



Chang Cheng Optical Fiber&cable

GUANGDONG CHANGCHENG COMMUNICATION TECHNOLOGY CO., LTD**TECHNICAL SPECIFICATION****FOR****FIGURE 8 FIBER OPTIC CABLE (GYXTC8S)****(Single mode 12core 9/125μm G.652D)****★Products:** Optical Fiber Cable**★Customer:****★Date:** March 21, 2020**★Authorized by:** **Miya Gao****★Address:** No.1 Foling Road, Liaobu Town, Dongguan city, Guangdong Province China 523000

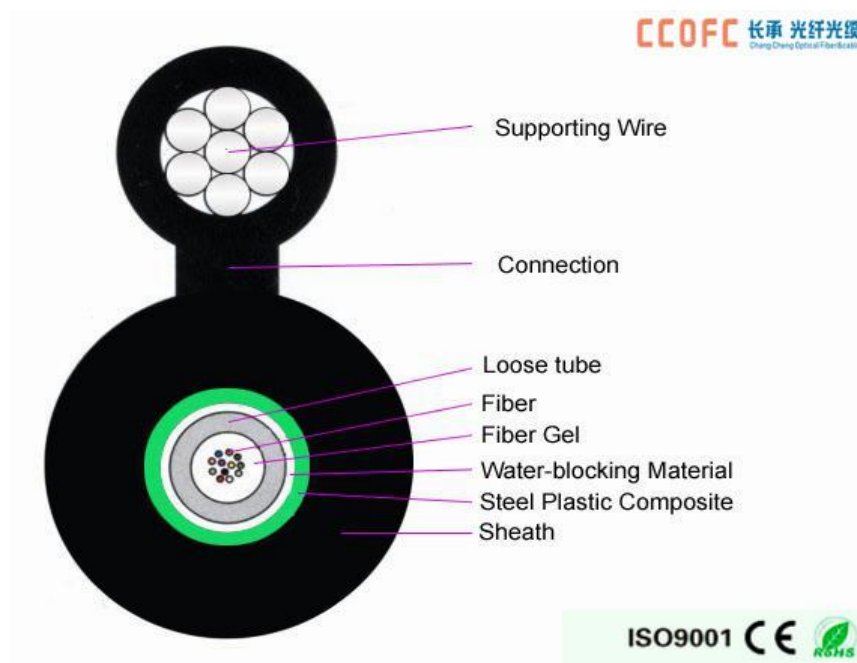


FIBER COLOR CODE



Color												
No.of fiber	1	2	3	4	5	6	7	8	9	10	11	12

• Product physical structure:



• Product physical Map:





• Description

The fibers, 250μm, are positioned in a loose tube made of a high modulus plastic, the tubes are filled with a water-resistant filling compound. The two sides PSP are longitudinally applied over the outer loose tube. Steel wires and loose tubes filled with water proof compound to ensure compact and longitudinally water blocking, this part of cable accompanied with the stranded wires as the supporting part are completed with a (HDPE) sheath to be figure 8 structure.

• Characteristics

- 1、High tensile strength of stranded wires meet the requirement of self-supporting and reduce the installation cost
- 2、Good mechanical and temperature performance
- 3、High strength loose tube that is hydrolysis resistant
- 4、Special tube filling compound ensure a critical protection of fiber
- 5、PSP enhancing moisture-proof
- 6、Small diameter, light weight and friendly installation
- 7、Long delivery length and low price.

• Application

- Fiber optical must have reinforced cable what is made by galvanized steel, Corrosion resistance due to rain water, oxidation.
- Optical fiber have to hang on range column with minimal axis to axis spacing between column 50m and sag 1%
- Number fiber: 08 fiber according standard ITU-T G652.D.
- Fibers must be in loose tube. Fibers and loose tube are known by color in standard TIA/EIA - 598.
- Loose tube protect fiber, that is made by Polybutylene terephthalate (PBT)
- Outer sheath and reinforce cable are made by HDPE
- Reference model of fiber optic in loose tube

• Standards

IEC 60793-1	Optical fiber : Generic specifications
IEC 60793-2	Optical fiber : Product specifications
IEC 811-1	Water Absorption
IEC 1034	Smoke Emission
ITU-T G.652	Characteristics of a single-mode optical fiber and cable
EIA/TIA 598	Color code of fiber optic cables
ROHS/CE	Complies with standard CE&ROHS
ISO	ISO9001:2015
Test Standard	IEC 60794-1-2 E1/IEC 60794-1-2 E3/IEC 60794-1-2 E4



• Optical Characteristics

		G.652	G.655	50/125μm	62.5/125μm
Attenuation (+20℃)	@850nm			≤3.0 dB/km	≤3.0 dB/km
	@1300nm			≤1.0 dB/km	≤1.0 dB/km
	@1310nm	≤0.36 dB/km	≤0.40 dB/km		
	@1550nm	≤0.22 dB/km	≤0.23dB/km		
Bandwidth (Class A)	@850nm			≥500 MHz·km	≥200 MHz·km
	@1300nm			≥1000 MHz·km	≥600 MHz·km
Numerical Aperture				0.200±0.015N A	0.275±0.015N A
Cable Cut-off Wavelength λ _{cc}		≤1260nm	≤1480nm		

• Technical Parameters

Cable Type	Fiber Count	Cable Diameter mm	Cable Weight kg/km	Supporting Wire Spec	7 steel wires twisted Diameter	Tensile Strength Long/Short TermN	Crush Resistance Long/Short Term N/100mm	Bending Radius Static /Dynamic mm
GYXTC8S	8	6.7×4.0	39	Φ1.0mm*7 Stranded wires	2.2mm	1000/2500	300/1000	80/160

• Optical Transmission Performance

No.	Content	Technical requirement
1	Cut off wavelength	≤ 1260 nm
2	Attenuation coefficient	- At wave length 1310 nm: + Average loss of whole cable coil ≤ 0.32 dB/km + Each fiber loss in cable coil ≤ 0.36 dB/km - At wave length 1550 nm: for fiber in copolymer loose buffer tube + Average loss of whole cable coil ≤ 0.18 dB/km + Each fiber loss in cable coil ≤ 0.22 dB/km For fiber of strict Optical fiber : + Average loss of whole cable coil ≤ 0.24 dB/km + Each fiber loss in cable coil ≤ 0.25 dB/km
3	Fiber macrobend loss	- at wave length: 1625 nm: ≤0.1 dB
4	Chromatic dispersion coefficient	- At wave length: 1310 nm: ≤3.5 ps/nm·km - At wave length :1550 nm: ≤ 18 ps/nm·km



5	Zero dispersion wavelength	$1300 \text{ nm} \leq \lambda_o \leq 1324 \text{ nm}$
6	Zero dispersion slope	$\leq 0,092 \text{ ps/nm}^2\text{xkm}$
7	Polarization mode dispersion coefficient	$\leq 0,2 \text{ ps/} \sqrt{\text{km}}$

• General

Item	Requirement	Parameter
1.	Type	Figure 8 fiber optic cable GYXTC8S
2.	Standard	SMF, G652.D, ,8 core
3.	Warranty	2year
4.	Fiber colors	8 fibers - Blue, Orange, Green,Brown, Gray, White, Red, B lack.
5.	Span	50m
6.	Delivery	10days
7.	Outer jacket	HDPE Black

• Working environment

Parameters		Value
1. Maximum pole span length		50m/200m
2. Temperature	installation	-40°C to +60°C
	Operation	-40°C to +60°C
3.Practical check: cable hang correct on column d istance (50m), sag 1% in practical condition and o n per distance column bigger 200N		Optical fiber shrinkage in cable $\leq 0.03\%$, the difference loss after and before isn' t bigger 0.02dB/km
4.Bending radius allowed		$\leq 20 \times \text{cable diameter}$
5.Cable life		$\geq 15 \text{ years}$

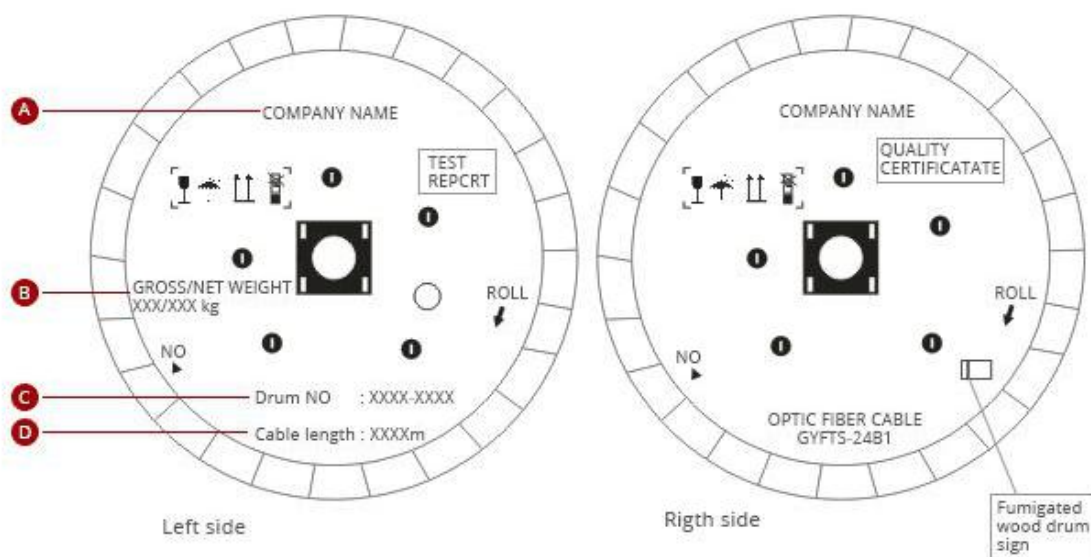
• Details

No.	Content	Technical requirement
I	Mechanical targets	
1	capacity Tensile proof at fiber elongation -fiber isn't loss Optical fiber isn't break, eslastic cladding	$\geq 500\text{N}$ or 1.5 weight of 1 km optical fiber
2	Shock resistance of cable	$\geq 05 \text{ times}$
3	Applied Load Crush Resistance	$\geq 700\text{N}/100\text{mm}$
4	Twist resistance of cable	No of twist cycles: $\geq 10 \text{ ti}$ mes



5	Steel messenger wire	$\geq 7 \times 1.0 \text{ mm } 2.2 \text{ mm}$
6	Thickness of cladding	$\geq 0.8 \text{ mm}$
7	Thickness of steel messenger wire	$\geq 0.5 \text{ mm}$
8	Fillers (cable use pipe) -the time of Substance filled not be dropped or leaks out of the cable during test Bonding capacity of fillers. - The time of cable isn't water leaks during water blocking.	$\geq 24 \text{ hour}$

• Packing and Marking





- 1、 Standard wooden drum.
- 2、 Cable length per drum: not less than 2000m or 4000m.(with toleranee 0.5%).
- 3、 Cable end sealed.
- 4、 Drum diameter > 30 time of cable diameter.
- 5、 Bobin by plastic molded blocks or wood (Medium Density Fiberboard)
bobin core (wrapper 3 spill) by plastic or steel (water blocking.).

Details: 3000Meter/drum 1000*1100*700mm

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