

Non-metallic Fiber Optic Drop Cable

Technical Parameters

GENERAL

1.1 SCOPE

This listed specification covers the design requirements and performance standard for the supply of optical fiber cable in the industry. It should also include premium designed cable with optical, mechanical and geometrical characteristics

<i>Cable Type</i>	<i>Application</i>
<i>Non-metallic Fiber drop cable</i>	<i>Self-supporting aerial installation</i>

1.2 Cable Description

Cable should possess high tensile strength and flexibility in compact cable sizes. At the same time, it should provide excellent optical transmission and physical performance.

1.3 Quality

Suppliers should ensure a continuing level of quality in your cable products through several quality control programs including ISO 9001.

1.4 Reliability

Both initial and periodic qualification testing should have performed to assure the cable's performance and durability in the field environments. .

1.5 The cable are designed, manufactured and tested according to international standards as follow

<i>ITU-TG.652</i>	Characteristics of a single mode optical fiber
<i>ITU-TG.655</i>	Characteristics of a non-zero dispersion -shifted single mode fibers optical
<i>IEC 60793-1</i>	Optical fiber Part 1: Generic specifications
<i>IEC 60793-2</i>	Optical fiber Part 2: Product specifications
<i>IEC 60794-4</i>	Optical fiber cables-Part 4: Sectional specification-Aerial optical cables along electrical power lines

Technical Characteristics

- 1) The unique extruding technology provides the fibers in the tube with good flexibility and bending endurance
- 2) The unique fiber excess length control method provides the cable with excellent mechanical and environmental properties. Multiple water blocking material filling provides dual water blocking function
- 3) Filling Compound :Water swellable

The aerial cable shall be dry core loose tube type. There shall be proper provision to prevent the ingress or flow of moisture inside cable. In dry core design there shall be enough water swellable tape or yarn inside the cable and each loose tubes to ensure water/moisture blocking system.

Technical specifications:













Fiber Number	12
Max. No of loose tube / filler No.	1/6

Fiber No. per tube	12
Loose tube diameter	2.0mm+/-0.1mm
Loose tube material	PBT polybutylene terephthalate
Gel filled in loose tube	Yes
strength material	FRP (Fiber Reinforced Plastic) as shown below diagram
Outer sheath thickness/ material	2mm HDPE black
Water blocking material	Water blocking tape & Water blocking yarn
Rip cord	red Rip cord in every layer
Cable OD	4-8mm
Cable weight	Approx.30 kg/km
Operation temperature range	-40 deg C to + 70 deg C
Installation temperature range	-20 °C to + 60 °C
Transport and storage temperature range	-40 °C to + 70 °C
Span	300 meter

Suitable lines	≤35kv
Maximum operation tensile	10KN
Crush resistance	2200N /10cm
Minimal installation bending radius	20 x OD
Minimal operation bending radius	10 x OD
Repeating bending	Load: 150N; number of cycles: 30 No obvious addition attenuation, no fiber break and no cable damage.
Torsion	Load: 150N; number of cycles:10; twist angle:± 180° No obvious addition attenuation, no fiber break and no cable damage.
Impact	Impact energy: 450g×1m; radius of hammer head:12.5mm; number of impact: 5 No obvious Addition attenuation, no fiber break and no cable damage.

COLOR IDENTIFICATION OF FIBER

The fibres shall be marked by a coloured coating with 12 different colours according to EIA/TIA 598:

Fiber #1	Blue		Fiber #7	Red	
Fiber #2	Orange		Fiber #8	Black	
Fiber #3	Green		Fiber #9	Yellow	
Fiber #4	Brown		Fiber #10	Violet	
Fiber #5	Slate		Fiber #11	Rose/Pink	
Fiber #6	White		Fiber #12	Aqua/Sky Blue	

COLOR IDENTIFICATION OF FIBER

12Fiber	1# 12fiber	2# filler	3# filler	4# filler	5# filler	6# filler
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Optical Characteristics

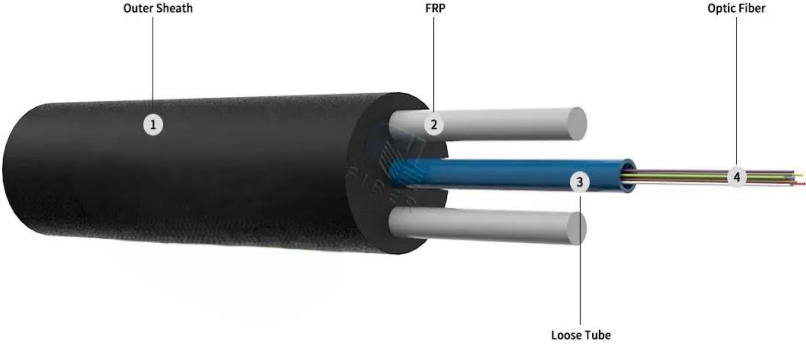
Optical Characteristics		G.652	G.655	50/125 μ m	62.5/125 μ m
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Attenuation (+20°C)	@850nm			≤ 3.0 dB/km	≤ 3.3 dB/km
	@1300nm			≤ 1.0 dB/km	≤ 1.0 dB/km
	@1310nm	≤ 0.36 dB/km	≤ 0.40 dB/km		
	@1550nm	≤ 0.22 dB/km	≤ 0.23 dB/km		
Bandwidth	@850nm			≥ 500 MHz·km	≥ 200 MHz·km
	@1300nm			≥ 500 MHz·km	≥ 500 MHz·km
Numerical Aperture				$0.200 \pm 0.015NA$	$0.275 \pm 0.015NA$
Cable Cut-off Wavelength λ_{cc}		≤ 1260 nm	≤ 1450 nm		

Technical Parameters

Fiber Count	Fiber Count	Weight(kg/km)	Crush long/short term (N/100mm)	Tensile long/short term (N/100mm)	Bending Radius dynamic/static (mm)
GYXTW 2~12	2~12	82	300/1000	600/1500	10D/20D
GYXTW 2~12	2~12	124	300/1000	1000/3000	10D/20D
GYXTW 12~24	14~24	127	300/1000	1000/3000	10D/20D

Cable structure

Cable Type: - Fiber Optic Non- metallic drop cable



3. PACKING AND DRUM

Non-metallic fiber Optic drop are packed in wooden drum. During transportation, right tools should be used to avoid damaging the package and to handle with ease. Cables should be protected from moisture; kept away from high temperature and fire sparks; protected from over bending and crushing; protected from mechanical stress and damage.



