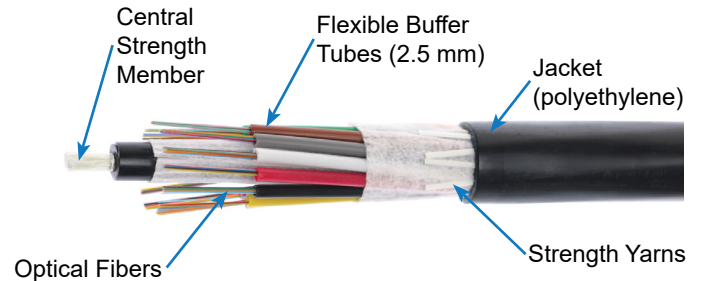
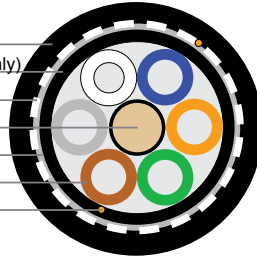


Outdoor Cable Non-Armored

- Polyethylene Outer Jacket
- Polyethylene Inner Jacket (double jacket designs only)
- Outer Strength Members (where applicable)
- Dielectric Central Strength Member
- Water Blocking Tape
- Gel-Filled Buffer Tube Containing up to 12 Fibers
- Ripcord



Features

Dry Water-Blocking Technology

- Permits rapid cable preparation and termination
- Water-Blocking materials are easily removed

Flexible Buffer Tubes

- Increased flexibility and superior kink resistance
- Facilitates route management in closures
- Eliminates need for closure transportation tubes

Medium Density Polyethylene Jacket

- Low friction installation
- Excellent protection from environmental hazards

Reverse Oscillated Lay Stranding Method

- Facilitates access to fibers

All-Dielectric Construction

- No bonding or grounding required

Performance

- Meets or exceeds the requirements of Telcordia GR-20 and ICEA 640
- Tested in accordance with the relevant EIA/TIA-455 series FOTPs for fiber optic cables
- PE-90 compliant for applications that do not require mid-span tube storage

Specifications

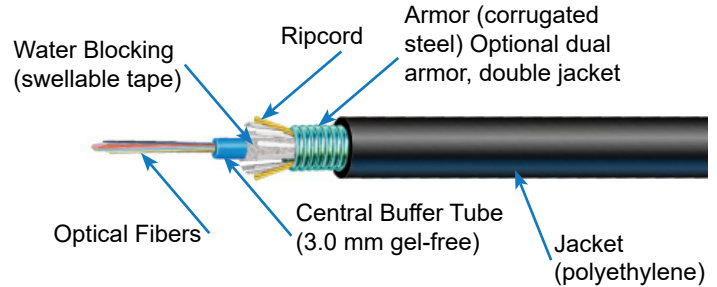
Parameter	Value
Fiber Count	2-24
Buffer Tube OD (mm)	2.65
Single Jacket Cable OD (mm / in)	10.8 / 0.43
Single Jacket Cable Weight (kg/km / lb/kft)	82 / 55
Single Jacket Max Length (m / ft)	12,800 / 41,984
Double Jacket Cable OD (mm / in)	13 / 0.51
Double Jacket Cable Weight (kg/km / lb/kft)	116 / 78
Double Jacket Max Length (m / ft)	12,800 / 41,984
Dynamic Bend Radius	20 x Cable OD
Static Bend Radius	10 x Cable OD
Installation Tensile Rating (N / lbf)	2700 / 600
Residual Tensile Rating	800 / 200
Short Term / Long Term Crush Resistance (N/cm / lbf/in)	220/110 / 125/63
Operation Temp Rating (C)	-40 to +70
Storage/Shipping Temp Rating (C)	-40 to +75

Outdoor Cable

Armored - Central Tube

Economical armored protection for lower fiber counts, ideal for multi-purpose outdoor aerial and underground use near the network edge.

Armored cable has an efficient design with a single central loose tube. A better fit and cost-effective alternative for low fiber count designs, this Central Loose Tube cable provides easy cable entry and flexible routing for multi-purpose installation of up to 12 fibers.



Features

Easy Cable Entry & Preparation

- Adhesive bond armor protects & improves mid-entry
- Ripcord speeds cable entry & outer jacket removal
- Proven water-blocking with dry core swellable binders

Meets the Following Standards

- ANSI / ICEA 640, IEC 60794-3-11, RUS 7 CFR 1755 (RUS LISTED), Telcordia GR20

Flexible Routing and Termination

- Flexible buffer tubes and strength members
- Small diameter & lightweight extends installation lengths

Temperature Rating

- Installation: -22 to +140 °F (-30 to +60 °C)
- Operation: -40 to +158 °F (-40 to +70 °C)

Cable Specifications

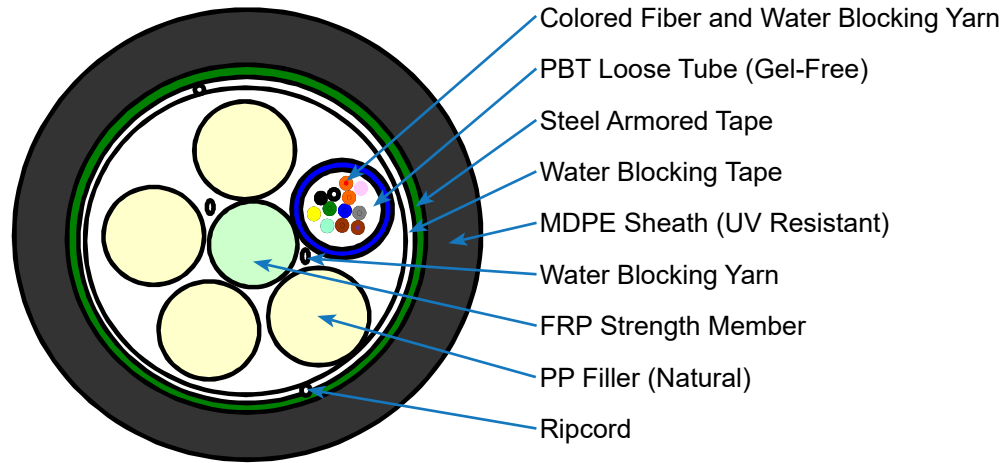
Tube Construction	Fiber Count	Diameter inches (mm)	Cable Weight lb/kft (kg/km)	Bend Radius Load inches (cm)	Bend Radius No Load inches (cm)	Maximum Installation Load
Gel-Free	2 to 12	0.38 (9.7)	63 (94)	8 (20)	6 (15)	600 lbf (2670 N)

Fiber Information

Fiber Type	Wavelength (nm)	Attenuation (dB/km)	Bandwidth (MHz km)	1 GbE Distance (meters)	10 GbE Distance (meters)
Singlemode	1310 / 1383 / 1550	0.35 / 0.35 / 0.25	N/A	N/A	N/A
Singlemode Bend Insensitive	1310 / 1383 / 1550	0.35 / 0.35 / 0.25	N/A	N/A	N/A
Multimode (62.5µm)	850/1300	3.5/1.0	200/500	300/550	33
Multimode (50µm)	850/1300	3.0/1.0	700/500	800/550	150
Multimode OM3 (50µm)	850/1300	3.0/1.0	1500/500	1000/550	300
Multimode OM4 (50µm)	850/1300	3.0/1.0	3500/500	1100/550	550

Outdoor Cable

Armored - 12 Fiber Loose Tube



Specifications

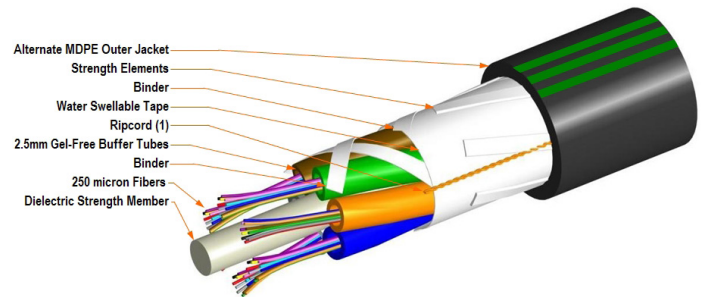
Parameter	Specification
Attenuation (G657A1) @ 1310 nm	≤ 0.36 dB/km
Attenuation (G657A1) @ 1550 nm	≤ 0.22 dB/km
Long Term Tensile Strength (IEC60794-1)	300 N
Short Term Tensile Strength (IEC60794-1)	1000 N
Long Term Crush Resistance (IEC60794-1)	300 N/100mm
Short Term Crush Resistance (IEC60794-1)	1000 N/100mm
Fiber Color	Blue, Orange, Green, Brown, Slate, White, Red, Black, Yellow, Violet, Pink, Aqua
PBT Tube Color	Blue
Ripcord Count	2
Operating Temperature	-40C to +70C
Storage Temperature	-40C to +70C
Static Bending Radius	10×Diameter
Dynamic Bending Radius	20×Diameter
Cable Diameter	12.0 mm
Cable Weight	125 kg/km
Sheath Thickness	1.5 mm

Outdoor Cable

Non-Armored Alternative Jacket

Non-Armored Alternative Jacket is a patented polymer blend that utilizes non-toxic, non-harmful, and environmentally friendly food-grade additives to deter squirrels from chewing on the jacket. The material is intended to make the act of cutting their teeth back on cable an unpleasant experience through the combination of taste and sensation.

System operators have traditionally installed a protective barrier such as squirrel guard around the aerial plant or endured the expense of moving the plant underground. Both repairing the damage and the traditional methods of preventing the damage are costly and consume man hours. To reduce the cost of protection and decrease repairs utilize Non-Armored Alternative Jacket cable.



Overview

Non-Armored Alternative Jacket cable is suitable for direct buried, aerial and conduit applications. The construction features the use of dry water blocking elements and reduced diameter buffer tubes, yielding a light weight, smaller cable. The result is a fiber optic cable that is an ideal transmission medium for the outside plant environment.

The fiber and buffer tubes are color coded for easy identification. The all dry cable construction removes the need for filling gels and flooding compounds from the cable. This significantly reduces cable preparation time and eliminates the need for solvents and other consumables during cable preparation. These cables are designed to improve the cleanliness of the work environment and provide full water blocking protection for outside plant applications.

Features

- Robust cable design
- Complies with applicable standards
- Provides very stable low temperature performance
- Cable withstands typical installation forces with a good safety margin
- Reduces installation loads due to the reduced weight and diameter
- Provides performance equivalent to gel-filled cable designs
- Improves network deployment speed for capturing revenues and starting services sooner

Standards/Compliance/Certifications

ANSI/ICEA S-87-640-2006
EN 187105
Telcordia GR-20-CORE Issue 3
RoHS 2011/65/EU
ISO 9001:2008

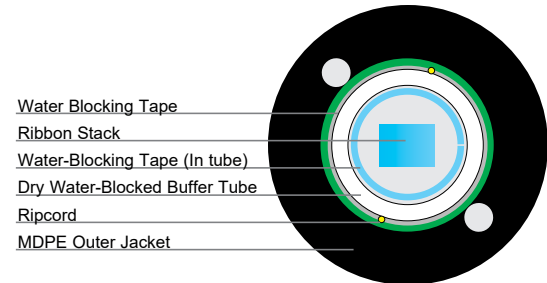
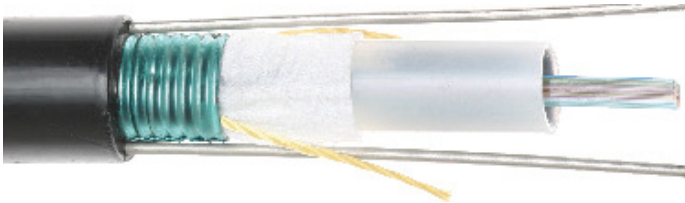


Outdoor Cable

Non-Armored Alternative Jacket

Parameter	Value
Cable Type	Stranded loose tube
Construction Type	Non-armored
Subunit Type	Gel-free
Jacket	Black Alternative jacket PE - UV Stabilized
Buffer Tube/Subunit Diameter	2.50 mm 0.10 in
Cable Weight	66.0 kg/km 45.0 lb/kft
Diameter Over Jacket	10.10 mm 0.40 in
Minimum Bend Radius, loaded	15.2 cm 6.0 in
Minimum Bend Radius, unloaded	10.1 cm 4.0 in
Tensile Load, long term, maximum	800 N 180 lbf
Tensile Load, short term, maximum	2700 N 607 lbf
Tensile Load Test Method	FOTP-33 IEC 60794-1-2, Section 5
Vertical Rise, maximum	1234.0 m 4048.0 ft
Environmental Space	Aerial, lashed Buried
Installation Temperature	-30 °C to +70 °C (-22 °F to +158 °F)
Operating Temperature	-40 °C to +70 °C (-40 °F to +158 °F)
Storage Temperature	-40 °C to +75 °C (-40 °F to +167 °F)
Compression	22 N/mm 125 lb/in
Compression Test Method	FOTP-41 IEC 60794-1-2, Section 7
Flex	35 cycles
Flex Test Method	FOTP-24 IEC 60794-1-2, Section 10
Impact	2.94 N-m 2.17 ft lb
Impact Test Method	FOTP-25 IEC 60794-1-2, Section 8
Twist	10 cycles
Twist Test Method	FOTP-85 IEC 60794-1-2, Section 11
Water Penetration	24 h
Water Penetration Test Method	FOTP-82 IEC 60794-1-2, Section 24
Cable Freeze	-2 °C 28 °F
Cable Freeze Test Method	FOTP-98
Heat Age	-40 °C to +85 °C (-40 °F to +185 °F)
Low High Bend	-30 °C to +60 °C (-22 °F to +140 °F)
Low High Bend Test Method	FOTP-28 IEC 60794-1-2, Section 28
Temperature Cycle	-40 °C to +70 °C (-40 °F to +158 °F)
Temperature Cycle Test Method	FOTP-3 IEC 60794-1-2, Section 22

Outdoor Cable Ribbon Central Tube



Features

Compact Design

- Efficient packaging of fiber
- Lightweight and easy to handle during installation

Easily Removable Ribbon Matrix

- Allows for ease of stripping and fiber breakout
- Improves mid-span strippability

Precision Ribbon Geometry

- Time and labor savings during fiber splicing

Flexible Buffer Tube

- Superior kink resistance
- Increased flexibility
- Facilitates route management in closures

Dry Water-Blocking Technology

- Buffer tube and core are completely dry—no gel
- Permits rapid cable preparation and termination
- Water-blocking materials are easily removed

Corrugated Steel Armor

- Provides additional mechanical protection
- Special coating reduces time and effort to remove jacket

Performance

- Meets or exceeds the requirements of Telcordia GR-20 & ICEA 640 and is tested in accordance with relevant EIA/TIA-455 series FOTPs for fiber cables

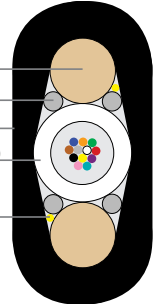
Specifications

Parameter	Value
Dynamic Bend Radius	20 x Cable OD
Static Bend Radius	10 x Cable OD
Installation Load Tensile Rating	2700 N (700 lbf)
Residual Load Tensile Rating	800 N (180 lbf)
Crush Resistance Short Term	220 N/cm (125 lbf/in)
Crush Resistance Long Term	110 N/cm (63 lbf/in)
Operating Temperature Rating	-40 to +70 °C (-40 to +158 °F)
Installation Temperature Rating	-30 to +60 °C (-22 to +140 °F)
Storage/Shipping Temperature Rating	-40 to +75 °C (-40 to +167 °F)
Fiber Count	12-48
Ribbon Count	1-4
Buffer Tube O.D.	6.2 mm (0.24 in)
Cable O.D.	12.5 mm (0.50 in)
Cable Weight	152 kg/km (102 lbs/kft)

Outdoor Cable Flat Drop Cable



Strength Member
Water-Blocking Material
MDPE Outer Jacket
Gel-Filled Buffer Tube (up to 12 Fibers)
Ripcord



Features

Easy Access Design

- Jacket can be easily opened with a knife and the included ripcords
- Buffer tube is easily separated from the jacket and strength members

All-Dielectric Messengers

- No bonding or grounding required
- Flexible and kink resistant

Dry Water-Blocking Technology

- Permits rapid cable preparation and termination
- Water-blocking materials are easily removed

Versatile Design

- Small cross-section and high strength allow good aerial performance
- Can be pushed or pulled through duct
- Highly crush-resistant

Dual Strength Member Design

- More flexible than a single, all-dielectric rod of the same strength
- Easier to handle and coil than other all-dielectric Figure-8 designs
- A great alternative where steel strength members are not permissible

Medium Density Polyethylene Jacket

- Low friction installation
- Excellent protection from environmental hazards

Sheath Markings

- Provides positive identification and length verification

Performance

- RDUP listed (tested in accordance with PE-90)

Specifications

Parameter	Value
Dynamic Bend Radius	150 mm (5.9")
Static Bend Radius	100 mm (3.9")
Installation Load Tensile Rating	1336 N (300 lbf)
NESC Light Load District Span Rating	122 mm (400")
NESC Medium Load District Span Rating	76 mm (250")
NESC Heavy Load District Span Rating	46 mm (150")
Operating Temperature Rating	-40 to +70 °C (-40 to +158 °F)
Installation Temperature Rating	-30 to +60 °C (-22 to +140 °F)
Storage/Shipping Temperature Rating	-40 to +75 °C (-40 to +167 °F)
Buffer Tube O.D.	2.8 mm (0.11 in)
Cable Thickness	5.0 mm (0.20 in)
Cable Width	8.5 mm (0.33 in)
Cable Weight	39 kg/km (26 lbs/kft)
Max. Cable Length	25,000 m (82,000 ft)