Document title :

SPECIFICATION
FOR
SINGLE-MODE FIBER DROP CABLE

Revision	Date	Prepared by	Checked by	Approved by
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1. GENERAL

This specification covers the general requirements and characteristics of drop cable used for indoor applications.

2. APPLICABLE STANDARDS

ITU-T G.650	Definition and test methods for the relevant parameters of single-mode fibers
ITU-T G.657	Characteristics of a G.657A2 fiber and cable
IEC 60793-1	Optical fiber Part 1 : Generic specification
IEC 60793-1	Optical fiber Part 2 : Product specifications
IEC 60794-1	Standard for optical fiber outside plant communications cable

3. OPTICAL FIBERS

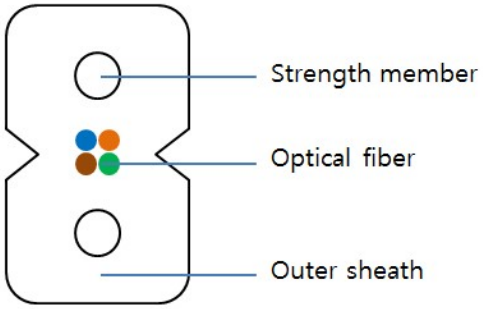
The optical and geometrical performance of the optical fibers shall be in accordance with below table 1.

[Table 1.] The Characteristics of a G.657A2 Fiber

Parameter	Specification
Attenuation coefficient of cabled @ 1310㎚ @ 1383㎚ @ 1550㎚	 ≤ 0.40 dB/km ≤ 0.40 dB/km ≤ 0.30 dB/km
Cable cut-off wavelength	≤ 1260㎚
Zero-dispersion wavelength	1300 ~ 1324㎚
Zero-dispersion slope	≤ 0.092 ps/㎚².km
Chromatic dispersion @ 1285 ~ 1330㎚ @ 1550㎚	 ≤ 3.5 ps/㎚².km ≤ 18.0 ps/㎚².km
Mode field diameter @ 1310㎚	8.6 ± 0.4㎛
Core concentricity error	≤ 0.5㎛
Cladding diameter	125.0 ± 0.7㎛
Cladding non-circularity	≤ 0.7 %
Primary Coating diameter	245 ± 10㎛
Proof test level	100 kpsi, 1%
Macro-bending loss 15mm radius, 10 turns @ 1550㎚ 15mm radius, 10 turns @ 1625㎚ 10mm radius, 1 turns @ 1550㎚ 10mm radius, 1 turns @ 1625㎚ 7.5mm radius, 1 turns @ 1550㎚ 7.5mm radius, 1 turns @ 1625㎚	 ≤ 0.03 dB ≤ 0.1 dB ≤ 0.1 dB ≤ 0.2 dB ≤ 0.5 dB ≤ 1.0 dB

4. CABLE STRUCTURE

4.1 Cross-sectional drawing



[Not to Scale]

4.2 Construction

[Table 2.] The Cable construction of drop cable

Item	Structure		Specification	
			2C	4C
Optical fiber	Fiber		G.657 A2	
	Fiber Color		Refer to Table 3	
Strength member	Material		Steel wire	
	Count/Diameter(mm)		2EA / 0.5	
Outer sheath	Material		LSZH	
	Color		White	
Cable	Nom. diameter	Width (mm)	2.0	
		Height (mm)	4.0	
	Nom. weight (kg/km)		15	

[Table 3.] The Cable construction of drop cable

Core	Color
1C	Blue
2C	Orange
3C	Green
4C	Brown

4.3 Sheath Marking

4.3.1 Sheath Marking

The cable shall have the following information clearly marked on the cable outer sheath at regular interval of one meter by Ink Jet printer with Black color.

1) Length in meter : 0000M
2) Year of manufacture : YYYY
3) Name of manufacturer : TAIHAN FIBER OPTICS
4) Fiber type : SM G657A2
5) Fiber count : 2C or 4C
6) Serial number : 0001 to 9999

0000M 2017 TAIHAN FIBER OPTICS SM G657A2 4C 0001 0001 M

5. CABLE PROPERTIES

5.1 Mechanical & Environmental properties

5.1.1 Cable bending radius

Installation : 20 x cable diameter (during installation)
Operating : 10 x cable diameter (during operation)

5.1.2 Temperature range

Installation : 0℃ to +50℃
Operating : -30℃ to +60℃
Storage : -30℃ to +60℃

5.2 Mechanical & Environmental requirements

[Table 4.] Test method and criteria of cable

No	Item	Test Method	Test Criteria
1	Tensile strength IEC-60794-1-2-E1	- Load : 150N - Length: ≥ 150m - Maintained time: 10 mins.	- Attenuation change : ≤ 0.4 dB @1550 nm
2	Cyclic Flexing IEC-60794-1-2-E11A	- Mandrel dia. : 80mm. - No. turn : 10 - No. cycles : 1	- Attenuation change : ≤ 0.4 dB @1550 nm
3	Temperature Cycling IEC-60794-1-2-F1	- Length : 1,000m: - Temperature cycle: 20°C→-30°C→+60°C→-30°C→+60°C→20°C - Number of cycle: 1 - Time per step: 8 hours	- Attenuation change : ≤ 0.4 dB/km @1550 nm

6. QUALITY CONTROL

6.1 Incoming Inspection

All the raw materials that are used for optical fiber cable shall be inspected by the raw material testing methods that are specified by the manufacturer and that are based on 'Korea Standard' or 'ASTM'.
In some cases, suppliers' test report shall substitute for the raw material manufacturer's test.
Any materials that do not meet the manufacturer's raw material specification shall be rejected or scrapped, and the passed materials only shall be used in the process. Some raw material specifications and subsequent raw material test method may be changed without notice, if and only if the new specification and the new test method do not affect the quality of optical fiber cable.

6.2 In-Process Inspection

Semi-final goods shall be inspected in accordance with specified manufacturer's testing method. The testing method may be changed without notice, if it does not affect quality of optical fiber cable.

6.3 Final Cable Inspection

Following quality properties of finished cable shall be tested to assure the field performances.

√ Construction / Material
√ Mechanical characteristics
√ Optical characteristics

6.4 Quality System

TAIHAN FIBER OPTICS applied ISO 9001 and ISO 14001 to assure the conformance to specified requirements during our production.

7. Packing

7.1 Cable Packing

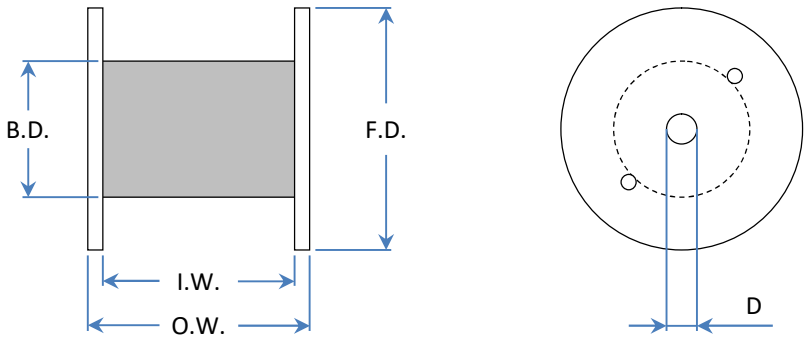
7.1.1 Both ends of the cable shall be sealed with suitable plastic caps to prevent the entry of moisture during shipping, handling and storage.

7.1.2 The cable ends shall be securely fastened to the reel to prevent the cable from becoming loose in transit or during placing operations.

7.2 Reel dimension

[Table 5.] Reel dimension

Structure	Standard length	Nom. dimension (mm)					Material
		F.D	B.D	O.W	I.W	D	
2C	1,000m or 2,000m	430	215	315	290	60	Plywood
4C	1,000m or 2,000m	485	300	290	270	60	Plywood
	6,000m	650	400	450	400	60	Plywood



[Table 6.] Carton box dimension by reels

F.D. of Reel	Nom. box dimension (mm)			Note
	Height	Width	Depth	
430	445	330	455	Carton Box
485	510	310	500	Carton Box

- End of Specification -