Stranded Loose Tube Light-armored Cable(GYTS)

1、Cable Drawing

2、Description

The fibers, 250μm, single mode or muti mode , are positioned in a loose tube made of a high modulus plastic. The tubes are filled with a water-resistant filling compound. A steel wire, sometimes sheathed with polyethylene (PE) for cable with high fiber count, locates in the center of core as a metallic strength member. Tubes (and fillers) are stranded around the strength member into a compact and circular cable core. The PSP is longitudinally applied over the cable core, which is filled with the filling compound to protect it from water ingress. The cable is completed with a PE sheath.

3、Features

- Good mechanical and temperature performance
- High strength loose tube that is hydrolysis resistant
- Special tube filling compound ensure a critical protection of fiber
- Crush resistance and flexibility
- PE sheath protects cable from ultraviolet radiation
- The following measures are taken to ensure the cable watertight:
- Steel wire used as the central strength member
- Loose tube filling compound and 100% cable core filling

- PSP enhancing moisture-proof

4、Application

- Adopted to outdoor distribution
- Suitable for aerial, pipeline laying method
- Long distance and local area network communication

5、Specification

1) Fiber Allocation Scheme

Fiber number	Tube number	Fiber per tube	Fiber type
24-144	1-12	12 F/Tube	OS1,OS2,OM1,OM2,OM3,OM4

2) Cable construction details

Items		Description
Number of fiber		24-144cores
Resist rodent and water blocking system		E-glass yarn
Central strength member	Material	Steel wire/FRP/FRP with PE cover
	size	1.4mm
Loose tube	material	PBT
	diameter	Φ2.2(outer/inner)
Tube-filling	material	Tube filling compound
Armoring	Material	Corrugated steel tape
Outer sheath	material	PE/HDPE
	diameter	1.70±0.2mm

3) Standard color of fiber and tube

The color code of the tubes and the individual fibers, shall be in accordance with the table as below:

Standard Colour Identification						
No.	1	2	3	4	5	6
Color	Blue	Orange	Green	Brown	Slate	White
No.	7	8	9	10	11	12
Color	Red	Black	Yellow	Violet	Pink	Aqua

Note: The color can be required by customers.

4) Cable Mechanical characteristic

Items		Cable diameter	Weight
2 cores to 60 cores		10.0±0.3mm	115±5kg/km
72 cores		10.5±0.3mm	120±5kg/km
96 cores		12.5±0.3mm	180±5kg/km
144 cores		14.5±0.3mm	245±5kg/km
Installation Temperature range		-15--+60℃	
Operation and transport temperature		-40-+70℃	
Min Bending Radius(mm)	Long term	10D	
	short term	20D	
Allowable Tensile Strength(N)	Long term	600	
	short term	1500	
Crush Load (N/100mm)	Long term	300	
	short term	1000	

5) Requirement for Order

(1) Fiber sort: Single mode:G652,G655,G657, Multi mode:OM1,OsM2,OM3,OM4.

(2) Fiber brand: YOFC, Corning, Fiberhome,Fujikura,OFS etc.

(3) Sheath material: PE,LSZH(can be required).

(4) Sheath color: Black ,can be required.

(5) The fiber and tube color: according to stranded color, can be required.

(6) The cable Size: shall be in accordance with the table, can be required.

(7) Length of cable: generally is 2KM, can be required.

(8) Other requirement: can be negotiated.

6) Fiber Characteristic

Fiber Style		Unit	SM 9/125	MM 50/125	MM 62.5/125
Condition		nm	1310/1550	850/1300	850/1300
Attenuation		dB/km	≤0.36/0.23	≤3.0/1.0	≤3.0/1.0
Dispersion	1310nm	Ps/(nm*km)	≤18	.....	.....
	1550nm	Ps/(nm*km)	≤22	.....	.....
Bandwidth	850nm	MHZ. KM	.....	≧400	≧160
	1300nm	MHZ. KM	.....	≧800	≧500
Zero dispersion wavelength		nm	≧1302, ≤1322	.....	.....
Zero dispersion slope		nm	≤0.091	.....	.....
PMD Maximum Individual Fiber		Ps/km	≤0.2	.....	.....
PMD Design Link Value		Ps(nm2*km)	≤0.08	.....	.....
Fiber cutoff wavelength λc		nm	≧1180, ≤1330	.....	.....
Cable cutoff wavelength λcc		nm	≤1260	.....	.....
MFD	1310nm	um	9.2±0.4	.....	.....
	1550nm	um	10.4±0.8	.....	.....
Numerical Aperture(NA)			.....	0.200± 0.015	0.275± 0.015
Step(mean of bidirectional measurement)		dB	≤0.05	≤0.10	≤0.10

Irregularities over fiber length and point discontinuity	dB	≤0.05	≤0.10	≤0.10
Difference backscatter coefficient	dB/km	≤0.03	≤0.08	≤0.10
Attenuation uniformity	dB/km	≤0.01	.....	.....
Core diameter	um	.....	50±1.0	62.5±2.5
Cladding diameter	um	125.0±0.1	125.0±0.1	125.0±0.1
Cladding non-circularity	%	≤1.0	≤1.0	≤1.0
Coating diameter	um	242±7	242±7	242±7
Coating/chaffinch concentrically error	um	≤12.0	≤12.0	≤12.0
Coating non circularity	%	≤6.0	≤6.0	≤6.0
Core/cladding concentricity error	um	≤0.6	≤1.5	≤1.5
Curl(radius)	um	≤4	.....	.....

6、Cable marking and cable reel marking

6.1 Cable marking

The cable sheath shall be marked with white characters at intervals of one meter with following information:

(1) Purchaser’ s name

(2) Cable type

(3) Fiber type and counts

(4) Year of manufacture

(5) Length marking

Notice: cable mark is available if requested by customer.

6.2 Cable reel

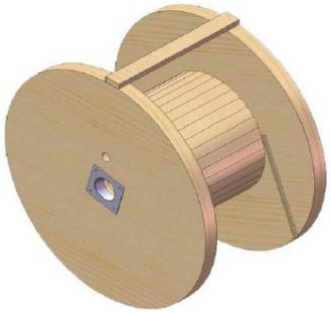
Details given below shall be marked with a weather materials on both outer sides of the

reel flange :

(1) Cable type and fiber counts

(2) Length of cable in meters

(3) Year of manufacture



Notice: shipping mark is available if requested by customer.

7、 Packing Informations

(1) Packing material: Wooden drum

(2) Packing length: standard length of cable shall be 2 km. Other cable length is also available if required by customer

8、Our certificates

(1) ISO9002

(2) SGS, ROHS

(3) ULE329066

(4) REACH

9、 Testing Lab

No	Device name	No	Device name
1	Optical time domain reflectometer (OTDR)	8	GNZV Cable Torsion Testing Machine
2	Fiber Polarization Mode Dispersion	9	GQNV Cable Flexing Testing Machine
3	Fiber Dispersion ,Strain Tester	10	GJRV Cable Winding Testing Machine
4	High Low Temperature Test Chamber	11	GZDV Cable Vibration Testing Machine
5	Cable Impact Testing Machine	12	Cable Water Penetration Test
6	Cable Squash Tensile Testing Machine	13	Fusion Splicer
7	GWQV Cable Bending Tester	14	Cable Water Penetration Test Rig

Fiber Optic Cable Mechanical Performance Testing Laboratory

(1) Main Testing Type: Precision Test and Mechanical Test.

(2) Precision Testing Machine: EXFO OTDR, EG&G PMD-440,CD-400.

(3) Mechanical Performance Testing : Temperature, Impact, Tensile, Bending, Torsion, Flexing, Winding, Vibration, Water Penetration, Fusion Splicer, Water Penetration.

10、Our advantages

(1) Professional cable manufacturer

(2) About 10 years experiences in cable industry

(3) MOQ just 1Km

(4) ISO, UL , ROSH,REACH...certifications

(5) Can be customized production of fiber optic cable