

Technical  
Data Sheet

Central Tube Optical Cables

Standard central tube with 2-12f

Steel Messenger Self Supporting Fig-8 Sheath  
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
- Easy access single tube design
- 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

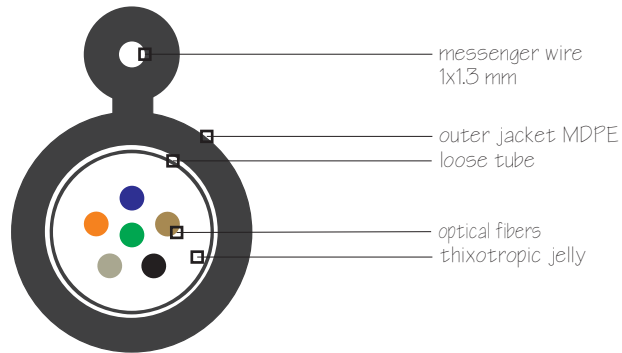
**Full range of applications**

- 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	47 kg/km (32 lbs/kft)
Max. bend radius	20 x cable O.D.
Max. working tension	1000 N (225 lbf)
Operating temperature range	-30°C / 70°C (-22°F / 158°F)



**Qualifications & Approvals**

Bellcore Standards  
ITU Standards  
TIA/EIA Standards

[www.4SProducts.com](http://www.4SProducts.com)

1st ISSUE

4621 Ponce de Leon Boulevard  
Coral Gables, FL 33146, USA  
[1] 305.666.7474  
[1] 305.666.7272 fax  
cable@4SProducts.com e-mail

Specifications are subject to change without prior notice. 4SProducts cables are designed and tested per IEC specifications.

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**Cable Properties**

2-12 fibers FTTH/FTTB cable  
1 thixotropic jelly filled loose tube  
Medium density polyethylene outer jacket  
Steel Messenger Fig-8 (1.3 mm)

Basic optical fiber	All MM and SM type fiber
Number of fibers in each tube	2-4-6-8-10-12
Number of loose tubes	1
Loose tube diameter	3.0 mm (0.12 in.) O.D.
Tube material	PBT (Polybutylene Terephthalate)
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.
Outer Jacket	Black PE 1.1 ± 0.1 mm (0.04 ± 0.01 in.) nominal thickness
Steel messenger diameter	1.3 mm (0.05 in.)
Approximate overall diameter	10.7 mm (0.42 in.) X 5.2 mm (0.20 in.)

Mechanical Performance	Test Procedure	Specification
Tensile strength test	IEC 60794-1-€1	1000 N (225 lbf)
Crush test	IEC 60794-1-€3	300 N/cm
Temperature cycling		-30°C / 70°C ( -22°F/ 158°F)
Bend radius (during installation)	IEC 60794-1-€11	20 x cable O.D.
Bend radius (during service)	IEC 60794-1-€11	15 x O.D.
Water penetration test	IEC 794-1-F5	1 m length in 24 hrs with no water leak



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Performance specifications are measured per EIA Fiber Optic Test Procedures.



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**FTTH / FTTB Applications**

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	32 lb/kft	47 kg/km



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