PIMA COUNTY
PROCUREMENT DEPARTMENT
DESIGN AND CONSTRUCTION DIVISION
130 WEST CONGRESS STREET, 3rd FLOOR • TUCSON, AZ 85701-1207
PHONE: (520) 724-3731 FAX: (520) 724-4434

October 26, 2016

ADDENDUM NO. 1

SOLICITATION NO.: 235126

PROJECT: PECOC TO ADMIN WEST 144SM FIBER CONNECTION (ENTFIB)

TO POTENTIAL BIDDERS:

Be advised of the additions, clarifications and/or changes to the above-referenced Invitation for Bid as stated in the following Addendum.

BID DATE:

Please note the bid date remains unchanged.

QUESTIONS:

1. Q: Is there a break out for the material quantities for the project—fiber footage, hand holes, duct, splice cases, etc.?

   A: No. Per sheet T-10; Project Note 4, "Contractor is responsible for verifying all lengths and footages." Pull boxes and vaults are numbered in sequence on the plan sheets.

2. Q: Is the project Davis Bacon or prevailing wage?

   A: No.

3. Q: Will there be secure areas on campus for storage containers?

   A: A 20 foot by 40 foot materials and equipment storage area will be provided at 3434 E. 22nd st.

4. Q: Pima County Communications Horizontal Cabling spec list both LC and SC as acceptable connector options. Specific to this project, what style of FuseLight splice on connectors will be used at PCITD PECOC? What connector style at Admin West?

   A: SC.

5. Q: What are the specs or requirements for the fiber enclosures where splicing will take place at Public Works basement, in the street vault #23, and NEMA box installed at 902 S. Warren Ave. lift station?

   A: 3M 2178-S series. Please see attached ATTACHMENT1 Data Sheet.

6. Q: Does the splice case in the Public Works basement need to be fire retardant?

   A: No.

7. Q: Any time restrictions on building access at 150 W. Congress Ave, 201 N. Stone Ave, 3434 E. 22nd street?

   A: Normal Business hours 7am to 5pm, Monday through Friday. Accommodation will be made for after hour access if required.

ADDITION:

ATTACHMENT 1 to Addendum No. 1, 3M Fiber Outside Plant Products Data Sheet (32 pages).

All other requirements and terms of the Solicitation remain unchanged. Failure to include acknowledgement of all addenda may be cause for rejection**.** All questions should be addressed in writing to Scott Loomis, Commodity / Contracts Officer, via email (Scott.Loomis@pima.gov) or fax (520-724-4434).

This addendum is a total of 34 pages.

/s/ Scott Loomis
Scott Loomis
Commodity / Contracts Officer

Fiber Optic Closures, Trays and Accessories

Fiber Optic Splice Case 2178 Series and Accessories	**230**
Fiber Optic Splice Closure 2177 Series and Accessories	**243**
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SLiC™ Fiber Aerial Closure and Terminals	**249**
Fiber Splice Closure System LL Series	**256**

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3M™ Fiber Optic Splice Case 2178 Series and Accessories

Fiber Optic Splice Closure 2178-XSB

As more fiber is deployed in the distribution network, more severe and compact environments are encountered. The compact 2178-XSB closure features a rugged closure tested under harsh, real-world conditions to stand up to even the most severe conditions of moisture, vibration, and extreme temperatures.

The closure is the smallest member of the successful 2178 series of fiber optic splice closures. The design concept, appearance, and method of installation are almost identical to the other members of the 2178-series family, so no special tools or complicated training procedures are

PRODUCT REFERRAL GENERATOR

3M™ Fibrlok™ II Optical Splicing . . . . . pg. 218
Sheath Scuff . . . . . pg. 117
Tapes. . . . . pg. 383

required for installation. The 3M™ Fiber Optic Splice Closure 2178-XSB is easily reenterable to allow access to splices and the addition of drops or small diameter cables. It can be installed in any OSP environment: buried and underground (pedestal, handhole, and manhole) aerial (strand and pole mount) and wall mount applications.

The compact size of the 2178-XSB closure (14.56" x 10.1" x 4.62") makes it ideal for pedestal and handhole splicing, particularly for FTTP applications. Specifically designed for butt splicing applications only, the closure has 3 cable entry ports (two 1.0" ports and one 1.4" ports). The multi-port grommets feature provides for simple, flexible and future-proof drop or small diameter branch cable additions.

The 2178-XSB closure offers a flexible fiber management system for splicing and storage with both stackable and hinged trays that accommodate various types of splices (single or mass fusion and mechanical). The maximum single fusion and mass fusion splice capacity for the 2178-XSB is 72 and 144 fibers, respectively.

FEATURES	BENEFITS
Constructed of a highly chemical-resistant material	Can be deployed in all environments: buried, underground and aerial
Gasket seal	Easy reentry and reusable seal
Unique strength member clamp assembly	Prevents cable sheath movement with temperature changes
Compact size	Easily fits into most pedestals and handholes
Spacious fiber management area	Bottom half of the closure provides separate area for routing, protecting, and “expressing” buffer tubes and ribbon fibers
Flexible drop or cable addition	Multiport grommet provides entry for up to 6 drops or small diameter cables.
No special tools required	Easy installation and reentry
Pressurization valve	Provides ability to flash test

3M™ FIBER OPTIC SPLICE CASE 2178-L/S SERIES

Fiber Optic Splice Case 2178-L/S Series

The 2178-L/S series is made of a tough chemical-resistant material and a new gasket seal that make this the ideal splice case for outside plant, underground, aerial and pedestal applications.

The 2178-L/S series is designed with larger and smaller interchangeable closure halves so you can select the size case that meets your needs today but with the flexibility to expand for the future. Cable ports and space for trays can be added at reentry with the Cable Addition Kit 2181-L/S series.

The ease of installation is unsurpassed, requiring no special tools or complicated training procedures. The closures are easily reenterable to allow access to the splices.

The 2178-L/S series features a tough, rigid non-filled case, tested under real-world conditions, that stands up to even the most severe conditions of moisture, vibration and extreme temperatures. The closure will withstand up to 90.7 kg (200 lbs.) compression.

Design improvements to the 2178-L/S series include changes to improve the cable strain relief and a movable tray support. The closures hold cables of various sizes and provides flexibility to add ports on both ends with the cable addition kit. The 2178-L/S series splice cases can be used with the 3M splice organizer trays 2522, 2523, 2527 and 2524 and most other commercially available trays.

FEATURES	BENEFITS
Gasket seal	Easy reentry and reusable seal
Constructed of a highly chemically resistant material	Use in buried applications
Unique strength member clamp assembly	Prevents cable sheath movement with temperature changes
Several sizes with interchangeable parts	Expandable system to fit capacity and space requirements
Multiple cable entry options	Butt or in-line configuration for splicing
No special tools required	Easy installation and reentry
Non-filled closure	No compound required; easy reentry
Multiple ground studs	Isolated grounding capability
Pressurization valve	Provides ability to flash test
Varying cable port sizes	Accommodates all common feeder and distribution cable sizes
Expandable from two cable entries per end up to eight	Add cable with minimum disturbance; eliminates splice rebuilding when adding lines

3M™ FIBER OPTIC SPLICE CASE 2178 SERIES

Flame Retardant Fiber Optic Splice Case 2178-L/S-FR Series

Designed for use in vault and building applications, the 2178-L/S-FR series splice cases are molded with a flame retardant material that allows these closures to pass Telcordia Technologies (Bellcore), UL and various global specifications that require a flame retardant rating.

Meet your changing network needs

The 2178-L/S-FR series cases are designed with larger and smaller interchangeable closure halves so that you can select the size and case that meets your needs today with the flexibility to expand in the future. Cable ports and space for trays can be added at reentry with the 3M Cable Addition Kit 2181-L/S-FR.

The ultimate protection for fiber optic connections

The 2178-L/S-FR series features tough, rigid non-filled cases, tested under real-world conditions, that stand up to even the most severe conditions of moisture, vibration and extreme temperatures.

Design improvements to the 2178-L/S-FR series include changes to improve the cable strain relief and a movable tray support. The closures hold cables of varying sizes and provide flexibility to add ports to both ends with the cable addition kit. Both the 2178-L/S series and the 2178-L/S-FR series splice cases can be used with the 3M splice organizer trays 2522, 2523, 2527 and 2524 and most other commercially available trays.

FEATURES	BENEFITS
Constructed of flame retardant materials	Increases resistance of closure to effects of sprays and release agents
Gasket seal	Easy reentry and reusable seal
Unique strength member clamp assembly	Prevents cable sheath movement with temperature changes
Several sizes with interchangeable parts	Expandable system to fit capacity and space requirements
Multiple cable entry options	Butt or in-line configuration for splicing
No special tools required	Easy installation and reentry
Non-filled closure	No compound required; easy reentry
Multiple ground studs	Isolated grounding capabilities
Pressurization valve	Provides ability to flash test
Expandable from two cable entries per end up to eight	Add cable with minimum disturbance; eliminates splice rebuilding when adding lines
Same design and installation practice as 2178-L/S series	Use in vault and building applications

MAXIMUM SPLICE CAPACITIES WITH SPLICE ORGANIZER TRAYS

3M™ FIBER OPTIC SPLICE CASE 2178-L/S SERIES

CONFIGURATION	CLOSURE	TRAY	QTY.	3M™ FIBRLOK™ SPLICES	FIBRLOK MULTI-FIBER SPLICES	SINGLE FUSION	MASS FUSION	COMMENTS
2178-S w/2 2522*	2178-S	2522	2	24	16 (192 fibers)	48	20 (240 fibers)**	
2178-S w/2 2523*	2178-S	2523	2	48	24 (288 fibers)	96	24 (288 fibers)**	
2178-S w/2 2524*	2178-S	2524	2	48				
2178-S w/2 2524-FT*	2178-S	2524-FT	2	48				
2178-S w/2 2524-MF*	2178-S	2524-MF	2	4	6 (72 fibers)			
2178-S w/4 2522*	2178-S	2522	4	48	32 (384 fibers)	96	40 (480 fibers)	One 2181-LS cable addition kit
2178-S w/4 2523*	2178-S	2523	4	96	48 (576 fibers)	192	48 (576 fibers)	One 2181-LS cable addition kit
2178-S w/4 2524*	2178-S	2524	4	96				One 2181-LS cable addition kit
2178-S w/4 2524-FT*	2178-S	2524-FT	4	96				One 2181-LS cable addition kit
2178-S w/4 2524-MF*	2178-S	2524-MF	4	8	12 (144 fibers)			One 2181-LS cable addition kit
2178-LS w/5 2522*	2178-LS	2522	5	60	40 (480 fibers)	120	50 (600 fibers)	
2178-LS w/5 2523*	2178-LS	2523	5	120	60 (720 fibers)	240	60 (720 fibers)	
2178-LS w/7 2524-FT*	2178-LS	2524-FT	7	168				
2178-LS w/7 2524-MF*	2178-LS	2524-MF	7	14	21 (252 fibers)			
2178-LL*	2178-LL	—	—					Same splice capacity as the LS
2178-LS w/8 2522*	2178-LS	2522	8	96	64 (768 fibers)	192	80 (960 fibers)	One 2181-LS cable addition kit
2178-LS w/8 2523*	2178-LS	2523	8	192	96 (1152 fibers)	384	96 (1152 fibers)	One 2181-LS cable addition kit
2178-LS w/10 2524-A*	2178-LS	2524-A	10	240	40 (480 fibers)			One 2181-LS cable addition kit
2178-LS w/10 2524-FT*	2178-LS	2524-FT	10	240				One 2181-LS cable addition kit
2178-LS w/10 2524-MF*	2178-LS	2524-MF	10	20	30 (360 fibers)			One 2181-LS cable addition kit
2178-LS w/10 2522*	2178-LS	2522	10	120	80 (960 fibers)	240	100 (1200 fibers)	Two 2181-LS cable addition kits
2178-LS w/13 2524-FT*	2178-LS	2524-FT	13	312				Two 2181-LS cable addition kits
2178-LS w/13 2524-MF*	2178-LS	2524-MF	13	26	39 (468 fibers)			Two 2181-LS cable addition kits
2178-XL-2524*	2178-XL	2524	7	168	—	192	—	
2178-XL-2524-FT*	2178-XL	2524-FT	7	168	—	192	—	
2178-XL-2522	2178-XL	2522	6	84	504	192	840	
2178-XL-2523	2178-XL	2523	6	168	1008	336	1680	
2178-XL-2527	2178-XL	2527	7	192	576	384	1152	
2178-XL-2527 (Double Stack)	2178-XL	2527	14	384	1152	768	2304	
2178-XSB-EG-IT-6PGA	2178-XSB	2532	2	12	—	48	144	
2178-XSB-EG-IT	2178-XSB	2532	2	12	—	48	144	

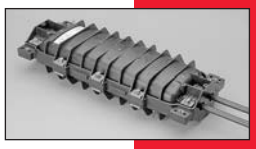
*Flame Retardant

**With 2521-RF

NOTE: 2178-LL has the same splice capacity as 2178-L/S with additional space for buffer storage. Capacity may be affected by the cable size and number of cables installed. Please call Customer Service for more information.

3M™ FIBER OPTIC SPLICE CASE 2178 SERIES

Small Fiber Optic Splice Case 2178-S and 2178-S/FR

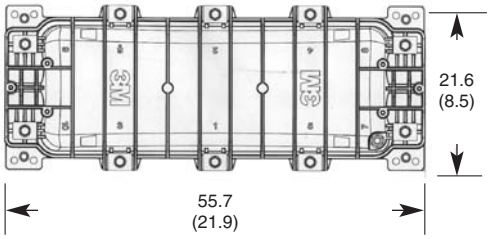


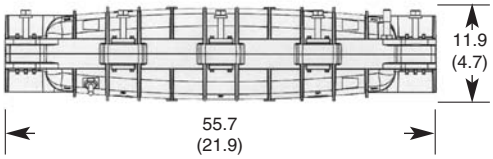
PRODUCT NUMBER: 2178-S PKG. (LBS.): 1 EACH (12.00) MIN. ORDER: 1 EACH UPC: 051138-57777

Contains materials for installation of 3 cables.

PRODUCT NUMBER: 2178-S/FR PKG. (LBS.): 1 EACH (12.00) MIN. ORDER: 1 EACH UPC: 051138-70841

Contains materials for installation of 3 cables, gray.





Dimensions Shown: Centimeters (Inches)

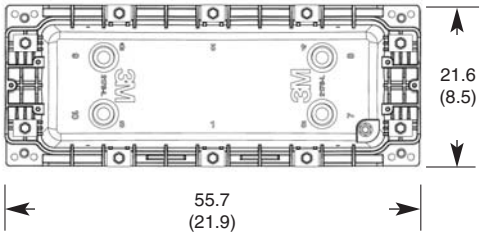
Large Fiber Optic Splice Case 2178-LS and 2178-LS/FR

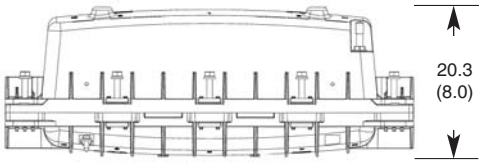
PRODUCT NUMBER: 2178-LS PKG. (LBS.): 1 EACH (14.00) MIN. ORDER: 1 EACH UPC: 051138-57778

Contains materials for initial installation of 4 cables.

PRODUCT NUMBER: 2178-LS/FR PKG. (LBS.): 1 EACH (14.00) MIN. ORDER: 1 EACH UPC: 051138-70840

Contains material for installation of 4 cables, gray.





Dimensions Shown: Centimeters (Inches)

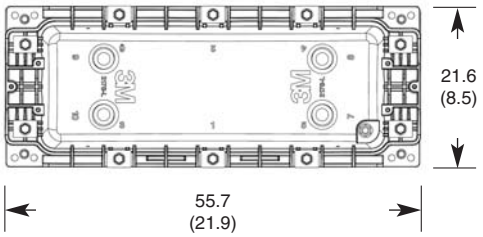
Extra-Large Fiber Optic Splice Case 2178-LL and 2178-LL/FR

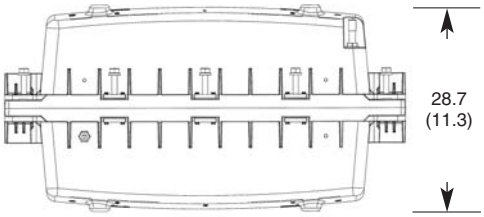
PRODUCT NUMBER: 2178-LL PKG. (LBS.): 1 EACH (12.00) MIN. ORDER: 1 EACH UPC: 051138-57926

Contains materials for initial installation of 4 cables.

PRODUCT NUMBER: 2178-LL/FR PKG. (LBS.): 1 EACH (12.00) MIN. ORDER: 1 EACH UPC: 051138-70842

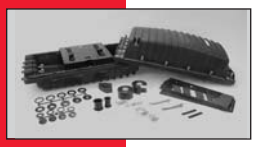
Contains material for installation of 4 cables, gray.





Dimensions Shown: Centimeters (Inches)

3M™ FIBER OPTIC SPLICE CASE 2178 SERIES



Fiber Optic Splice Case 2178-XL and 2178-XL/FR

PRODUCT NUMBER: 2178-XL **PKG (LBS.):** 1 EACH (28.00) **MIN. ORDER:** 1 EACH **UPC:** 051138-88927

Contains material for initial installation of 4 cables.

PRODUCT NUMBER: 2178-XL/FR **PKG (LBS.):** 1 EACH (28.00) **MIN. ORDER:** 1 EACH **UPC:** 051138-88929

Contains material for initial installation of 4 cables, gray.

Fiber Optic Splice Closure 2178-XSB and 2178-XSB/FR

PRODUCT NUMBER: 2178-XSB **PKG:** 1 EACH **MIN. ORDER:** 1 EACH **UPC:** 051115-16219

Contains material for initial installation of 2 cables.

PRODUCT NUMBER: 2178-XSB/FR **PKG:** 1 EACH **MIN. ORDER:** 1 EACH **UPC:** 051115-16221

Contains material for initial installation of 2 cables, gray.

SPECIFICATIONS

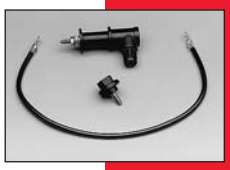
2178 FIBER OPTIC SPLICE CLOSURE PRODUCT FAMILY CONFIGURATIONS

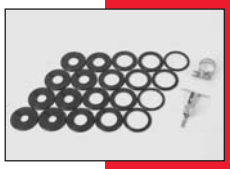
PRODUCT NUMBER	DESCRIPTION	CABLE ENTRY PORTS INLINE	BUTT	MPG	TRAYS TYPE	QTY*	GROUND LUGS	FLAME RETARDANT
2178-LL	Extra large fiber optic splice case	4	2	0	N/A	0	2	
2178-LL/FR	Flame retardant fiber optic splice case	4	2	0	N/A	0	2	x
2178-LLC/FR	Flame retardant fiber optic splice case	4	2	0	N/A	0	2	x
2178-LS	Large fiber optic splice case	4	2	0	N/A	0	2	
2178-LS/4 LUG	Fiber optic splice case with 4 ground plugs	4	2	0	N/A	0	4	
2178-LS/FR	Large, flame retardant, fiber optic splice case	4	2	0	N/A	0	2	x
2178-LS/FR-27T	Small, flame retardant, fiber optic splice case, GND, 1 2527 tray	4	2	0	2527	1	2	x
2178-LS-27T	Large fiber optic splice case, GND, 1 2527 tray	4	2	0	2527	1	2	
2178-LS+81-27T	Fiber optic splice case, 2181, GND, 1 2527 tray	8	4	0	2527	1	2	
2178-LS+81	Fiber optic splice case, 2181, GND, NO tray	8	4	0	N/A	0	2	
2178-S	Small fiber optic splice case	4	2	0	N/A	0	2	
2178-S/4 LUG	Fiber optic splice case with 4 ground plugs	4	2	0	N/A	0	4	
2178-S/FR	Small, flame retardant, fiber optic splice case	4	2	0	N/A	0	2	x
2178-S/FR-27T	Small, flame retardant, fiber optic splice case, GND, 1 2527 tray	4	2	0	2527	1	2	x
2178-S-27T	Small fiber optic splice case, GND, 1 2527 tray	4	2	0	2527	1	2	
2178-XL	Fiber optic splice case	8	4	0	N/A	0	0	
2178-XL/FR	Flame retardant fiber optic splice case	8	4	0	N/A	0	0	x
2178-XSB-0G-0T	Fiber optic splice closure, no GND, no tray	0	3	0	N/A	0	0	
2178-XSB/FR-0G-0T	Flame retardant fiber optic splice closure	0	3	0	N/A	0	2	x
2178-XSB-EG-0T	Fiber optic splice closure, GND, no tray	0	3	0	N/A	0	2	
2178-XSB-EG-0T-6PGA	Fiber optic splice closure, GND, no tray, MPG	0	3	1	N/A	0	2	
2178-XSB-EG-1T-6PGA	Fiber optic splice closure, GND, 1 2532 tray, MPG	0	3	1	2532	1	2	
2178-XSB-EG-1T	Fiber optic splice closure, GND, 1 2532 tray	0	3	0	2532	1	2	

*For maximum splice capacity, see pg. 234.

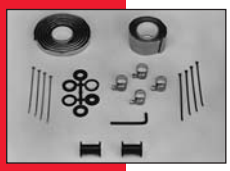
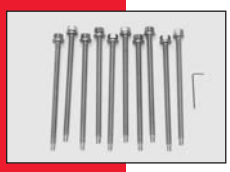
3M™ SPLICE CASE 2178 ACCESSORIES

PRODUCT NUMBER/ PACKAGING INFO	DESCRIPTION
2170 PKG (LBS.): 50 EACH (0.10) MIN. ORDER: 50 EACH UPC: 054007-17676	**Fiber Optic Splice Sleeve** Transparent plastic tube and stainless steel rod designed to prevent stress and protect fusion fiber optic splices in field and factory operations.
2171 PKG (LBS.): 50 EACH MIN. ORDER: 50 EACH UPC: 054007-14547	**BPEO Fiber Optic Splice Sleeve** Transparent plastic tube and stainless steel rod designed to prevent stress and protect fusion fiber optic splices in field and factory operations.
2172 PKG: 100 EACH MIN. ORDER: 100 EACH UPC: 051138-36612	**Strength Member Clamp for Fiber Cable** Clamps strength member to cable sheath.
2178-EGI PKG (LBS.): 5 EACH MIN. ORDER: 5 EACH UPC: 051138-57930	**External Ground Isolation Kit** Provides a means to ground each cable shield with waterproof isolation. The 2178-EGI housing can be used with any of the LL series 2178-L/S fiber optic splice cases and 2178-L/S-FR Series, and is placed in the cable port. Contents of 2178-EGI kit: two 2178-EGI housing assemblies and caps, two ground wire assemblies, two O-rings, two bolts and two 4460-O/FO shield bond connectors.
2178-LS/GSKT PKG (LBS.): 10 KITS (19.00) MIN. ORDER: 10 KITS UPC: 051138-57929	**Gasket Kit for 2178-LS/FR Series** Provides isolated grounds when using ground with sheath.
2178-XSB-1.4B PKG: 5 EACH MIN. ORDER: 5 EACH UPC: 051115-19058	**Cable Branch Port Kit** Single cable entry for 1.4" cable entry port.
2178-125 PKG (LBS.): 8 EACH (5.00) MIN. ORDER: 8 EACH UPC: 054007-91019	**Mastic Sealing Tape, Reenterable*** For use with splice cases 2178 and 2178-G. *For use only with 2178 classic.
2178-281 PKG: 14 EACH MIN. ORDER: 14 EACH UPC: 051138-58633	**CORD Reenterable Mastic*** For use with splice cases 2178 and 2178-G. *For use only with 2178 classic.
2178-4PGA PKG: 5 EACH MIN. ORDER: 5 EACH UPC: 051115-19057	**4-Port Grommet** For Corning Cable SST-Drop Cable (RB4-141-01A20).
2178-6PGA PKG: 5 EACH MIN. ORDER: 5 EACH UPC: 051115-19056	**6-Port Grommet** For Corning Cable SST-Drop Cable (RB4-141-01A20).



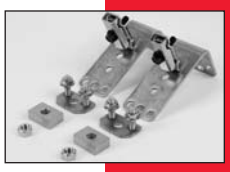


3M™ SPLICE CASE 2178 ACCESSORIES

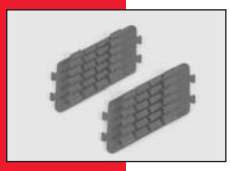
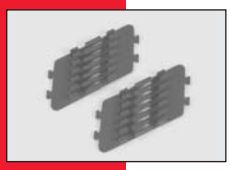
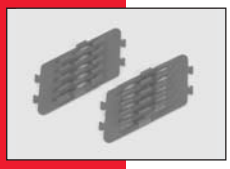
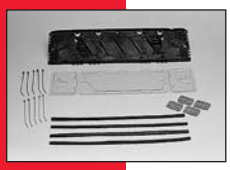
PRODUCT NUMBER/ PACKAGING INFO	DESCRIPTION
 **2180** PKG (LBS.): 1 EACH (1.90) MIN. ORDER: 1 EACH UPC: 054007-17533	**Cable Kit*** Mastic tape and cord, and other materials to reenter 3M Splice Case 2178. All materials required for reentry into 2178 splice case. Includes plugs, washers and sealing materials. Kit includes two plugs, two hose clamps, four green cable ties, four blue cable ties, one hex key, 48 sealing washers, one box sealing cord and one box sealing tape. *For use only with 2178 classic.
2181 PKG (LBS.): 1 EACH (14.00) MIN. ORDER: 1 EACH UPC: 051138-89321	**Cable Addition Kit*** Contains mastic, cable adapter and materials for installing additional cables in 2178 splice case. For use with 2178 and 2178-G splice cases. Contains mastic, cable adapter and materials for installing additional cables in 2178 splice case. This kit permits butt splicing of multiple cables from a single and after initial plant construction. Splice rearranging, branch cables and customer premise drop can be added with minimal disturbance to plant in service. Kit includes one cable adapter, three plugs, four hose clamps, four green cable ties, four blue cable ties, one spacer clamp assembly, one box sealing cord, one box sealing tape, ten bolts and eight sealing washer trees. *For use only with 2178 classic.
2181-B PKG (LBS.): 1 KIT (1.20) MIN. ORDER: 1 KIT UPC: 054007-17678	**Fiber Optic Double Butt Adapter Bolt Kit** Contains bolts for installation of two 3M Cable Addition Kits 2181-LS.
 **2181-C** PKG (LBS.): 1 KIT (1.20) MIN. ORDER: 1 KIT UPC: 054007-92597	**Triple Adapter Kit** Contains bolts for installation of three 2181-LS cable addition kits.
2181-LS PKG (LBS.): 1 EACH (8.30) MIN. ORDER: 1 EACH UPC: 051138-57927	**Cable Addition Kit*** Contains gasket and materials for installing additional cables. *For use with 2178-L/S series closures.
2181-LS/FR PKG (LBS.): 1 EACH (8.00) MIN. ORDER: 1 EACH UPC: 051138-75414	**Cable Addition Kit*** Contains gasket and materials for installing additional cables and is flame retardant. *For use with 2178-L/S series closures.

3M™ SPLICE CASE 2178 ACCESSORIES

PRODUCT NUMBER/ PACKAGING INFO	DESCRIPTION
2183-UHB PKG (LBS.): 1 KIT (1.10) MIN. ORDER: 1 EACH UPC: 051138-34602	**Universal Aerial Hanger Bracket Kit** Hardware for aerial installation. The 2183 universal aerial hanger kit can be used with 2178, 2178-G or 2178-L/S and 2178-L/S-FR series splice cases for use in aerial applications. The kit also accommodates the 2178 splice case with one or two 3M Cable Addition Kits 2181. Contents of 2183 hanger kit: four nylon stop nuts, two corner inserts with studs, two universal hanger bracket assemblies.
2197 PKG (LBS.): 1 KIT (1.60) MIN. ORDER: 1 EACH UPC: 054007-92222	**Aerial Hanger Bracket Kit** Contains hardware for aerial installation with hinged cover. The 2197 aerial hanger/hinge kit can be used with 2178, 2178-G or 2178-L/S and 2178-L/S-FR series splice cases for use in aerial applications. The kit also accommodates the 2178 splice case with one or two 2181 cable addition kits. The 3M Aerial Hanger/Hinge Kit 2197 provides additional hardware to attach the splice case cover to its base. Contents of 2197 kit: six corner inserts, 12 nuts, two flexible hinges, two “L” brackets, two bonding/hanger brackets and two bolts with washers.
2198 PKG: 1 KIT MIN. ORDER: 1 KIT UPC: 051138-36613	**Wall Mount Bracket** For use with 2178-S, LS, MS and M/LS fiber cases.
2199 PKG (LBS.): 1 KIT (4.00) MIN. ORDER: 1 KIT UPC: 051138-57928	**Wall Mount Bracket** For use with 2178-LL and M/LL fiber cases.
25T-BBE6 PKG (LBS.): 1 EACH (3.00) MIN. ORDER: 1 EACH UPC: 054007-32671	**Bond Braid** With 6" eyelets.
2519 PKG: 10 KITS MIN. ORDER: 10 KITS UPC: 051138-57722	**Cable Fanout Kit** Transitions cable buffer tubes or single tube to fiber tube.
2519-X PKG: 10 KITS MIN. ORDER: 10 KITS UPC: 051138-57723	**Cable Fanout Expander Kit** Transitions one fiber tube to two fiber tubes.

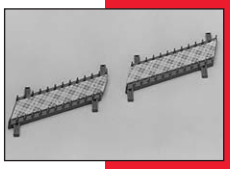


3M™ SPLICE CASE 2178 ACCESSORIES

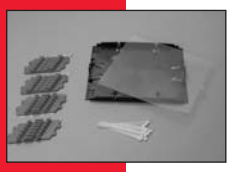
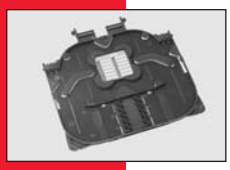
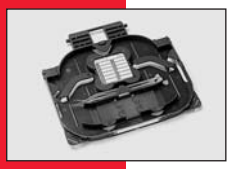
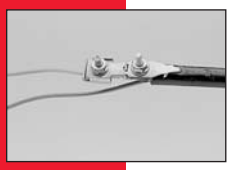
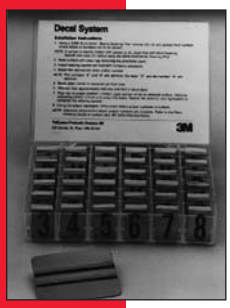
PRODUCT NUMBER/ PACKAGING INFO	DESCRIPTION
 2520 PKG (LBS.): 50 EACH (0.90) MIN. ORDER: 50 EACH UPC: 051138-36414	**Fiber Tube Transport Tubing, 1 ft** Protects single or ribbon fiber between trays; cut in one-foot lengths.
 **2521-F** PKG (LBS.): 12 PKGS. (0.55) MIN. ORDER: 12 PKGS. UPC: 051138-36412	**Fusion Splice Insert, 2 Pack** Holds 12 single fusion splices in each insert, used in 3M Fiber Splice Organizer Trays 2522/2523.
 **2521-FL** PKG (LBS.): 12 (0.40) MIN. ORDER: 12 PKGS. UPC: 051138-36413	**3M™ Fibrlok™ Splice Insert, 2 Pack** Holds six splices in each insert, used in 2522/2523 trays.
 2521-MF PKG (LBS.): 12 PKGS. (0.50) MIN. ORDER: 12 PKGS. UPC: 051138-36411	**Fibrlok Multi-Fiber Splice Insert** Holds four multi-fiber splices in each insert, used in 2522/2523 trays.
 **2521-RF** PKG (LBS.): 12 PKGS. (1.00) MIN. ORDER: 12 PKGS. UPC: 051138-36415	**Ribbon Fusion Splice Insert** Holds five ribbon fusion splices in each insert, used in 2522/2523 trays.
 2522 PKG (LBS.): 3 EACH (3.00) MIN. ORDER: 3 EACH UPC: 051138-36522	**Small Fiber Splice Organizer Tray** Holds two 3M Splice Inserts 2521 Series (sold separately).* The 2522 tray stores and protects discrete and mass, mechanical and fusion fiber optic splices in closures and fiber distribution units. The 2521 series splice inserts are easily added to either tray to secure splices into the trays. Fibers are routed into the trays using 3M Fiber Tube Transition Tubing 2520 that zips over the fibers. *Splice inserts must be ordered separately. See above.
 **2523** PKG (LBS.): 3 EACH (4.00) MIN. ORDER: 3 EACH UPC: 051138-36523	**Large Fiber Splice Organizer Tray** Holds four 2521 series splice inserts (sold separately).* The 2523 tray stores and protects discrete and mass, mechanical and fusion fiber optic splices in closures and fiber distribution units. The 2521 inserts are easily added to either tray to secure splices into the trays. Fibers are routed into the trays using 2520 tubing that zips over the fibers. *Splice inserts must be ordered separately. See above.

3M™ SPLICE CASE 2178 ACCESSORIES

PRODUCT NUMBER/ PACKAGING INFO	DESCRIPTION
2524 PKG (LBS.): 3 EACH (2.80) MIN. ORDER: 3 EACH UPC: 051138-11514	**Splice Organizer Tray** Holds 24 3M™ Fibrlok™ Splices and eight buffer tubes. The 3M Fibrlok Splice Organizer Tray 2524 holds 24 Fibrlok splices (2525, 2590, 2599, 2529) and accommodates up to eight buffer tubes holding up to 48 fibers (900 µm or 250 µm). The tubes are secured with channel snaps so that cable ties are not required. The fibers all enter the tray in one corner eliminating the need for figure 8's in the fiber. An important design feature of these stackable trays is the snap-on hinge cover on each tray. Individual trays may be accessed without disassembly of the trays above or below — and without kinking buffer tubes. The 2524 tray can be adapted for fusion splice storage using the 2524F insert. The 2524 tray fits and mounts in the 3M Fiber Optic Splice Closure 2177, the 2178 and the 2178-S splice cases.
2524-A PKG (LBS.): 3 EACH (0.96) MIN. ORDER: 3 EACH UPC: 054007-92320	**Splice Organizer Tray** Holds four mass fusion or 24 single fusion splices, or a combination of 20 single fusion and four mass fusion.
2524-F PKG (LBS.): 24 EACH (0.40) MIN. ORDER: 24 EACH UPC: 054007-57150	**Fusion Splice Insert** Adapts the 2524 tray for fusion splices. Contains gasket and materials for installing additional cables and is flame retardant.
2524-FT PKG (LBS.): 3 EACH (0.96) MIN. ORDER: 3 EACH UPC: 051138-11513	**Fusion Splice Organizer Tray** Holds 24 single fusion splices. The Fibrlok splice organizer tray 2524 holds 24 Fibrlok splices (2525, 2590, 2599, 2529) and accommodates up to eight buffer tubes holding up to 48 fibers (900 µm or 250 µm). The tubes are secured with channel snaps so that cable ties are not required. The fibers all enter the tray in one corner eliminating the need for figure 8's in the fiber. An important design feature of these stackable trays is the snap-on hinge cover on each tray. Individual trays may be accessed without disassembly of the trays above or below — and without kinking buffer tubes. The 2524-FT tray holds up to 24 fusion splices. The 2524-FT tray fits and mounts in the 2177 fiber optic splice closure, the 2178 splice case and the 2178-S splice case.
2524-MF PKG (LBS.): 3 EACH (3.00) MIN. ORDER: 3 EACH UPC: 051138-34352	**Fibrlok Multi-Fiber Splice Organizer Tray** Holds three Fibrlok multi-fiber and four single Fibrlok splices.



3M™ SPLICE CASE 2178 ACCESSORIES

PRODUCT NUMBER/ PACKAGING INFO	DESCRIPTION
2526 PKG: 24 KITS MIN. ORDER: 24 KITS UPC: 051138-36648	**Strap Kit for Organizer Trays** Holds 2522 and 2523 trays in place in closure.
2527 PKG: 3 EACH MIN. ORDER: 3 EACH UPC: 051168-89008	**Fiber Splice Organizer Tray** The 2527 tray will store a variety of splices. It stores up to 24 single fusion or 144 mass fusion splices and has entry from all corners. It maintains the minimum bend radius of fiber. It will accommodate 3M Fiber Tube Transport Tubes and all buffer tubes. The tray has a clear cover and splice holders included.
2532 PKG: 2 EACH MIN. ORDER: 2 EACH UPC: 051115-16220	**Fiber Splice Organizer Tray for 2178-XS Closures** Tray is stackable and accommodates 24 single and 72 mass fusion splices.
 **2538-24-DF/72-MF** PKG: 2 EACH MIN. ORDER: 2 EACH UPC: 051115-19208	**Fiber Optic Splice Tray w/24 Discrete/72 Mass Fusion** Stackable tray that will store both discrete and mass fusion splices.
 **2539-12-DF** PKG: 2 EACH MIN. ORDER: 2 EACH UPC: 051115-19209	**Fiber Optic Splice Tray w/12 Discrete Fusion Splices** Hinged tray.
 **2540-12-DF/36-MF** PKG: 2 EACH MIN. ORDER: 2 EACH UPC: 051115-19210	**Fiber Optic Splice Tray w/12 Discrete/72 Mass Fusion** Hinged tray.
4414 PKG (LBS.): 1 EACH (1.40) MIN. ORDER: 1 EACH UPC: 054007-57218	**Cable Cleaning Kit** Provides all the necessary materials for cleaning the filling compound from filled copper and fiber optic cables in an easy-to-transport kit.
 **4460-D/FO** PKG (LBS.): 100 EACH (7.95) MIN. ORDER: 100 EACH UPC: 054007-92757	**3M™ Scotchlok™ Shield Bond Connector Assembly** Provides grounding and strength and member clamp.
 **5025-KIT** PKG (LBS.): 1 KIT (6.05) MIN. ORDER: 1 KIT UPC: 054007-34385	**Reflective Lettering System Kit** 1" x 3" lettering kit.

3M™ FIBER OPTIC SPLICE CLOSURE 2177 SERIES

Fiber Optic Splice Closure 2177/2177-R

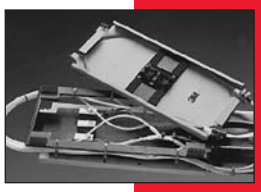
PRODUCT NUMBER: 2177 PKG (LBS.): 1 EACH (9.00) MIN. ORDER: 1 EACH UPC: 054007-63137
PRODUCT NUMBER: 2177-R PKG (LBS.): 1 EACH (9.00) MIN. ORDER: 1 EACH UPC: 051138-57595

This closure consists of a double shell designed to protect an organizer when the closure is filled with reenterable compound. Cable entry ports can be field trimmed for butt or inline splicing. A sealed inner protective shield provides added moisture protection and protects fiber from direct contact with encapsulant.

SPECIFICATIONS

FIBER OPTIC SPLICE CLOSURE 2177		
Applications	Recommended for buried splicing only	
Capacity	Maximum closure capacity	
	48 mechanical splices, 64 fusion splices, 10.1 to 25.3 mm (0.4 to 1.0") diameter cables	
Additional Materials Required	Universal Organizer Bracket 2196 Splice trays 4442 reenterable encapsulant, 2-3000 gram cans Shield connectors Ground braid or strap	Scotch™ Sealing Tape 2900R, 37.9 mm (1 1/2") LR tape Sheath scuff 4430 spacer web, 76.1 mm (3") wide (for reentry only)

Universal Organizer Bracket 2196



PKG (LBS.): 1 EACH (1.80) MIN. ORDER: 1 EACH UPC: 054007-63992

The 2196 universal organizer bracket accommodates up to three 3M Optical Fiber Splice Organizer Trays 2524 or 2524-FT or other compatible trays to be used in the 2177 fiber optic closure.

Used to terminate and hold the fiber optic cable sheaths while bonding and grounding the metallic member. Up to three cables and their grounds may be isolated and externally connected in applications where separation of grounds is required without closure reentry. Tube splitters are included for splitting fibers out of buffer tubes to multiple trays.

FEATURES	BENEFITS
UNIVERSAL ORGANIZER BRACKET 2196	
Universal	Accomodates different trays
Ground isolation	Isolates up to three cable grounds
Tube splitters	Facilitates splitting fibers out of buffer tubes to trays
Dual-lock pads	Up to three trays
Capacity	Three 2524 or 2524-FT trays or other trays compatible with 3M closures
Additional materials required	Shield bond connectors, 50.77mm (2") wide rubber tape, 9.0 mm (3/4") wide vinyl tape

Fiber Optic Splice Sleeve 2170

PKG (LBS.): 50 EACH (0.10) MIN. ORDER: 50 EACH UPC: 054007-17676

Transparent plastic tube and stainless steel rod designed to prevent stress and protect fusion fiber optic splices in field and factory operations. Sleeves are made of ethylene vinyl acetate (EVA) with heat-activated memory which causes them to shrink under heat. Sleeves shrink tightly to exclude air and hold the rod firmly, preventing abrasion of delicate glass fibers.

3M™ Fiber Optic Dome Splice Closure FD Series

3M Dome Splice Closure FD protects fiber optic splices from the elements while providing fast and easy no-cost reentry. These closures can be installed in above-ground pedestals, hand-holes, and mounted on poles and strands. The closure utilizes proven sealing technology and over 30 years of experience with copper protection.

Fiber splices are enclosed in a polypropylene dome that is clamped together with a stainless steel latch and sealed with an O-ring. Pre-stretched tubing is slipped over the base of the closure and onto a gel sealing collar. Pulling the plastic rip cord shrinks the tubing to an air and water tight seal around the collar. No special tools, power supply or torches are required for assembly. To reenter, simply pull the latch.

Available in two sizes, the closure accommodates various cable constructions and splice capacities. Each tray holds two splice inserts. Four types of inserts are available to hold 3M™ Fibrlok™ Splices or multi-fiber splices, fusion or mass fusion splices.

For quick installation and field-proven performance specify 3M fiber protection products.

FEATURES	BENEFITS
3M™ FIBER OPTIC DOME SPLICE CLOSURE FD SERIES	
Proven 3M sealing technology	Helps reduce maintenance costs
Easy installation required "reentry"	No special tools, torch or power supply
Ready access	No-cost reentry to splices; craft friendly
Flexible fiber management	Accommodates a variety of cable sizes
Flexible splice capability 4 - 432 fibers in ribbon splices	1 - 96 fibers in discrete splices
Minimal training	Can help provide cost savings
Gel end seal technology multiple cable configurations	No compounds to mix; air tight seal over
100 lb. strain relief with shield bond connector assembly	Long product life; craft friendly — no exposed metal
Rugged and versatile design installed in a variety of environments	One system fits all; can help reduce inventory costs

SPECIFICATIONS

TYPE	FD06	FD08
Dome size cm (in.)	57.15 x 14.2 x 9.4 (22.5 x 5.6 x 3.7)	59.7 x 17.8 x 13.71 (23.5 x 7.0 x 5.4)
Number of trays	2	4
Number of cables	6	6
Splicing capacity		
3M™ Fibrlok™ Universal Splice	24	48
Fibrlok™ Multi-Fiber Splice	16 (192 fibers)	32 (384 fibers)
Fusion	48*	96*
Mass fusion	20 (240 fibers)	36 (432 fibers)
Express capacity		
Single tube discrete cm (in.)	228.6 (90) length 192 fibers stored in trays	228.6 (90) length 192 fibers stored in trays
Buffer tube cm (in.)	228.6 (90) length 120 fibers maximum (4 buffer tubes or 120 fibers stored in trays)	228.6 (90) length 216 fibers maximum (8 buffer tubes and 120 fibers stored in trays)
Ribbon cm (in.)	172.7 (68) length 288 fibers maximum (24 ribbons stored in trays)	172.7 (68) length 288 fibers maximum (24 ribbons stored in trays)
Cable capacity		
Main port (2) mm (in.)	8.9 - 21.1 (0.35-0.83)	12.5 - 33.0 (0.49-1.30)
Drop port (4) mm (in.)	8.9 - 17.5 (0.35-0.69)	8.9 - 20.1 (0.35-0.79)

*Double stacked fusion sleeves

PRODUCT REFERRAL GENERATOR

Pedestal Cabinets . . . . . pg. 120
3M™ Fibrlok™ II Optical Splicing. . . pg. 218

ORDERING INFORMATION

FOLLOW 5 EASY STEPS FOR ORDERING

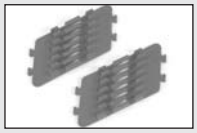
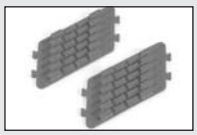
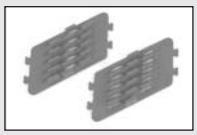
1

For complete installation choose one of these:

PRODUCT NUMBER	DESCRIPTION	PKG. (LBS.)	MIN. ORDER	UPC 051138-	
FD06	FD Closure Kit				
	Contains transition tray and one splice tray; capacity for one more splice tray.	1 kit (7.30)	1 each	36404	
FD08	FD Closure Kit				
	Contains transition tray and one splice tray; capacity for three more splice trays.	1 kit (8.95)	1 each	36405	
FD06-D	FD Closure Kit with Discrete Splices				
	Contains transition tray, one splice tray, two 3M™ Shield Bond Connectors 4460-D/F0, two 3M™ Splice Inserts 2521-F for fusion splices, and two 3M™ Splice Inserts 2521-FL for 3M™ Fibrlok™ splices.	1 kit (8.00)	1 each	36645	
FD08-D	FD Closure Kit with Discrete Splices				
	Contains transition tray, one splice tray, two 4460-D/F0 shield bond connectors, two 2521-F splice inserts for fusion splices, and two 2521-FL splice inserts for Fibrlok splices.	1 kit (9.50)	1 each	36646	

2

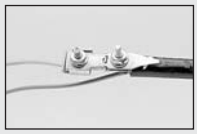
Choose one package for each splice tray:

PRODUCT NUMBER	DESCRIPTION	PKG. (LBS.)	MIN. ORDER	UPC 051138-	
2521-FL	3M™ Fibrlok™ Splice Insert, 2-Pack				
	Holds six single mechanical splices in each insert.	12 pkgs. (0.40)	12 pkgs.	36413	
2521-MF	Fibrlok Multi-Fiber Splice Insert				
	Holds four multi-fiber splices in each insert.	12 pkgs. (0.50)	12 pkgs.	36411	
2521-F	Fusion Splice Insert, 2-Pack				
	Holds twelve discrete fusion splices in each insert.	12 pkgs. (0.55)	12 pkgs.	36412	
2521-RF	Ribbon Fusion Splice Insert				
	Holds five ribbon fusion splices in each insert.	12 pkgs. (1.00)	12 pkgs.	36415	

ORDERING INFORMATION

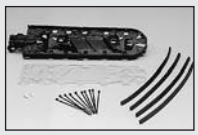
3

Choose one shield bond connector or strength member clamp for each cable:

PRODUCT NUMBER	DESCRIPTION	PKG. (LBS.)	MIN. ORDER	UPC 051138-	
4460-D/FO	**3M™ Scotchlok™ Shield Bond Connector Assembly**				
	Provides grounding and central strength member clamp.	100 each (7.95)	100 each	92757*	
FD110	**FD Ground Kit for Fiber Optic Cable**				
	Includes two 4460-D/FO shield bond connector assemblies and two ground straps.	12 kits (6.46)	12 kits	36416	
2172	**Strength Member Clamp for Fiber Cable**				
	Clamps strength member to cable sheath.	100 each	100 each	36612	

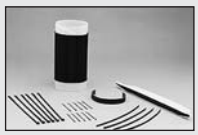
4

For complete installation choose one of these:

PRODUCT NUMBER	DESCRIPTION	PKG. (LBS.)	MIN. ORDER	UPC 051138-	
FD100	**FD Splice Tray Kit**				
	Contains splice tray, cover, cable ties and fiber tube transition tubing.	3 kits (2.25)	3 each	36408	

5

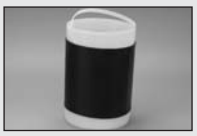
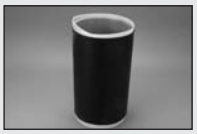
Choose additional accessories as necessary:

PRODUCT NUMBER	DESCRIPTION	PKG. (LBS.)	MIN. ORDER	UPC 051138-	
FD106	**FD Cable Addition Kit**				
	Contains pull and shrink tubing, gel strip, cable ties, sheath scuff, fiber tube transition tubing; for reentry into FD06 closure.	1 kit (4.00)	1 kit	36409	
FD108	**FD Cable Addition Kit**				
	Contains pull and shrink tubing, gel strips, cable ties, sheath scuff, fiber tube transition tubing; for reentry into FD08 closure.	1 kit (4.55)	1 kit	36410	
2520	**Fiber Tube Transition Tubing, 1 ft**				
	Protects fibers between trays; accommodates ribbon fibers; cut in one-foot lengths.	50 each (0.90)	50 each	36414	

*UPC prefix 054007-

3M™ FIBER OPTIC DOME SPLICE CLOSURE FD SERIES

ORDERING INFORMATION

PRODUCT NUMBER	DESCRIPTION	PKG. (LBS.)	MIN. ORDER	UPC 051138-	
2520-3FT	**Fiber Tube Transition Tubing**				
	Protects fibers outside trays; accommodates ribbon fibers; cut in three-foot lengths.	24 each	24 each	36647	
4600-GSS	**Gel Sealant Strip**				
	Gel strip seals cables and gel core in 3M Fiber Dome Closures FD06 or FD08.	50 each	50 each	92221*	
FD120	**FD Mounting Bracket**				
	Mounting bracket for FD06/FD08 closures.	1 kit (1.60)	1 kit	36454	
FD130	**FD Strand Mount Bracket Kit**				
	Strand mounting bracket for FD06/FD08 closures with three clamps.	1 kit (1.80)	1 kit	36455	
FD130-S	**FD Strand Mount Bracket, Single Clamp**				
	Strand mounting bracket for FD06/FD08 closures with one clamp around closure base.	1 kit	1 each	36677	
FD06-PST	**FD Pull and Shrink Tubing**				
	Pull and shrink tubing for FD06.	5 each (13.85)	5 each	36402	
FD08-PST	**FD Pull and Shrink Tubing**				
	Pull and shrink tubing for FD08.	5 each (18.35)	5 each	36403	

*UPC prefix 054007-

3M™ SLiC™ Fiber Aerial Closures and Terminals

New SLiC fiber closures and terminals are designed for strand-mount FTTH in-line, butt or taut sheath applications. This weather-tight product is a single piece construction that can be installed very easily. The single piece construction permits complete splice access after placement without removal of the closure or terminal from the cable.

The double-walled, blow-molded body protects fiber splices and resists cracking or breaking even in harsh environments. Almost all parts are attached to the closure/terminal. Because of the interlocking ends, the closures or terminals can be extended to protect damaged cable sheaths.

The new SLiC fiber terminal features a two-closure-in-one housing design which separates the drop chamber from splice chamber. This allows the terminal to be accessed for fiber drop terminations without opening the splice chamber. SLiC fiber closures and terminals are tested to Bellcore GR-771-CORE mechanical and environmental requirements for free-breathing closures as well as drop pullout requirements from Bellcore TR-TSY-000949.

3M™ SLIC™ FIBER AERIAL CLOSURES AND TERMINALS

SLiC Fiber Aerial Closure 533 and 733

3M's SLiC fiber aerial closures are designed to enable service providers to cost-effectively deploy aerial fiber networks in the access network (FTTN, HFC, and FTTP). The SLiC fiber aerial closure is a weather-tight, single-piece aerial closure that can be installed very easily for new construction or maintenance situations. The single-piece construction permits complete splice access after placement without the removal of the closure from the cable. These free-breathing closures (FBCs) are designed for strand-mount in-line, butt or taut sheath single or ribbon fiber applications.

The durable double-walled, blow-molded body resists cracking or breaking even in the harshest environments, providing the ultimate protection for the fibers and splices.

The SLiC fiber closure portfolio consists of the 533 and the 733 units. The maximum splice capacity of the SLiC 533 closure is 144 and 432 for single and mass fusion. The SLiC 733 closure can accommodate up to 288 single and 864 mass fusion splices.

FEATURES	BENEFITS
One-piece construction	Easy installation and permits access to the cable splice without removing the closure or the terminal
Double-walled molded construction	Durable protection from bending and cracking in the most extreme environments
Spacious fiber management area	Slack storage basket provides separate area for routing, protecting, and "expressing" buffer tubes and ribbon fibers
Multiple splicing applications	Accommodates in-line and butt end span and midspan as well taut sheath applications
Quick-release clamps	Easy installation and reentry without the need for special tools
Interlocking ends	Permits the closure chamber to be extended to protect damaged sheath

SPECIFICATIONS

	SLIC 533 FIBER AERIAL CLOSURE TAUT SHEATH	SLIC 533 FIBER AERIAL CLOSURE	SLIC 733 FIBER AERIAL CLOSURE
Product Number	SLFC-533-TS	SLFC-533-SP	SLFC-733-SP
Dimensions (LxHxW) inches	33.0" x 5.0"	33.0" x 5.0"	33.0" x 7.0"
Cable entry ports and size (inches)	3 ports per end Port 1: 0.6 - 2.2" Port 2 and 3: 0.2 -1.4"	3 ports per end Port 1: 0.6 - 2.2" Port 2 and 3: 0.2 -1.4"	3 ports per end Port 1: 0.6 - 2.2" Port 2 and 3: 0.2 -1.4"
Configuration	Inline (taut sheath)	Inline and butt (express)	Inline and butt (express)
Taut-sheath application	Yes; 26" sheath opening	No	No
NOTE: The SLiC fiber aerial closures are tested to Bellcore GR-771-CORE mechanical and environmental requirements for free-breathing closures.			

SPECIFICATIONS

SPLICE TRAY CAPACITY				SLIC 533		SLIC 733	
PRODUCT NUMBER	DESCRIPTION	SPLICES ACCOMMODATED	SPLICE CAPACITY PER TRAY	MAXIMUM # OF TRAYS PER CLOSURE	MAXIMUM CLOSURE SPLICE CAPACITY	MAXIMUM # OF TRAYS PER CLOSURE	MAXIMUM CLOSURE SPLICE CAPACITY
2522	Stackable hinged tray, fiber entry/exit at any corner of the tray	Single fusion (45 or 60mm) Single mechanical (3M™ Fibrlok splice) Mass fusion Mass mechanical (Fibrlok splice)	24 12 144 96	3	72 36 432 288	6	144 72 864 576
2523	Stackable hinged tray, fiber entry/exit at any corner of the tray	Single fusion (45 or 60mm) Single mechanical (Fibrlok splice) Mass fusion Mass mechanical (Fibrlok splice)	48 24 144 144	3	144 72 432 432	6	288 144 864 864
2527	Stackable hinged tray, fiber entry/exit at any corner of the tray	Single fusion (45 or 60mm) Single mechanical (Fibrlok splice) Mass fusion Mass mechanical (Fibrlok splice)	24 12 144 72	3	72 36 432 216	6	144 72 864 432

3M™ SLIC™ FIBER AERIAL CLOSURES AND TERMINALS

CONFIGURATION GUIDE

SLFC	—	XXX	—	XX	—	XX
Size						
5" x 33"		533				
7" x 33"		733				
Splicing Application						
Taut sheath				TS		
Midspan or endspan				SP		
Trays						
Number of trays						0...6
Tray Type						
None						X
2527						A

Closures

PRODUCT NUMBER: SLFC-533-TS-1A DESCRIPTION: FIBER AERIAL CLOSURE, TAUT SHEATH, ONE 2527 TRAY
PKG: 1 EACH MIN. ORDER: 1 EACH UPC: 051115-19040

PRODUCT NUMBER: SLFC-533-TS-0X DESCRIPTION: FIBER AERIAL CLOSURE, TAUT SHEATH, NO TRAY
PKG: 1 EACH MIN. ORDER: 1 EACH UPC: 051115-19041

PRODUCT NUMBER: SLFC-533-SP-1A DESCRIPTION: FIBER AERIAL CLOSURE, ONE 2527 TRAY
PKG: 1 EACH MIN. ORDER: 1 EACH UPC: 051115-19038

PRODUCT NUMBER: SLFC-733-SP-1A DESCRIPTION: FIBER AERIAL CLOSURE, ONE 2527 TRAY
PKG: 1 EACH MIN. ORDER: 1 EACH UPC: 051115-19042

PRODUCT NUMBER: SLFC-533-SP-0X DESCRIPTION: FIBER AERIAL CLOSURE, NO TRAY
PKG: 1 EACH MIN. ORDER: 1 EACH UPC: 051115-19039

PRODUCT NUMBER: SLFC-733-SP-0X DESCRIPTION: FIBER AERIAL CLOSURE, NO TRAY
PKG: 1 EACH MIN. ORDER: 1 EACH UPC: 051115-19043

3M™ SLIC™ FIBER AERIAL CLOSURES AND TERMINALS

SLIC FIBER AERIAL TERMINAL CLOSURE 530

The SLiC fiber aerial terminal closure is an aerial, strand mount, free breathing (breathable) fiber terminal for FTTP (fiber to the premises) applications. It can be used for inline, taut sheath, and butt splicing configurations.

The SLiC 530 terminal closure is comprised of two separate chambers: a distribution cable splice chamber and a drop termination chamber. The distribution cable splice chamber houses the fiber splices and stores buffer tube or ribbon fiber slack while the drop termination chamber is used to house all drop terminations.

This craft separation feature allows the installer (landR craftsperson) to terminate and maintain the drop without entering the splice chamber. The 530 terminal closure has the capability of handling up to 12 external* or internal (non-hardened preterminated, direct spliced, and spliced pigtailed) drop cable terminations.

*FONS RC™, Corning OptiTap™ and AFOP SCOUT for SC only.

FEATURES	BENEFITS
One-piece construction	Easy installation and permits access to the cable splice without removing the closure or the terminal
Separate splice and drop termination chambers	Allows easy and secure access for service connections and drop maintenance (cleaning and testing) without having to enter the closure splice chamber
Double-walled construction	Durable protection from bending and cracking in the most extreme environments
Drop termination chamber accommodates external and internal drop interfaces	Flexible nature of the terminal box permits the usage of external or internal, hardened or non-hardened, pre-terminated or field terminated, pigtail spliced or direct spliced drop cable terminations
Spacious fiber management area	Slack storage basket provides separate area for routing, protecting, and “expressing” buffer tubes and ribbon fibers
Multiple splicing applications	Accommodates inline and butt end span and midspan as well as taut sheath applications
Quick-release latches	Easy installation and reentry without the need for special tools
Interlocking ends	Permits the closure chamber to be extended to protect damaged sheath
Adaptable to both centralized and distributed splitting networks	Splitters/couplers for distributed splitting applications can be easily added

3M™ SLIC™ FIBER AERIAL CLOSURES AND TERMINALS

CONFIGURATION GUIDE

SLFT - XXX - X - XX - XX - XXXX - XXX - X

Size
530 5' x 30'

Terminal Box Type
- **A** Non-hardened, pre-terminated bottom entry
- **B** Fusion or Fibrlok spliced bottom entry
- **C** Ruggedized, pre-terminated bottom entry
- **E** None, one 6-port side entry, flat drop
- **F** None, two 6-port side entry, flat drop

Trays
0...3 # of trays

Tray type
- **X** None
- **A** 2527

Connectors/Pigtails
0...24 # of connectors

Connector Type

XX	None	**EP**	SC/APC
DA	SC/UPC	**AM**	ST/UPC
DV	LC/UPC	**EN**	FC/UPC
DW	LC/APC	**EX**	FC/APC

External Adapter
- **X** None
- **A** External adapter

Fiber Pigtail Style
- **X** Not applicable
- **A** 900µm loose buffer tube, 1 meter
- **B** 3mm yellow jacketed cable, 1 meter
- **C** 250µm ribbon to 900µm fanout, 3 meters

Couples
0...3 # of trays

Coupler Type

A	1 x 4 FBT	**C**	1 x 4 PLC
B	1 x 8 FBT	**D**	1 x 8 PLC

Input & Output Legs
- **C** Connectorized
- **S** Spliced

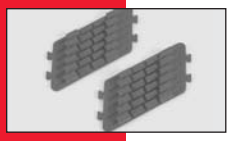
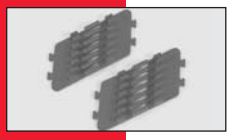
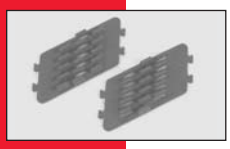
Special Features
T Taut Sheath

ORDERING INFORMATION

SLIC FIBER AERIAL TERMINAL CLOSURE 530

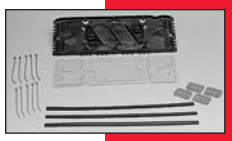
PRODUCT NUMBER	DESCRIPTION	PKG.	MIN. ORDER	UPC 051115-
SLFT-530-D-1A-04-EPAA	Fiber optic terminal 4 SCAPC external	1 each	1 each	19052
SLFT-530-D-1A-06-EPAA	Fiber optic terminal 6 SCAPC external	1 each	1 each	19053
SLFT-530-D-1A-08-EPAA	Fiber optic terminal 8 SCAPC external	1 each	1 each	19054
SLFT-530-D-1A-12-EPAA	Fiber optic terminal 12 SCAPC external	1 each	1 each	19055
SLFT-530-A-1A-06-DAXA	Fiber optic terminal 6 SCUPC internal	1 each	1 each	19075
SLFT-530-A-1A-08-DAXA	Fiber optic terminal 8 SCUPC internal	1 each	1 each	19076
SLFT-530-A-1A-12-DAXA	Fiber optic terminal 12 SCUPC internal	1 each	1 each	19077
SLFT-530-D-1A-04-EPAC	Fiber optic terminal 4 SCAPC ribbon external	1 each	1 each	19117
SLFT-530-D-1A-06-EPAC	Fiber optic terminal 6 SCAPC ribbon external	1 each	1 each	19118
SLFT-530-D-1A-08-EPAC	Fiber optic terminal 8 SCAPC ribbon external	1 each	1 each	19119
SLFT-530-D-1A-12-EPAC	Fiber optic terminal 12 SCAPC ribbon external	1 each	1 each	19120
SLFT-530-A-1A-24-DAXA	Fiber optic terminal 24 SCUPC internal	1 each	1 each	19164
SLFT-530-A-1A-06-EPXA	Fiber optic terminal 6 SCAPC internal	1 each	1 each	19165
SLFT-530-A-1A-08-EPXA	Fiber optic terminal 8 SCAPC internal	1 each	1 each	19166
SLFT-530-A-1A-12-EPXA	Fiber optic terminal 12 SCAPC internal	1 each	1 each	19167
SLFT-530-A-1A-24-EPXA	Fiber optic terminal 24 SCAPC internal	1 each	1 each	19168

3M™ SLIC™ FIBER AERIAL CLOSURE/TERMINAL ACCESSORIES

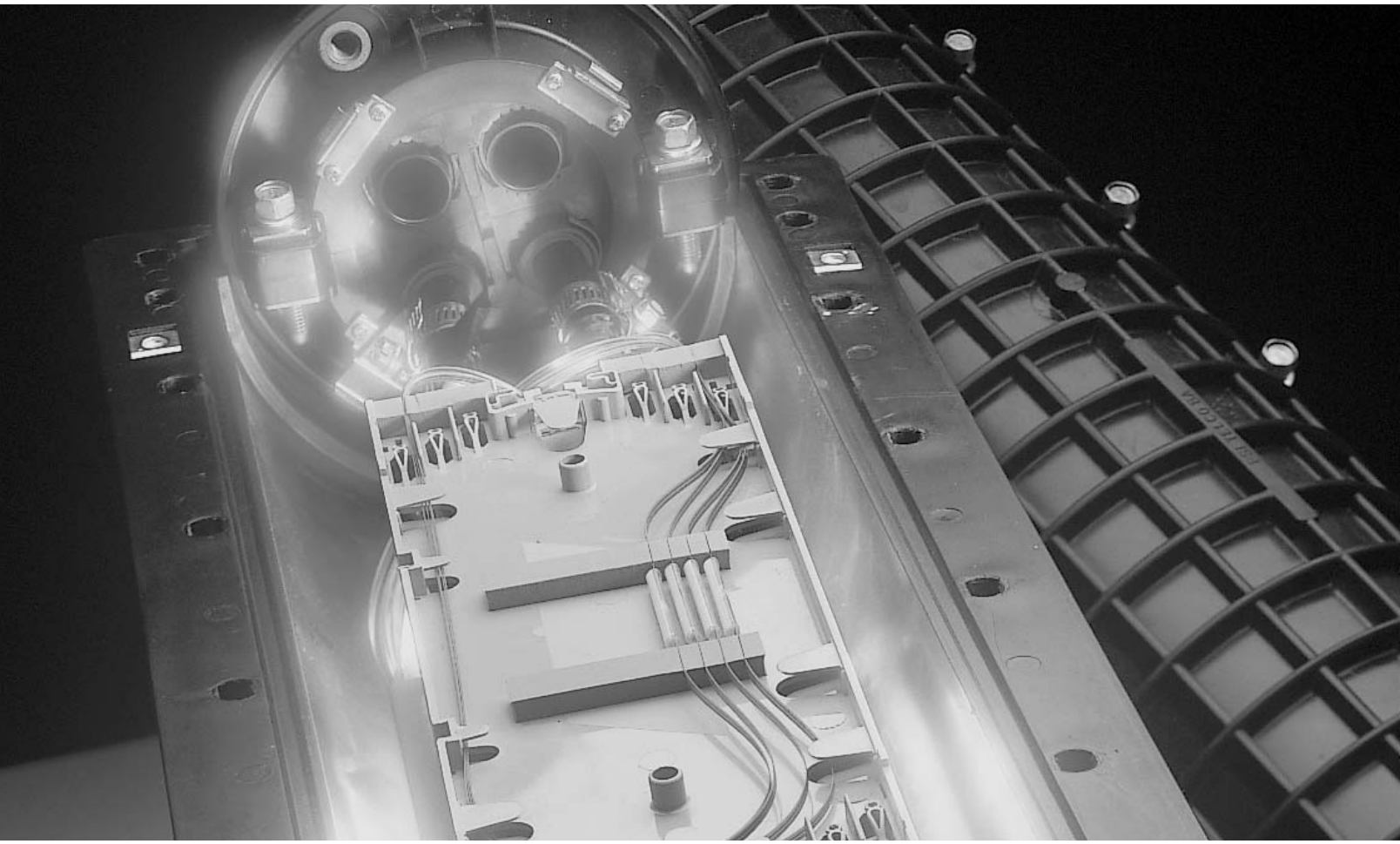
PRODUCT NUMBER/ PACKAGING INFO	DESCRIPTION
AC-HB4 PKG.: 10 EACH MIN. ORDER: 10 EACH UPC: 051115-19068	**Aerial Offset Hanger Bracket, 4.0"** For overlashing application.
SLIC/GATM-AC-HB3 PKG.: 10 SETS MIN. ORDER: 10 SETS UPC: 051115-15063	**Extended Hanger Bracket** Strand mount aerial application.
SLIC-AC-HB1 PKG. (LBS.): 10 SETS (3.60) MIN. ORDER: 10 SETS UPC: 054007-34416	**Offset Hanger Bracket** Strand mount aerial application.
SLIC-AC-HB2 PKG. (LBS.): 10 SETS (2.10) MIN. ORDER: 10 SETS UPC: 054007-92926	**Extended Hanger Bracket** Strand mount aerial application.
2170 PKG. (LBS.): 50 EACH (0.10) MIN. ORDER: 50 EACH UPC: 054007-17676	**Fiber Optic Splice Sleeve** Transparent plastic tube and stainless steel rod designed to prevent stress and protect fusion fiber optic splices in field and factory operations.
25T-BBE6 PKG. (LBS.): 1 EACH (3.00) MIN. ORDER: 1 EACH UPC: 054007-32671	**Bond Braid** With 6" eyelets for armored cable.
2520 PKG. (LBS.): 50 EACH (0.90) MIN. ORDER: 50 EACH UPC: 051138-36414	**Fiber Tube Transport Tubing, 1 ft** Protects single or ribbon fiber between trays; cut in one-foot lengths.
 **2521-F** PKG. (LBS.): 12 PKGS (0.55) MIN. ORDER: 12 PKGS UPC: 051138-36412	**Fusion Splice Insert, 2 Pack** Holds 12 single fusion splices in each insert, used in 3M™ Fiber Splice Organizer Trays 2522/2523.
 **2521-FL** PKG. (LBS.): 12 PKGS (0.40) MIN. ORDER: 12 PKGS UPC: 051138-36413	**Fibrlok™ Splice Insert, 2 Pack** Holds six splices in each insert, used in 2522/2523 trays.
2521-MF PKG. (LBS.): 12 PKGS (0.50) MIN. ORDER: 12 PKGS UPC: 051138-36411	**Fibrlok Multi-Fiber Splice Insert** Holds four multi-fiber splices in each insert, used in 2522/2523 trays.
 **2521-RF** PKG. (LBS.): 12 PKGS (1.00) MIN. ORDER: 12 PKGS UPC: 051138-36415	**Ribbon Fusion Splice Insert** Holds five ribbon fusion splices in each insert, used in 2522/2523 trays.

3M™ SLIC™ FIBER AERIAL CLOSURE/TERMINAL ACCESSORIES

PRODUCT NUMBER/ PACKAGING INFO	DESCRIPTION
2522 PKG. (LBS.): 3 EACH (3.00) MIN. ORDER: 3 EACH UPC: 051138-36522	**Fiber Splice Organizer Tray** The 3M™ Fiber Optic Splice Tray 2522 will store a variety of splices. It stores up to 24 single fusion splices and has entry from all corners. It maintains the minimum bend radius of fiber. It will accommodate 3M™ Transport Tubes and all buffer tubes. The tray has a clear cover.
2523 PKG. (LBS.): 3 EACH (4.00) MIN. ORDER: 3 EACH UPC: 051138-36523	**Small Fiber Splice Organizer Tray** Holds two 3M Splice Inserts 2521 Series (sold separately).* The 3M™ Fiber Optic Splice Tray 2523 will store a variety of splices. It stores up to 24 single fusion splices and has entry from all corners. It maintains the minimum bend radius of fiber. It will accommodate 3M™ Transport Tubes and all buffer tubes. The tray has a clear cover. *Splice Inserts must be ordered separately. See pg. 254.
2527 PKG. (LBS.): 3 EACH MIN. ORDER: 3 EACH UPC: 051138-89008	**Large Fiber Splice Organizer Tray** Holds four 2521 series splice inserts (sold separately).* The 3M™ Fiber Optic Splice Tray 2527 will store a variety of splices. It stores up to 24 single fusion splices and has entry from all corners. It maintains the minimum bend radius of fiber. It will accommodate 3M™ Transport Tubes and all buffer tubes. The tray has a clear cover. *Splice Inserts must be ordered separately. See pg. 254.
4414 PKG. (LBS.): 1 EACH (1.40) MIN. ORDER: 1 EACH UPC: 054007-57218	**Cable Cleaning Kit** For cleaning gel-filled fiber optic cables.
4460-D/FO PKG. (LBS.): 100 EACH (7.95) MIN. ORDER: 100 EACH UPC: 054007-92757	**Scotchlok™ Shield Bond Connector Assembly** Provides grounding and strength member clamp.
5025-KIT PKG. (LBS.): 1 KIT (6.05) MIN. ORDER: 1 KIT UPC: 054007-34385	**Reflective Lettering System Kit** 1" x 3" lettering kit.
SLIC-ES/7TC/E PKG.: 5 EACH MIN. ORDER: 5 EACH UPC: 051115-19147	**7" Rubber End Seal 3 Port Version** For SLiC closures and terminals.
SLIC-ES/5TC/E PKG.: 5 EACH MIN. ORDER: 5 EACH UPC: 051115-19148	**5" Rubber End Seal 3 Port Version** For SLiC closures and terminals.



3M™ Fiber Splice Closure System LL Series



The LL fiber splice closure is a full series of splice closures and trays used for housing, organizing and protecting single or mass fusion fiber splices. Completely modular in design, the system offers total flexibility to meet the evolving requirements of worldwide fiber optic networks.

A full range of closure sizes, diameters from 76 - 241 mm (3- 9-1/2") in combination with lengths up to 914 mm (36"), gives systems designers multiple options when considering splice location options. And while smaller size closure would normally be considered optimal, larger LL fiber splice closures can be used in many cases to provide extra storage space for ribbon or buffer tubed fiber.

LL fiber splice closures may be used with all types of fiber optic cable and for cut, uncut and taut sheath applications.

ORDERING INFORMATION

3M™ FIBER SPLICE CLOSURE LL2 AND LL4 SERIES: MODELS 4, 5, 6, 7, 8, 9 AND 12

PRODUCT NUMBER	DESCRIPTIONS/ DIMENSIONS MM (IN.)	MAX. TRAY STACKED/ HINGED	PKG.(LBS.)	MIN. ORDER	UPC 051138-
LL2 Fiber Splice Closures Universal Inline and Butt (LL-FOT001 trays are not included) Models 4 and 5.					
LL2-418	Fiber closure/butt or 2 x 2 cables	4/4	1 each (13.02)	1 each	78828
LL2-518	Fiber closure/butt or 2 x 2 cables	6/4	1 each (13.67)	1 each	78829
LL2 Fiber Splice Closures Butt only with Slack Tray For in-line applications, purchase one (1) LBI 10K conversion kit. (LL-FST2000 trays are not included) Models 7, 8 and 9.					
LL2-727-B/SL	Fiber closure/butt x 4 cables	8/8	1 each (23.58)	1 each	78543
LL2-827-B/SL	Fiber closure/butt x 4 cables	8/8	1 each (27.58)	1 each	78541
LL2-836	Fiber closure/butt x 4 cables	8/8	1 each	1 each	78542
LL2-927-B/SL	Fiber closure/butt x 4 cables	10/8	1 each (32.43)	1 each	78539
LL2-936-B/SL	Fiber closure/butt x 4 cables	10/8	1 each (38.44)	1 each	78540
LL2-1227-B	Fiber closure/butt x 4 cables	24/8	1 each (38.40)	1 each	88454
LL2-1236-B	Fiber closure/butt x 4 cables	46/8	1 each (46.36)	1 each	88473
LL4 Fiber Splice Closures Flame Retardant-Butt only with Slack Tray					
LL4-727	Fiber closure/butt x 4	8/8	1 each (30.00)	1 each	78809
LL4-827	Fiber closure/butt x 4	8/8	1 each (32.00)	1 each	78812
LL4-836	Fiber closure/butt x 4	8/8	1 each (41.00)	1 each	78813
LL4-936	Fiber closure/butt x 4	10/8	1 each (48.00)	1 each	78816
LL4-944	Fiber closure/butt x 4	12/8	1 each (55.00)	1 each	78817

ORDERING INFORMATION

3M LL "Z" SERIES

PRODUCT NUMBER	DESCRIPTIONS/ DIMENSIONS MM (IN.)	MAX. TRAY STACKED/ HINGED	PKG. (LBS.)	MIN. ORDER	UPC 051138-
LL"Z" Fiber Splice Closures Universal Inline and Butt (LL-FOT001 trays are not included)					
LLZ-416	Fiber closure/butt or 2 x 2 cables	4/4	1 each (5.58)	1 each	78840
LLZ-416-FR	Fiber closure/butt or 2 x 2 cables/flame retardant	4/4	1 each (6.47)	1 each	78839

ORDERING INFORMATION

3M LL CONVERSION KITS AND TRAYS

PRODUCT NUMBER	DESCRIPTIONS/ DIMENSIONS MM (IN.)	PKG. (LBS.)	MIN. ORDER	UPC 051138-
Conversion Kits Converts standard 2-Type closures to LL fiber splice closure.				
L-CLK10	Conversion kits for LL fiber splice closure	1 each (5.89)	1 each	78339
L-CLK11	Conversion kits for LL fiber splice closure	1 each (5.50)	1 each	78341
L-CLK12	Conversion kits for LL fiber splice closure	1 each (7.23)	1 each	78344
FF-FST 2000 Tray Kits/Hinged				
LL-FST2000-U	Universal (loose or ribbon)	1 each (0.53)	1 each	78362
LL-FST2000-L	Loose tube	1 each (0.50)	1 each	78360
LL-FST2000-R	Ribbon	1 each (0.36)	1 each	78361
FOT001 Trays/Stacked				
LL-FOT001	Single fusion 12-fiber mini tray	1 each (0.30)	1 each	78830
FOT001 Trays/Hinged				
LL-FOT001H	Single fusion 12-fiber mini tray	1each (0.40)	1 each	78831

ORDERING INFORMATION

ACCESSORIES FOR 3M™ FIBER SPLICE CLOSURE LL2, LL4 AND LL "Z"

PRODUCT NUMBER	DESCRIPTIONS/ DIMENSIONS MM (IN.)	PKG. (LBS.)	MIN. ORDER	UPC 051138-
LARS-M25	Anti-rotate stops	25	1 pkg.	77818
L2D28EK	Endplate LL2-228.6 (9) 8-cable	1 each (8.79)	1 each	77568
L2D48EK	Endplate LL2-228.6 (9) 8-cable-flame retardant	1 each (9.93)	1 each	77572
LBI10K	Fiber adapter in-line kit	1 each (4.56)	1 each	77586
LCA10K	Fiber add-cable kit	1 each (3.72)	1 each	77587
LKWSP04-100	Spool: endplate adapt for fiber cables 4-HO	1 each (2.20)	1 each	78823
LKWSP04-100-FR	Spool: endplate adapt for fiber cables - 4100, flame retardant	1 each (2.20)	1 each	78832
LRE10K	Fiber reentry kit	1 each (1.61)	1 each	77588
LHTM4K	Hinged kit 4-tray	1 each (1.00)	1 each	78819
LHTM8K	Hinged kit 8-tray	1 each (1.05)	1 each	78545
LFPS-M25	Plugging spools: fiber cables	25 each	1 pkg.	78820
LKX-M10	Plugging spools: KX endplate	10 each	1 pkg.	78821
LSRK10	Sheath retention for 8-fiber cables	1 each (1.90)	1 each	78822
LVST-M25	Straps: hook and loop tray locking	25 each	1 pkg.	78824
LNPT-M10	Tape: neoprene 3048.0 (120)	10 each	1 pkg.	78825
LRTF96-M10	Tape: RTF 2438.4 (96)	10 each (4.30)	10 each	78842

ORDERING INFORMATION

ACCESSORIES/REPLACEMENT PARTS FOR 3M FIBER OPTIC CLOSURES LL SERIES

PRODUCT NUMBER	DESCRIPTIONS/ DIMENSIONS MM (IN.)	PKG. (LBS.)	MIN. ORDER	UPC 051138-
Aerial Hanger Kits For supporting closure assembly to strand wire in aerial applications.				
AH20K	Aerial hanger kit	2/pkg. (0.90)	20 pkgs.	78418
AOH40K	Aerial offset hanger kit	2 kits	10 kits	78421
Back Cover Clip Kit For supporting backing cover to endplates during splicing. Also keeps endplates parallel and properly spaced.				
BCC10K	A, B, C, D, E and Z covers	2/pkg. (0.10)	20 pkgs.	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/pkg. (1.64)	4 pkgs.	78094
SB2375K	7.9 x 60.3 (5/16 x 2-3/8) - long	25/pkg. (1.89)	4 pkgs.	78095

ORDERING INFORMATION

ACCESSORIES/REPLACEMENT PARTS FOR 3M™ FIBER SPLICE CLOSURES LL SERIES

PRODUCT NUMBER	DESCRIPTIONS/ DIMENSIONS MM (IN.)	PKG. (LBS.)	MIN. ORDER	UPC 051138-
Channel Bars For replacing lost or damaged channel bars in LL Closures. T = Threaded, U = Unthreaded.				
CTB10K	2-LL - T 699 (27.5)	6 each (1.12)	6 each	77753
CTB11K	2-LL - T 914 (36.0)	6 each (1.55)	6 each	77756
CTB12K	2-LL - T 1130 (44.5)	6 each (1.89)	6 each	77759
CUB11K	2-LL - U 914 (36.0)	6 each (7.29)	6 each	77765
Channel Bar Inserts for 2-Type Closure For replacing lost or damaged channel bar inserts.				
CBN10K	Channel bars threaded inserts	25/pkg. (0.94)	4 pkgs.	77728
CBW10K	Channel bars unthreaded inserts	25/pkg. (0.95)	4 pkgs.	77735
Endplate Inserts For replacing lost or damaged endplate inserts.				
SNI300K	Threaded endplate inserts	25/pkg. (1.31)	4 pkgs.	78112
SWI300K	Unthreaded endplate inserts	25/pkg. (1.26)	4 pkgs.	78120
Jacking Plates For replacing lost or damaged jacking plates.				
CIT68K	Threaded jacking plate	25/pkg. (0.76)	4 pkgs.	77738
CIU68K	Unthreaded jacking plates	25/pkg. (0.76)	4 pkgs.	77739
Pressure Valve For replacing lost or damaged pressure valves.				
FVA11K	Pressure valve assembly	10/pkg. (0.70)	10 pkgs.	77801
RC Reenterable Sealing Cord For sealing the groove along the length of cover halves. AA Length Cover = 1 roll RC 45; A Length Cover = 1 roll RC62; B and C Length Covers = 1 roll RC96, Z-Closure - 1 roll RC36				
RC45-8	–	96 each (23.00)	96 each	78044
RC62-8	–	96 each (31.00)	96 each	78045
RC96-8	–	96 each (46.00)	96 each	78050
RTE Reenterable Sealing Tape For sealing cover halves and endplates. 2Y2, 2X2 and 2A2 series = 1 roll RTE36 required for 2 each endplates; 2B2 series = 1 roll RTE46 required for 2 each endplates. 2C2 and 2D2 series = 1 roll RTE62 required for 2 each endplates; 2E2 series = 2 rolls RTE 46 required for 2 each endplates.				
RTE36-8	–	108 each (50.00)	108 each	78071
RTE46-8	–	108 each (61.00)	108 each	78073
RTE62-8	–	54 each (40.00)	54 each	78075
Solvent Cleaning Wipes and Plastic Gloves For preparing plastic closure halves, endplates and cables before applying sealing tapes.				
CSSC20-M100	Solvent cleaning wipes and plastic gloves	100/pkg. (0.60)	100 each	77749

END ATTACHMENT 1