
No.	REVISION	DATE
1	V0	28/08/2018
2	V1	31/08/2018
3		

Specification

FOR Non-Metallic Fiber Optic Duct Cables

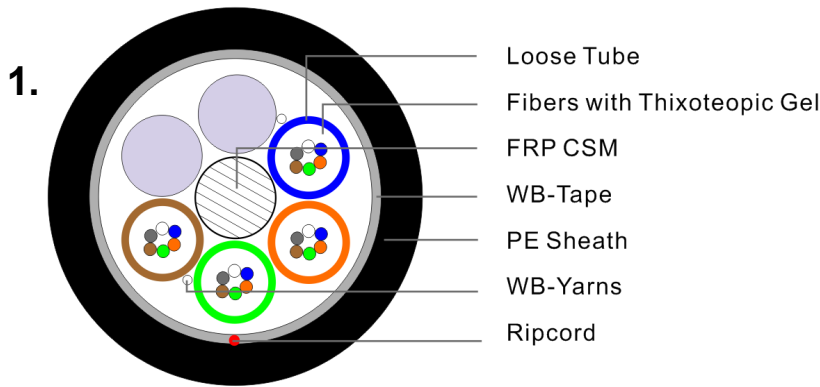
[**GYFTY-24FO**]

Canal autorizado:

Unicor s.a.

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1. CABLE CONSTRUCTION



CROSS SECTIONAL

DIAGRAM

1.2 TECHNICAL SPECIFICATION

Fiber Count		24FO
Fiber Type		ITU-T G . 652 . D
Loose Tube	OD(mm)	1.8
	Material	PBT
Fiber Count / Tube		6
Tube Unit / Filler Unit		4 / 2
Filler OD (mm)		1.8
FRP CSM (mm)		1.8
Water Blocking Material		Water-Blocking Tape / Water-Blocking Yarns
Sheath	Thickness	Non. 1.6mm
	Material	Black HDPE
OD of Cable(mm)		9.0 ^{±0.2}
Net weight (kg/km)		60
Max. Tensile Load (N)		1500
Application		Aerial, Underground Pipeline

2. FIBER AND LOOSE BUFFER TUBE IDENTIFICATION

NO.	1	2	3	4	5	6	7	8	9	10	11	12
Tube Color	Blue	Orange	Green	Brown	Slate	White	Red	Black	Yellow	Violet	Pink	Aqua
NO.	1	2	3	4	5	6	7	8	9	10	11	12
Fiber Color	Blue	Orange	Green	Brown	Slate	White/natural	Red	Black	Yellow	Violet	Pink	Aqua

3. OPTICAL FIBER

3.1 Single Mode Fiber

LTEMS	UNITS	SPECIFICATION
Fiber type		G652D
Attenuation	dB/km	1310nm ≤ 0.33 1383nm ≤ 0.30 1490nm ≤ 0.23 1550nm ≤ 0.20 1625nm ≤ 0.21
Chromatic Dispersion	ps/nm.km	1310nm ≤ 3.5 1550nm ≤ 18 1625nm ≤ 22
Zero Dispersion Slope	ps/nm ² .km	≤ 0.092
Zero Dispersion Wavelength	nm	1300 ~ 1324
Cut-off Wavelength (λ _{cc})	nm	≤ 1260
Attenuation vs. Bending	dB	(30mm radius, 100ring) ≤ 0.1 @ 1625nm
Mode Field Diameter	μm	9.2 ± 0.4 at 1310nm
Core-Clad Concentricity	μm	≤ 0.5
Cladding Diameter	μm	125±1
Cladding Non-circularity	%	≤ 0.8
Coating Diameter	μm	245±5
Proof Test	Gpa	≥ 0.69

4. Mechanical and Environmental Performance of the Cable

NO.	ITEMS	TEST METHOD	ACCEPTANCE CRITERIA
1	Tensile Loading Test	#Test method: IEC 60794-1-E1 -. Long-tensile load: 800N -. Short-tensile load: 1500N -. Cable length: ≥50m	-. Attenuation increment @ 1550nm: ≤0.1dB -. No jacket cracking and fiber breakage -. Fiber Strain ≤0.33%
2	Crush Resistance	#Test method: IEC 60794-1-E3	-. Attenuation

	Test	<ul style="list-style-type: none"> -Long load: 300N/100mm -Short load: 2000N/100mm Load time : 1 minutes 	<ul style="list-style-type: none"> increment@1550nm:≤0.1dB - No jacket cracking and fiber breakage
3	Impact Resistance Test	<ul style="list-style-type: none"> #Test method:IEC 60794-1-E4 -Impact height: 1m -Impact weigh: 450g -Impact point: ≥5 -Impact frequency: ≥3/point 	<ul style="list-style-type: none"> - Attenuation increment@1550nm:≤0.1dB - No jacket cracking and fiber breakage
4	Repeated Bending	<ul style="list-style-type: none"> #Test method:IEC 60794-1-E6 -Mandrel diameter: 20D (D = cable diameter) -Subject weight: 15kg -Bending frequency: 30 times -Bending speed: 2s/time 	<ul style="list-style-type: none"> - Attenuation increment@1550nm:≤0.1dB - No jacket cracking and fiber breakage
5	Torsion Test	<ul style="list-style-type: none"> #Test method:IEC 60794-1-E7 -Length: 1m -Subject weight: 25kg -Angle: ±180 degree -Frequency: ≥10/point 	<ul style="list-style-type: none"> - Attenuation increment@1550nm:≤0.1dB - No jacket cracking and fiber breakage
6	Water Penetration Test	<ul style="list-style-type: none"> #Test method: IEC 60794-1-F5B -Height of pressure head: 1m -Length of specimen: 3m -Test time: 24 hours 	<ul style="list-style-type: none"> - No leakage through the open cable end
7	Temperature Cycling Test	<ul style="list-style-type: none"> #Test method:IEC 60794-1-F1 -Temperature steps: +20°C、—40°C、+70°C、+20°C -Testing Time: 24 hours/step -Cycle index: 2 	<ul style="list-style-type: none"> - Attenuation increment@1550nm:≤0.1dB - No jacket cracking and fiber breakage
8	Drop Performance	<ul style="list-style-type: none"> #Test method:IEC 60794-1-E14 -Testing length: 30cm -Temperature range: 70±2°C -Testing Time: 24 hours 	<ul style="list-style-type: none"> - No filling compound drop out
9	Temperature	<p>Operating:-40°C~+60°C</p> <p>Store/Transport :-</p> <p>50°C~+70°C Installation -</p> <p>20°C~+60°C</p>	

5. FIBER OPTIC CABLE BENDING RADIUS

Static bending: ≥ 10 times than cable out diameter

Dynamic bending: ≥ 20 times than cable out diameter.

6. PACKAGE AND MARK

6.1 PACKAGE

Not allowed two length units of cable in one drum, two ends should be sealed,. Two ends should be packed inside drum, reserve length of cable not less than 3 meters.

6.2 MARK

Cable Mark: length, brand

Drum Mark: Manufacturer, cable category, No. of drum, length, GW. direction of rotation, manufacturing date.

7. TEST REPORT

Test report and certification supplied.