catalog | **Optical Cables**

Drop Wire | **FTTH-FTTB**

4SProducts
Optical Cable Assemblies

Atmos

Technical
Data Sheet

Central Tube Optical Cables

Standard central tube with 2-12f

Dielectric Messenger Self Supporting
Single Jacket

FTTH / FTTB Applications

Application

FTTH cables are used in the last portion of an all-optical network, such as fiber-to-the-home (FTTH) or fiber-to-the-business (FTTB) networks. Acts as a bridge between the distribution network and the subscriber premises.

Benefits

- Fiber Count up to 12f
- The dry water blocking materials can easily be removed without the use of cable cleaning solvents, yielding significant labor cost savings
- Easy access single tube design
- All dielectric design eliminates grounding and/or bonding
- Rapid deployment
- Single PE Jacket suitable for short-span applications

Fiber types

- G.651 multi-mode fiber
- G.652D single-mode fiber
- G.655 NZDS fiber for DWDM applications

Full range of protections

- Water blocked

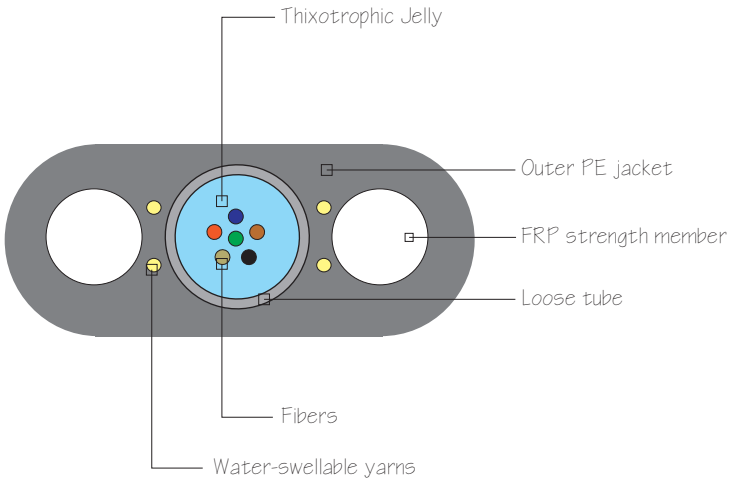
Full range of applications

- Outdoor
- Aerial

Optional protections

- N/A

Cable cut-away



Typical parameters

Number of fibers	Up to 12
Nominal outer diameter	5.5 mm (0.22 in.) X 8.5 mm (0.34 in.)
Cable weight	40 kg/km (27 lb/kft)
Max. bend radius	100 mm (3.94 in.)
Max. working tension	400 N (90 lbf)
Operating temperature range	-40 °C / 70 °C (-40 °F / 158 °F)

Qualifications & Approvals

Bellcore Standards
ITU Standards
TIA/EIA Standards

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1st ISSUE

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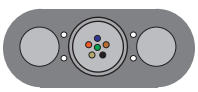
Cable Properties

2-12 fibers FTTH/FTTB cable
1 thixotrophic jelly filled loose tube
Water swellable yarns
2 FRP rod strength elements
Medium density polyethylene outer jacket

Basic optical fiber	All MM and SM type fiber
Strength member	2 FRP rod, 1.6 mm (0.06 in.) O.D.
Number of fibers in each tube	2-4-6-8-10-12
Number of loose tubes	1
Loose tube diameter	2.90 mm (0.12 in.) O.D.
Tube material	PBT (Polybutylene Terephtalate)
Color of loose tube	Natural
Color of fibers	Blue, Orange, Green, Brown, Slate, White, Red, Black, Yellow, Violet, Rose, Aqua
Tube filling compound	Thixotropic jelly
Core filling compound	No filling compound. There are water swellable yarns instead
Outer Jacket	Black PE 1.1±0.1 mm (0.04±0.01 in.) nominal thickness
Approximate overall diameter	5.5 mm (0.22 in.) / 8.5 mm (0.34 in.)

Mechanical Performance	Test Procedure	Specification
Tensile strength test	EIA/TIA-455-33	1350 N (during installation) 400 N (during operation)
Crush test	EIA/TIA-455-41	220 N/cm
Temperature cycling		-40°C / 70 °C (-40 °F / 158 °F)
Bend radius (during installation)	EIA/TIA-455-37	150 mm (5.19 in.)
Bend radius (during service)	EIA/TIA-455-37	100 mm (3.94 in.)
Water penetration test	EIA/TIA-455-82	1 m length in 24 hrs with no water leak



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Single-mode Fiber Specifications

Fiber Type	Single-mode
	G.652D
	1310/1550 nm
Attenuation (max)	0.40 dB/km (1310 nm) 0.22 dB/km (1550 nm)
Chromatic Dispersion (max)	3.5 ps/(nm x km) (1310 nm) 18 ps/(nm x km) (1550 nm)
MDF	9.2 ± 0.5 μm

Multi-mode Fiber Specifications

Fiber Type	Multi-mode	
	62.5 μm	50 μm
	850/1300 nm	850/1300 nm
Attenuation (max)	3.5 dB/km (850 nm) 1.5 dB/km (1300 nm)	3.5 dB/km (850 nm) 1.5 dB/km (1300 nm)
Bandwidth (min)	200 MHz.km (850 nm) 500 MHz.km (1300 nm)	500 MHz.km (850 nm) 600 MHz.km (1300 nm)
Numerical Aparature	0.275 ± 0.015	0.2 ± 0.02

Environmental & General Properties

Drum Size	35 in x 35 in x 39 in	90 cm x 90 cm x 100 cm
Drum Length	13123 ft ± 10%	4000 m ± 10%
Net Weight	27 lb/kft	40 kg/km