

**DISTRIBUTION SERIES FIBER OPTIC CABLE
TYPE OFNP PLENUM PRODUCT SPECIFICATIONS**

Available from:
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U * S * A
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1/0 4 | INDOOR/OUTDOOR CABLES

D-Series Plenum

Applications

- Used in trunking, LAN and distribution applications where small size, lightweight, and versatile installation capability are required for ducts, plenums, and air handling spaces
- Ideal configuration for a single termination point requiring multiple fibers

Features

- High performance components and construction
- High specific strength-to-weight ratio and compact cable design for limited conduit space and tight bends in long cable pulls
- Helically stranded core for flexibility, survival in difficult installations, and mechanical protection for the fibers
- Lower installed cost
- High performance tight-buffered coating on each fiber for environmental and mechanical protection
- High crush resistance may eliminate the need for innerduct
- 900 µm buffer eliminates the need for costly and time-consuming installation of fanout kits or pigtail splices because connectors terminate directly to the fiber. See page PI-4 for typical termination approach.
- UL Listed in accordance with NEC section 770.179(a) for use in ducts, plenums and air-handling spaces

Indoor/Outdoor ("K" Jacket)

- Indoor/Outdoor plenum cables eliminate the need for costly cable transitions in different installation environments
- Cable materials are UV, water and fungus resistant
- Higher fiber counts available than similar cables available in subgrouped configuration
- Jacket is highly chemical resistant for installation in harsh industrial environments
- Interlocking armor can be applied to cables as an alternative to conduit installation
- Can be installed outside and in plenum or riser pathways inside, eliminating the need to transition cable types between environments
- 2 to 72 fiber configuration is smaller and lighter than comparable sub-grouped cables, which is ideal for installation in areas with limited space or tight bends

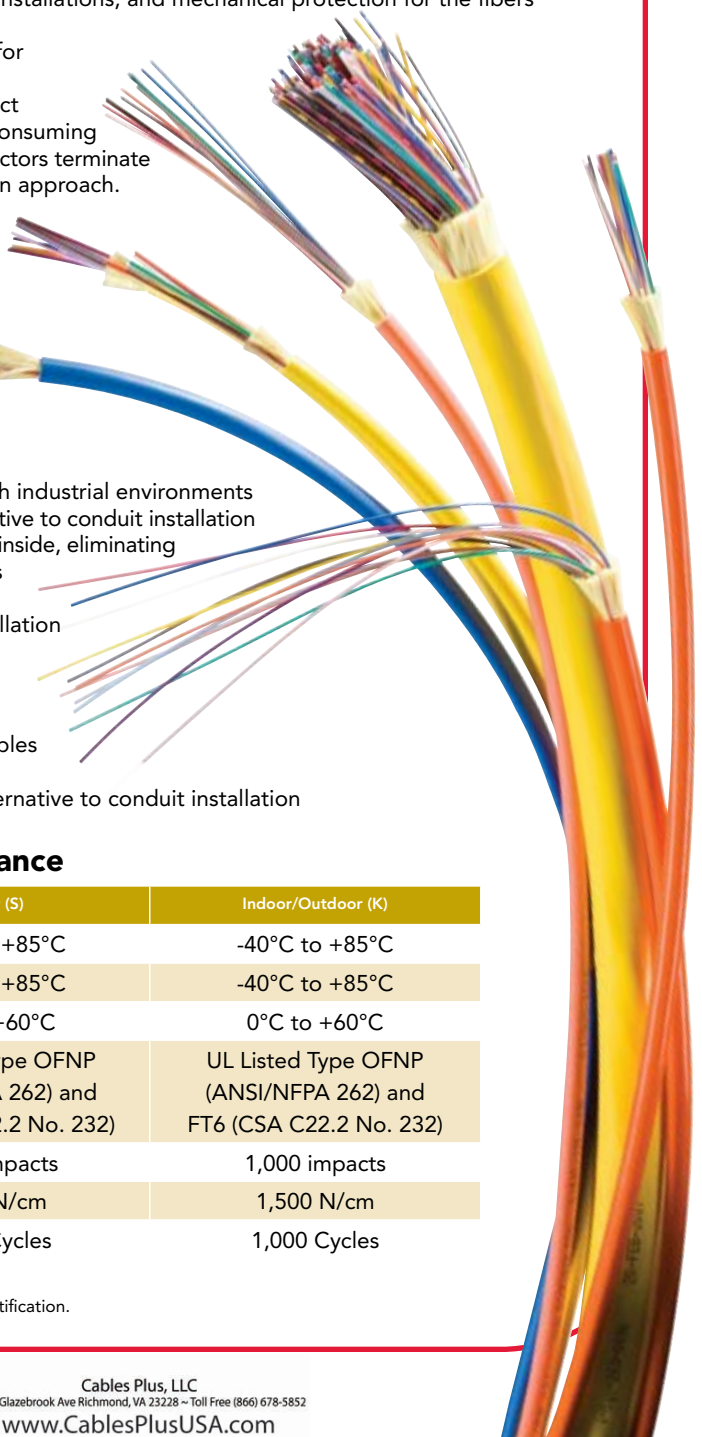
Indoor ("S" Jacket)

- Indoor-only flexible flame retardant plenum jacketed cables
- 2 to 12 fibers
- Can have interlocking armor applied to cables as an alternative to conduit installation

Mechanical and Environmental Performance

	Indoor (S)	Indoor/Outdoor (K)
Operating Temperature	-20°C to +85°C	-40°C to +85°C
Storage Temperature	-40°C to +85°C	-40°C to +85°C
Installation Temperature (cable temp.)	0°C to +60°C	0°C to +60°C
Flame Retardancy	UL Listed Type OFNP (ANSI/NFPA 262) and FT6 (CSA C22.2 No. 232)	UL Listed Type OFNP (ANSI/NFPA 262) and FT6 (CSA C22.2 No. 232)
Impact Resistance:	1,000 impacts	1,000 impacts
Crush Resistance:	1,500 N/cm	1,500 N/cm
Flex Resistance:	1,000 Cycles	1,000 Cycles

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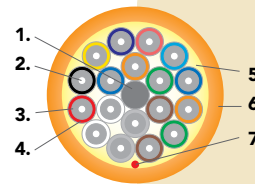
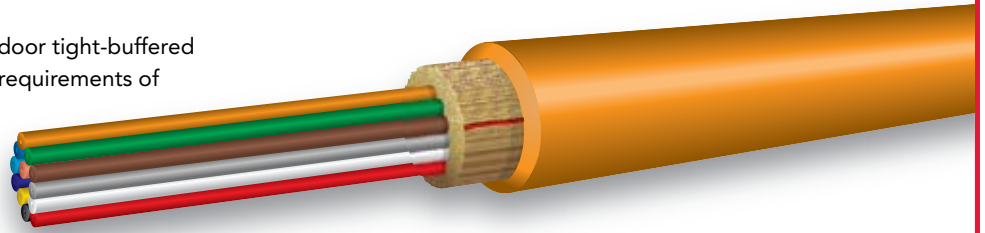


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Applicable Standards

Optical Cable Corporation indoor/outdoor tight-buffered fiber optic cables meet the functional requirements of the following standards

- ICEA -S-83-596
- ICEA-S-104-696
- GR-409-CORE
- TIA-568
- TIA-598



1. Central Filler
2. Optical Fiber
3. Acrylate Fiber Coating
4. Color-Coded 900 µm Diameter Tight-Buffer
5. Aramid Strength Member
6. Outer Jacket
7. Ripcord

Cable Characteristics: D-Series Distribution Plenum Cables ("K" Jacket)

Fiber Count	Diameter mm (in)	Weight kg/km (lbs/1,000')	Installation Tensile Load N (lbs)	Operational Tensile Load N (lbs)	Minimum Bend Radius Installation cm (in)	Minimum Bend Radius Long-Term cm (in)
6	4.8 (0.19)	24 (16)	1,400 (310)	450 (100)	7.2 (2.8)	7.2 (2.8)
8	5.1 (0.20)	30 (20)	1,600 (360)	525 (120)	7.7 (3.0)	8.1 (3.2)
12	6.2 (0.24)	31 (21)	2,700 (600)	900 (200)	9.3 (3.7)	9.3 (3.7)
18	6.1 (0.24)	42 (28)	2,700 (600)	900 (200)	9.2 (3.6)	9.2 (3.6)
24	7.8 (0.31)	68 (46)	3,000 (670)	1,000 (220)	11.8 (4.6)	11.8 (4.6)
30	8.2 (0.32)	79 (53)	3,000 (670)	1,000 (220)	12.4 (4.9)	12.4 (4.9)
36	8.2 (0.32)	78 (53)	3,000 (670)	1,000 (220)	12.4 (4.9)	12.4 (4.9)
48	9.5 (0.37)	104 (70)	4,200 (940)	1,400 (310)	14.3 (5.6)	14.3 (5.6)
60	10.7 (0.42)	129 (87)	4,800 (1,080)	1,600 (360)	16.1 (6.3)	16.1 (6.3)
72	13.0 (0.51)	181 (122)	5,400 (1,200)	1,800 (400)	19.6 (7.7)	19.6 (7.7)

Cable Characteristics: D-Series Distribution Plenum Cables ("S" Jacket)

Fiber Count	Diameter mm (in)	Weight kg/km (lbs/1,000')	Installation Tensile Load N (lbs)	Operational Tensile Load N (lbs)	Minimum Bend Radius Installation cm (in)	Minimum Bend Radius Long-Term cm (in)
2	3.9 (0.15)	15 (10)	1,200 (270)	400 (90)	5.9 (2.3)	3.9 (1.5)
4	4.5 (0.18)	18 (12)	1,200 (270)	400 (90)	6.7 (2.6)	4.5 (1.8)
6	4.7 (0.19)	22 (15)	1,400 (310)	450 (100)	7.1 (2.8)	4.7 (1.9)
8	5.7 (0.22)	37 (25)	1,600 (360)	525 (120)	8.6 (3.4)	5.7 (2.2)
12	6.2 (0.24)	40 (27)	1,800 (400)	600 (135)	9.3 (3.7)	6.2 (2.4)

Installation loads in excess of 2,700 N (600 lbs.) are not recommended.
Other fiber counts available upon request.

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1/06 | INDOOR/OUTDOOR CABLES

Laser Ultra-Fox™ Fiber Performance

Fiber Code	Core/Cladding Diameter (µm)	Wavelength (nm)	Industry Standard Designation	Gigabit Ethernet Distance (m)	10-Gigabit Ethernet Distance (m)	Maximum Cabled Attenuation (dB/km)	Minimum Laser Bandwidth (MHz-km)	Minimum LED Bandwidth* (MHz-km)
WLS	62.5/125 Standard	(850/1310)	OM1 ISO/IEC 11801	300/600	33/300 [^]	3.5/1.5	220/500	200/500
WLX	62.5/125 XL	(850/1310)	OM1 ISO/IEC 11801	500/1000	33/300 [^]	3.0/1.0	385/500	200/500
ALS	50/125 Standard	(850/1310)	OM2 ISO/IEC 11801	600/600	82/300 [^]	3.5/1.5	510/500	500/500
ALX	50/125 XL	(850/1310)	OM2 ISO/IEC 11801	750/600	150/300 ^{^2}	3.0/1.0 ³	950/500	700/500
ALT	50/125 (300 meter 10-GbE)	(850/1310)	OM3 ISO/IEC 11801	1000/600	300/300 ^{^2}	3.0/1.0 ³	2000/500	1500/500
ALE	50/125 (550 meter 10-GbE)	(850/1310)	OM3 ISO/IEC 11801	1040/600	550 ¹ /300 ^{^2}	3.0/1.0 ³	4700/500	3500/500
SLX	9 ⁶ /125 Low Water Peak Single-mode	(1310/1550)	ITU-T G.652.D	5 km ⁴	10 km ⁵	0.5/0.5	—	—
SLA	9 ⁶ /125 Bend-Insensitive Single-mode	(1310/1550)	ITU-T G.657.A ITU-T G.652.D	5 km ⁴	10 km ⁵	0.5/0.5	—	—
SLB	9 ⁶ /125 Bend-Insensitive Single-mode	(1310/1550)	ITU-T G.657.A & B ITU-T G.652.D	5 km ⁴	10 km ⁵	0.5/0.5	—	—

Ordering Information

	D	X								9		P
Digit No:	1	2	3	4	5	6	7	8	9	10	11	12

- 1 – 2 Distribution Series Ultra-Fox™ = **DX**
- 3 – 5 Fiber count: (Indoor) = **002 - 012**, (Indoor/Outdoor) = **002 - 072**
- 6 Jacket type: Soft Plenum (indoor) = **S**, Fluoropolymer (indoor/outdoor) = **K**
- 7 – 9 Fiber type: (See Laser Ultra-Fox™ Fiber Performance Table)
- 10 250 µm fiber with 900 µm tight buffer = **9**
- 11 Standard Jacket Colors:
 62.5 µm multimode (WLS, WLX): Orange = **O**
 50 µm multimode (ALS, ALX): Orange = **O**
 50 µm Ten-Gigabit multimode (ALT, ALE): Aqua = **Q**
 Single-mode*: Yellow = **Y**
- 12 Rating: Plenum = **P**

Example: 12-fiber indoor cable using 62.5 µm standard laser optimized fiber, orange jacket –

D	X	0	1	2	S	W	L	S	9	O	P
12-fiber indoor/outdoor cable using 62.5 µm standard laser optimized fiber, orange jacket –											
D	X	0	1	2	K	W	L	S	9	O	P

*Note: Other colors available upon request. Contact your sales rep for part number details.

* For backward compatibility to LED based systems, overfilled launch (OFL)

[^] 1310 nm CWDM lasers (10GBASE-LX4)

¹ Reach assuming 3.0 dB maximum cabled attenuation at 850 nm and 1.3 dB total connection and splice loss

² Supports 220 meter 10GBASE-LRM distance, or 300 meter 10GBASE-LRM distance with 300 meter capable equipment

³ 3.5/1.5 dB/km maximum attenuation applies for DX-Series cables greater than 36 fibers, and for all DX-Series cables with armor (corrugated steel tape or interlocked armor) or any other secondary outer jacketing

⁴ 10 km for 1310 nm 1000BASE-LH, and 5 km for 1310 nm 1000BASE-LX

⁵ 10 km for 1310 nm 10GBASE-LR, and 40 km for 1550 nm 10GBASE-ER

⁶ Nominal Mode Field Diameter at 1310 nm

Note: many other fiber types, fiber bandwidth, and attenuation performances are available.

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