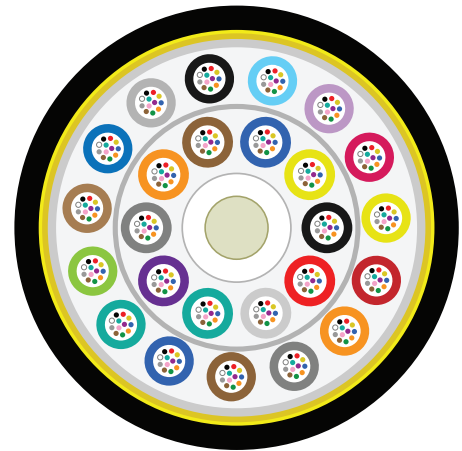


Offering the durability you expect from OCC, these Indoor/Outdoor Riser Rated cables offer a stranded loose tube construction, are all-dielectric and gel-free.

## HL-SERIES LOOSE TUBE INDOOR/OUTDOOR RISER ( OFNR ) FIBER OPTIC CABLE



CABLE CHARACTERISTICS	
JACKET COLOR	Black
JACKET MATERIAL	Indoor/Outdoor PVC
BUFFER TUBE	2.5 mm Gel-Free
FIBERS	250 µm

MECHANICAL AND ENVIRONMENTAL CHARACTERISTICS	
MECHANICAL PERFORMANCE	ICEA S-104-696
OPERATING TEMPERATURE	-40°C to +70°C
STORAGE TEMPERATURE	-40°C to +75°C
INSTALLATION TEMPERATURE (ACTUAL TEMPERATURE OF CABLE)	-10°C to +60°C
FLAME RETARDANCY	ETL Listed Type OFNR (UL 1666) and FT4 (CSA C22.2 No. 232)

### CABLE CHARACTERISTICS

FIBER COUNT	DIAMETER MM (IN)	WEIGHT KG/KM (LBS/1,000FT)	TENSILE LOAD		MINIMUM BEND RADIUS	
			INSTALLATION N (LBS)	OPERATIONAL N (LBS)	INSTALLATION CM (IN)	LONG-TERM CM (IN)
12	11.5 (0.43)	118 (79)	2700 (600)	800 (180)	17.3 (6.8)	11.5 (4.5)
24	11.5 (0.43)	118 (79)	2700 (600)	800 (180)	17.3 (6.8)	11.5 (4.5)
36	11.5 (0.43)	118 (79)	2700 (600)	800 (180)	17.3 (6.8)	11.5 (4.5)
48	11.5 (0.43)	118 (79)	2700 (600)	800 (180)	17.3 (6.8)	11.5 (4.5)
72	11.9 (0.47)	127 (85)	2700 (600)	800 (180)	17.9 (7.1)	11.9 (4.7)
96	13.5 (0.53)	164 (110)	2700 (600)	800 (180)	20.3 (8.0)	13.5 (5.3)
144	17.1 (0.67)	264 (177)	2700 (600)	800 (180)	25.7 (10.1)	17.1 (6.7)
288	20.2 (0.80)	309 (208)	2700 (600)	800 (180)	30.2 (11.9)	20.2 (8.0)

#### OCC ROANOKE, VA

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540.265.0690 or 800.622.7711

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#### OCC ASHEVILLE, NC

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VISIT US AT  
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# HL-SERIES FIBER OPTIC CABLE LOOSE TUBE INDOOR/OUTDOOR – RISER

## LASER GRADE FIBER PERFORMANCE

Fiber Code	Industry Standard Designation	Core/Cladding Diameter (µm)	Numeric Aperture	Wavelength (nm)	Gigabit Ethernet Distance (m)	10-Gigabit Ethernet Distance (m)	Max. Cabled Attenuation (dB/km)	Minimum Laser EMB Bandwidth* (MHz-km)	Minimum OFL LED Bandwidth** (MHz-km)
<b>ALT</b>	Laser Optimized OM3 Bend Insensitive ISO/IEC 11801	50/125	0.20	850/1310	1000/600	300/300 <sup>~2</sup>	3.0/1.0	2000/500	1500/500
<b>ALE</b>	Laser Optimized OM4 Bend Insensitive ISO/IEC 11801	50/125	0.20	850/1310	1040/600	550 <sup>1</sup> /300 <sup>~2</sup>	3.0/1.0	4700/500	3500/500
<b>SLA</b>	Bend Insensitive Low Water Peak Single-Mode ITU-T G.657.A1 & ITU-T G.652.D	9 <sup>9</sup> /125	–	1310/1550	5 km <sup>3</sup>	10 km <sup>4</sup>	0.36/0.22	–	–

## ORDERING INFORMATION

SERIES		FIBER COUNT			JACKET TYPE	FIBER CODE			245µm FIBER	JACKET COLOR	RATING
H	L	3	4	5	D	7	8	9	J	K	R
1	2	3	4	5	6	7	8	9	10	11	12

\* Minimum Laser Effective Modal Bandwidth (EMB)

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

<sup>1</sup> 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. 10 km for 1310 nm 1000BASE-LH, and 5 km for 1310 nm 1000BASE-LX
4. 10 km for 1310 nm 10GBASE-LR, and 40 km for 1550 nm 10GBASE-ER
5. Typical Mode Field Diameter at 1310 nm

- Box No:** 1 – 2 Loose Tube Outside Plant (OSP) = **HL**  
 3 – 5 Fiber Count = **012–288**  
 6 Jacket Type: Indoor/Outdoor PVC = **D**  
 7 – 9 Fiber Code: (See Table Above)  
 10 Loose Tube with 245µm Fiber = **J**  
 11 Standard Jacket Color: Black = **K**  
 12 Rating: Riser = **R**

**Example:** 288-Fiber Indoor/Outdoor Loose Tube Cable, Bend Insensitive, OM3 Fiber, OFNR, Black Jacket

**H L 2 8 8 D A L T J K R**