

3M™ Fiber Optic Closure System LL



3M *Innovation*

3M™ Fiber Optic Closure System

The 3M™ Fiber Optic Closure System LL provides a protective yet accessible environment for housing single or mass fusion fiber splices. The closures are designed to accommodate up to 12 stacked or hinged splice trays from several manufacturers organized on multiple levels for easy access. Because of the system's modular design, the closures can be expanded in length or diameter, or converted from butt to in-line configurations without disturbing existing cables. The system conforms to all major international standards including the Telcordia GR-771 specification.

Seal Integrity

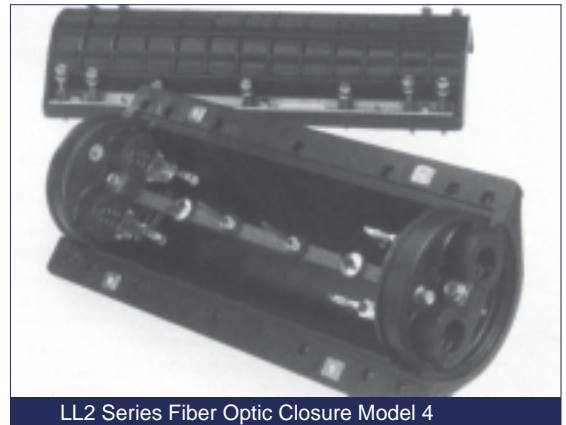
3M Fiber Optic closures evolved from the unique sealing characteristics of the dependable 3M™ 2-Type Pressurized Closure System. The new closure advances this standard, providing a watertight, chemical and UV resistant system well suited for use in underground, aerial, central office/building, and vault applications where seal integrity is crucial.

Sheath Retention

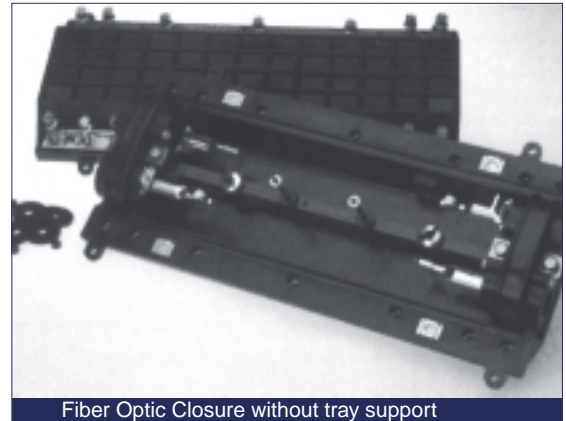
Awkward installations in close proximity to exposed fibers and the ever-present potential for microbending are serious threats to technician productivity and system reliability. 3M helps eliminate these issues with an innovative two-piece sheath retention system. The sheath allows work to be completed on each cable before it is placed in the closure, dramatically reducing the likelihood of damage to existing splices.

Fiber Optic Organizing Trays

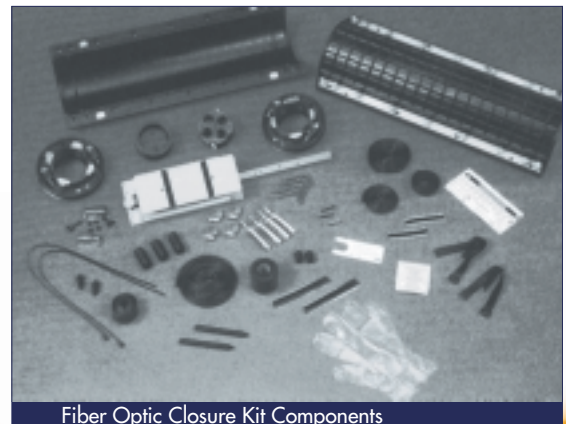
The system's integrated FST2000 molded plastic splice trays feature a variety of adhesive-backed splice chips that make it easy to handle different sizes and types of splice modules. Each tray accommodates up to 288 single fused splices or 144 ribbon groups. Clear protective covers allow technicians to identify specific fibers at a glance.



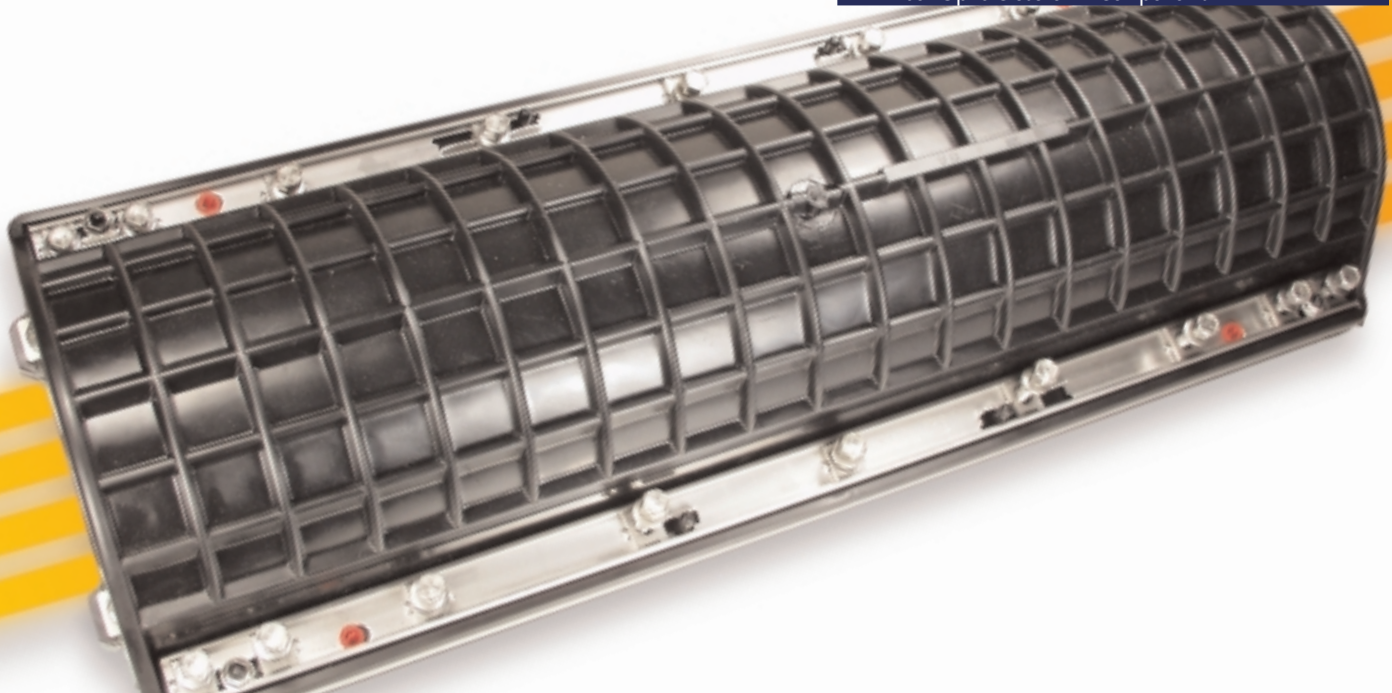
LL2 Series Fiber Optic Closure Model 4



Fiber Optic Closure without tray support



Fiber Optic Closure Kit Components



Closure Capacities

- The closure will hold up to 6 FOT001 splice trays or up to 12 FST2000 splice trays.
- Splice trays may be stacked or hinged (hinging requires the addition of either Hinge Tray Kit HTK-10-4 for 4 trays or HTK-10-8 for 8 trays).
- Endplate system will allow the entry of up to 2 cables per end (model 4) or up to 4 cables per end (all other models).
- Special cable entry kit (L2D28EK) allows the entry of up to 8 cables per end.
- Maximum 1.0" (25.4 mm) diameter cable per opening.
- Available in two lengths for flexibility in closure storage capacity. 27.5" (699 mm) and 36" (914 mm) length closures have the same tray capacity, but the longer closure provides an expanded sheath opening and greater storage capacity for buffer tube or ribbon fiber below the tray platform.
- Adaptable to fiber optic trays from manufacturers other than 3M. Splice closure capacity will vary depending upon the type of non-3M tray.

Choices for Flexible Design

3M offers a full range of closure sizes in diameters from 76 mm-305 mm (3" to 12"), and lengths to 914 mm (36"). This range gives system designers the flexibility to locate splices for maximum reliability. Larger fiber optic closures can be used to provide extra storage space for ribbon or buffered tube fiber. 3M™ Fiber Optic Closures are compatible with all types of fiber optic cable in cut, uncut and taut sheath applications. Interchangeable endplates allow each closure to house up to 8 cables per end.

Applications

- Watertight
- Underground
- Aerial
- Central Office/Building
- Wall Mount (LL2-418 only)

Anti-rotation stops are provided in each kit to maintain closure stability during assembly and fiber splicing.



LL2 Series Models 4, 5, 7, 8, 9 and 12 Fiber Optic Closures

Features	Benefits
Constructed from thermoplastic material	Extremely chemical and U.V. resistant
Sheath retention, central member termination system	Allows easy installation and reduces the potential for microbending
No special tools required	Low cost installation
Can be flash tested	Ensures seal integrity
Complies with Telcordia (formerly Bellcore) GR-771 requirements and international standards for fiber optic splice closures	Lab tested under various applications
Hinged trays	Allows for easy fiber organization and access to multiple levels
Plugging spools are provided in each kit	Allows extra cables to be added at any time
Closures are available in standard black and gray fire retardant plastic	Meets requirements for vault and building entrance applications
Anti-rotation stops are provided in each kit	Maintains closure stability during assembly and fiber splicing
Slack trays may be added below tray platforms	Allows storage of ribbon or buffer tube fiber
A variety of kits are available for closure re-entry, adding cables to existing splices or converting butt splices into inline configurations	All plant configurations can be accommodated

Ordering Information

3M™ Fiber Optic Closures and Splice Trays are ordered separately. See following ordering guides to determine the best closure for a particular application.

3M™ Closure Kits include all the necessary components for making inline, butt or branch splices which reduces inventory. Because of the modular design, closures may be expanded, both in diameter and length, or easily converted from butt to inline without disturbing existing in-service cables.

Ordering Information for 3M Fiber Optic Closures Series LL: Models 4, 5, 7, 8, 9 and 12

Product Number	Descriptions/ Dimensions	Max. Tray Stacked/ Hinged	Quantity in Standard Package	Min. Order/ Ordering Multiple	Weight per Min. Order kg (lbs.)	UPC 051138-
3M Fiber Closures Universal Inline and Butt						
Models 4 and 5 (LL-FOT001 trays are not included).						
LL2-418	Fiber Closure/Butt or 2 x 2 Cables	4/0	1 pkg.	1	6.3 (14.0)	78827
LL2-518	Fiber Closure/Butt or 2 x 2 Cables	6/4	1 pkg.	1	6.3 (14.0)	78829

3M Fiber Optic Closures - Butt only with Slack Tray

Models 7, 8, 9 and 12, for in-line applications, purchase one (1) LBI10K conversion kit. (LL-FST2000 trays are not included).

LL2-727	Fiber Closure/Butt x 4 Cables	8/8	1	1	10.9 (24)	78543
LL2-827	Fiber Closure/Butt x 4 Cables	8/8	1	1	12.0 (26.5)	78541
LL2-927	Fiber Closure/Butt x 4 Cables	10/8	1	1	14.1 (31)	78539
LL2-936	Fiber Closure/Butt x 4 Cables	10/8	1	1	16.3 (36)	78540
LL2-1227	Fiber Closure/Butt x 4 Cables	24/8	1	1	18.6 (41)	88454
LL2-1236	Fiber Closure/Butt x 4 Cables	36/8	1	1	21.8 (48)	88473

Ordering Information for Accessories/Replacement Parts for 3M Fiber Optic Closures LL

Product Number	Descriptions/ Dimensions mm (in.)	Quantity in Standard Package	Min. Order/ Ordering Multiple	Weight per Min. Order kg (lbs.)	UPC 051138-
Aerial Hanger Kits					
For supporting closure assembly to strand wire in aerial applications.					
AH20K	Aerial Hanger Kit	2	20 Kits	3.2 (7)	78418
AOH40K	Aerial Offset Hanger Kit	2	10 kits	6.3 (14.0)	78421
Back Cover Clip Kit					
For supporting backing cover to endplates during splicing. Also keeps endplates parallel and properly spaced.					
BCC10K	A, B, C and Z Covers	2	20 kits	0.9 (2)	77704
Bolts					
For replacing lost or damaged bolts in endplates and covers.					
SB1875K	7.9 x 47.6 (5/16 x 1-7/8) - Short	25	4 pkgs.	2.7 (6)	78094
SB2375K	7.9 x 60.3 (5/16 x 2-3/8) - Long	25	4 pkgs.	3.2 (7)	78095
Fiber Adapter In-line Kit					
LBI10K	Fiber adapter in-line kit	1	1 pkg. (413981044)	1.8 (4.0)	77586
Hinged Tray Kits					
LHTM4K	Hinged kit 4-tray	1	1 pkg.	0.5 (1.0)	78819
LHTM8K	Hinged kit 8-tray	1	1 pkg.	0.5 (1.0)	78545

3M™ Splicing Trays FST2000

Features	Benefits
Up to 24 single fused splices per tray, 12 mass fused ribbon fibers or 12 mechanical splices	Flexibility of splicing type
Will accommodate loose tube, tight buffered and ribbon fiber	Flexibility of cable type
24 buffer tube or ribbon entry/exit positions (6 in each corner)	Fiber management flexibility
Will fit in most existing splice closures, is stackable and can be made to hinge if required	One tray for inventory
Molded from high strength plastic with clear covers	Allows for easy fiber identification

3M™ Splicing Trays FOT001

Features	Benefits
Up to 12 single fused splices per tray	Fiber management
12 buffer tube entry/exit positions (3 in each corner)	Fiber management flexibility
Simple “push-in” securing of buffer tubes with provision for cable ties	Strain relief capability
Fits in most existing splice closures, is stackable and can be made to hinge	One tray for inventory
Molded from high strength plastic with clear cover	Easy fiber identification or a molded cover for security

3M™ Fiber Optic Splicing Trays

Part Number	Single Fused Splices Per Tray	Mass Fusion Spices Per Tray	Configuration
FOT001	12	N/A	Stackable
FOT001H	12	N/A	Hinged
FST2000-L	24	N/A	Stackable
FST2000-R	N/A	12	Stackable
FST2000-U	24	12	Stackable



Slack trays may be added below tray platforms to allow storage of ribbon or buffer tube fiber. Slack trays are included with large sized closures 7, 8, 9 series.



FOT001 Splice trays accommodate single fusion splices in stacked of hinged configurations.



Hinged trays make for easy fiber organization and access to multiple tray levels. Hinged tray kits are required.

Important Notice

All statements, technical information, and recommendations related to 3M's products are based on information believed to be reliable, but the accuracy or completeness is not guaranteed. Before using this product, you must evaluate it and determine if it is suitable for your intended application. You assume all risks and liability associated with such use. Any statements related to the product which are not contained in 3M's current publications, or any contrary statements contained on your purchase order shall have no force or effect unless expressly agreed upon, in writing, by an authorized officer of 3M.

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