

Central Loose Tube Cable

Central Loose Tube Construction 25 -144 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 duct, and riser indoor spaces. For singlemode cables, choice of fibers are available, which are listed in the ordering information.

The cable construction consists of an FRP (Fiber Reinforced Plastic) that is located in the center of the cable as a non-metallic strength member. The fibers are protected inside the loose tube and the loose tubes are longitudinally placed around the central strength member. To ensure water ingress water blocking tape is longitudinally applied around the loose tubes and is enclosed in a protective outer jacket.

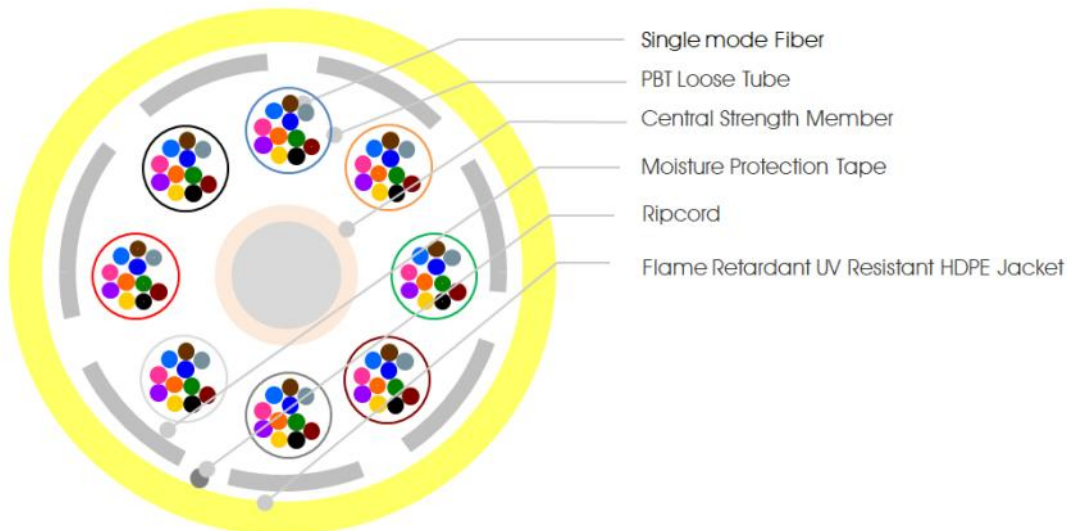
For speedy installation and clear identification, both fibers and the loose tubes are color coded in accordance with Telecordia standards, the singlemode cable is yellow, OM1 and OM2 is orange, and aqua for OM3, Violet for OM4 and Lime Green for OM5. The cable is clearly meter marked with durable black ink. The cable can be custom made ranging from 25 to 144 fibers, and is suitable for Gigabit Ethernet and 10 Gigabit Ethernet Applications. The cable jacket is 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.

Features and Benefits

- **Reliable Performance**
Gigabit Ethernet and 10 Gigabit Ethernet Performance
- **Rugged Construction**
UV Resistant Jacket, Central Strength Member, Loose Tube, Water Blocking Tape, extremely flexible, metal free, greater crush resistance, water ingress protection
- **Clear Identification**
Color coded Tubes, Fiber and Outer Jacket
- **Speedy Installation**
Simple fiber management and Ripcord for easy stripping
- **Challenging Applications**
Duct, Riser and other challenging conditions

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
Differential Mode Delay (DMD)	Meet or exceeds IEE 802.3 Ethernet (including 10 Gigabit Ethernet), ATM, Fibre Channel, FDDI
Water Blocking	IEC 60793-1-49 To measure Effective Modal Bandwidth (EMB)
Color Coding	IEC 60794-1-2 F5 Standards
Flame Retardant	IEC 60304 Telcordia-Bellcore, TIA-598C Standards
Flame Propagation	IEC 60331, IEC 60332-3-24 Standards
	IEC 60332-1, IEC 60754-1, IEC 60754-1, IEC 61034-2 Standards

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
Applications	Aerial, Duct, Riser, UV Resistant, Flame Retardant, Fire Rated
Cable Type	Central Loose Tube

CABLE CONSTRUCTION

Cable Strength Members	Central Strength Member FRP, Central Loose Tubes
Optical Fibers	UV Colored High Grade Silica Glass Surrounded by Acrylate Coating
Fiber Count	25~144
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)
Central Strength Members	Fiber Reinforced Plastic
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 OS2 96Core LSOH IFOCSMLT96L 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	Sub Units	Filled Units	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)
36	3	12	8.0 ±0.3mm	20D/10D	3000/1000	1500/600	88	2000
48	4	12	8.0 ±0.3mm	20D/10D	3000/1000	1500/600	94	2000
72	6	12	12.0 ±0.3mm	20D/10D	3000/1000	1500/600	116	2000
96	8	12	12.0 ±0.3mm	20D/10D	3000/1000	1500/600	124	2000
144	12	12	14.5 ±0.3mm	20D/10D	3000/1000	1500/600	156	2000

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 (25 to 144 Cores).



Infinique, a Canadian company is a manufacturer of high performing end-to-end solutions in copper, fiber and video surveillance systems. For more information visit our website at www.infinique.com or email us at sales@infinique.com.