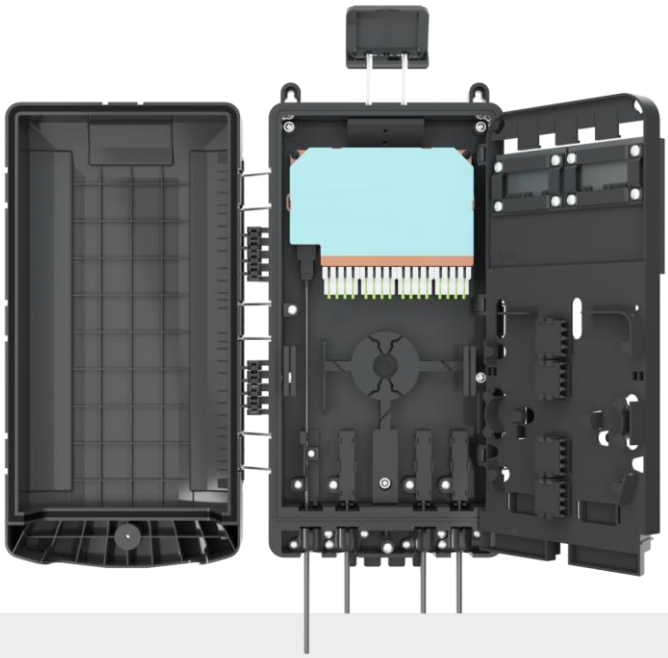
Product Specification



CONCAT

Spliceless Concatenated Fiber Cable Assembly System

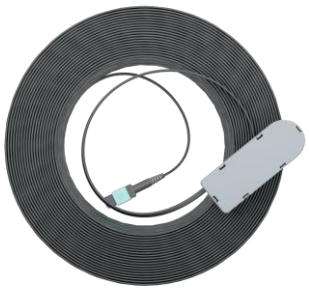
STL CONCAT is a next-gen Spliceless Concatenated Fiber Cable Assembly System designed to simplify and accelerate fiber rollouts in FTTx networks. This innovative system **eliminates the need for fusion splicing** in the field by offering factory-assembled, pre-connectorized fiber segments that deliver plug-and-play functionality. By minimizing field complexities and labor dependency, it enables faster deployments, consistent quality, and significant cost savings.

The system is built around a modular architecture that includes four key components: the **CONCAT Closure**, which houses the Plug-n-play MPO and LC connectors; **CONCAT MPO - LC cable assemblies** that provide seamless interconnection from distribution to access points; **drop splitter modules** that support signal distribution closer to the end user; and a **reusable reel system** designed for easy cable handling, deployment, and reduced onsite waste.

Each component is factory tested to ensure optical integrity, durability, and simplified installation. This approach drastically reduces points of failure and speeds up time-to-service, making it ideal for greenfield builds or network upgrades. STL's spliceless system delivers a future-ready, high-performance fiber network with operational efficiency built in.

Closure

Drop Splitter Module



MPO - LC Cable Assembly

Reusable Reel

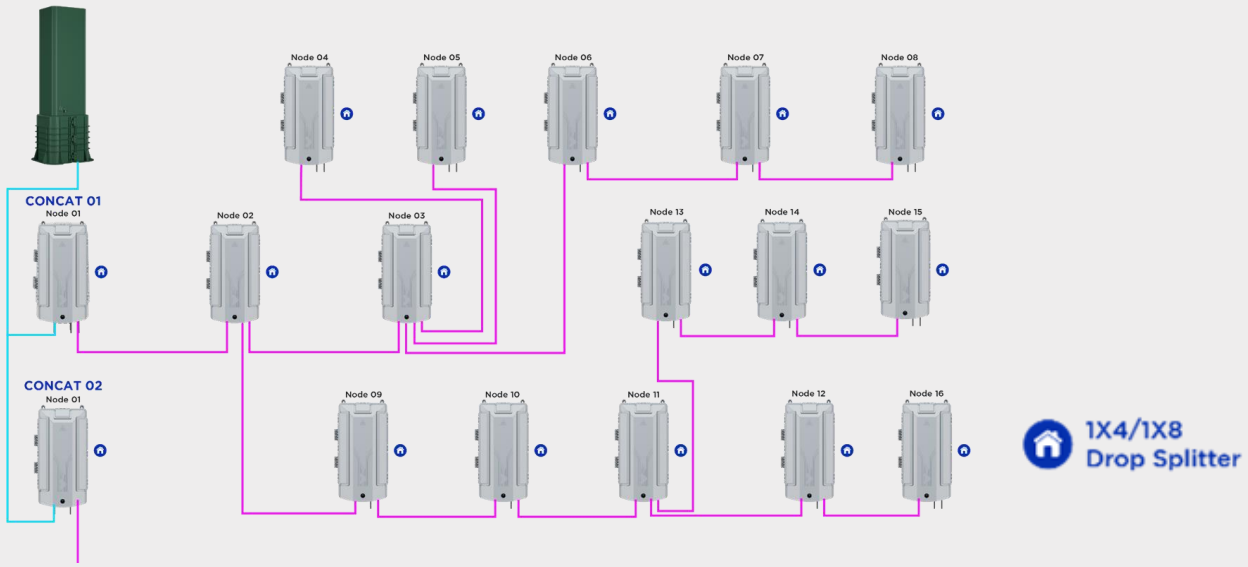
Applications

STL CONCAT is ideal for fiber-to-the-home (FTTH), fiber-to-the-building (FTTB), and multi-dwelling unit (MDU) applications. Its flexibility supports aerial, underground, and duct deployments across both urban and rural geographies. The solution is particularly suited for large-scale rollouts in underserved areas, where labor constraints and deployment speed are critical factors. It is equally effective in dense city blocks and low-density rural settings. Whether used in new installations or network expansions, STL's spliceless system has the ability to deliver consistent performance and fast turn-up times, it is a valuable asset for service providers aiming to expand broadband access across underserved communities.

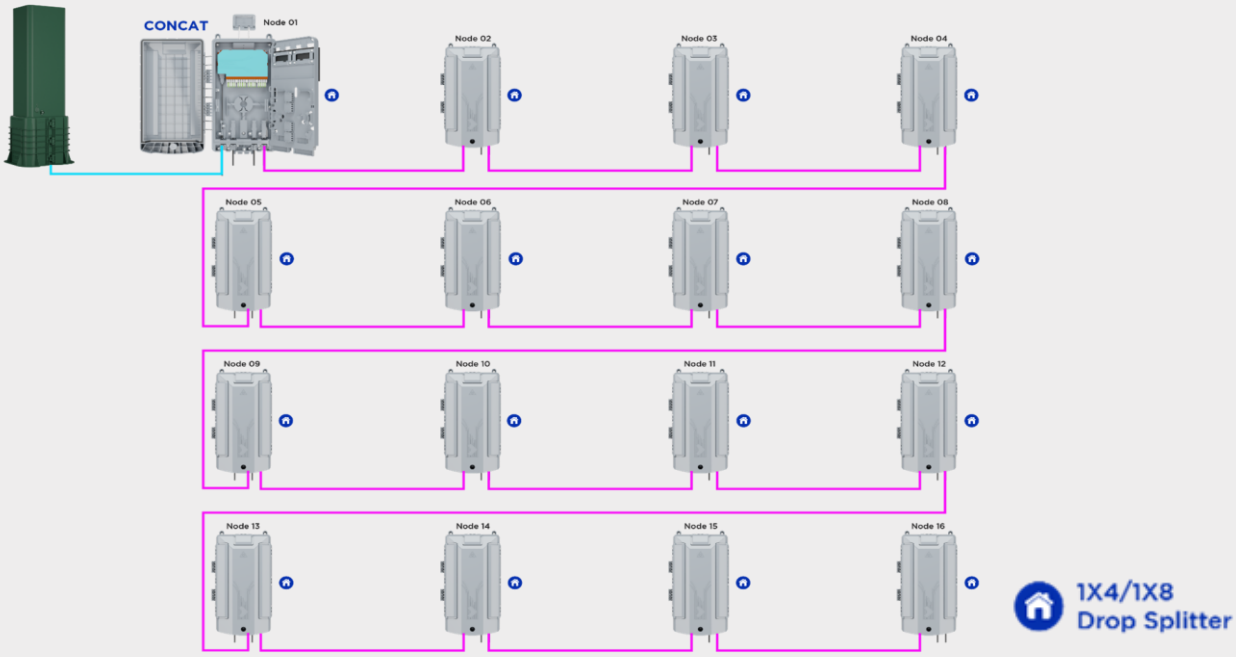
CONCAT Architecture

The architecture of STL CONCAT is designed for high performance and deployment flexibility. It features a **concatenated, pre-connectorized MPO-to-LC cable assembly** integrated with a versatile enclosure and cassette arrangement. This setup is **suitable for both aerial and buried applications**. The system supports **three branching options within the same closure**, enabling efficient distribution in complex network topologies. Using MPO-to-LC connections, rather than MPO-to-MPO, enhances attenuation performance while maintaining plug-and-play simplicity. The use of flat ADSS cable enables longer pole-to-pole spans, while IBR flat drop cables support quick mass fusion splicing to the FDH. Ganged LC connectors allow intuitive handling, and the closure offers ample slack storage and clear fiber routing paths for drop splicing. It accommodates **two plug-in optical splitters (1×8 and 1×4)**, provides enhanced test access points, and ensures clear separation between feeder, distribution, and subscriber drop compartments. This results in a clean, efficient, and scalable deployment model.

Branched Architecture

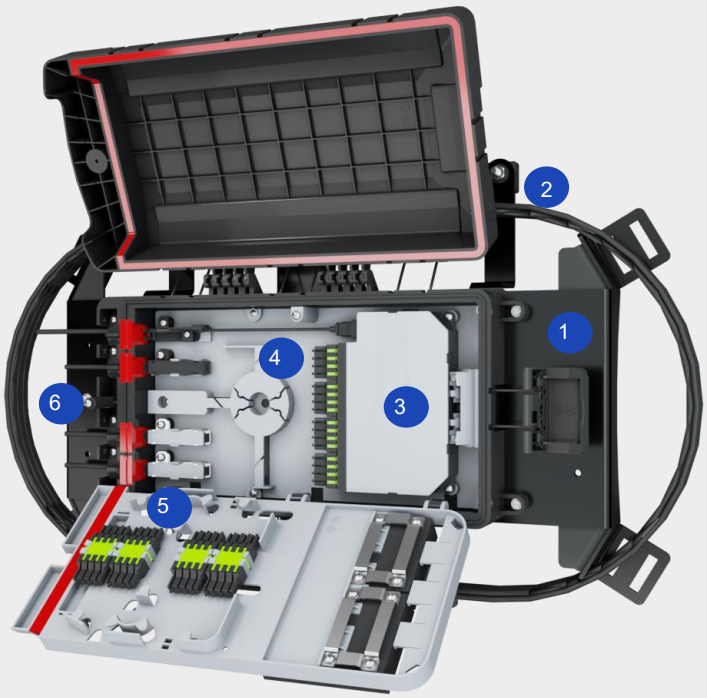


Linear Architecture



CONCAT Closure

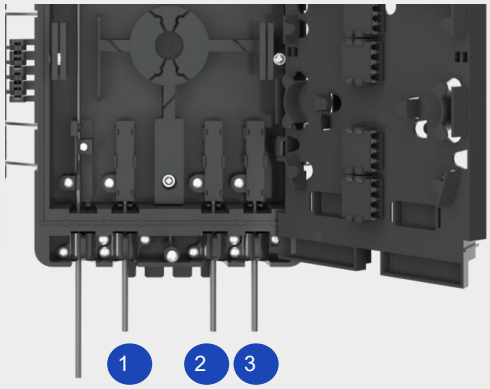
STL CONCAT Closure is a robust, pre-connectorized solution engineered for fast, reliable FTTx deployments. Tested to Telcordia GR-771 and GR-2866 standards, this closure enables seamless MPO-to-LC concatenation through a modular cassette setup. Designed for both aerial and buried installations, it supports flexible network configurations with minimal field labor.



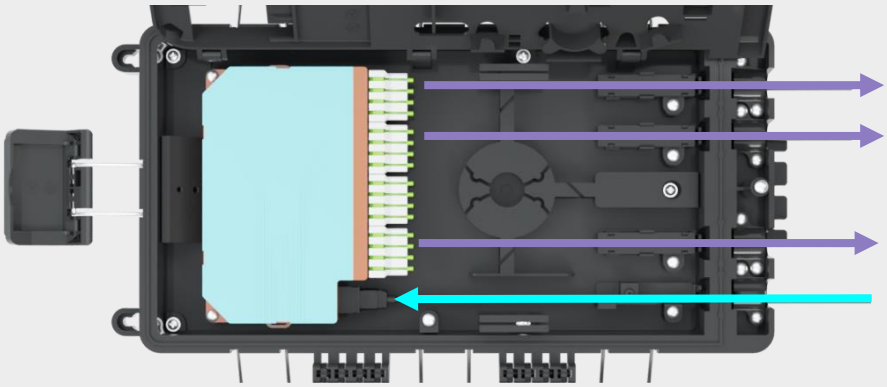
1. Aerial Strand Mount Bracket
2. Slack Storage
3. MPO - LC Cassette (16 Positions)
4. LC Fan-out slack storage
5. Branch Cable Parking Lot
6. Feeder/ Distribution/ Branch Entry Ports

Features and Benefits

- **Telcordia Certified:** Compliant with GR-771 and GR-2866 standards, ensuring the system meets stringent mechanical and environmental performance requirements for long-term reliability in both aerial and buried deployments.
- **Spliceless MPO - LC Concatenation**: The 16F pre-connectorized cassette simplifies installation by eliminating field splicing. This plug-and-play architecture reduces skilled labor requirements and accelerates deployment timelines.
- **Dual-Compartment Closure Design:** Dedicated compartments for feeder/distribution and subscriber drops improve cable organization, reduce installation errors, and allow for quicker troubleshooting and maintenance.
- **Splitter Module Integration:** Accommodates up to two USMB plug-in optical splitters (1x2, 1x4, or 1x8), offering flexibility in signal routing and enabling efficient use of fiber assets closer to the end user.
- **High Drop and Parking Capacity:** Supports up to eight subscriber drop cables with easy push-in retention and provides 32 parking slots for dark pigtails, allowing for future expansion and fiber reallocation.
- **Multiple Branching Options**: Designed to handle up to three branching fiber cables within the same closure, offering scalability and reducing the need for additional field enclosures.



MPO - LC Cassette



16-fiber LC Breakout connects to the output of the cassette and feeds the next CONCAT closure(s)

MPO end of Cable Assembly enters bottom right port and connects to the cassette input.

Product Specification

Fiber Type	G.657.A2
Capacity	16F
Front End Adaptor	Green
MPO Adaptor	Type A (Key Up key down), Black
MPO Connector Type	Base 16
MPO Connector Polarity	Male (Pinned)
Material	ABS

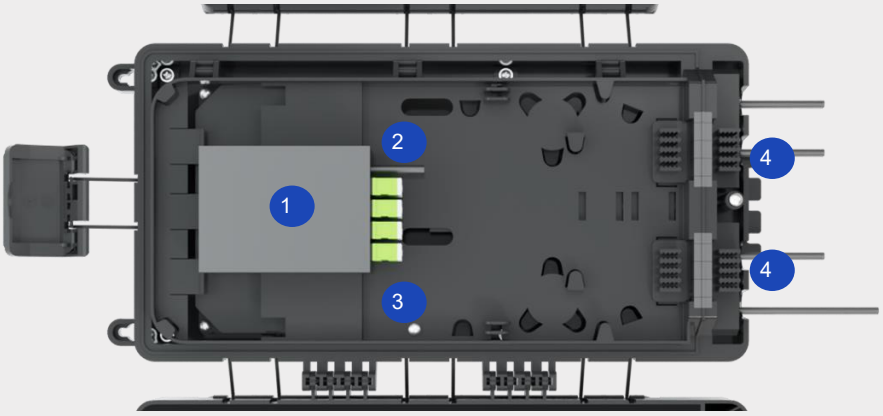
Optical Specifications

MPO - LC Cassette		SM IL (dB)	SM RL(dB)
Connector	**Loss**	**@1310/1550nm**	**@1310/1550nm**
MPO/APC - LC PC/APC	Low Loss	MPO: ≤ 0.35dB LC Connector: ≤ 0.20dB	> 60dB

Ordering Information

Part Number	Description
ODPL11CU03	CONCAT Closure
ODPL22CU03	CONCAT HARD SPLICE TRAY KIT
PCSC010501090.4M	SCA LCA 900um G657A2 Patchcord 0.4mtr

CONCAT Drop Splitter Module



1 Splitter
2 Splitter Input
3 Splitter Output
4 Subscriber Drop Ports

STL Splitter Modules are compact, high-performance optical splitters designed for efficient signal distribution in FTTx and access network applications. Available in 1x2, 1x4, and 1x8 variants, these splitters operate across a wide wavelength range of 1260 to 1650 nm, making them ideal for a variety of network configurations. Housed in an ultra-small form factor with an integrated mounting solution, they offer seamless integration into closures, cabinets, and distribution boxes. Engineered to perform in harsh environments, the splitters are rated for industrial temperature ranges from -40°C to +85°C and meet Telcordia GR-1209, GR-1221, and GR-20 standards for reliability and optical performance.

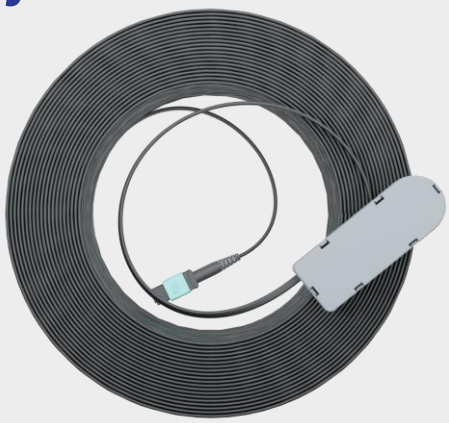
Features and Benefits

- **Multiple Split Ratios**: Available in 1x2, 1x4, and 1x8 variants to suit different network architectures.
- **Broad Operating Wavelength:** Supports 1260 to 1650 nm for compatibility with various PON technologies.
- **Ultra-Compact Design:** Small form factor saves space in closures and simplifies integration.
- **Integrated Mounting Solution:** Allows easy installation into fiber management systems without additional hardware.
- **Rugged, Field-Ready Performance:** Operates reliably in extreme temperatures from -40°C to +85°C for outdoor and indoor deployments.
- **Low Insertion Loss:** Ensures minimal signal degradation, improving overall network efficiency.
- **Standards Compliant:** Qualified to Telcordia GR-1209, GR-1221, and GR-20 for assured quality and long-term durability.

Product Specification

CONCAT MPO-LC Cable Assembly

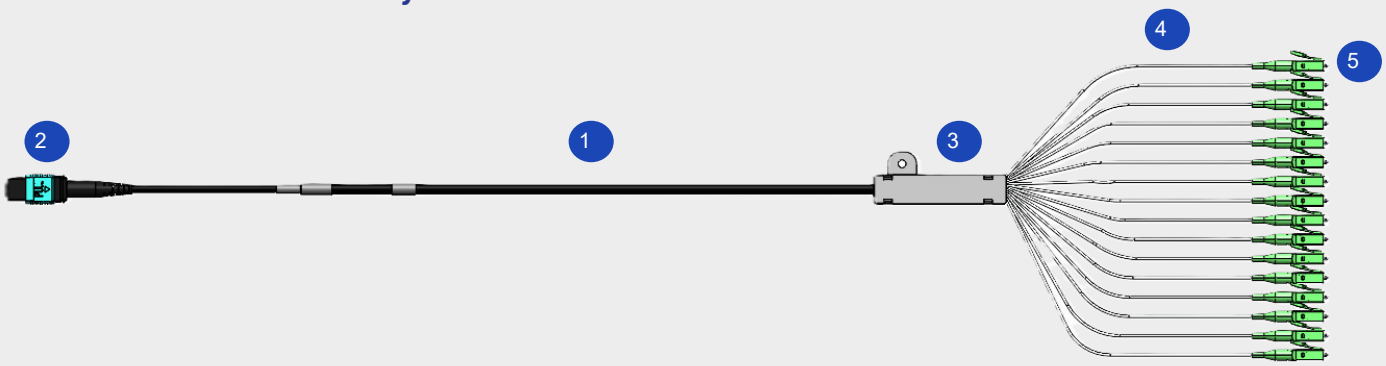
STL CONCAT MPO - LC pre-connectorized fiber cable assembly is purpose-built for fast, high-performance fiber deployments in FTTx access and drop networks. Designed to reduce installation time and minimize handling, it supports pre-coiled lengths from 30 to 1,000 feet, making it ideal for aerial, buried, or duct applications. The solution features a flat, all-dielectric self-supporting (ADSS) IBR cable for extended pole-to-pole spans and compatibility with mass fusion splicing at the FDH. A factory-integrated MPO to LC/APC fanout, housed in a protective LC connector box, ensures that connector integrity is maintained from factory to field.



Features and Benefits

- **Flat, ADSS IBR Cable Design**: Enables longer aerial spans and supports easy fusion splicing at distribution hubs, reducing installation time and cost
- **Efficient Fanout Construction:** 16F MPO to 16F LC/APC fanout enables high-density terminations with reduced field work.
- **Duct-Ready MPO Protection:** Pulling sock supports routing through 14/18 mm ducts while shielding the MPO end.
- **4X Ganged LC Connectors:** Allows simultaneous insertion of four LC connectors for faster, easier installations.
- **Integrated Dust Protection:** Pre-installed dust caps safeguard connectors from contamination prior to use.
- **Protective LC Connector Box:** Ensures connector protection during handling and transport, preserving factory polish and alignment.
- **Customizable Coil Lengths:** Supports factory-prepared coils from 30 to 1,000 feet for deployment flexibility and minimal field prep.
- **Tested as per Industry Standards:** Fully tested to GR-2866, GR-20, IEC 60793/60794, ANSI/ICEA S-110-717, and ITU-T. RoHS and REACH compliant.

MPO - LC Fanout Assembly



1. 24F Flat Drop IBR Cable
2. 16F MPO Connector (Outer end of the coil)
3. 16F Fanout
4. 0.9mm Fanout Tube
5. LC/APC Connector (Inner end of coil)

Product Specification

Fiber Type	STL Stellar Fiber (Comply ITU-T G.657.A1/G.657.A2 & G.652.D)
Capacity	24F
No. of Ribbons (12F IBR)	2
Outer Sheath Material	UV Proof Black Polyethylene
Maximum Cabled Attenuation (dB/km)	1310nm: 0.4, 1550nm: 0.3 & 1625nm: 0.4
PMD LDV (ps/sqrt.km)	</= 0.1
Fiber Color Sequence in IB Ribbon	Blue, Orange, Green, Brown, Slate, White, Red, Black, Yellow, Violet, Rose, Aqua
Strength Member	High strength aramid yarns along with fibres
Water Blocking	Water Swellable Yarns
No of Tubes	1
Tube Color	Black
Jacket Cable Diameter mm (in)	4.1 x 8.2 (0.161 x 0.322)
Fan-out Cable Diameter	3.0
MPO Connector	**Housing:** Yellow **Boot:** Black
MPO Connector	**Female** = Unpinned
LC Connector	Green

Optical Specifications

MPO - LC Fan-out Cable Assemblies		SM IL (dB)	SM RL(dB)
Connector	**Loss**	**@1310/1550nm**	**@1310/1550nm**
MPO/APC - LC PC/APC	Low Loss	MPO: ≤ 0.35dB LC Connector: ≤ 0.20dB	> 60dB

Testing Standards

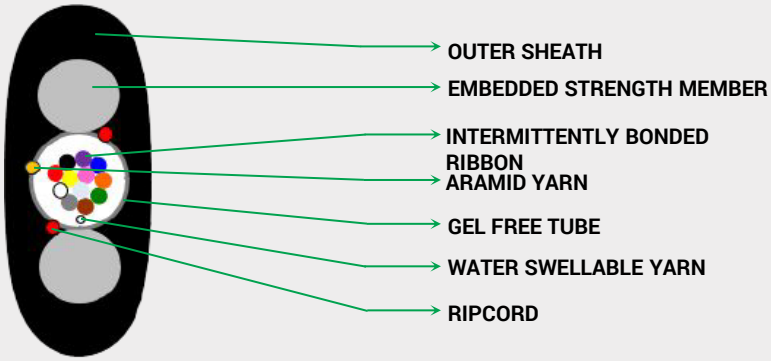
End Face Characteristics	As per IEC 61300-3-35
Optical performance	**Insertion loss (IL):** as per IEC 61300-3-4 **Return loss (RL):** as per IEC 61300-3-6

Ordering Information [1]

Part Number	Description
MFCLA124BKXHLLLLFD	CONCAT 16F MPO-LCA IBR Flat

Note 1: In the part number, replace LLLL with appropropriate cable length in ft.
Available options: 0030 - 30ft, 0050 - 50ft, 0100- 100ft, 0150 - 150 ft, 0200 - 200ft, 0250 - 250 ft, 0300 - 300ft, 0350 - 350ft, 0400 - 400ft, 0450 - 450ft, 0500 - 500ft, 0600 - 600ft, 0750 - 750ft, 1000 - 1000ft

STL Celesta 24F Flat IBR Cable



Product Details

STL Celesta Flat Drop Dielectric Fiber Optic Cable offers the ease of installation in an easy access, single-tube design. This cable has optical Fibers presented in dry tube filled with water swellable yarns and is enclosed in a thermoplastic sheath. The cables have two embedded strength members for anti-buckling property. The dielectric version eliminates any bonding and grounding requirements.

Features & Benefits

- Embedded strength members for anti-buckling properties
- All dry design for easy and fast end preparation
- Easy access to Fiber due to its Unitube construction
- Tensile and crush resistant
- UV protected

Fibers and Cable Performance Standards

Cable complies to the following standards IEC 60793, IEC 60794, ANSI/ICEA S-110-717, Telcordia GR-20, ITU-T, RoHS, REACH.

Mechanical & Environmental Characteristics [2]

Cable Characteristics	Testing Standard Method	Cable Performance
Tensile Strength (N) (lbf)	ICEA 110-717 | FOTP-33	1336 N (300.3)
Crush Resistance (N/100 mm) (lbf/in)	ICEA 110-717 | FOTP-41	500 (28.55)
Impact Strength (Nm) (lbf.in)	ICEA 110-717 | FOTP-25	5 (44.2)
Torsion	ICEA 110-717 | FOTP-85	±180º
Min. Bend Radius (During Installation)	ICEA 110-717| FOTP-88	20 D
Min. Bend Radius (After Installation)	ICEA 110-717 | FOTP-88	15 D
Water Penetration Test	ICEA 110-717 | FOTP-82	1m waterhead, 3m samples, 24 h
Temperature Performance	ICEA 110-717 | FOTP-33	
Installation		-30ºC to +70 ºC
Operation		-30ºC to +70ºC
Storage		-40ºC to +70ºC

Note 2: All tests shall be carried out as per ICEA 110-717 standards, the change in attenuation shall be </= 0.4 dB at 1550 nm

REUSABLE REEL

The Reusable Reel Assembly is a field-friendly cable deployment solution designed to support pre-connectorized fiber coils ranging from 250 to 1,000 feet. Engineered for reusability and efficiency, it features a robust, symmetric design that allows for quick coil loading, easy transport, and controlled cable payout. The reel incorporates a simple yet effective anti-free-spin braking system and a floating cover that ensures smooth, tangle-free deployment of flat fiber cables. Built for repeat use across multiple deployments, this reel system significantly reduces packaging waste and improves installation productivity in both aerial and underground applications.

1. Locking Key and Retaining Bolt
2. Anti-spin braking mechanism

Features and Benefits

- **Supports Various Coil Sizes:** Accommodates fiber coil lengths from 250 ft to 1,000 ft for deployment flexibility.
- **Anti-Free-Spin Braking Feature:** Easy-to-activate braking system eliminates uncontrolled reel spin and ensures smooth cable payout.
- **Symmetric, Lockable Design:** Allows quick coil reloading and easy reel separation for efficient handling and reuse.
- **Floating Cover Mechanism:** Maintains consistent tension and controls flat cable payout to prevent tangling or snags.
- **Sustainable & Reusable:** Designed for multiple uses, reducing packaging waste and total cost of ownership in large-scale fiber rollouts.

Ordering Information

Part Number	Description
ODPL01CU03	CONCAT Re-Usable Reel

For additional information please contact your sales representative.
You can also visit our website at www.stl.tech

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