Opti-Core™ Fiber Optic Indoor/Outdoor Armored Cable with Tight Buffered Fibers

North America
and
Latin America

PANDUIT®
DATA SHEET

technical information

Opti-Core Indoor/Outdoor Armored Cable with tight buffered fibers shall be an integral part of any end-to-end fiber optic solution, designed to support the data needs of today while meeting the ever-advancing network requirements of tomorrow. This cable shall provide water blocking technology, high density, and easy installation in transitional aerial and duct applications and entrance facilities. The 900µm tight-buffered fibers shall provide easy connectorization. The tight-buffered fibers surrounded by aramid yarn strength members shall combine usability indoors and out. Interlocking aluminum armor shall eliminate the need for inner duct or conduit to provide a smaller crush resistant pathway for improved design flexibility and lower installed cost. Cables with greater than 24 fibers feature a sub-unit design that simplifies fiber identification, shall provide easy access and routing of the fibers. It also increases cable durability with a dielectric central strength member. Opti-Core Fiber Optic Indoor/Outdoor Riser (OFCR) and Plenum (OFCP) Rated Cable with tight buffered fibers shall be tested in accordance with Telcordia GR-20, Issue 2, GR-409 and with relevant EIA/TIA-455 series FOTPs for fiber optic cable. All multimode and singlemode cable shall be available in 6, 12, and 24 fiber counts as a non-subunitized design while 48, 72, and 96 fiber counts (144 for Riser) shall be available in singlemode as a sub-unitized design. All Opti-Core fiber cable shall be RoHS compliant.

applications

Opti-Core Indoor/Outdoor Armored cables provide an effective solution for inter-building and building transition applications utilizing field installable connectors. This cable is available in both riser rated and plenum rated version for deployment in any inside plant fire-code application. The UV-resistant outer jacket, coupled with dry water-blocking technology, address environmental concerns for outdoor use.
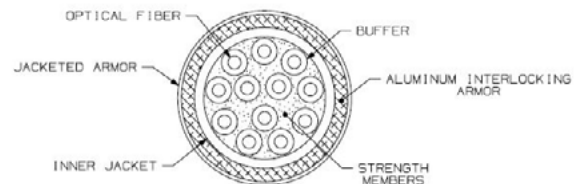
standards

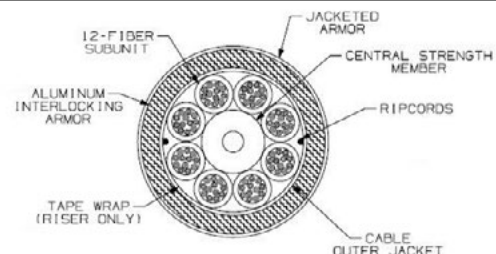|	
TIA/EIA-568	ANSI/ICEA S-83-596
ANSI/ICEA S-104-696	CSA 22.2
UL-1666	Telcordia GR-409
NFPA 262	Telcordia GR-20
ROHS Compliant	

cable construction

6 to 24 fibers

900µm tight buffered fibers, aramid strength members and dry water blocking elements are contained in a flame-retardant inner jacket (black). Aluminum interlocking armor is applied over the inner jacket and covered with a flame rated jacket (black).

(Representative cross-section with 12 fibers)

48 to 144 fibers

4 to 12 sub-units with 12 fibers per sub-unit. A glass reinforced (GRP) anti-buckling member is centrally located within the cable. Subunits are wrapped in tape (riser only) and held together with an outer jacket (black) that contains ripcords. Aluminum interlocking armor is applied over the outer jacket and covered with a flame rated jacket (black). Each sub-unit has twelve 900um tight buffered fibers, aramid strength members and dry water blocking elements in a flame-retardant jacket (black).

(Representative cross-section with 96 fibers)

Opti-Core™ Fiber Optic Indoor/Outdoor Armored Cable with Tight Buffered Fibers – North America and Latin America

mechanical properties

Tensile strength (Installation)	**Riser:** 6 to 12-fibers: 100 lbs. 24-fibers: 300 lbs. 48 to 144-fibers (sub-unitized): 600 lbs. **Plenum:** 6-fibers: 100 lbs. 12 to 24-fibers: 150 lbs. 48-fibers (sub-unitized): 400 lbs. 72 to 96-fibers (sub-unitized): 600 lbs.
Tensile strength (long-term)	**Riser:** 6 to 12-fibers: 30 lbs. 24-fibers: 90 lbs. 48 to 144-fibers (sub-unitized): 180 lbs. **Plenum:** 6-fibers: 30 lbs. 12 to 24-fibers: 45 lbs. 48-fibers (sub-unitized): 120 lbs. 72 to 96-fibers (sub-unitized): 180 lbs.
Compressive strength (crush)	440 N/cm
Impact	Per FOTP 25
Torsion	Per FOTP 85
Kink	Per FOTP 104
Temperature range	Shipping/Storage: (Riser) -40ºF to 158ºF (-40ºC to 70ºC) (Plenum) -40ºF to 158ºF (-40ºC to 70ºC) Installation: (Riser) 14ºF to 140ºF (-10ºC to 60ºC) (Plenum) 32ºF to 140ºF (0ºC to 60ºC) Operation: (Riser) -40ºF to 158ºF (-40ºC to 70ºC) (Plenum) -40ºF to 158ºF (-40ºC to 70ºC)

physical properties–riser

Fiber Count	Cable Diameter Inches (mm)	Long-Term Bend Radius Inches (cm)	Installation Bend Radius Inches (cm)	Cable Weight Lb./kft. (kg/km)
6	0.56 (14.2)	5.6 (14.3)	11.2 (28.5)	132 (196)
12	0.59 (14.9)	5.9 (15.0)	11.8 (30.0)	146 (217)
24	0.65 (16.5)	6.5 (16.6)	13.0 (33.1)	158 (235)
48	0.95 (24.1)	9.5 (24.2)	19.0 (48.3)	368 (547)
72	1.10 (27.9)	11.0 (28.0)	22.0 (55.9)	472 (703)
96	1.29 (32.7)	12.9 (32.8)	25.8 (65.6)	569 (847)
144	1.35 (34.3)	13.5 (34.3)	27.0 (68.6)	676 (1006)

physical properties–plenum

Fiber Count	Cable Diameter Inches (mm)	Long-Term Bend Radius Inches (cm)	Installation Bend Radius Inches (cm)	Cable Weight Lb./kft. (kg/km)
6	0.47 (11.9)	4.7 (12.0)	9.4 (23.9)	87 (130)
12	0.51 (13.0)	5.1 (13.0)	10.2 (25.9)	95 (142)
24	0.58 (14.7)	5.8 (14.8)	11.6 (29.5)	131 (195)
48	0.938 (23.8)	8.1 (20.6)	16.2 (41.2)	243 (363)
72	1.08 (27.43)	9.4 (23.9)	18.8 (47.8)	383.09 (570.1)
96	1.189 (30.2)	10.9 (27.7)	21.8 (55.4)	511 (760)

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optical properties - maximum attenuation (cabled fiber)

Singlemode	0.7 dB/km @1310 nm, 0.7 dB/km @1550 nm
Multimode OM1	3.5 dB/km @850 nm, 1.0 dB/km @1300 nm
Multimode OM3 & OM4	3.0 dB/km @850 nm, 1.0 dB/km @1300 nm

fiber color sequence

1	2	3	4	5	6	7	8	9	10	11	12
Blue	Orange	Green	Brown	Slate	White	Red	Black	Yellow	Violet	Pink	Aqua

Fibers 13 through 24 repeat this color sequence and have a black tracer. Fiber 20 is black with a white tracer.

ordering information

Example: FSLR912 Fiber, Indoor/Outdoor Tight Buffered Armored, Riser Rated, OS2, 12 Fiber

Character	1	2	3	4	5	6	7
Example	F	S	L	R	9	1	2

1 and 2 – Fiber Product Region

FS = Fiber Cable, Americas, OM1 & Singlemode

FO = Fiber Cable, Americas, OM3 & OM4

3 – Cable Construction

L = Indoor/Outdoor Tight Buffered Armored

4 – Flame Rating

R = Riser

P = Plenum

5 – Fiber Type

9 = Singlemode

6 = OM1 62.5/125µm (6, 12)

X = OM3 10G 50/125µm (6, 12, and 24 fiber only)

Z = OM4 10G 50/125µm (6, 12, and 24 fiber only)

6 and 7 – Fiber Count

06 = 6-Fiber

12 = 12-Fiber

24 = 24-Fiber

48 = 48-Fiber

72 = 72-Fiber

96 = 96-Fiber

1A = 144-Fiber (Riser only)

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