cleanup
- 2.3 Single armored: extra protection against crush and rodent
- 2.4 Ripcords: easy to strip; cause no unevenness of the jacket
- 2.5 Medium density polyethylene jacket: rugged and durable

3 Optical Fiber Cable

3.1 Cross section



SPEC.No: 2016081921



(432core)

3.2 Dimension of the cable

Amount of fiber	Product Type	Max. numb. of the fiber per tube	Number of Tube Positions	Number of Active Tubes	Diameter (Appr.)	Weight (Appr.)
					mm	Kg/km
2-36	Armored	6	6	1-6	11.6	128
38-72	Armored	12	6	4-6	12.6	149
74-96	Armored	12	8	7-8	14.7	200
96-120	Armored	12	10	9-10	16.3	243
122-144	Armored	12	12	11-12	18.0	294
146-216	Armored	12	18	13-18	18.6	310
218-288	Armored	12	24	19-24	20.7	388
360-432	Armored	12	36	30-36	23.8	490

3.3 Performance

NO	ITEM	TEST METHOD	SPECIFICATION
1	Tensile performance IEC60794-1-21-E1	-Short-term load: 2700N - Time: 5 minute	Loss change ≤ 0.10 dB@1550 nm (after test) - Fiber strain ≤ 0.60 % - No sheath damage
		-Long-term load: 890N - Time: 5 minute	- Loss change ≤ 0.10 dB@1550 nm (during test) - Fiber strain ≤ 0.20 % - No sheath damage
2	Crush test IEC60794-1-21-E3	- Load: 2200 N /100mm - Time: 5 minute - Length: 100 mm	Loss change ≤ 0.10 dB@1550 nm (during test) - No sheath damage
3	Impact test IEC60794-1-21-E4	- Impact high:1m - Impact weight:1kg - Points of impact: 3 - Times of per point: 2	Loss change ≤ 0.10 dB@1550 nm (during test) - No sheath damage
4	Repeated bending IEC60794-1-21-E6	- Bending radius.: $20 \times D$ - Load: 250N - Flexing rate: 2sec/cycle - No. of cycle: 25	- No fiber break - No sheath damage
5	Water penetration IEC60794-1-22-F5	- Height of water: 1m - Sample length: 3 m - Time: 24 hr	- No drip through the cable core assembly
6	Twist IEC60794-1-21-E7	- Length: 1 m - Load: 250N - Twist rate: ≤ 60 sec/cycle - Twist angle: $\pm 180^\circ$ - No. of cycle: 5	Loss change ≤ 0.10 dB@1550 nm (during test) - No sheath damage
7	Temperature Cycling IEC60794-1-22-F1	- Temperature step: +20°C→-20°C→+70°C→+20°C (Applicable to 2core to 288core) +20°C→0°C→+70°C→+20°C (Applicable to 360 core to 432core) - Number of cycle: 2 turns - Time per each step: 12 hrs	- Loss change ≤ 0.15 dB/km@1550 nm (during test) - Loss change ≤ 0.05 dB/km@1550 nm (after test) - No sheath damage

D*: Cable diameter



3.4 Minimum bend radius

	Installation	Operation
GYFS	20D	10D

D: Cable diameter

3.5 Temperature range

	Storage	Installation	Operation
GYFS(2core to 288core)	-20 ℃ to 70 ℃	-10 ℃ to 70 ℃	-20 ℃ to 70 ℃
GYFS(360core to 432core)	0 ℃ to 70 ℃	0 ℃ to 70 ℃	0 ℃ to 70 ℃

3.6 Optical Characteristics

Item			Performance
Fiber Category			G.652D
Attenuation	Maximum attenuation (cabled)	At 1310nm	≤0.36dB/km
		At 1550nm	≤0.25dB/km
	Typical attenuation (bare fiber)	At 1310nm	≤0.34dB/km
		At 1550nm	≤0.20dB/km

* For more information on typical attenuation please see the optical fiber specifications

3.7 Color Coding of Loose Tubes and Fibers

Fiber color code

Position	Fiber color Color
1	Blue
2	Orange
3	Green
4	Brown
5	Grey
6	White
7	Red
8	Black
9	Yellow
10	Violet
11	Pink
12	Aqua



Color codes for Loose Tube

2-144core	1	2	3	4	5	6	7	8	9	10	11	12
Layer 1	Blue	Orange	Green	Brown	Gray	White	Red	Black	Yellow	Violet	Pink	Aqua

146-216core	1	2	3	4	5	6	7	8	9	10	11	12
Layer 1	Blue	Orange	Green	Brown	Gray	White						
Layer 2	Blue	Orange	Green	Brown	Gray	White	Red	Black	Yellow	Violet	Pink	Aqua

218-288core	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15
Layer 1	Blue	Orange	Green	Brown	Gray	White	Red	Black	Yellow						
Layer 2	Blue	Orange	Green	Brown	Gray	White	Red	Black	Yellow	Violet	Pink	Aqua	Blue	Orange	Green

432core	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18
Layer 1	Blue	Orange	Green	Brown	Gray	White												
Layer 2	Blue	Orange	Green	Brown	Gray	White	Red	Black	Yellow	Violet	Pink	Aqua						
Layer 3	Blue	Orange	Green	Brown	Gray	White	Red	Black	Yellow	Violet	Pink	Aqua	Blue	Orange	Green	Brown	Gray	White

3.8 Sheath marking

