

LightPack® LXE Cable



ofs

Leading Optical Innovations

Easy-to-Install, Compact Cable Protects Your Network in Outside Plant Environments

Product Description

The LightPack® Cable core is a bundle of 4 to 12 fibers held together loosely with two helically applied binders. The core consists of an extruded plastic tube, containing filling compound and up to eight fiber bundles (up to 96 fibers). Positive identification of each fiber is provided by color coding both the fibers and the binders.

The LXE sheath system achieves a 600-pound (2670 N) tensile rating through the use of linearly applied strength members placed 180 degrees opposite each other. The cable jacket is made of High Density Polyethylene (HDPE) to provide faster installation (through a lower coefficient of friction) and optimum cable core protection in hostile environments. The small size and light weight make installation easy. In addition, the LXE sheath system passes both the Telecommunications Industry Association/Electronic Industries Association (TIA/EIA) standard cable tests and the more stringent OFS test program.

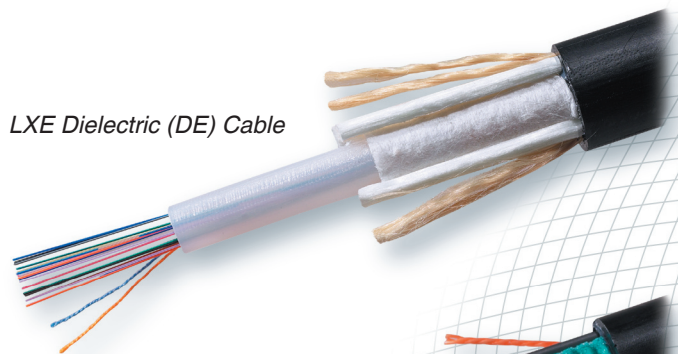
Why the LightPack LXE?

When reliability counts, you can count on LXE Fiber Optic Cable. The LXE family of products is designed for the loop distribution market, where express entry (accessing fiber in the middle of a cable span) is a common practice. These cables provide excellent optical, mechanical, and environmental performance in compact, reliable designs.

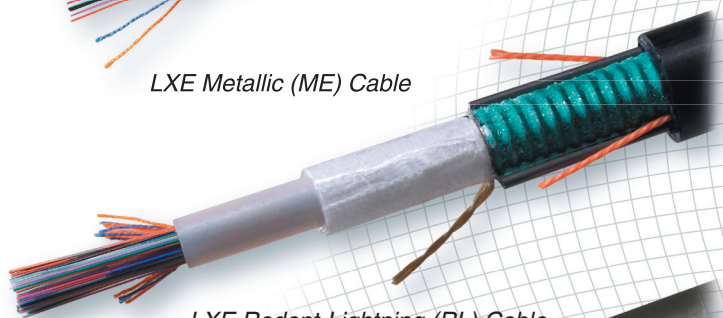
Three sheath options are available: Metallic (LXE-ME), Dielectric (LXE-DE), and Rodent-Lightning (LXE-RL). The construction of the LXE-ME sheath has an overlapped armor layer of 0.15 mm (0.006 in) thick corrugated electrolytic chrome coated steel (ECCS) that envelops the core tube and has a ripcord under it to ease its removal. The steel armor is coated to inhibit corrosion and to bond to the outer jacket. Two steel wire strength members run longitudinally along the armor, diametric to each other. A ripcord is located next to each steel wire for ease of sheath removal. The sheath is completed with a black high density polyethylene (HDPE) jacket.

The construction of the LXE-RL sheath is the same as the LXE-ME sheath except the ECCS armor is replaced with an adhesive-coated 0.13 mm (0.005 in.) stainless steel (SS) armor which provides additional protection against rodents and lightning.

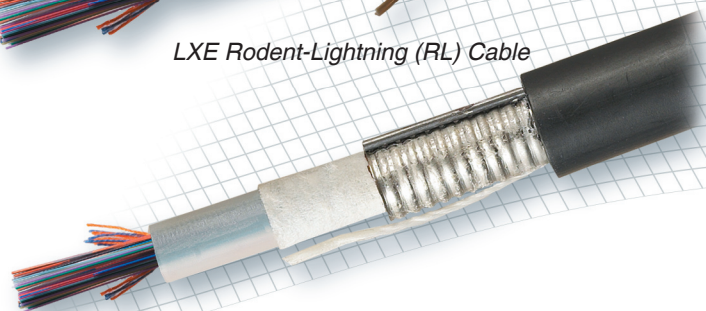
LXE Dielectric (DE) Cable



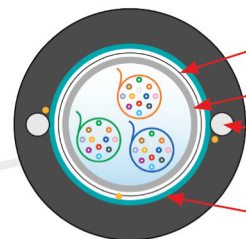
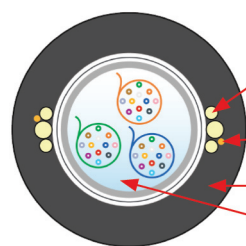
LXE Metallic (ME) Cable



LXE Rodent-Lightning (RL) Cable



Dielectric Cross-Section



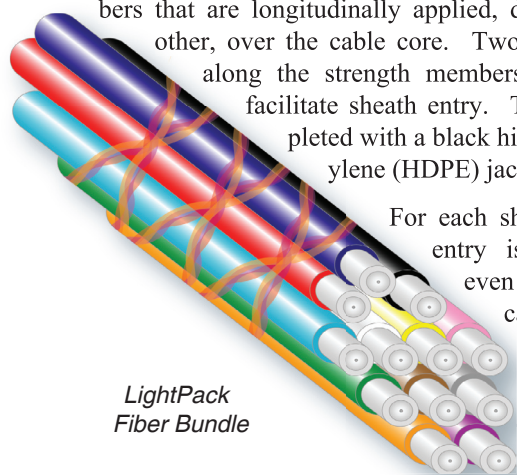
Metallic/Rodent-Lightning Cross-Section

Dielectric Strength Members

Common Elements

- Ripcords
- HDPE Jacket
- LightPack Core
- Water-Blocking Material
- Core Tube
- Steel Wire Strength Members
- ECCS or SS Armor

The LXE-DE sheath has two groups of glass strength members that are longitudinally applied, diametrical to each other, over the cable core. Two rip cords, nestled along the strength members, are provided to facilitate sheath entry. The sheath is completed with a black high density polyethylene (HDPE) jacket.



For each sheath option, cable entry is extremely easy, even in mid-span. The cable core can be accessed with the strength members remaining intact, so cable tensile strength is maintained.

In the metallic versions, electrical continuity is also maintained.

All fibers used in Lightpack bundles are color coded to facilitate individual fiber identification. The individual fiber colors are given in the table to the right.

Features and Benefits:

- Single-mode, Multimode, AllWave®, and TrueWave® fibers with D-LUX® coating
- Compact size
- Rugged, robust design
- Variety of sheath and core options
- All fibers in central core tube
- Ideally suited to mass splicing techniques
- High density polyethylene sheath
- High strength to weight ratio
- Reliable network performance
- Excellent optical, mechanical, and environmental performance
- Improved craft productivity (installation and splicing)
- Simplified fiber administration
- Maximum transmission capacity in a compact design
- Protection from environmental hazards and installation abuse.

Fiber Color Code:

All fibers are color-coded to facilitate individual fiber identification. The individual fiber colors used in 12-fiber AccuRibbon Fiber Units are given in the list below.

Fiber	Fiber Color	Fiber	Fiber Color
1	Blue (BL)	7	Red (RD)
2	Orange (OR)	8	Black (BK)
3	Green (GR)	9	Yellow (YL)
4	Brown (BR)	10	Violet (VI)
5	Slate (SL)	11	Rose (RS)
6	White (WH)	12	Aqua (AQ)

Value Statement

With LXE Fiber Optic Cable, your worries about installation abuse and environmental hazards are a thing of the past. With two core options and three sheath options to choose from, you can select a cable configuration that is exactly right for your application. The compact design and high strength-to-weight ratio of the cable make installation easy — particularly in limited duct space. Craft productivity is also maximized by the easy access to all fibers provided by the central core tube design, and the benefits of mass fusion splicing of fiber ribbons. In addition to these improved fiber administration features, the LXE Fiber Optic Cable provides excellent optical, mechanical, and environmental performance. Count on OFS for solutions that work.

Ordering Information:

Fiber Type	Sheath Design		
	Metallic	Dielectric	Rodent-Lightning
Single-Mode AllWave	AGSX-NNN-BXC	AGNX-NNN-BXC	AGRX-NNN-BXC
	AGSX-NNN-BXD	AGNX-NNN-BXD	AGRX-NNN-BXD
Single-Mode Matched Cladding	7GSX-NNN-BXC	7GNX-NNN-BXC	7GRX-NNN-BXC
	7GSX-NNN-BXD	7GNX-NNN-BXD	7GRX-NNN-BXD
62.5µm Multimode	3GSX-NNN-HXM	3GNX-NNN-HXM	3GRX-NNN-HXM

Legend & Footnotes:

NNN - Number of Fibers 012-216 (AccuRibbon)

BXC = 0.35/0.25 dB/km at 1310/1550 nm

BXD = 0.40/0.30 dB/km at 1310/1550 nm

AllWave Fiber (BXC and BXD) = ≤ .35 dB/km at 1385 nm

HXM = 3.4 dB/km 200MHz-km at 850 nm

1.0 dB/km 500MHz-km at 1300 nm

A 16-character code is required for RUS requested cable – simply add “RUS” to the above codes. Available fiber types are Single-Mode Matched Clad, Multimode, AllWave, and TrueWave fiber. Other fiber counts, other transmission characteristics and fiber type combinations are available on a special order basis.

Test Methods:

Mechanical, Environmental, and Electrical Requirements

Cable Test	Test Method	Single-Mode Fiber Optic Cable Requirements	Multimode Fiber Optic Cable Requirements
Tensile Loading and Bending	TIA/EIA-455-33 IEC 60794-1-E1	90% ≤ 0.05 dB Max. Added loss 100% ≤ 0.15 dB Max. Added Loss	0.20 dB Max. Mean Added Loss
Cyclic Flexing	TIA/EIA-455-104 IEC 60794-1-E6	90% ≤ 0.05 dB Max. Added loss 100% ≤ 0.15 dB Max. Added Loss	0.20 dB Max. Mean Added Loss
Cyclic Impact	TIA/EIA-455-25 IEC 60794-1-E4	90% ≤ 0.05 dB Max. Added Loss 100% ≤ 0.15 dB Max. Added Loss	0.40 dB Max. Mean Added Loss
Compressive Loading	TIA/EIA-455-41 IEC 60794-1-E3	90% ≤ 0.05 dB Max. Added Loss 100% ≤ 0.15 dB Max. Added Loss 440 N/cm (250 lbf/in) Load	0.20 dB Max. Mean Added Loss 440 N/cm (250 lbf/in) Load
Twist	TIA/EIA-455-85 IEC 60794-1-E7	90% ≤ 0.05 dB Max. Added Loss 100% ≤ 0.15 dB Max. Added Loss	0.20 dB Max. Mean Added Loss
Low and High Temperature Bend	TIA/EIA-455-37 IEC 60794-1-E11	90% ≤ 0.05 dB Max. Added Loss 100% ≤ 0.15 dB Max. Added Loss	0.40 dB Max. Mean Added Loss
External Freezing	TIA/EIA-455-98 IEC 60794-1-F6	90% ≤ 0.05 dB Max. Added Loss 100% ≤ 0.15 dB Max. Added Loss	0.20 dB Max. Mean Added Loss
Fiber Stripability	TIA/EIA-455-178 IEC 60793-1-B6	≤ 8.9 N (2 lbf) on unaged and aged fiber ≥ 1.3N (0.3 lbf) on unaged and aged fiber	≤ 13.4 N (3 lbf) on unaged fiber
Temperature Cycling	TIA/EIA-455-3 IEC 60794-1-F1	≤ 0.05 dB/km Mean Added Loss ≤ 0.15 dB/km Max Added Loss	≤ 0.05 dB/km Mean Added Loss ≤ 0.15 dB/km Max. Added Loss
Cable Aging	TIA/EIA-455-3 IEC 60794-1-F1	≤ 0.10 dB/km Mean Added Loss ≤ 0.25 dB/km Max Added Loss	≤ 0.10 dB/km Mean Added Loss ≤ 0.25 dB/km Max. Added Loss
Water Penetration	TIA/EIA-455-82 IEC 60794-1-F5	No flow after 24 hours from one meter length of cable	No flow after 24 hours from one meter length of cable
Sheath-to-Ground Dielectric Strength		≥ 20 kV for all armored metallic sheaths	≥ 20 kV for all armored metallic sheaths
Compound Drip	TIA/EIA-455-81 IEC 60794-1-E14	80°C, 24 hours duration, no drip	80°C, 24 hours duration, no drip
Lightning Conduction metallic sheaths	TIA/EIA-455-181	Telcordia Category I for all armored	Telcordia Category I for all armored

The Lightpack LXE cable complies with the latest revision of the TIA/EIA Test Method. There is not an exact correspondence of TIA/EIA Fiber Optic Test Procedures (FOTPs) and IEC Test Methods.

Specifications:

Sheath Type	Fiber Count					
	DE/ME/RL (4 - 24 Fibers)		ME/RL (30 - 48 Fibers) DE (6 - 48 Fibers)		DE/ME/RL (60 - 96 Fibers)	
	Core OD - mm (in)					
	5.1 (0.20)		6.1 (0.24)		7.9 (0.31)	
	Cable Diameter and Mass					
	OD mm (in.)	Mass kg/km (lbm/kft)	OD mm (in.)	Mass kg/km (lbm/kft)	OD mm (in.)	Mass kg/km (lbm/kft)
Metallic LXE-ME	11.4 (0.45)	131 (88)	13.0 (0.51)	179 (120)	15.5 (0.61)	223 (150)
Rodent-Lightning LXE-RL	11.4 (0.45)	131 (88)	13.0 (0.51)	179 (120)	15.5 (0.61)	223 (150)
Dielectric LXE-DE	—	—	13.0 (0.51)	141 (95)	15.5 (0.61)	186 (125)



For additional information please contact your sales representative. You can also visit our website at <http://www.ofsoptics.com> or call 1-888-fiberhelp.

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