



- Supported by the Hubbell Mission Critical® 25-Year Warranty
- Rugged Aluminum Interlock Armored Construction
- 10 GbE Application Assurance for all Standards-Supported Lengths
- RoHS Compliant, Flame-Retardant Cable, Manufactured Locally

#### FEATURES

- E-Z strip buffer with new dash style color stripes for contractor-friendly termination
- Durable aluminum interlock armor for enhanced crush resistance and rodent resistance
- Premium bend-insensitive fiber for enhanced durability and maximum testing headroom
- Fibers supported: OM1, OM3, OM4, OS2
- Sold in feet, available in Riser (OFNR), and Plenum (OFNP) for all supported fibers
- Common cables available from stock; on-site armoring for fast delivery

#### SPECIFICATIONS

- Fiber count: 6, 12, 24 and 48 strand
- 48-strand cable subunits: 12 fibers per unit
- Fiber coating: 900 micron PVC tight buffer
- Armor: aluminum interlocking spiral wrap
- Temperature range:
  - Storage: -40° F to +176° F (-40° C to +80° C)
  - Installation: 32° F to +122° F (0° C to +50° C)
  - Operation: -4° F to +158° F (-20° C to +70° C)
- Multimode attenuation: 3.5/1.5dB/km at 850/1300nm
- Singlemode attenuation: 0.5/0.4dB/km at 1310/1550 nm
- Optical: see fiber data sheet

#### STANDARDS

- Telcordia GR-409 and GR-20
- ANSI/ICEA S-83-596
- TIA-492 Series optical fiber specifications
- TIA-568-C.3 Optical fiber cabling standards
- Riser cables: UL 1666/CSA FT-4
- Plenum cables: NFPA-262/UL910/CSA FT-6

## HUBBELL OptiChannel HFCD15 Series Indoor Armored Distribution Fiber Cable



Hubbell OptiChannel HFCD15 Series Armored Indoor Tight Buffer Distribution Cables deliver high bandwidth optical network performance with armored protection. Featuring a rugged interlock armor construction, with ease of termination, HFCD15 series fiber cables are supported by the Hubbell Mission Critical® 25-year warranty. Premium bend-insensitive fibers are used in Hubbell OM3, OM4 and OS2 armored fiber cables for maximum durability. Bend insensitive fibers enhance installed cable performance, adding headroom to certification test results. Armoring adds resistance to crushing, abrasion, impact and rodents.

#### CABLE JACKET AND BUFFER COLOR CODES

- OM1 Multimode: Orange jacket
- OM3 and OM4 Multimode: Aqua jacket
- OS2 Singlemode: Yellow jacket
- Buffer color codes and pairing sequence:
  - 1-Blue, 2-Orange, 3-Green, 4-Brown, 5-Slate, 6-White
  - 7-Red, 8-Black, 9-Yellow, 10-Violet, 11-Rose, 12-Aqua
  - 13-Blue/Black, 14-Orange/Black, 15-Green/Black, 16-Brown/Black
  - 17-Slate/Black, 18-White/Black, 19-Red/Black, 20-Black/White
  - 21-Yellow/Black, 22-Violet/Black, 23-Rose/Black, 24-Aqua/Black
- 48-strand subunit colors: Blue, Orange, Green, Brown
- Repeat colors 1 through 12 for subunits in 48-strand cable

#### APPLICATIONS

- Building LAN, backbone and horizontal fiber cabling
- Data Center and Storage Area Network cabling
- Bandwidth-intensive, high speed data and video transmission
- Un-protected cable pathways and rodent prone areas
- Commercial, medical, government and education facilities



## INDOOR ARMORED TIGHT BUFFER FIBER CABLE

Configuration	Catalog Number
<b>xxx</b> = Fiber count (006, 012, 024, or 048 strand)	<b>HFCD15xxxrn</b>
<b>r</b> = 'R' for Riser, 'P' for Plenum	
<b>n</b> = '6' for 62.5 µm OM1 Multimode	
'3' for 50 µm OM3 Multimode	
'4' for 50 µm OM4 Multimode	
'S' for 9 µm OS2 Singlemode	

Example: **HFCD15024P4**

Description: **CBL, Fiber, OM4, 24F, DSP, ARM, TB, AQ**

Jacket print: **OFCP RoHS Plenum 24 Fiber Indoor Cable xxxFT (Date) E# (UL)  
C(UL) Plus Corning ClearCurve OM4 Optical Fiber 50/125 AIA**

## DELIVERY

HFCD15 Series fiber cables are priced and delivered in feet. Spool size and weight varies by cable and length ordered. Specify cable put-up lengths on purchase order. MOQ for non-stocked cables is 1,640 feet. MOQ for stocked cables is 500 feet. Contact Hubbell Premise Wiring for availability. Length ordered may be subject to a +/-10% production tolerance. Cut charges may apply to multi-reel orders. Refer to next page for reel capacities, dimensions and estimated shipping weights.

*Note: See Hubbell HFCD1 Series for non-armored indoor distribution cables.*

## CABLE DESIGN INFORMATION

## HFCD15 Series: Indoor/Outdoor Tight Buffer Riser OFNR FT-4, and Plenum OFNP FT-6

Fiber Count	Cable Diameter in (mm)	Cable Weight lb/kft	Minimum Bend Radius (Installation) in (cm)	Minimum Bend Radius (In-Service) in (cm)	Maximum Installation Pulling Load lb	Maximum Operating Tensile Load lb
6	0.63 (16)	165	3.1 (8.0)	2.1 (5.3)	150	45
12	0.63 (16)	170	3.7 (9.5)	2.5 (6.3)	150	45
24	0.69 (17.4)	188	4.8 (12.2)	3.2 (8.1)	300	90
48	0.93 (23.5)	365	9.1 (23.1)	6.1 (15.4)	475	145

*Note: Pulling and tensile loads shall be applied only to the internal strength member.*

*Armor does not add to pull strength and should not be used as a strength member.*

## CABLE APPLICATION GUIDELINES: DISTANCE AND CHANNEL ATTENUATION LIMITS

IEEE 802.3 Fiber Ethernet Application	Transmitter Wavelength (nm)	Maximum Supportable Distance (m)					Maximum Channel Attenuation (dB)				
		Multimode				Single-mode OS2	Multimode				Single-mode OS2
		62.5/125 OM1	50/125 OM2	50/125 OM3	50/125 OM4		62.5/125 OM1	50/125 OM2	50/125 OM3	50/125 OM4	
10/100BASE-SX	850	300	300	300	300	NST	4.0	4.0	4.0	4.0	NST
1000BASE-SX	850	220	550	1000	1100	NST	2.6	3.6	4.5	4.8	N/A
1000BASE-LX	1300	550	550	550	550	NST	2.3	2.3	2.3	2.3	4.7
10GBASE-S	850	26	82	300	550	NST	2.6	2.3	2.6	3.1	NST
10GBASE-L	1310	NST	NST	NST	NST	10,000	NST	NST	NST	NST	6.0
10GBASE-E	1550	NST	NST	NST	NST	40,000	NST	NST	NST	NST	11.0
10GBASE-LX4	1300	300	300	300	550	NST	2.5	2.0	2.0	2.0	NST
10GBASE-LR4	1310	N/A	N/A	N/A	N/A	10,000	N/A	N/A	N/A	N/A	6.6
40GBASE-SR4	850	N/A	N/A	100	150	NST	N/A	N/A	1.9	1.5	NST
100GBASE-SR10	850	N/A	N/A	100	150	NST	N/A	N/A	1.9	1.5	NST
40GBASE-LR4	1310	NST	NST	NST	NST	10,000	N/A	N/A	N/A	N/A	6.7
100GBASE-LR4	1310	NST	NST	NST	NST	10,000	N/A	N/A	N/A	N/A	6.3

*Note: S = Short wavelength, L = Long wavelength, E = Extended wavelength*

*SR4 = Short Range, 4-Channels (4 x 10G pairs), SR10 = Short Range, 10-Channels (10 x 10G pairs)*

*LX4 = Multiplex (4) Multimode Wavelengths, LR4 = Multiplex (4) Singlemode Wavelengths*

*NST = Non-standard, N/A = Not applicable*

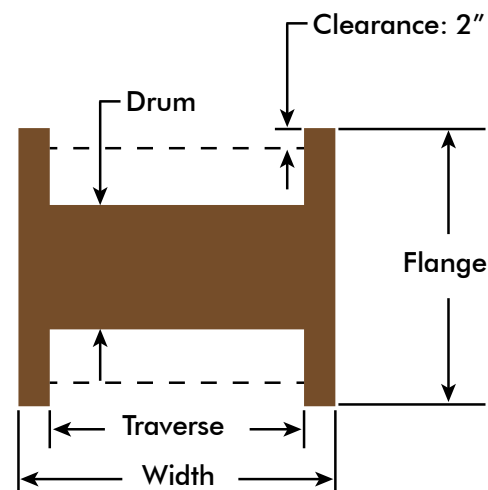
## INSTALLATION TIPS

- Verify the IEEE 802.3 application is supported for channel distance and attenuation limits (see chart above).
- During installation or operation, comply with maximum loading, minimum bend radius, and temperature limits.
- Always pull cables by the internal strength member, or fiber damage may result.
- Use proper tools for stripping and dressing out cable to avoid fiber damage.
- Adhere to best installation practices, avoiding kinks, crushing, and abrasion. Always use proper cable supports.
- Use recognized field termination methods. Fiber terminations shall be strain relieved from any cable weight.

## Reel Selection and Capacities for Hubbell HFCD Series Cable

### HUBBELL FIBER CABLE DELIVERY POLICY

- Cable orders, when permissible, are shipped on a single reel unless otherwise specified
- Specific multi reel put-up lengths required by the customer must be specified at the time of ordering
- Cable lengths ordered that exceed single reel capacity must have the split identified, and approved by the customer
- HFCD Series fiber cables are priced and delivered in feet
- Length ordered may be subject to a +/-10% production tolerance
- MOQ for non-stocked cable is 1,640 feet
- Basic MOQ for stocked cable is 500 feet, and may be waived upon request
- Reel capacity values on this specification allow for a 2-inch cable-to-flange clearance as illustrated
- Refer to reel dimensions on capacity charts
- Cut charges may apply to multi-reel orders



### WEIGHTS, DIMENSIONS AND CAPACITIES

- Cable Weight = [Length Ordered] X [Weight per Foot]
- Estimated Shipping Weight = [Cable Weight] + [Reel Weight] + [Skid Weight]
- Reel capacities on this specification allow for a 2 inch cable-to-flange clearance
- Refer to specific dimensions on the reel selection chart
- Shipping dimensions = [Flange] X [Flange] X [Width]
- Estimated Width = [Traverse Length] + [2 inches]

### STANDARD REEL SELECTIONS

Reel	Flange Diameter in	Traverse Length in	Drum Diameter in	Reel Weight lb	Skid Weight lb
A	24	15	16.5	*	n/a
B	30	24	18	30	30
C	45	24	18	115	40
D	48	24	24	120	40

\*A-size reels are plastic and boxed. See charts for cable weight.

### HUBBELL HFCD SERIES FIBER CABLE: MAX REEL CAPACITY CHART, PLENUM OR RISER

Cable Family	Fiber Count	Overall Jacket Diameter in (mm)	Reel A 24" Flange ft	Reel B 30" Flange ft	Reel C 45" Flange ft	Reel D 48" Flange ft	Cable Weight per Foot lb
HFCD1 Series: Indoor Distribution HFCD14 Series: Indoor/Outdoor	6 strand	0.210 (5.3)	4052	14,079	n/a	n/a	0.020
	12 strand	0.250 (6.3)	2881	10,007	n/a	n/a	0.035
	24 strand	0.320 (8.1)	1670	5863	n/a	n/a	0.043
HFCD1M Series: Indoor Multi-Unit, Plenum	48 strand	0.610 (15.4)	n/a	1411	2077	n/a	0.146
HFCD1M Series: Indoor Multi-Unit, Riser	48 strand	0.610 (15.4)	n/a	1411	2408	n/a	0.146
HFCD14 Series: I/O Multi-Unit, Plenum	48 strand	0.610 (15.4)	n/a	1411	2077	n/a	0.146
HFCD14 Series: I/O Multi-Unit, Riser	48 strand	0.610 (15.4)	n/a	1411	2408	n/a	0.146
HFCD15 Series: Armored Indoor HFCD19 Series: Armored Indoor/Outdoor	6 strand	0.625 (15.9)	n/a	n/a	n/a	5404	0.165
	12 strand	0.625 (15.9)	n/a	n/a	n/a	5404	0.170
	24 strand	0.684 (17.4)	n/a	n/a	n/a	4511	0.188
	48 strand	0.930 (23.5)	n/a	n/a	n/a	2156	0.365