

3M

2179-CS Fiber Optic Splice Case

Instruction

2179-CS Fiber Optic Splice Case Description

1.0 General

1.1 The 3M 2179-CS Fiber Optic Splice Cases are closures that can be used in buried, underground, aerial, and pedestal applications. These closures are suitable for short-term pressurization during flash testing. **Please refer to your company's approved applications.** Each splice case has two cable entry ports on each end. Port plugs allow the cases to be used for butt or inline splices. The rigid non-encapsulated case provides moisture protection.

1.2 The 3M 2180-CS reentry kit is used to provide easy reentry.

2.0 Specifications

Maximum cable diameter:	1.0" (25mm)
Minimum cable diameter:	0.4" (10mm)
Closure length:	15.7"(399mm)
Closure width:	6.9" (175mm)
Closure height:	4.2" (106mm)
Available splice chamber space:	
Length:	12" (295mm)
Width:	4.7" (120mm)
Height:	3.3" (84mm)

2.1 Splice Tray Capacity:

Max Capacity of Splice Tray	4	3M FOT001 Splice Tray
Max Capacity of Fibre Splice	12 x 4	Loose Fiber

2179-CS Closure Installation Procedure

Note: Proper sealing of the 3M™ 2179-CS Series Fiber Optic Splice Case depends on strict adherence to these instructions and the use of specified materials. Deviations can cause leakage or cause damage. Maintain sealing surfaces clean to ensure proper sealing. DO NOT USE any un-release agents or other unspecified materials. These types of materials may lead to loss of sealing effectiveness.

4.0 Case and Cable Preparation



Securely screw both tray mounting posts into the closure bottom half and fit the tray support spacer over each post.



Attach twisted ties on the appropriated place on the base of the case.

4.1 Sealing Washers and Cable Tie

Slide two sealing washers down each cable. Use sealing washers with smallest inside diameter, which will slide on cable. Install one green cable tie on the "Feeder Cable" and trim. Install one blue cable tie on each "Distribution Cable" and trim.

Note: If necessary, sealing washers can be split and placed on the cable.

Note: When removing cable sheath, do not cut, kink, or damage inner layers. If damage occurs, cut back sheath to adequately inspect and repair.

4.2 Sheath Removal

Remove 70" (180 cm) of outer cable sheath (and shield or armor, if present). Remove successive sheath layers and wrapping to expose primary tubes protecting fibers. Stagger layers as recommended by cable manufacturer or per standard practice.

4.3 Remove all cable grease. Clean all primary tubes and dielectric strands with approved cleaner. Cover all sharp edges with vinyl tape.

Note: Carefully follow health, safety and environmental instructions as given on Material Safety Data Sheet or container label for cable cleaner solvent being used.

4.4 Trim any solid filler tubes and discard.

Note: Do not trim strength members at this time.

4.4 Scuffing

Scuff 5" (127 mm) of each cable end using supplied sheath scuff. Use 80T tape to remove the scraps.

Note: Do not use a carding brush to scuff sheaths.

5.0 Sheath Retention and Strain Relief



Wrap the supplied 23# tape 1.2" (3cm) from cable sheath end. Cut the central strength member 1.5" (3.8cm) to fit along the strength member clamp. Secure the strength member to the cable retention /strength member clamp.



Secure the cable to the cable retention/strength member clamp. The cable and strength member should fit the clamp contours. Install rubber boot onto clamp.

5.1 Cable Build-up



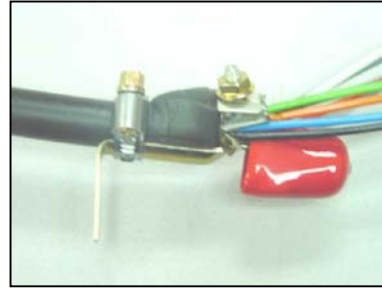
Use the 1.5" (38 mm) rubber tape included with the gasket to build the cable seals. Check the placement of the tape by positioning the strength member clamp where it will be anchored to the cable tie down bracket. Wrap the supplied rubber tape between sealing washers 2" (51 mm) from cable sheath end.



Always cut the tape in 2-dimensional bevels. To seal unused cable openings, build-up the tape on the plug. The tape should be wrapped to 1" (25mm) outside diameter.

5.2 Bonding and Grounding (Optional)

Note: Take care when installing shield bond connectors so underlying layers of cable are not damaged.



Install 4460-D Shield Bond Connector following instructions provided with connector. The lower jaw is positioned under the metallic shield under the cable sheath 90° from the strength member clamp. The two jaws are drawn tightly together with the nut and bolt trapping both the metallic shield and cable sheath between both jaws.

6.0 Fiber Preparation

With a loose buffer tube cutter, remove the loose buffer tubes in easy stages of approximately 400-450mm(16-18") to the manufacturer's instructions. Leave 50mm(2.0") of the loose buffer tube from the cable butt. Gauge the depth of the cutter blade on a scrap piece. The buffer tube cutter should score the buffer tube deep enough to enable separation to be completed with a gentle flexing movement between the fingers. Carefully remove the excess gel from the group of fibers with 3M cable cleaner.



Cut a length of flexible buffer tube 838mm(33") long. Thread a fibre group into the piece of measured flexible buffer tube and out of the opposite end. Approx. 1m(29") of fibers will be outside of the flexible buffer tubing for organization inside the tray. Allow the flexible tubing to expand and push onto the loose tube approximately 25mm(1").

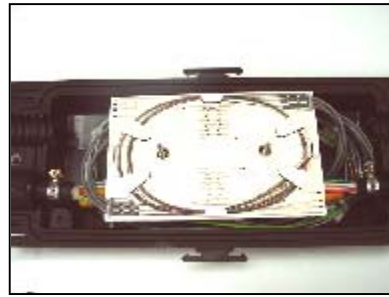
7.0 Splicing and Organization

Once the length of the flexible buffer tube has been determined, the splicing process can be completed outside of the closure.

7.1 Select the fibre groups to be spliced from both cables. Organize the flexible tubing from cable butt to splice tray entrance. Snap the flexible tube into the plastic splice tray clamps avoiding any sharp bends.

7.2 Cut the overlapping fibres to size using the tray insert as a guide. Arrange all the fibres in number sequence. Organize the fibres inside the splice tray avoiding tight bends, bringing the two corresponding fibres, from each cable, to an overlap position from opposite directions.

7.3 After splicing, re-organize the spliced fiber back into the splice tray. With finger pressure locate the spliced fiber and protector into the splice tray retention channels. The splice tray holds a maximum of 12 spliced fibers.



7.4 Snap the splice tray cover in position on top of the base. Secure the flexible loose tube to the tray with the small plastic tie through the slots provided. **Do Not Over Tighten. Note:** Ensure the ties do not interfere with the stacking of additional splice trays.



7.5 Additional tie wraps and twisted ties are provided to help organize the flexible loose tubes inside the closure. Carefully organize the flexible buffer tubes when placing the trays onto the splice tray supports. Allow the flexible tubes to naturally cross at each end on the inside of the closure.

7.6 To continue with additional fiber splicing, repeat above steps, on completion, secure all splice trays to the splice tray supports with brass nuts.



7.7 Completed Splice

Shown above are 2 completed splice trays secured to the splice tray supports with flexible loose tubes organized ready for cover closing.

8.0 Splice Case Assembly

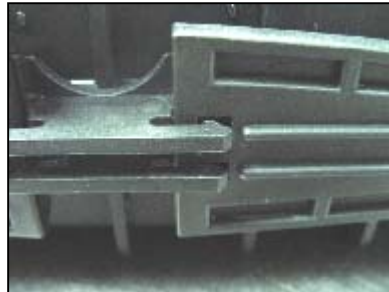


With the plastic backing tape in position, lay the sealing tape into the grooves on both sides of the bottom cover half along the flanges. Cut the tape to rest against the cable sealing tape. **Do Not Stretch The Tape.** Carefully remove the plastic backing tape from both tapes.



Fit the cover onto the base. Hand start bolts at the both closure ends. Tighten hand tight. Using a torque wrench, tighten bolts evenly. Torque all bolts to 200-250 in-lbs. (2.9Kgm-29Nm). Note: After Approx. 10 min. Re-torque the bolts to 200-250 in-lbs. (2.9Kgm-29Nm).

Only re-torque once.



Slide the four wedges onto the sealing ledge and evenly push the wedges towards the closure center using hand force only. Complete the cover sealing by tapping the wedges evenly securing the closure halves together to provide a watertight seal.

9.0 Sealing Test

To check for leaks, flash test splice case by applying air to 10 psi (0.67 bar) MAXIMUM, THEN RELEASE PRESSURE.

10. Splice Case Re-entry



Tap the wedges to remove.



Using a torque wrench, loosen bolts. Then tighten reentry bolts (M10x1) evenly to open the case.

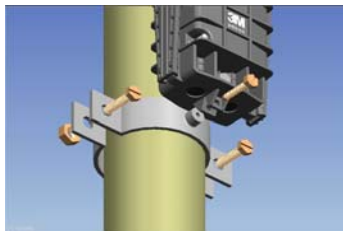
Note: It is mandatory to replace all sealing tape after re-entry.

11. To Install the Aerial-hanger, pole-mount and wall-mount kits, please refer to the figures below:



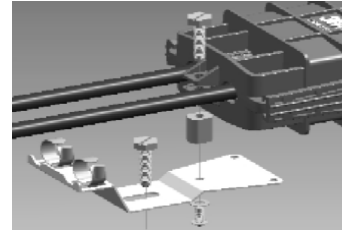
Aerial Hang

Install case on the steel strand with two hose clamps.



Pole Mount

Install the clamps on the case and then fix them on the pole.



Wall Mount

Install 2198A kits on the case and fix them on the wall with two bulge-bolts (optional).

Note: the aerial hanger, pole-mount and wall-mount kits are optional.

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3M

Telecom Access Products Division

222 Tianlin Road

Shanghai 200233, P.R.C.

Tel: 86-21-64853535

Fax: 86-21-64854010