Specification

FOR

Non-Metal Optic Cable

[GYFTY]

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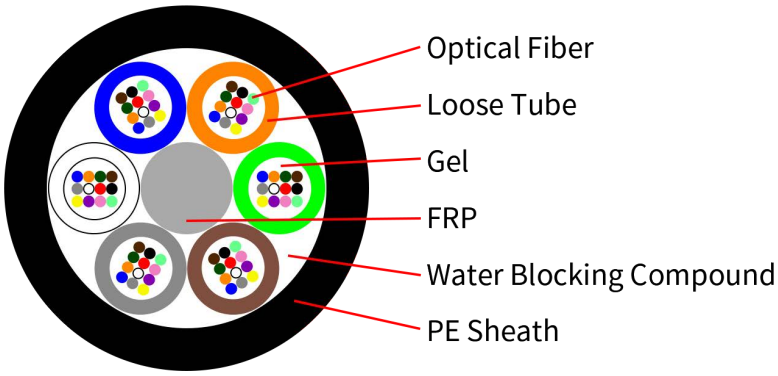
1. CABLE CONSTRUCTION

1.1 CROSS SECTIONAL DIAGRAM



1.2 TECHNICAL SPECIFICATION

Fiber Count		**2 ～ 36**	**38 ～ 72**	**74 ～ 96**	**98 ～ 120**	**134 ～ 144**
Loose Tube	OD(mm):	1.9 ± 0.1	2.1 ± 0.1	2.1 ± 0.1	2.1 ± 0.1	2.1 ± 0.1
	Material:	PBT				
Max Fiber Count/Tube		6	12	12	12	12
Core Unit		6	6	8	10	12
FRP/Coating（mm）		2.0	2.2	3.0/3.5	3.0/4.7	3.0/6.2
Water Blocking Material		Water-Blocking Compound				
Sheath	Thickness:	Non. 1.8 ± 0.2 mm				
	Material:	PE				
OD of Cable (mm)		9.4 ± 0.4	10.0 ± 0.4	11.3 ± 0.4	12.5 ± 0.4	14.0 ± 0.4
Net Weight (kg/km)		76	87	114	137	169
Tensile(N)		600				

2. FIBER AND LOOSE BUFFER TUBE IDENTIFICATION

NO.	1	2	3	4	5	6	7	8	9	10	11	12
Tube Color	Blue	Orange	Green	Brown	Slate	White	Red	Black	Yellow	Violet	Pink	Aqua
NO.	1	2	3	4	5	6	7	8	9	10	11	12
Fiber Color	Blue	Orange	Green	Brown	Slate	White/ natural	Red	Black	Yellow	Violet	Pink	Aqua

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3. OPTICAL FIBER

3.1 Single Mode Fiber

ITEMS	UNITS	SPECIFICATION	
Fiber type		G652D	G657A
Attenuation	dB/km	1310 nm≤ 0.36 1550 nm≤ 0.22	
Chromatic Dispersion	ps/nm.km	1310 nm≤ 3.5 1550 nm≤ 18 1625 nm≤ 22	
Zero Dispersion Slope	ps/nm^2.km	≤ 0.092	
Zero Dispersion Wavelength	nm	1300 ~ 1324	
Cut-off Wavelength (λcc)	nm	≤ 1260	
Attenuation vs. Bending (60mm x100turns)	dB	(30 mm radius，100 rings)≤ 0.1 @ 1625nm	(10 mm radius，1 ring)≤ 1.5 @ 1625nm
Mode Field Diameter	μm	9.2 ± 0.4 at 1310 nm	9.2 ± 0.4 at 1310 nm
Core-Clad Concentricity	μm	≤ 0.5	≤ 0.5
Cladding Diameter	μm	125 ± 1	125 ± 1
Cladding Non-circularity	%	≤ 0.8	≤ 0.8
Coating Diameter	μm	245 ± 5	245 ± 5
Proof Test	Gpa	≥ 0.69	≥ 0.69

3.2 Multi Mode Fiber

ITEMS		UNITS	SPECIFICATION				
			62.5/125	50/125	OM3-150	OM3-300	OM4-550
Fiber Core Diameter		μm	62.5 ± 2.5	50.0 ± 2.5	50.0 ± 2.5		
Fiber Core Non-circularity		%	≤ 6.0	≤ 6.0	≤ 6.0		
Cladding Diameter		μm	125.0 ± 1.0	125.0 ± 1.0	125.0 ± 1.0		
Cladding Non-circularity		%	≤ 2.0	≤ 2.0	≤ 2.0		
Coating Diameter		μm	245 ± 10	245 ± 0	245 ± 10		
C0at-Clad Concentricity		μm	≤ 12.0	≤ 12.0	≤ 12.0		
Coating Non-circularity		%	≤ 8.0	≤ 8.0	≤ 8.0		
Core-Clad Concentricity		μm	≤ 1.5	≤ 1.5	≤ 1.5		
Attenuation	850nm	dB/km	3.0	3.0	3.0		
	1300nm	dB/km	1.5	1.5	1.5		
OFL	850nm	MHz · km	≥ 160	≥ 200	≥ 700	≥ 1500	≥ 3500
	1300nm	MHz · km	≥ 300	≥ 400	≥ 500	≥ 500	≥ 500
The biggest theory numerical aperture		/	0.275 ± 0.015	0.200 ± 0.015	0.200 ± 0.015		

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4. Mechanical and Environmental Performance of the Cable

NO.	ITEMS	TEST METHOD	ACCEPTANCE CRITERIA
1	Tensile Loading Test	#Test method: IEC 60794-1-E1 -. Long-tensile load: 0.5 times the cable weight -. Short-tensile load: 1 times the cable weight -. Cable length: ≥50m	-. Attenuation increment@1550 nm: ≤ 0.1 dB -. No jacket cracking and fiber breakage
2	Crush Resistance Test	#Test method: IEC 60794-1-E3 -.Long load: 300 N/100mm -.Short load: 1000 N/100mm Load time: 1 minutes	-. Attenuation increment@1550 nm: ≤ 0.1 dB -. No jacket cracking and fiber breakage
3	Impact Resistance Test	#Test method: IEC 60794-1-E4 -.Impact height: 1 m -.Impact weigh: 450 g -.Impact point: ≥ 5 -.Impact frequency: ≥ 3 /point	-. Attenuation increment@1550 nm: ≤ 0.1 dB -. No jacket cracking and fiber breakage
4	Repeated Bending	#Test method: IEC 60794-1-E6 -.Mandrel diameter: 20 D (D = cable diameter) -.Subject weight: 15 kg -.Bending frequency: 30 times -.Bending speed: 2 s/time	-. Attenuation increment@1550 nm: ≤ 0.1 dB -. No jacket cracking and fiber breakage
5	Torsion Test	#Test method: IEC 60794-1-E7 -.Length: 1m -.Subject weight: 25 kg -.Angle: ±180 degree -.Frequency: ≥ 10/point	-. Attenuation increment@1550nm: ≤ 0.1 dB -. No jacket cracking and fiber breakage
6	Water Penetration Test	#Test method: IEC 60794-1-F5B -.Height of pressure head: 1 m -.Length of specimen: 3 m -.Test time: 24 hours	-. No leakage through the open cable end
7	Temperature Cycling Test	#Test method: IEC 60794-1-F1 -.Temperature steps: ＋20℃、－40℃、＋70℃、＋20℃ -.Testing Time: 24 hours/step -.Cycle index: 2	-. Attenuation increment@1550 nm: ≤ 0.1 dB -. No jacket cracking and fiber breakage
8	Drop Performance	#Test method: IEC 60794-1-E14 -.Testing length: 30 cm -.Temperature range: 70 ±2℃ -.Testing Time: 24 hours	-. No filling compound drop out
9	Temperature	Operating: -40℃~+60℃ Store/Transport: -50℃~+70℃ Installation: -20℃~+60℃	

5. FIBER OPTIC CABLE BENDING RADIUS

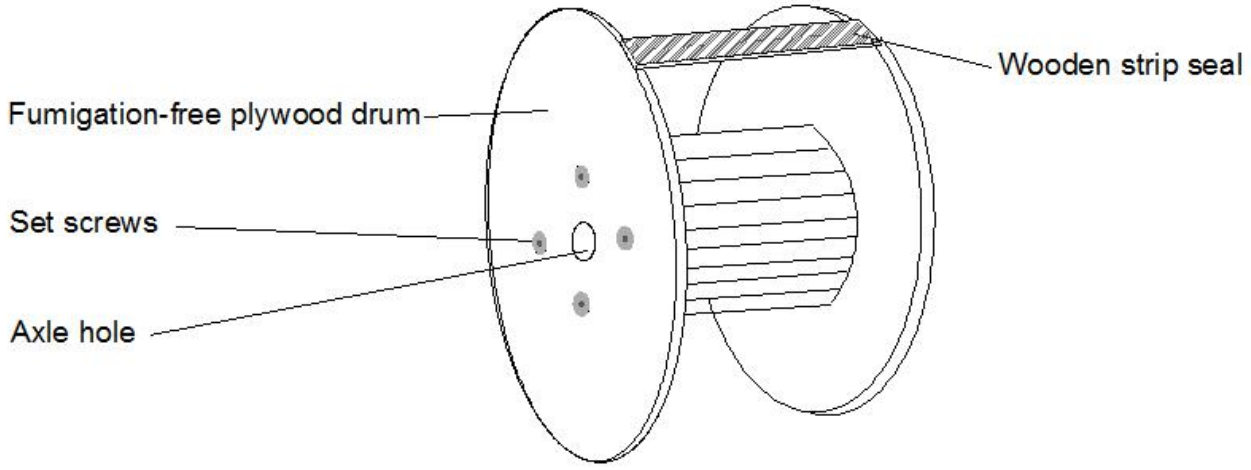
Static bending: ≥ 10 times than cable out diameter

Dynamic bending: ≥ 20 times than cable out diameter.

6. PACKAGE AND MARK

6.1 PACKAGE

Not allowed two length units of cable in one drum, two ends should be sealed, Two ends should be packed inside drum, reserve length of cable not less than 3 meters.



6.2 MARK

Cable Mark: length, brand

Drum Mark: Manufacturer, cable category, No. of drum, length, GW. direction of rotation, manufacturing date.

7. TEST REPORT

Test report and certification supplied.

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