Specifications of

Non Armored Optical Fiber Cable (GYFTY)

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1. General

1.1 This specification covers the requirements for the supply of jelly-filled core, single-mode optical fiber cables.

1.2 The single mode optical fiber cable comply with the requirements of this specification and generally meet any latest relevant ITU-T Recommendation G.652.

2. Fiber characteristics

2.1 G.652

2.1.1 Geometric characteristics

Item		Construction
Mode field diameter	At 1310nm	9.2±0.4μm
Cladding diameter		125±1μm
Core concentricity error		≤0.5μm
Cladding non-circularity		≤1.0%
Cut-off wavelength (λcc) (for cable)		≤1260nm
Cut-off wavelength (λc) (for fiber)		1180nm~1330nm
Primary coating diameter	(Not included color layer)	245±5μm
	(Included color layer)	245±10μm
Coating-cladding concentricity error		≤12.5μm
Fiber curl radius		≥4m

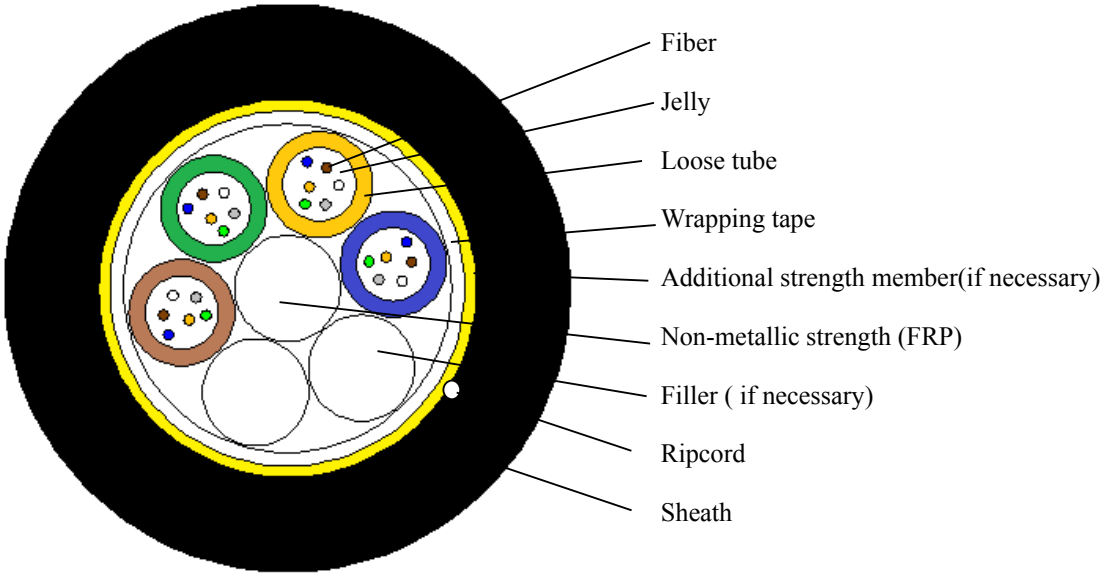
2.1.2 Transmission characteristics

Item		Performance
Attenuation	At 1310nm	≤0.36dB/km(max.)
	At 1383nm	≤0.35dB/km(max.)
	At 1550nm	≤0.22dB/km(max.)
Macro bending loss	Φ=60mm, 100turns at 1550nm	≤0.1dB
Chromatic dispersion	Within 1288~1339nm	≤3.5ps/nm·km
	At 1550nm	≤18ps/nm·km
Zero dispersion wavelength		1300~1324nm
Zero dispersion slope		≤0.090ps/nm^2·km
Cut off wavelength		≤1260nm

3 Optical Fiber Cable

3.1 GYFTY

3.1.1 Cross section



GYFTY-24B1

3.1.2 Dimension of the cable

Amount of fiber	Max. numb. of the fiber in one tube	*Nom. thickness of PE sheath	Overall diameter (Appr.)	Weight (Appr.)
		mm	mm	kg/km
24	6	2.0	10.9	101
48	12	2.0	11.5	114
72	12	2.0	11.5	114
96	12	2.0	12.8	145
144	12	2.0	15.7	211
216	12	2.0	16.1	262
288	12	2.0	18.3	282
432	24	2.0	20.8	368

*Note：The minimum thickness of the sheath is 1.6mm.

3.2Color code

3.2.1 The Color Code of Individual Fibers

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

The Color Code of Individual Fibers（24 fiber per tube）

Position	Fiber color
1	Blue
2	Orange
3	Green
4	Brown
5	Slate/Grey
6	White
7	Red
8	Black
9	Yellow
10	Violet
11	Rose
12	Aqua
13	Blue with black tracer
14	Orange with black tracer
15	Green with black tracer
16	Brown with black tracer
17	Slate/Grey with black tracer
18	White with black trace
19	Red with black tracer
20	Nature

21	Yellow with black tracer
22	Violet with black tracer
23	Rose with black tracer
24	Aqua with black tracer

3.2.2 The Color Code of Tube

Position	Tube color
1	Blue
2	Orange
3	Green
4	Brown
5	Slate/Grey
6	White
7	Red
8	Black
9	Yellow
10	Violet
11	Rose
12	Aqua

3.3 Performance

NO	ITEM	TEST METHOD	SPECIFICATION
1	Tensile performance IEC749-1-E1	- Load: 2700N - Time: 1 minute	- Loss change ≤ 0.15 dB @1550 nm - Fiber strain ≤ 0.6 % - No fiber break - No sheath damage
2	Crush test IEC749-1-E3	- Load: 1,500 N /100mm - Time: 1 minute - Length: 100 mm	- Loss change ≤ 0.15 dB @1550 nm - No fiber break - No sheath damage
3	Impact test IEC794-1-E4	- Impact hight:1m - Impact weight:450g - Number of impacts: 5 - Impact rate: 3 sec/cycle	- Loss change ≤ 0.15dB @1550 nm - No fiber break - No sheath damage
4	Repeated bending IEC794-1-E6	- Bending dia.: 20 × D - Load: 150N - Flexing rate: 3sec/cycle - No. of cycle: ≥30	- Loss change ≤ 0.15 dB @1550 nm - No fiber break - No sheath damage
5	Water penetration IEC794-1-E5B	- Height of water: 1m - Sample length: 3 m - Time: 24 hr	- No drip through the cable core assembly
6	Twist / Torsion IEC794-1-E7	- Length: 1 m - Load: 150N - Twist rate: 6sec/cycle - Twist angle: ±180° - No. of cycle: 10	- Loss change ≤ 0.15dB @1550 nm - No fiber break - No sheath damage
7	Temperature Cycling IEC794-1-E1	- Temperature step: +20°C → -40°C → +70°C → +20°C - Number of cycle: 2 - Time per each step: 12 hrs	- Loss change ≤ 0.15dB/km @1550 nm - No fiber break - No sheath damage

D*: Cable diameter

3.4 Temperature

Item		Performance
Temperature	Installation	-20℃ to +60℃
	Operation	-40℃ to +70℃
	Transportation	-50℃ to +70℃

4.Sheath marking