



Specifications of Self Support Figure 8 Optical Fiber Cable (GYFC8Y)

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
	At 1550nm	10.4±0.4μm
Cladding diameter		125±0.7μm
Core concentricity error		≤0.6μm
Cladding non-circularity		≤0.6%
Cut-off wavelength (λ_{cc})		≤1260nm
Primary coating diameter	(Not included color layer)	245±5μm
	(Included color layer)	245±10μm
Coating-cladding concentricity error		≤12.0μm
Fiber curl radius		≥4m

2.1.2 Transmission characteristics

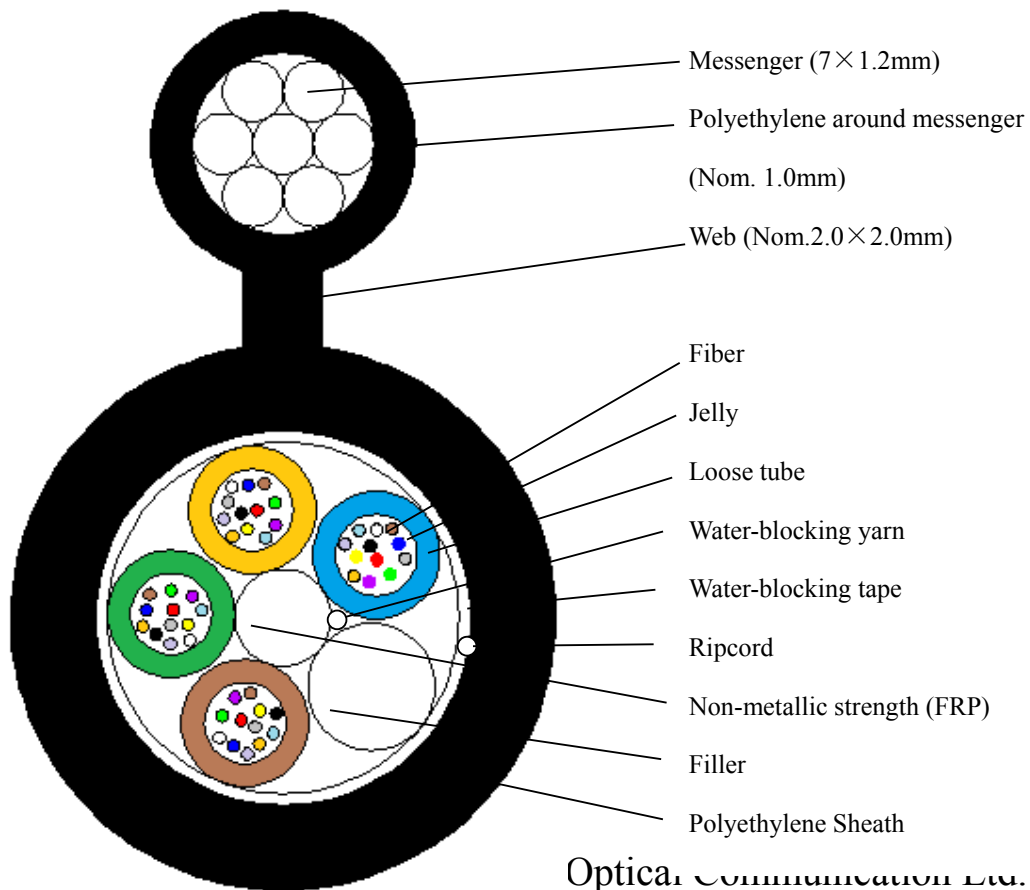
Item		Performance
Attenuation	At 1310nm	≤0.36dB/km(max.)
	At 1383nm	≤0.35dB/km(max.)

	At 1550nm	$\leq 0.22\text{dB/km(max.)}$
Chromatic dispersion	from 1288 - 1339 nm	$\leq 3.5\text{ps/nm}\cdot\text{km}$
	from 1270 - 1360 nm	$\leq 5.3\text{ps/nm}\cdot\text{km}$
	At 1550nm	$\leq 18\text{ps/nm}\cdot\text{km}$
Zero Dispersion Wave		1300-1324nm
Zero Dispersion Slope		$0.092\text{ ps/nm}^2\cdot\text{km}$

3 Optical Fiber Cable

3.1 GYFC8Y

3.1.1 Cross section



GYFC8Y-48B1

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
48	12	1.8	10.4×18	173

*Note: The minimum thickness of the sheath is 1.5mm.

3.2Color code

3.2.1Fiber color code

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

3.2.2 The Color Code of Tube

Position	Tube color
1	Blue
2	Orange
3	Green
4	Brown

3.3 Performance

NO	ITEM	TEST METHOD	SPECIFICATION
1	Tensile performance IEC749-1-E1	Max load: 6000N	- Loss change ≤ 0.10 dB @1550 nm - Fiber strain ≤ 0.33 %
2	Crush test IEC749-1-E3	- Load: 1,000 N /100mm - Time: 1 minute - Length: 100 mm	- Loss change ≤ 0.10 dB @1550 nm - No fiber break - No sheath damage
3	Impact test IEC794-1-E4	- Impact hight: 1m - Impact weight: 450g - Point of impacts: 5	- Loss change ≤ 0.05 dB (after test) @1550 nm - No fiber break - No sheath damage
4	Repeated bending IEC794-1-E6	- Bending dia.: $20 \times D$ - Load: 150N - Flexing rate: 3sec/cycle - No. of cycle: ≥ 30	- Loss change ≤ 0.05 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: $\pm 180^\circ$ - No. of cycle: 10	- Loss change ≤ 0.05 dB @1550 nm - No fiber break - No sheath damage
7	Temperature Cycling IEC794-1-E1	- Temperature step: $+20^\circ\text{C} \rightarrow -40^\circ\text{C} \rightarrow +70^\circ\text{C} \rightarrow$ $+20^\circ\text{C}$ - Number of cycle: 2 - Time per each step: 12 hrs	- Loss change ≤ 0.05 dB/km @1550 nm - No fiber break - No sheath damage

D*: Cable diameter

3.4 Temperature

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

4.Sheath marking

