



Optical Fiber Cable Specification

GYFY

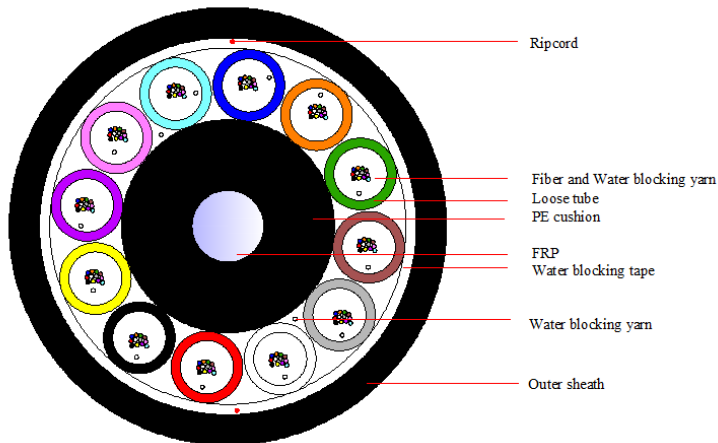
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1. Cable Construction

1.1 Cable cross-section



2. Cable Specification

2.1 Fiber Color Code

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

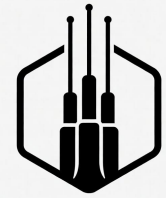
The color of the fillers will be natural.

2.2 Tube Color Code

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

2.3 Cable configuration

Item	contents	Value
		144
Loose tube	Material	PBT
	Diameter(mm)	2.5±0.2
	Type of filling compound	Water blocking yarn
	Number	12
Filler	Material	PP
	Number	0
Max. fiber counts per tube		12
Central strength member	Material	FRP
Outer sheath	Material	HDPE
	Color	Black
Cable diameter(mm) (±5%)		15.8
Cable weight (kg/km) (±20%)		178



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2.4 Mechanical Performance of Cable

Tensile performance(N)		Crush(N/100mm)
Long term	Short term	Short term
890	2700	1000

2.5 Minimum Allowable Bending Radius

Static: 15D

Dynamic: 25D

D is the out diameter of the cable

3. Mechanical, Electrical and Environmental Test Characteristics

Item	Test Method	Requirements
Tensile performance	IEC 60794-1-21-E1 Load: Tensile Strength Cable length under tension: Not less than 50m. Duration of load sustain: 1min. Velocity of transfer device: 10mm/min	The increase in attenuation shall not exceed 0.1dB, and fiber strain should not higher than 0.2 % under Long term load. The increase in attenuation shall not exceed 0.1dB, and fiber strain should not higher than 0.6 % under Short term load. No attenuation increase after test at 1550nm. Under visual examination without magnification, no damage to the sheath or to the cable elements after test.
Crush	IEC 60794-1-21-E3 Load and Duration: Short term load 1000N/100mm for 1 min. Number of tests: 3 Spacing between test places: 500 mm	Under short term load, the increase in attenuation shall less than 0.1dB at 1550 nm after the test. Under visual examination without magnification, no damage to the sheath or to the cable elements. The imprint of the striking surface on the sheath is not considered mechanical damage.
Impact	IEC 60794-1-21-E4 Impact energy: 4.5 J with striking surface radius of 300 mm; Number of impacts: 1, each at 3 different places spaced not less than 500mm apart.	No change in attenuation after test at 1550nm. Under visual examination without magnification, no damage to the sheath or to the cable elements. The imprint of the striking surface on the sheath is not considered mechanical damage.
Temperature cycling	IEC 60794-1-22-F1 Sample length: at least 1000m Temperature range: -10°C ~ +70°C Cycles: 2 Temperature cycling test dwell time: 12 hours	The change in attenuation coefficient shall be less than 0.10 dB/km at 1550nm.
Water	IEC 60794-1-22-F5B	No water shall be detected at the unsealed end

Penetration	Time : 24 hours Sample length : 3m Water height : 1m	of the sample during and at the end of the test.
Compound flow	IEC 60794-1-22-F16 Temperature:70C Sample count:5 Sample length:200 ±5 mm, Remove length: 100 ±2,5 mm, Time:24h	No filling compound dripped.
Other parameters	According to IEC 60794	

Remark: “No attenuation changes” is considered as the attenuation changes ≤ 0.05 dB.

4. Optical properties of the SM fiber is according to ITU-T G.652D standard requirements.

Description	Specification	
	After Cable	
Mode Field diameter @1310nm	9.2±0.4µm	
Mode Field diameter @1550nm	10.4±0.5µm	
Cladding diameter	125.0± 1µm	
Core concentricity error	≤0.6µm	
Cladding non-concircularity	≤ 0.8%	
Coating diameter	245±7µm (Before colored)	
	250±15µm (colored)	
Coating/cladding concentricity error	≤ 12µm	
Cable cutoff wavelength	≤1260 nm	
Point discontinuity	≤0.05dB	
Attenuation coefficient @ 1310 nm	≤0.36dB/km	
	@ 1383 nm	≤0.36dB/km
	@ 1550 nm	≤0.22dB/km
	@ 1625nm	≤0.25dB/km
Macro-bend induced attenuation		
100 turns, 30mm radius @1550n/1625m	≤0.05dB	
PMD		
Max. individual fiber	≤0.2 ps/km ^{1/2}	
PMD _Q	≤0.1 ps/km ^{1/2}	

Zero-dispersion wavelength	1300 ~ 1324 nm
Zero-dispersion slope	≤ 0.092 ps/(nm ² .km)
Chromatic dispersion coefficient	
@ 1288-1339 nm	≤ 3.5 ps/(nm. km)
@ 1271-1360nm	≤ 5.3 ps/(nm. km)
@ 1550 nm	≤ 18 ps/(nm. km)
@ 1625 nm	≤ 22 ps/(nm. km)
Proof test level	100 kpsi (0.69 Gpa), 1% strain
Coating strip force(peak value)	1.3~8.9N
Fiber curl (Radius)	≥ 4 m

5. Cable Sheath Marking

Unless otherwise specified, the cable sheath marking shall be in accordance with follows:

Color: white

Contents: PHOSLINC, the type of cable, the year of manufacture, length

marking Interval: 1m

(End of Specification)