Central Loose Tube Cable

Central Loose Tube Construction 2 –24 Fibers, Indoor/Outdoor, Non-Jelly

Infinique's Central Loose Tube Cables are suitable for both indoor and outdoor applications. They are designed not just to save space and time but also to further simplify fiber management by eliminating the need for splicing the cables before entering buildings.

Being extremely flexible and metal-free, these cables are ideal for low fiber count applications such as plenum, duct, and riser indoor spaces. It is UL Certified for OFNP and made of LSOH material with low smoke, low toxicity, and low corrosion characteristics. Along with it's fire retardant properties it is suitable to be deployed in plenum spaces.

The cable construction consists of loose tube and aramid yarn that acts as a non-metallic strength member. The fibers are protected inside the loose tube and to ensure water ingress water blocking tape is longitudinally applied around the loose tube and is enclosed in a protective outer jacket.

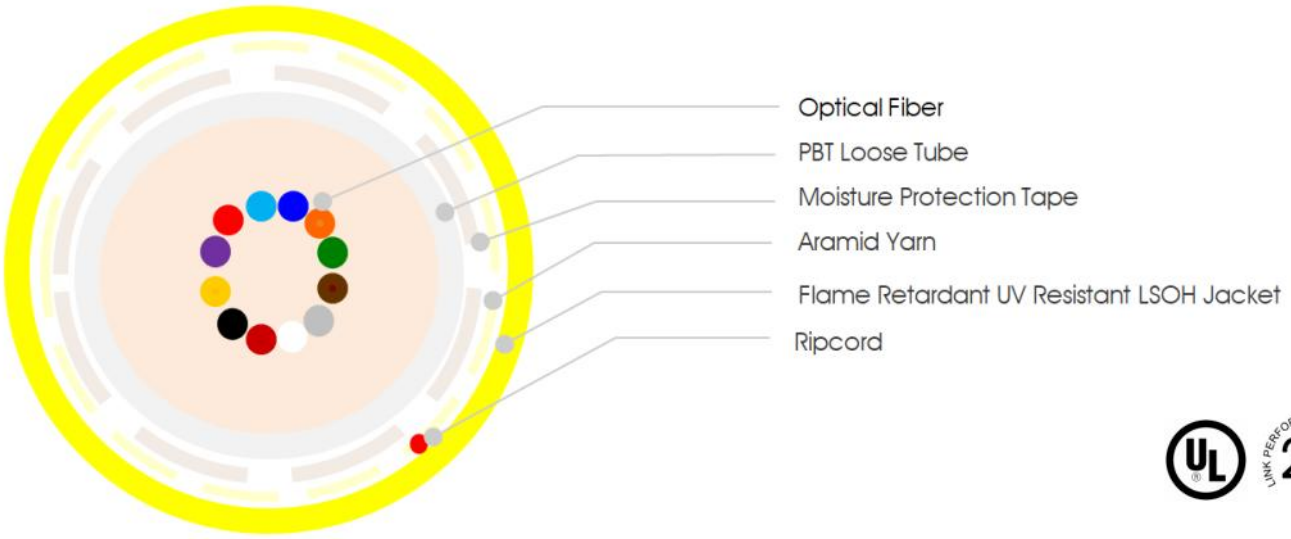
Features and Benefits

- **Reliable Performance**
  Gigabit Ethernet and 10 Gigabit Ethernet Performance
- **Plenum Rated**
  OFNP Cable with LSOH Jacket suitable for Plenum spaces with fire retardant properties with low smoke, low toxicity, and low corrosion characteristics. for safely
- **Clear Identification**
  Color coded Tubes, Fiber and Outer Jacket
- **Speedy Installation**
  Simple fiber management and Ripcord for easy stripping
- **Challenging Applications**
  Duct, Plenum, Riser and other challenging conditions

For speedy installation and clear identification, both fibers and the loose tubes are color coded in accordance with Telecordia standards, the singlemode cable is yellow, OM1 and OM2 is orange, and aqua for OM3 and OM4. The cable is clearly meter marked with durable black ink. The cable can be custom made ranging from 2 to 24 fibers, and is suitable for Gigabit Ethernet and 10 Gigabit Ethernet Applications. The cable is UL Certified for OFNP standard ratings and the jacket is LSOH and made of UV Resistant HDPE material.

Both ends of the cable are capped to avoid water ingress and are accessible for testing. Cable is packed in fumigated wooden drums with angle rod support to take the cable load. All cable drums are accompanied with individual cable test report.

CABLE CONSTRUCTION



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OPTICAL SPECIFICATIONS

Fiber Type		Singlemode	Singlemode Bend Insensitive	Multimode 62.5/125	Multimode 50/125	Multimode 50/125 LOF	Multimode 50/125 LOF	Multimode 50/125 LOF
IEC 11801 classification		OS1/OS2	OS1/OS2	OM1	OM2	OM3	OM4	OM5
ITU-T type		G.652D	G.657A	G.651	G.651	G.651	G.651	G.651
Attenuation (dB/km max)	850 nm			≤ 3.5	≤ 2.8	≤ 2.8	≤ 2.8	≤ 2.8
	1310 nm	≤ 0.35	≤ 0.35	≤ 1.0	≤ 1.0	≤ 1.0	≤ 1.0	≤ 1.0
	1550 nm	≤ 0.21	≤ 0.20					
	1625 nm	≤ 0.23	≤ 0.21					
Bending Loss 1 turn Radius 20× Cable OD	850 nm-1310			≤ 0.05	≤ 0.05	≤ 0.05	≤ 0.05	≤ 0.1
	1550 nm	≤ 0.25	≤ 0.025					
	1625 nm	≤ 1.0	≤ 0.1					
Bandwidth MHz x km	850 nm			≥ 160	≥ 500	≥ 2000	≥ 3500	≥ 3500
	1310 nm			≥ 500	≥ 500	≥ 1200	≥ 1200	≥ 1200
Chromatic Dispersion (ps/(nm*km))	1285-1330 nm	≤ 3.5	≤ 3.0					
	1550 nm	≤ 18	≤ 18					
	1625 nm	≤ 22	≤ 22					
Zero Dispersion Wavelength (nm)		1300-1324						
Zero Dispersion Slope (ps/(nm^{2}km))		≤ 0.093						

GEOMETRICAL SPECIFICATIONS

Core Diameter (µm)		9±2.5	9±2.5	62.5±2.5	50±2.5	50±2.5	50±2.5	50±2.5
Cladding Diameter (µm)		125 ±1.0	125 ±1.0	125 ±1.0	125 ±1.0	125 ±1.0	125 ±1.0	125 ±1.0
Coating Diameter (µm)		245 ±10	245 ±10	245 ±10	245 ±10	245 ±10	245 ±10	245 ±10

APPLICABLE DISTANCES

Gigabit Ethernet Distance (m)	Sx (850 nm)	5,000	5,000	300	750	1000	1100	1100
	Lx (1310 nm)	-	-	550	600	600	600	600
10 Gigabit Ethernet Distance (m)	Sx (850 nm)	10,000	10,000	33	150	300	550	500
	Lx (1310 nm)	40,000	40,000	-	-	-	-	

These are the applicable distances at given frequencies, distances increase for lower frequencies.

STANDARDS

Performance	TIA 568, ISO/IEC11801, EN 50173-X, ICEA-696 Compliant Meet or exceeds IEE 802.3 Ethernet (including 10 Gigabit Ethernet), ATM, Fibre Channel, FDDI
Differential Mode Delay (DMD)	IEC 60793-1-49 To measure Effective Modal Bandwidth (EMB)
Water Blocking	IEC 60794-1-2 F5 Standards
Color Coding	IEC 60304 Telcordia-Bellcore, TIA-598C Standards
Flame Retardant	IEC 60331, IEC 60332-3-24 Standards
Flame Propagation	IEC 60332-1, IEC 60754-1, IEC 60754-1, IEC 61034-2 Standards
Safety	UL 1651 OFNP

TEST DATA

Test	Standard	Specified Value	Acceptance Criteria
Tension	IEC 60794-1-2-E1	Mandrel Diameter: 30 x Cable OD Length under tension: ≥ 50 m Applied tensile load: 1500 N Duration: 5 minutes	PASS Attenuation change <= 0.05 dB The optical fiber shall have no distinct additional attenuation and strain.
Crush Performance	IEC 60794-1-2-E3	Applied load: 500N/85mm Duration of loading: 5 minutes	PASS Attenuation change <= 0.05 dB The optical fiber shall have no distinct additional attenuation and strain.
Impact Resistance	IEC 60794-1-2-E4	Height of impact: 0.5m Drop hammer mass: 0.5kg No. of impacts: 1	PASS Attenuation change <= 0.05 dB The optical fiber shall have no distinct additional attenuation and strain.
Bending Radius	IEC 60794-1-2-E11	Length: ≥ 10m Mandrel : 10 × Cable OD	PASS Attenuation change <= 0.05 dB The optical fiber shall have no distinct additional attenuation and strain.
Repeated Bending	IEC 60794-1-2-E6	Sheave Diameter: 15 x Cable OD Applied Load : 0.5kg No. of Flexing Cycles: 5 Cycles Flexing Speed: 2 Seconds/Cycle	PASS Attenuation change <= 0.05 dB The optical fiber shall have no distinct additional attenuation and strain.
Torsion Test	IEC 60794-1-E7	Length: 2 meters Load: 5 Kg No. of Flexing Cycles: 5 Cycles Twist Angle: ±180° , Applied Load: 0.5kg	PASS Attenuation change <= 0.05 dB /km The jacket has no cracking and no breakage of optical fiber
Temperature Performance	IEC 60794-1-2-F1	Temperature cycling schedule 25°C→ -40°C→ 70°C→ -40°C→ 70°C→ 25°C Soak time at each temperature: 8hours	PASS Attenuation change <= 0.05 dB /km
Water Penetration	IEC 60794-1-2-F5B	Length: 1 meter Water Height: 1m Test Time: 24 hrs	PASS No water leakage through the open cable end.

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GENERAL SPECIFICATIONS	
Environment	Indoor, Outdoor, Plenum
Applications	Aerial, Duct, Riser, OFNP, UV Resistant, Flame Retardant, Fire Rated
Cable Type	Central Loose Tube
CABLE CONSTRUCTION	
Cable Strength Members	Central Loose Tubes, Aramid Yarn
Optical Fibers	UV Colored High Grade Silica Glass Surrounded by Acrylate Coating
Fiber Count	2~24
Fibers Color	1-Blue, 2-Orange, 3-Green, 4-Brown, 5-Grey, 6-White, 7-Red, 8-Black, 9-Yellow, 10-Violet, 11-Pink, 12-Aqua, 13–Blue with Black Tracker, 14-Orange with Black Tracker, 15-Green with Black Tracker, 16-Brown with Black Tracker, 17-Grey with Black Tracker, 18-White with Black Tracker, 19-Red with Black Tracker, 20-Black with Yellow Tracker, 21-Yellow with Black Tracker, 22-Violet with Black Tracker, 23-Pink with Black Tracker, 24-Aqua with Black Tracker
Loose Tube Colors	1-Blue, 2-Orange, 3-Green, 4-Brown, 5-Grey, 6-White, 7-Red, 8-Black, 9-Yellow, 10-Violet, 11-Pink, 12-Aqua
Loose Tube Diameter	Φ 2.2 ±0.15mm Polybutylene Terephthalate (PBT)
Strength Members	Aramid Yarn
Moisture Protection	Water Swellable Tape
Cable Outer Jacket Color	Singlemode: Yellow, RAL 1018; Multimode OM1: Orange, RAL 2004; Multimode OM2: Orange, RAL 2004; Multimode OM3, Aqua RAL 6027, OM4: Violet RAL 4003, OM5: Lime Green RAL 6038
Cable Outer Jacket	Flame Rated, LSOH, UV HDPE
Cable Marking	Infinique Canada FO Cable Indoor Outdoor Singlemode 24Core LSOH IFOCSMLT24L SN:(Batch Number) XXXXM;
TEMPERATURE RANGE	
Installation and Assembly	-20°C to 60°C (14 °F to 140 °F)
Operation	-40°C to 70°C (-40 °F to 158 °F)
Storage	-40°C to 70°C (-40 °F to 158 °F)

MECHANICAL SPECIFICATIONS

Fiber Count	Number of Loose Tubes	Nominal OD (mm)	Min Bend Radius Dynamic/Static (mm)	Crush Resistance (N)	Tensile (N) Short/Long Term	Nominal Wt. (kg/km)	Max Drum Length (m)
2	1	6.0 ±0.3mm	20D/10D	2000/1000	400/130	30	4500
4	1	6.0 ±0.3mm	20D/10D	2000/1000	400/130	30	4500
6	1	6.0 ±0.3mm	20D/10D	2000/1000	400/130	30	4500
8	1	6.0 ±0.3mm	20D/10D	2000/1000	400/130	30	4500
12	1	6.0 ±0.3mm	20D/10D	2000/1000	400/130	30	4500
16	1	6.0 ±0.3mm	20D/10D	2000/1000	400/130	30	4500
18	1	6.0 ±0.3mm	20D/10D	2000/1000	400/130	30	4500
24	1	6.0 ±0.3mm	20D/10D	2000/1000	400/130	30	4500

ORDERING INFORMATION

Part Number	Description
IFOCSMLTNL	Infinique Central Loose Tube Non-Jelly Indoor Outdoor Singlemode G.652.D NC Flame Retardant /UV Resistant LSOH Jacket Cable
IFOCS1LTNL	Infinique Central Loose Tube Non-Jelly Indoor Outdoor Singlemode OS2 NC Flame Retardant /UV Resistant LSOH Jacket Cable
IFOCS2LTNL	Infinique Central Loose Tube Non-Jelly Indoor Outdoor Singlemode G.657.A1 NC Flame Retardant /UV Resistant LSOH Jacket Cable
IFOCS3LTNL	Infinique Central Loose Tube Non-Jelly Indoor Outdoor Singlemode G.657.A2 NC Flame Retardant /UV Resistant LSOH Jacket Cable
IFOCS4LTNL	Infinique Central Loose Tube Non-Jelly Indoor Outdoor Singlemode G.657.B2 NC Flame Retardant /UV Resistant LSOH Jacket Cable
IFOCS5LTNL	Infinique Central Loose Tube Non-Jelly Indoor Outdoor Singlemode G.657.B3 NC Flame Retardant /UV Resistant LSOH Jacket Cable
IFOCM1LTNL	Infinique Central Loose Tube Non-Jelly Indoor Outdoor Multimode OM1 NC Flame Retardant /UV Resistant LSOH Jacket Cable
IFOCM2LTNL	Infinique Central Loose Tube Non-Jelly Indoor Outdoor Multimode OM2 NC Flame Retardant /UV Resistant LSOH Jacket Cable
IFOCM3LTNL	Infinique Central Loose Tube Non-Jelly Indoor Outdoor Multimode OM3 NC Flame Retardant /UV Resistant LSOH Jacket Cable
IFOCM4LTNL	Infinique Central Loose Tube Non-Jelly Indoor Outdoor Multimode OM4 NC Flame Retardant /UV Resistant LSOH Jacket Cable
IFOCM5LTNL	Infinique Central Loose Tube Non-Jelly Indoor Outdoor Multimode OM5 NC Flame Retardant /UV Resistant LSOH Jacket Cable
Number of Cores: Replace 'N' in Part Number for the number of Fiber Cores (2 to 24 Cores).	