catalog | **Optical Cables**

**Drop Wire** | **FTTx**

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Optical Cable Assemblies

# Atmos

Technical
Data Sheet

# Central Tube Optical Cables

Standard central tube with 2-12f

Dielectric Messenger Self Supporting
Single Jacket - Span up to 120 meters

**FTTx** Applications

## Application

FTTx 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
- G.657 Bend-insensitive single-mode fiber

## Full range of protections

- Water blocked

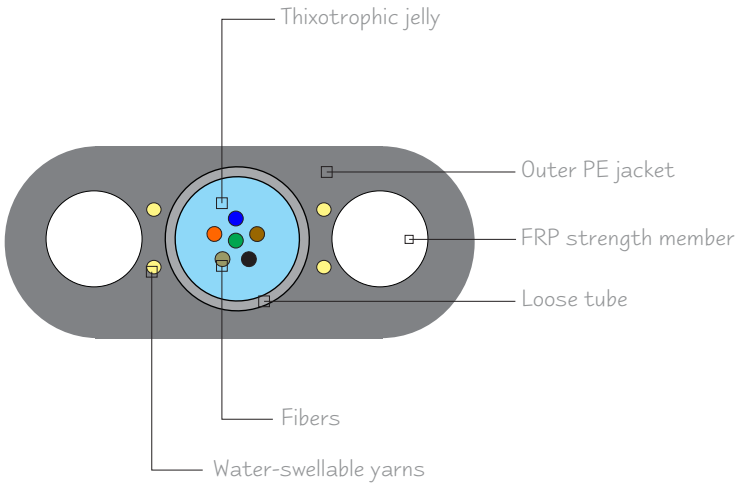
## Full range of applications

- 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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## Central Tube Optical Cables

Standard central tube with 2-12f

Dielectric Messenger Self Supporting
Single Jacket - Span up to 120 meters

**FTTx** Applications

## Cable Properties

2-12 fibers FTTx 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 | 3.00 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)<br>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 |

| Span Length | NESC Condition | Span (meters/feet) |
|---|---|---|
| Install Sag @ 1.0% | Light | 120 m (394 ft) |
| Install Sag @ 1.0% | Medium | 90 m (295 ft) |
| Install Sag @ 1.0% | Heavy | 40 m (131 ft) |

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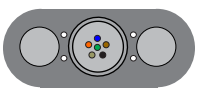

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Optical Cable Assemblies

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Technical
Data Sheet

## Central Tube Optical Cables

Standard central tube with 2-12f

Steel Messenger Self Supporting Fig-8 Sheath
Single Jacket

**FTTx** Applications

### Application

FTTx 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
- G.657 Bend-insensitive single-mode fiber

### Full range of protections

- Water blocked

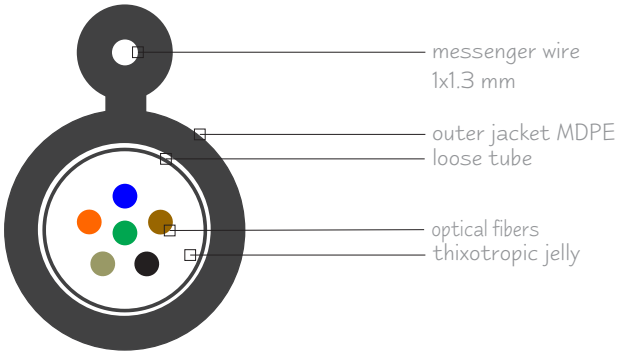
### Full range of applications

- 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**

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## Central Tube Optical Cables

Standard central tube with 2-12f

Steel Messenger Self Supporting Fig-8 Sheath
Single Jacket

**FTTx** Applications

## Cable Properties

2-12 fibers FTTx cable
1 thixotrophic 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 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. |
| 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-E1 | 1000 N (225 lbf) |
| Crush test | IEC 60794-1-E3 | 300 N/cm |
| Temperature cycling | | -30°C / 70°C ( -22°F/ 158°F) |
| Bend radius (during installation) | IEC 60794-1-E11 | 20 x cable O.D. |
| Bend radius (during service) | IEC 60794-1-E11 | 15 x O.D. |
| Water penetration test | IEC 60794-1-F5 | 1 m length in 24 hrs with no water leak |



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# mini Drop Optical Cable

Drop cable with 2f

Dual Strength Members
Single Jacket - Reduced Diameter

**FTTx** Applications

## Application

Our mini drop optical cable is 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 of 2f
- Easy access to optical fibers
- All dielectric design eliminates grounding and/or bonding
- Rapid deployment
- Single PE or HFFR Jacket suitable for indoor/outdoor applications
- Reduced diameter

## Fiber types

- G.651 multi-mode fiber
- G.652D single-mode fiber
- G.657 Bend-insensitive single-mode fiber

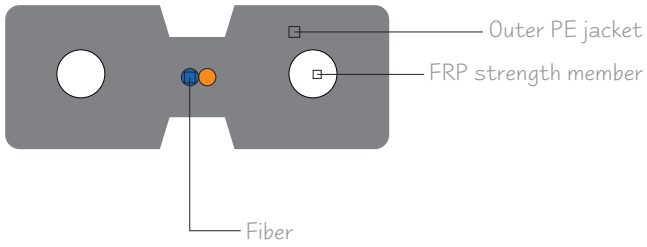
## Full range of applications

- Outdoor
- Indoor
- Aerial

## Optional protections

- HFFR Outer Jacket

## Cable cut-away




## Typical parameters

| | |
|---|---|
| Number of fibers | 2 |
| Nominal outer diameter | 4.0 mm (0.16 in.) X 2.0 mm (0.08 in.) |
| Cable weight | 12 kg/km (8 lb/kft) |
| Max. bend radius | 120 mm (4.72 in.) |
| Max. installation tension | 200 N (45 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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# mini Drop Optical Cable

Drop cable with 2f

Dual Strength Members

**FTTx** Applications

Single Jacket - Reduced Diameter

## Cable Properties

2 fibers FTTx cable
2 FRP rod strength elements
MDPE or HFFR outer jacket

| | |
|---|---|
| Basic optical fiber | All MM and SM type fiber |
| Strength member | 2 FRP rod, 0.5 mm (0.02 in.) O.D. |
| Color of fibers | Blue & Orange |
| Outer Jacket | Black PE or HFFR 0.75±0.1 mm (0.03±0.01 in.) nominal thickness |
| Approximate overall diameter | 4.0 mm (0.16 in.) / 2.0 mm (0.08 in.) |

| Mechanical Performance | Test Procedure | Specification |
|---|---|---|
| Tensile strength test | IEC 60794-1-2 E1 | 200 N (during installation) |
| Impact resistance | IEC 60794-1-2 E4 | 10 J, 3 Impacts |
| Crush test | IEC 60794-1-2 E3 | 220 N/cm |
| Temperature cycling | IEC 60794-1-2 F1 | -40°C / 70 °C (-40 °F / 158 °F) |
| Bend radius (during installation) | IEC 60794-1-2 E11 | 30x Cable diameter |
| Bend radius (during service) | IEC 60794-1-2 E11 | 15x Cable diameter |
| Flame retardancy (HFFR option) | IEC 60332-1 | According to IEC 60332-1 |



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