

Technical Data Sheet

for

Outdoor Central Tube Armored Fiber Optic Cable

[GYXTW-6,12,24G652D]

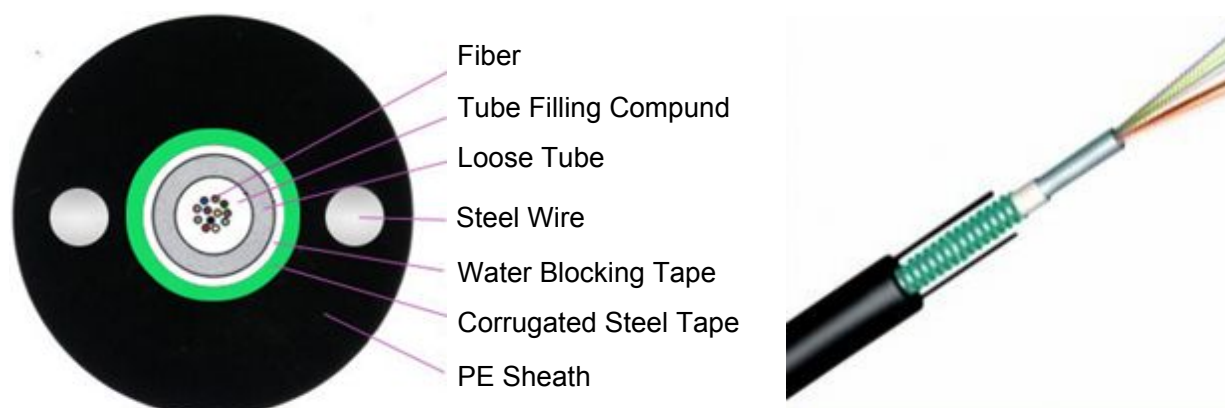
GYXTW-6F/12F/24F-G.652.D

Underground steel-tape armored cable with a central loose contains max. 24 fibres for outdoor installations

1. General

- 1.1 The specification covers the construction and properties of optical fiber cable.
- 1.2 The cable shall be direct use in aerial access network.
- 1.3 The cable generally meets any latest relevant IEC, ITU-T Recommendation or better.
- 1.4 The single mode fiber shall operate in 1310nm and 1550nm.
- 1.5 The cable could serve for 30 years without any significant deterioration.

2. Cross Section of Cable



3. Optical Fiber in the Cable

3.1 Construction

Fiber	Type	Single mode type ITU-T G.652D
	Material	Ge doped fused silica
Mode field diameter	1310 nm	9.2 ±0.4μm
Core concentricity error		≤ 0.5μm
Cladding diameter		125±0.7μm
Cladding non-circularity		≤ 1.0%
Coating	Material	UV curable acrylic
	diameter	≤250±10μm(Colored)

3.2 Optical characteristics

Attenuation	@1310 nm	≤ 0.35 dB/km
	@1383 nm	≤ 0.35 dB/km
	@1550 nm	≤ 0.20 dB/km
	@1625nm	≤ 0.25 dB/km
Zero-dispersion Wavelength		1300~1324 nm
Zero-dispersion slope		≤ 0.092ps/(nm ² /km)
Chromatic Dispersion Coefficient	1330 nm	≤ 3.5 (ps/nm.km)
	1550 nm	≤ 18(ps/nm.km)
Cable Cut-off Wavelength (λ_{cc})		≤ 1260nm
Polarization Mode Dispersion(PMD)		≤ 0.2 ps/km ^{1/2}
Macrobend Loss (Before Cable)	G.652D	30mm radius x 100turn: ≤0.1dB (at1550)
Fiber proof-tested		0.69 GPa

4. Optical Cable

4.1 Construction

Cable Type		GYXTW
Number of Fibers		6F or 12F or 24F
Fiber	Construction	Consult 3.1
Strength Member	Material	0.8mm Steel Wire x 2
Water Blocking Member	Material	Water Blocking Tape
Loose Tube	Material	PBT
	Filling Compound Material	Water Blocking Thixotropic Gel
	Diameter	2.0 ±0.1 mm
Armor	Material	Corrugated Steel tape
Outer Sheath	Material	PE
	Thickness	2.2 ± 0.1 mm

4.2 Buffer Tube Stranding, cable size and weight

Fiber Counts	Fiber number per loose tube	Number of loose tube	Cable Diameter ($\pm 0.4\text{mm}$)	Approx.Weight (kg/km)
6F	6	1	8.0mm	76
12F	12	1	8.0mm	77
24F	24	1	9.0mm	87

4.4 Identification

Color Code for Fiber

Color Code	1	2	3	4	5	6
	Blue	Orange	Green	Brown	Slate	White
	7	8	9	10	11	12
	Red	Black	Yellow	Violet	Pink	Aqua
	13*	14*	15*	16*	17*	18*
	Blue	Orange	Green	Brown	Slate	White
	19*	20#	21*	22*	23*	24*
	Red	Black	Yellow	Violet	Pink	Aqua

*with continuous black rings marked for identification, # with continuous white rings marked for identification

Color Code for Tube

Color Code	1
	Transparent

5. Optical Fiber Cable Characteristic

5.1 Mechanical Properties

Item	Test Method	Specification at 1550nm
Tensile	IEC 60794-1-2-E1 Tensile Force Short Term(N): 600N Tensile Force Long Term (N): 300N	Attenuation change ≤ 0.05 dB δL load $\leq 0.5\%$ δL rest $\leq 0.05\%$
Repeated Bending	IEC-60794-1-2-E6 Bending frequency: 30 times, Bending speed: 2s per time. Mandrel diameter: D=20xOD	Attenuation change ≤ 0.05 dB No fiber break and no sheath damage

Crush	IEC 60794-1-2-E3 Load: 1000N/100mm Time: 1 mins, 100mm distance	Attenuation change ≤ 0.05 dB No fiber break and no sheath damage
Torsion	IEC 60794-1-2-E7 Length : 1 m Twist angle : $\pm 180^\circ$ Subject weight: 25kg	Attenuation change ≤ 0.05 dB No fiber break and no sheath damage
Impact	IEC 60794-1-2-E4 Impact energy: 450g Radius: 300 mm, 1m height No. of impacts : 5 points (3 time/point)	Attenuation change ≤ 0.05 dB No fiber break and no sheath damage
Drop Performance	IEC-794-1-2-E14 Sample length: 30 cm Temp: $70 \pm 2^\circ\text{C}$ Time: 24 hours	No filling compound drip

5.3 Cable Environmental Properties

Item	Test Method	Specification at 1550nm
Cable Cold and Hot Bend	IEC 60794-1-2 method E11 Lowest Temperaute = -20°C Highest Temperaute = $+70^\circ\text{C}$ Dmandrel 15 xDcable	Attenuation change ≤ 0.05 dB
Temperature Cycling	IEC 60794-1-2 method F1 No. of cycles : 1 Temperature: -20 to $+70^\circ\text{C}$ Soak time: 12 hours (4km/drum)	Attenuation change ≤ 0.1 dB/km No fiber break and no sheath damage
Water Penetration (un-aged cable)	IEC 60794-1-2 method F5A Head of water : 1 m Time : 24 hours Sample length: 1m	No water penetration. Report water penetration depth.
Water Penetration (aged cable)	IEC 60794-1-2 method F5A after aging Height of water : 1 m Time : 24 hours Sample length: 1m	No water penetration. Report water penetration depth.

6. Cable sheath Marking

- Marking Color: White
- Interval: 1m
- Method: Ink-jet printing
- Contents(for example for GYXTW 6 fibers):
0000M PROPERTY OF XXXXX 6 Cores Outdoor Fiber Optic Cable SM G.652D 2024

Explain:

******M:** Length marking ,starting number is 0000M

PROPERTY OF XXXXX : The name of user.

8 Cores Outdoor Fiber Optic Cable : – Description of cable.

SM G.652D : Fiber type code.

2024: The year of manufacture

※The sheath marking can be changed with customer's requirement.

7.Packing and shipping

7.1 Cable Drum: Wooded drum

Standard reel length: 2,000m

(Other length is available according to user's request)

7.2 Cable Packing

Both ends of the cable will be sealed with suitable plastic caps to prevent the entry of moisture during shipping, handling and storage. The inner end is available for testing.