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Specification

GYQFXTBP

1. General

1.1 The cable was designed for Aerial Installation.

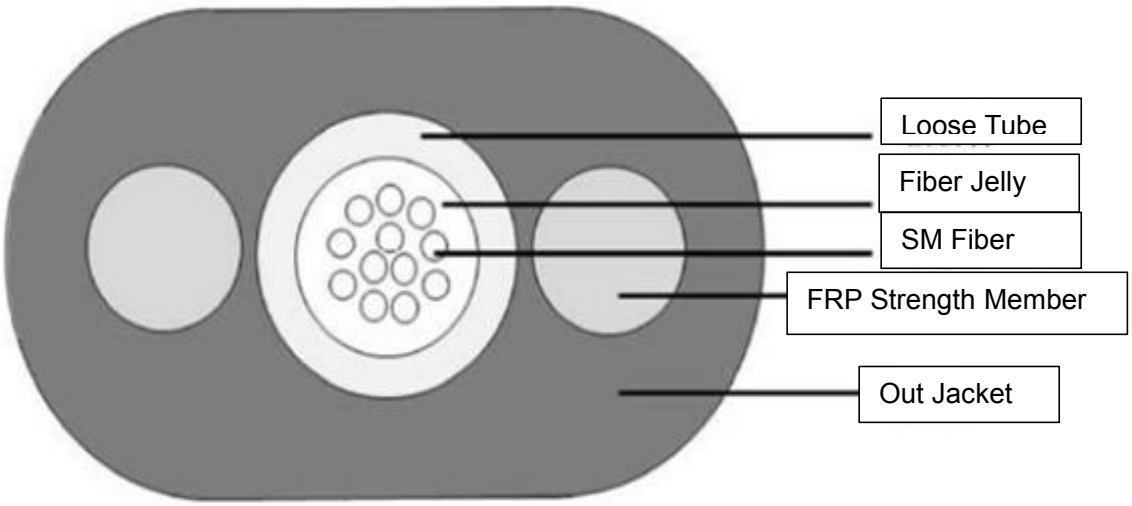
1.2 The optical fiber G652.D which used in the cable is better or in compliance with ITU-T or IEC.

1.3 The optical fiber Cable is better or in compliance with ITU-T or IEC.

1.4 The single mode fiber G.652D shall operate in 1310nm and 1550 nm.

1.5 The cable can be used for 30 years without serious damage.

2. Construction



3. Optical Fiber (ITU- G.652D)

a) Construction of Fiber（Table 1）

Fiber	Type	Single Mode G.652D
	Material	Ge doped fused silica
Mode field diameter	1310 nm	9.2±0.4 μm
Core concentricity error		≤0.6 μm
Cladding diameter		125±0.7 μm
Cladding non-circularity		≤0.8%
Coating	Material	UV-cured acrylic ester
	Out Diameter	245±10 μm
Tensile strength		0.69 Gpa (1%)

b) Characteristic（Table 2）

Attenuation (After Cabled)	1310 nm	≤ 0.36 dB/km
	1550 nm	≤ 0.22 dB/km
Macro Bending (100 turns，Φ60mm)	1550 nm	≤ 0.05 dB
	1625 nm	≤ 0.05 dB
Zero dispersion wavelength		1300-1324nm
Zero dispersion slope		≤ 0.092 ps/(nm^2/km)
Dispersion	1310 nm	≤ 3.5 (ps/nm.km)
	1550 nm	≤ 18.0 (ps/nm.km)
Cutoff wavelength of cable(λ cc)		≤ 1260nm
PMD		≤ 0.15 ps/km$^{1/2}$

4. Design of Cable

a) Construction（Table 3）

Type		GYQFXTBP
Fiber Number		2～12
Fiber	Construction	According to 3.1
Filler of Loose tube	Material	Fiber Jelly
Loose tube	Material	PBT
	Max.Fibers/Tube	12
	Color Code	Natural
	Nominal. O.D. (mm)	3.0
Parallel Strength Member	Material	FRP （Gluing）
	O.D. (mm)	φ1.6×2
Out Jacket	Material	HDPE
	Color	Black
O.D. of Cable	(mm)	4.6×8.1
Weight	(kg/km)	40

b) Mechanical Characteristic（Table 4）

Tensile		Impact(N/100mm)		Min.Bending Radius	
Short Term (N)	Long Term (N)	Short Term (N)	Long Term (N)	Dynamic	Static
1200	480	1000	300	50H	25H

N：H means the height of Cable.

c) Fiber Color Identification（Table 5）

No.	1#	2#	3#	4#	5#	6#	7#	8#	9#	10#	11#	12#
Color	BLUE	ORANGE	GREEN	BROWN	GREY	WHITE	RED	BLACK	YELLOW	VIELOT	PINK	DARK GREEN

Note: color fiber can be used instead of white fiber without affecting chromatographic identification

5. Characteristics of cable

5.1 Tensile

Test Method	IEC 60794-1-21 E1
Load	According to Table 4， The short-term force value lasted for 1min
Stretch Rate	10mm/min
Standard Request	Under the short-term force value, the fiber strain is less than 0.6% and the additional attenuation is less than 0.1dB.No significant residual additional attenuation (≤0.05dB) was observed after the test, and no visible cracking was observed in the sheath

5.2 Impact

Test Method	IEC 60794-1-2 E3
Test plate	100 mm
Load	According to Table 4， The short-term force value lasted for 1min
Standard Request	Under short-term force value, the additional attenuation is less than 0.1dB;After the test, the sheath had no visible cracking and no significant residual additional attenuation (≤0.05dB).

Note: for flat cable, the compression surface should be flat.

5.3 Crush

Test Method	IEC 60794-1-2 E4
Impact surface radius	12.5mm
Load	200g, no less than 5 points, once for each point, connecting point interval ≥500mm
Standard Request	After the test, the sheath had no visible cracking and no significant residual additional attenuation (≤0.05dB).

5.4 Repeated Bending

Test Method	IEC 60794-1-2 E11A
Radius of the spindle	Not greater than the allowable dynamic bending radius specified in Table 4
Load	150N
Test Times	30 t i m e s ， 2s/times
Standard Request	After the test, the sheath had no visible cracking and no significant residual additional attenuation (≤0.05dB).

Note: for flat cable, the compression surface should be flat.

5.5 Torsion

Test Method	IEC 60794-1-2 E7
Load	150N
Torsion Angle	±180°
Test Times	10 Times
Standard Request	After the test, the sheath had no visible cracking and no significant residual additional attenuation (≤0.05dB).）

5.6 Water Penetration

Length of Sample	3m
Height of Water Colum	1m
duration	24H
Standard Request	No penetration

5.7 Temperature Cycle

Times of Cycle	2 times
Constant temperature time	Every point 12h
Temp. Range	-40°C to +60°C
Standard Request	additional attenuation of Optical fiber≤0.1dB / km

6. Out Jacket printing

6.1 Content: Link Plus

6.2 Color：White

6.3 Test the wear resistance of printed words：The wetted wool felt should be rubbed with a load of 20N for at least 10 times. After the test, the mark on the sheath can still be recognized by sight.

7. Packing and Transport

7.1 Temperature

Transport and Storage：-40°C～+60°C

Installation：-20°C～+50°C

Operation：-40°C～+60°C

7.2 Length of Reel

Length of Reel：4Km/reel

7.3 Drum

The optical cable uses the whole wood drum or the composite drum and so on

The direction of the arrow shown on the optical cable plate is consistent with the direction of the line.