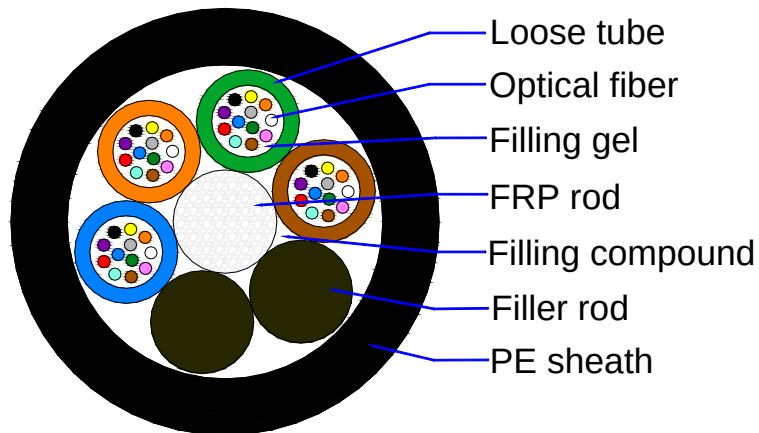




TECHNICAL DATA SHEET
FOR
OPTICAL FIBER CABLE
AERIAL & DUCT APPLICATIONS
(SM 24~144 FIBERS)

Product: Optical Fiber Cable
Date: November 29, 2018
Authorized by: Kevin Zhou
Sales Engineer
International Business Dept.

1. Cable Cross-section



2. Cable Specification

2.1 Sheath marking

2018	GYFTY 48C G.652D	=X
------	------------------	----

	: Manufacturer's name
2018	: Manufacturing year
GYFTY 48C G.652D	: Cable type & size
=XXXXM=	: Mark of meters

**The marking is printed every 1 meter*

2.2 Fiber 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

2.3 Loose tube (LT) & filler rod (FR) color code

Fiber count	Element no.											
	1	2	3	4	5	6	7	8	9	10	11	12
24	LT	LT	FR	FR	FR	FR	--	--	--	--	--	--
48	LT	LT	LT	LT	FR	FR	--	--	--	--	--	--
72	LT	LT	LT	LT	LT	LT	--	--	--	--	--	--
96	LT	LT	LT	LT	LT	LT	LT	LT	--	--	--	--
144	LT	LT	LT	LT	LT	LT	LT	LT	LT	LT	LT	LT



3. Cable Structure & Parameter

Fiber count	Max. fiber count per tube	Total unit count (LT + FR)	Sheath thickness (nominal*)	Overall diameter (nominal**)	Weight (approx.)
			mm	mm	kg/km
24	12	6 (2LT + 4FR)	1.8	10.3	90
48	12	6 (4LT + 2FR)	1.8	10.3	90
72	12	6 LT	1.8	10.3	90
96	12	8 LT	1.8	11.8	115
144	12	12 LT	1.8	14.6	175

* The nominal sheath thickness may have a tolerance with $\pm 0.2\text{mm}$.

** The nominal overall diameter may have a tolerance with $\pm 0.4\text{mm}$.

4. Performance of Cabled Optical Fiber

The performance of cabled optical fiber (ITU-T Rec. G.652D)

Item	Specification
Attenuation coefficient	
@ 1310 nm	$\leq 0.35 \text{ dB/km}$
@ 1383 nm	$\leq 0.35 \text{ dB/km}$
@ 1550 nm	$\leq 0.21 \text{ dB/km}$
@ 1625 nm	$\leq 0.30 \text{ dB/km}$
Point discontinuity	$\leq 0.05 \text{ dB}$
Cable cut-off wavelength	$\leq 1260 \text{ nm}$
Zero-dispersion wavelength	$1300 \sim 1324 \text{ nm}$
Zero-dispersion slope	$\leq 0.092 \text{ ps}/(\text{nm}^2 \cdot \text{km})$
Chromatic dispersion	
@ 1288 ~ 1339 nm	$\leq 3.5 \text{ ps}/(\text{nm} \cdot \text{km})$
@ 1271 ~ 1360 nm	$\leq 5.3 \text{ ps}/(\text{nm} \cdot \text{km})$
@ 1550 nm	$\leq 18 \text{ ps}/(\text{nm} \cdot \text{km})$
@ 1625 nm	$\leq 22 \text{ ps}/(\text{nm} \cdot \text{km})$
PMD	$\leq 0.2 \text{ ps}/\text{km}^{1/2}$
Mode field diameter @ 1310 nm	$(8.6 \sim 9.5) \pm 0.6 \mu\text{m}$
Core / Clad concentricity error	$\leq 0.6 \mu\text{m}$
Cladding diameter	$125.0 \pm 1 \mu\text{m}$
Cladding non-circularity	$\leq 1.0\%$
Primary coating diameter	$245 \pm 10 \mu\text{m}$
Proof test level	$100 \text{ kpsi} (=0.69 \text{ GPa}), 1\%$



5. Performance of Optical Fiber Cable

5.1 Cable bending radius: 10 x cable diameter (static)

20 x cable diameter (dynamic)

5.2 Application temperature range

Operating temperature range : -40°C to +60°C

Storage / Transport temperature range : -50°C to +70°C

Installation temperature range : -20°C to +50°C

5.3 Mechanical & environmental performance test

S/N	Item	Test Method	Acceptance Condition
1	Tensile Strength IEC 794-1-E1	- Load: 1,500 N - Length of cable under load: 50 m - load time: ≥1min.	- Loss change ≤ 0.1 dB @1550 nm - No fiber break and no sheath damage.
2	Crush Test IEC 794-1-E3	- Load: 1,000 N/100 mm - Load time: ≥1min.	- Loss change ≤ 0.1 dB @1550 nm - No fiber break and no sheath damage.
3	Impact Resistance IEC 794-1-E4	- Points of impact: 5 - Times of per point: 5 - Impact energy: 4.5 N.m - Radius of hammer head: 12.5mm - Impact rate: 2 sec/cycle	- Loss change ≤ 0.1 dB @1550 nm - No fiber break and no sheath damage.
4	Repeated Bending IEC 794-1-E6	- Bending radius: 20 x cable diameter - Load: 150 N - Flexing rate: 3 sec/cycle - No. of cycle: 30	- Loss change ≤ 0.1 dB @1550 nm - No fiber break and no sheath damage.
5	Torsion IEC 794-1-E7	- Length: 1 m - Load: 150 N - Twist rate: 1 min/cycle - Twist angle: ±180° - No. of cycle: 10	- Loss change ≤ 0.1 dB @1550 nm - No fiber break and no sheath damage.
6	Water Penetration Test IEC 794-1-F5B	- Height of water: 1 m - Sample length: 3 m - Test time: 24 hours	- No water shall have leaked from the opposite end of cable.
7	Temperature Cycling Test IEC 794-1-F1	- Temperature step: +20°C → -40°C → +60°C → +20°C - Time per each step: 12 hrs - Number of cycle: 2	- Loss change ≤ 0.05 dB/km@1550 nm - No fiber break and no sheath damage.
8	Compound Flow IEC 794-1-E14	- Sample length: 30 cm - Temp: 70°C ± 2°C - Time: 24 hours	- No compound flow



6. Packing and Marking

6.1 Packing

6.1.1 Each single cable length been wound on wooden drum.

6.1.2 Standard drum length is 2000m $\pm 5\%$, or it can be delivered as customer requirement but not longer than 6000m with a tolerance.

6.1.3 Covered by plastic buffer sheet.

6.1.4 Sealed by strong wooden battens.

6.1.5 At least 1m of cable inner end should be reserved for testing.

6.2 Marking

6.2.1 Cable drum

- Manufacturer brand;
- Roll-direction arrow;
- Cable outer end position indicating arrow;
- The word "**OPTICAL FIBER CABLE**";
- Origin, The word "**MADE IN CHINA**";
- Caution plate indicating the correct method for loading, unloading and convey the cable;
- *Other customer information such as contract no., project no., and delivery destination. (if needed)*

6.2.2 Marking plate

- Product name;
- Cable type and size;
- Drum length in meters;
- Gross / Net weight in kilograms;
- Drum number;
- Manufacturer's name;
- Manufacturing year and month;
- *Other customer information such as contract no., project no., and delivery destination. (if needed)*

6.3 Cable quality certificate documents

- Test report.

————— **END** —————