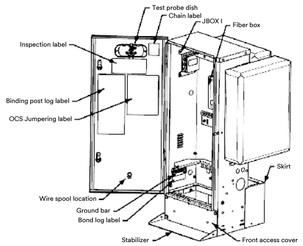
3M Science. Applied to Life.™

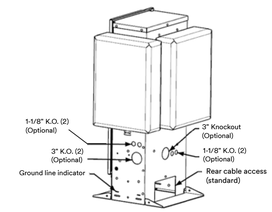
3M™ Cross-Connect Cabinets 4220SVB, 4220SVC and 4220SVE

for integrated DSLAM, copper blocks, fiber splicing and AC power applications. Multi-use Cabinets for Pad Mount, Stake Mount, H-Frame Mount, and Pole Mount (Walk-up application only)

Instructions



3M™ Cross-Connect Cabinet 4220SVC
(Front View - shown with accessories)



3M™ Cross-Connect Cabinet 4220SVC
(Rear View - shown with accessories)

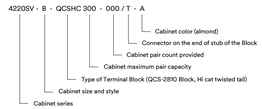
February 2017
78-0015-2616-5-C

1.0 General

1.1 These instructions provide the information necessary for the installation of the 3M™ Cross-Connect Cabinets 4220SV Series. The 3M 4220SV series cabinets hold frames that accommodate 3M™ Quick Connect System (QCS) 2810 Blocks. The cabinets are available empty. The frames can be ordered empty or loaded with blocks. Slab preparation, cabinet mounting, cable preparation, splicing, jumper installation and accessories of the cabinet are covered in the instruction.

1.2 To make these instructions easier to read, abbreviated cabinet product numbers will be used throughout the steps. Use the Naming Guide to determine the proper cabinet product numbers needed for your application.

Cabinets with 3M™ Quick Connect System (QCS) 2810 Blocks



1.3 Cabinet mounting methods. Choose and procure materials for one of the following mounting methods.

- Cabinet Mounting with Stakes for 3M 4220SVB and 4220SVC cabinets (see step 5.0)
- 3M™ Mounting Ring 4256 for the 3M 4220SV cabinet (see step 7.0) for pour in place pad
- 1/2-13 UNC anchor inserts (4) (use with pour-in-place pad, see step 7.2(a)5
- Manufactured precast or fabricated pad
- Cabinet Mounting on Pole or Post for 3M 4220SVB and 4220SVC cabinets (see step 6.0)
- Manufactured Hand Hole

1.4 Additional materials needed for cabinet installation:

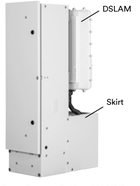
- Port sealing materials
- Splicing connectors
- 3M™ Scotchlok™ Shield Bond Connectors and bond per approved company practice
- Identification/location labels

1.5 Tools needed for the cabinet installation:

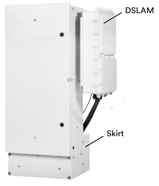
- 3/8" and 1/4" socket wrench sets
- Module/connector splicing tools
- Standard hand tools

2.0 Cabinet Overall Description

2.1 3M™ Cross-Connect Cabinet 4220SVB, SVC, and SVE

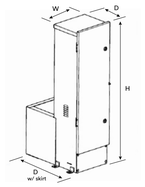


3M™ Cross-Connect Cabinet 4220SVB
(shown with DSLAM)



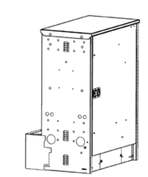
3M™ Cross-Connect Cabinet 4220SVC
(shown with DSLAM)

3M™ Cross-Connect Cabinet 4220SVE
(shown with DSLAM)



3M™ Cross-Connect Cabinet 4220SVB

3M™ Cross-Connect Cabinet 4220SVC



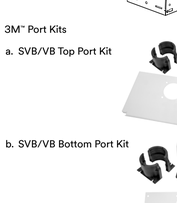
3M™ Cross-Connect Cabinet 4220SVE

Cabinets with 3M™ Quick Connect System (QCS) 2810 Blocks

Cabinet Product #	Max. Pair Count QCS 2810	Max. # of Frames QCS 2810	QCS	Dimensions: Width x Height x Depth	Depth (with skirt)	Single Sided	Low Profile	High Profile
4220SVB with door	300	1	QCS3	12.5 × 45 × 11	23	X	X	
4220SVC	600	1	QCS6	18 × 45 × 11	16.5	X	X	
4220SVE	1200	2	QCS6	33 × 45 × 18	23	X	X	

2.2 Clearance Requirements of Cabinets

4220SV	B	C	E
A	12.5"	18"	33"
B	11"	11"	18"
C	12.75"	18.25"	30.25"
D	35"	34"	53"



2.3 3M™ Frames can be ordered loaded with blocks or empty. Blocks can be terminated with 3M™ MS²™ Splicing Modules or 3M™ 710 Connectors.

3M™ Frame QCS3N for use in 3M™ Cross-Connect Cabinets SVB Series, Maximum 300pr

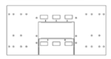
3M™ Frame QCS6 for use in 3M™ Cross-Connect Cabinets SVC and SVE Series, Maximum 600pr

3.0 Accessories and Spare Parts

3.1 3M™ Mounting Rings - To anchor cabinets onto the concrete slab.

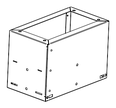
a. SVB/SVC

b. SVE



c. 4220SVB Riser
4220SVC Riser

SVC Riser shown



3.2 3M™ Port Kits

a. SVB/VB Top Port Kit

b. SVB/VB Bottom Port Kit

c. SVC/VC Top Port Kit

d. SVC/VC Bottom Port Kit

e. 3M™ Port Kit 4297-2 (SVE only)

4" diameter

f. 3M™ Port Kit 4297-3 (SVE only)

3 ¼" diameter

g. 3M™ Flexible Port Entry Kit 4297-FPE (SVB, SVC and SVE)

Note: Expanding foam required.

3.3 3M™ Pedestal Sealant Kit 4411A

3.4 3M™ MS² Stake Mount Kit 4056-SVS2

3.5 3M™ Quick Connect System (QCS) 2810 Blocks

3.6 Caps for 3M™ Quick Connect System (QCS) 2810 Blocks

3.7 Priority Caps for 3M™ Quick Connect System (QCS) 2810 Blocks

3.8 Spacer Block for 3M™ Quick Connect System (QCS) 2810 Blocks

3.9 3M™ Jumper Wire Spools

- 4068 - 800' 24 AWG orange/white jumper wire
- 4069 - 250' 24 AWG orange/white jumper wire
- 4368 - 800' 22 AWG red/white jumper wire
- 4369 - 250' 22 AWG red/white jumper wire
- 4368 - 800' 22 AWG red/white jumper wire
- 4369 - 250' 22 AWG red/white jumper wire

3.10 Pole/Post/Wall mount kit

3.11 ADTRAN DSLAM Bracket Kit

3.12 CALIX DSLAM Bracket Kit

3.13 3M Cross-Connect Cabinet 4220SVBS - Stabilizer Kit (2 stabilizers)
3M Cross-Connect Cabinet 4220SVC - Stabilizer Kit (2 stabilizers)

3.14 3M Cross-Connect Cabinet 4220SVB/SVC RCAC - Rear Cable Access Cover
3M Cross-Connect Cabinet 4220SVE RCAC - Rear Cable Access Cover

3.15 3M™ Cabinet Skirt

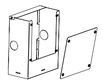
- 3M 4220SVBSK - Skirt Kit
- 3M 4220SVCSK - Skirt Kit
- 3M 4220SVESK - Skirt Kit

3.16 3M™ Stabilizer / Skirt Kit

- 3M 4220SVBSSK - Stabilizer/Skirt Kit (2 stabilizers, 1 skirt)
- 3M 4220SVCSSK- Stabilizer/Skirt Kit (2 stabilizers, 1 skirt)
- 3M™ 4220SVESSIL – Stablizer / Skirt Kit (2 stabilizers, 1 skirt)

3.17 3M™ Tall Skirt

- 3M 4220SVC/ SVE Tall Skirt Kit



3.18 3M™ Quick Connect System (QCS) Frame 2810 Maximum 300pr Frame

3.19 3M™ Quick Connect System (QCS) Frame 2810 Maximum 600pr Frame

3.20 Fiber Box

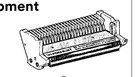
3.21 AC JBOXI (indoor box)

3.22 AC JBOXO (outdoor box)

3.23 Cable/Pair count labels

4.0 Tools and Test Equipment

4.1 3M™ Splice Head 4041 - For splicing 3M™ MS²™ Modules



3M™ 710 Uni-Presser 25-Pair Cutter Presser - For splicing 3M™ 710 Connectors.

4.2 3M™ Single Pair Test Probe 2827

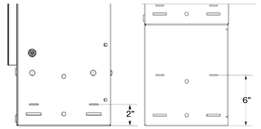
3M™ Single Pair Test Probe 2827 and Dish

5.0 Cabinet Mounting with Stakes, SVB and SVC

5.1 Carefully remove dirt from around cables per Table.

Cabinet	Length	Width	Depth
4220 SVB	34"	30"	18"
4220 SVC	30"	30"	18"

5.2 Fill excavation with coarse gravel and tamp to within 2" of ground level or to within 6" of ground level when installing a Riser.



5.3 If using a mounting ring for stake alignment, place mounting ring upside down on gravel and position the stakes in the appropriate location for SVB or SVC cabinet. Drive the stakes into the ground until the top ends are 5" (for standard cabinet) above the ground and level with each other. When using a Riser, drive the stakes into the ground until the top ends are 1" above the ground and level with each other. Protect the top of the stake with a wood block while driving. Remove mounting ring before placing cabinet. Proceed to step 5.9.

5.4 Open cabinet door(s). Remove the front access cover panel.

5.5 Place cabinet over cables and center on excavation.

5.6 The stakes will be located on the outside of the cabinet. Mark the stake location directly in line with the two bolt holes in the end walls. Position the stakes so that the smooth face is adjacent to the cabinet wall.

5.7 Move the cabinet away from the stakes and drive the stakes into the ground until the top ends are 5" above the ground and level with each other. When using a Riser, drive the stakes into the ground until the tops are 1" above the ground and level with each other. Protect the top of the stake with a wood block while driving.

5.8 Use of a 3M™ Mounting Ring 4256MR-SVB/SVC will help with alignment of stakes during stake installation.

5.9 Position the cabinet next to the stakes and attach with four 5/8" carriage bolts, flat washers, lock washers and nuts. The head of the carriage bolt must be to the outside. Hold cabinet in a vertical position and tighten nuts.

5.10 Route the cables to the inside of the cabinet. Replace front access cover. Mount the stabilizers and skirt and fill excavation with pea gravel level to ground surface.

5.11 Add additional pea gravel inside the cabinet to within 4" of the bread pan.

6.0 3M Cross-Connect Cabinets 4220SVB/VB and 4220SVC/VC Pole Mount Cabinet Mounting (Walk-up application only)

6.1 When mounting the cabinet on a pole for "walk-up" applications, refer to your company practice for proper positioning.

6.2 Attach Top Pole Mount Bracket to pole per your company practice.

6.3 Remove Front Access Panel on cabinet.

6.4 Remove Top Pole Mount Hardware from back of cabinet and save to attach the 2 cabinet pole mount brackets. Attach brackets and replace hardware with bolts pointing in and tighten. Brackets should be pointing down.

Note: If using the 3M™ Top Port Kit, install now. Refer to Instruction Manual 78-0015-2824-5.

6.5 Remove the bottom center bolt and hardware and save to attach the 3M Lower Pole Mount bracket to cabinet. Attach Bracket and replace hardware with bolt pointing "in" and tighten. Bracket should be pointing down.

6.6 Lift cabinet into position. Refer to your company practice. *Use care when lifting as there are no safety handles or straps on the cabinet.

6.7 Attach the lower bracket to Pole. Refer to your company practice.

6.8 Attach cable to pole per your company practice.

6.9 Install bread pan or bottom port gland.* Refer to instructions 78-0015-2809-6 and 78-0015-2824-5.

*When using port glands it is important to define cable number and diameter before ordering. Gland Port opening is 3 3/8". If this is not big enough then use the bread pan on the bottom.

7.0 Pour in Place Concrete Mounting Pads for 3M™ Cross-Connect Cabinets

7.1 3M™ Mounting Rings are recommended for the pour in place concrete mounting pad. This gives the cabinet support and properly locates the anchor bolts.

Figure	Model	A	B	Used with Cabinets
1	4256MR-SVB/SVC Series	23"	18"	4220SVB/SVC Series
2	4256UMR-SVE	40"	20"	4220SVE/VE/VEE

Figure 1

Figure 2

Pad Preparation

Note: Follow your company's recommended procedures for these pad dimensions and guidelines:
1. Larger pads are for the convenience of the craftspeople and to control vegetation around the cabinet.
2. Smaller pads should extend six (6) inches around the mounting ring. Smaller pads (front to back) will require increased thickness to support cabinet.
3. Reinforcing concrete is recommended.

a. 3M™ Mounting Ring

1) Prepare ground surface at cabinet location and build concrete form to the dimensions of the drawing.

2) Keep the cable entry area(s) of pad clear of concrete.

3) Place cable duct(s) aligned with cable duct location markers on the mounting ring.

4) Place leveling stakes per drawing dimensions. Tops of stakes must be level with each other and with the form.

5) Attach the anchors to the bottom of the mounting ring with bolts (anchors and bolts provided with ring).

Note: Anchors can be located for either internal or external attachment to the cabinet.

Note: Side of mounting ring can be cut open for placement around cable for rehab applications. (SVE Mounting Ring)

6) Set mounting ring on leveling stakes and make sure ring is level with concrete form. Secure to leveling stakes with four nails.

7) Pour concrete around mounting ring until concrete is level with top of ring. Inspect for good concrete flow around anchors.

Note: Optional procedure is to pour and level concrete. Then press mounting ring into soft concrete until it is flush with top surface.

8) Recommended pad dimensions for 3M™ Cross Connect Cabinets:

3M™ Mounting Rings 4256MR-4220SVB/SVC and 4256UMR-1 Mounting Ring – dimensions for pad mount

Model Number	Overall Pad W x D		Location of Leveling Stakes				Cable Ducts/Sweeps Entry Location			
	A	B	C	D	E	F	G	H	J	K
4256 SVB/SVC	53" 135 cm	75" 191 cm	19" 48 cm	17" 43 cm	11" 28 cm	32" 81 cm	9" 23 cm	22" 56 cm	8" 20 cm	33.5" 85 cm
4256UMR-1	53" 135 cm	75" 191 cm	29" 74 cm	12" 30.5 cm	17" 43 cm	29" 73.5 cm	9" 23 cm	22" 56 cm	8" 20 cm	33.5" 85 cm

b. Using Anchor Inserts for 3M™ Cross Connect Cabinets

1) Prepare ground surface at cabinet location and build concrete form to the dimensions of the drawing.

2) Keep the cable entry area of pad clear of concrete.

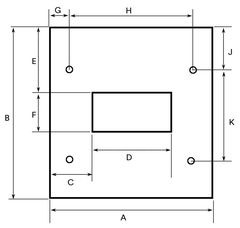
3) Pour concrete, making sure surface is level.

4) Place anchor inserts at dimensions of drawings. Select internal or external attachment to cabinet.

3M™ Mounting Rings 4256MR-4220SVB/SVC and 4256UMR-1 – anchor dimensions

	Overall Pad W x D		Cable Ducts/Sweeps Entry Location				Concrete Anchor Location			
Model Number	**A**	**B**	**C**	**D**	**E**	**F**	**G**	**H**	**J**	**K**
4256 SVB Internal	53" 135 cm	75" 191 cm	22" 56 cm	9" 23 cm	33.5" 85 cm	8" 20 cm	21.2" 54 cm	10.6" 27 cm	21" 53.3 cm	6.5" 16.5 cm
4256 SVB External	53" 135 cm	75" 191 cm	22" 56 cm	9" 23 cm	33.5" 85 cm	8" 20 cm	19.2" 49 cm	14.6" 37 cm	21" 53.3 cm	6.5" 16.5 cm
4256 SVC Internal	53" 135 cm	75" 191 cm	22" 56 cm	9" 23 cm	33.5" 85 cm	8" 20 cm	18.5" 47 cm	16" 41 cm	21" 53.3 cm	6.5" 16.5 cm
4256 SVC External	53" 135 cm	75" 191 cm	22" 56 cm	9" 23 cm	33.5" 85 cm	8" 20 cm	16.5" 42 cm	20" 51 cm	21" 53.3 cm	6.5" 16.5 cm
4256UMR-1	53" 135 cm	75" 191 cm	22" 56 cm	9" 23 cm	33.5" 85 cm	8" 20 cm	9" 23 cm	34.75" 88 cm	31" 79 cm	13" 33 cm

Note: Depth equals 4".



8.0 3M™ Cross-Connect Cabinet Installation

8.1 Install feeder and distribution cables. Provide cable length:

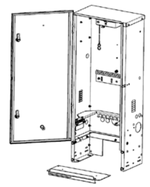
a. 4220SVB/VB, SVC/VC - 12' above pad

b. 4220SVE/VE - 14' above pad

8.2 Position cabinet on mounting pad.

a. SVB/SVC: Remove front access panel

Note: Remove all frames to minimize weight.



b. SVE: Remove top and front access panels and lower frame support.

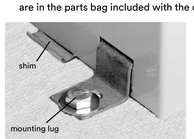
Note: If a lift boom truck is used, reposition the two side lifting straps for attachment of a sling. Attach lift device (sling) to cabinet lift straps.

c. Position cabinet onto the mounting points of the ring or anchors. Align cables with cable ports.

8.3 Secure cabinet to the pad.

The cabinets have two sets of mounting holes, external and internal. Refer to your company practice for which one to use.

a. **External mounting** uses the mounting lugs provided with the cabinet. Mounting lugs, ½" bolts, and shims are in the parts bag included with the cabinet.



b. **Internal mounting** uses the ½" bolts provided with the cabinet. The internal mounting holes are located on the inside flanged portion of the base.

c. For proper door clearance and operation the cabinet doors must be square. Shims are provided for this purpose.

8.4 When the cabinet is in place, remove the lifting straps bolted to the sides of the cabinet. Replace the bolts with the carriage-bolt heads to the outside of the cabinet.

8.5 Identify cabinet (street address) on street side door according to your company procedure.

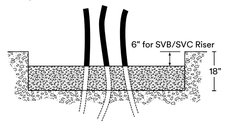
Note: These cabinets are intended for OSP (Outside Plant) applications only. The cabinets shall not contact the exterior wall of any building.

9.0 3M Riser Mounting with Stakes, SVB and SVC:

9.1 Carefully remove ground from around cables per Table.

Cabinet	Length	Width	Depth
4220 SVB	34"	30"	18"
4220 SVC	30"	30"	18"

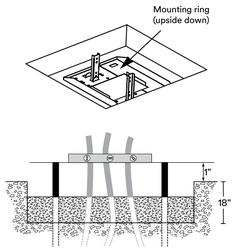
9.2 Fill excavation with coarse gravel and tamp to within 6" of ground level.



9.3 Use of a 3M™ Mounting Ring 4256UMR-5 will aid in positioning the stakes.

9.4 If not using a mounting ring to position stakes proceed to step 9.7.

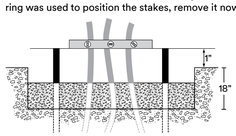
9.5 If using a mounting ring to position stakes, place mounting ring upside down on the excavation. Define stake position in mounting ring depending on which cabinet you are installing, SVB or SVC cabinet.



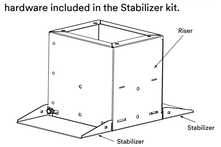
9.6 Place riser over cables and center on excavation.

9.7 The stakes will be located on the outside of the cabinet. Mark the stake location directly in line with the two bolt holes in the side walls. Position the stakes so that the smooth face is adjacent to the riser wall.

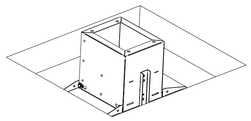
9.8 Move the riser away from the stakes and drive the stakes into the ground until the top ends are 1" above the ground and level with each other. Protect the top of the stake with a wood block while driving. If a mounting ring was used to position the stakes, remove it now.



9.9 Mount the front and rear stabilizers to the riser with the hardware included in the Stabilizer kit.



9.10 Position the riser assembly next to the stakes and attach with four ⅜" carriage bolts, flat washers, lock washers and nuts. The head of the carriage bolt must be to the outside. Hold the riser in a vertical position and tighten nuts.



9.11 Fill remainder of excavation with gravel to ground level.

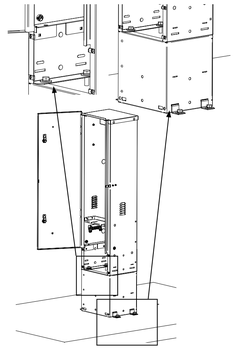
9.12 Open door on cabinet and remove the front access cover. Place cabinet on riser and attach with ½-13 hardware.

9.13 Proceed to Step 11.0

10.0 Riser Hand Hole and Pad Mount Installations

10.1 The following steps will cover hand hole, pre-cast pad and pour-in-place pad mount installations:

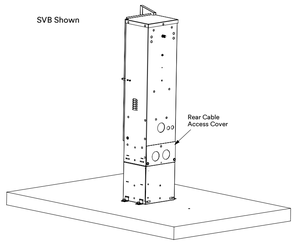
10.2 Open door on cabinet and remove the front access cover. Attach the cabinet to the riser with ½-13 hardware provided.



10.3 Fasten the cabinet assembly to the hand hole or pad using the clips and hardware provided with the cabinet.

11.0 Rear Cable Access Cover Installation

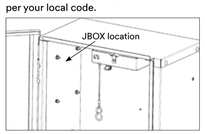
11.1 Attach Rear Cable Access Cover over opening on back of cabinet with hardware provided.

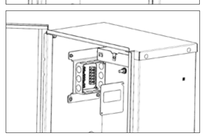


12.0 Electrical Box Installation

Note: For detailed mounting and use, see 3M™ Cross-Connect Cabinets 4220SVB, 4220SVC and 4220SVE 3M™ Junction Box (JBOX) (78-0015-2753-3).

12.1 Mounting location is identified by 4 studs and hardware on side wall inside cabinet. Remove the hardware and save for installation. Install electrical box and bracket on existing studs in location shown. Replace hardware and tighten. Connect electrical box per your local code.

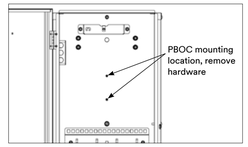




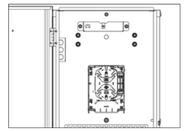
13.0 3M™ Fiber Distribution Terminal PBPOC Installation

Note: For detailed mounting and use, See 3M Fiber Distribution Terminal PBPOC Instructions (78-0015-2781-7).

13.1 Remove hardware on back of cabinet and save for installation of PBPOC.

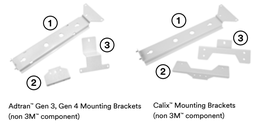


13.2 Place the 3M™ Fiber Distribution Terminal PBPOC on back cabinet wall, replace hardware and tighten.

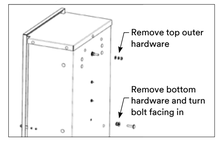


14.0 DSLAM Installation

14.1 If mounting DSLAM to cabinet, install "after" the PBPOC (if PBPOC is to be used). Refer to DSLAM Mounting Kit Installation Instructions (78-0015-2690-0).



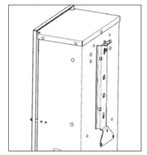
14.2 On back of cabinet remove outer nut, flat washer and lock washer from Top stud. Remove Bottom hardware completely.



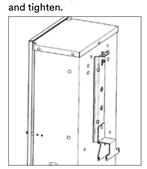
14.3 Place the long bracket on to the top stud and replace hardware.

14.4 Determine which DSLAM unit you are going to mount and use the appropriate bracket.

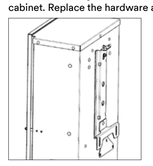
ADTRAN Gen 4 DSLAM: No secondary bracket is needed. Install the bolt through the bracket with stud facing inside of cabinet. Replace the hardware and tighten.



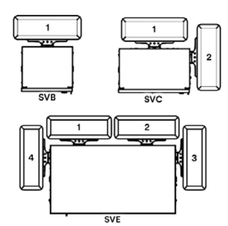
ADTRAN Gen 3 DSLAM: Select the appropriate bottom bracket and attach to the long bracket with the bolt facing inside of cabinet. Replace the hardware and tighten.



CALIX DSLAM: Select the appropriate bottom bracket and attach to long bracket with the bolt facing inside of cabinet. Replace the hardware and tighten.



14.5 Recommended DSLAM installation order



15.0 Cable Port Sealing

Three methods are available to seal the cabinet cable ports:

- Method 1 - Sealing tape collar (SVE only)
- Method 2 - Foam collar (SVE only)
- Method 3 - 3M™ Flexible Port Entry Kit 4297-FPE

15.1 Method 1 – Sealing tape collar (SVE only)

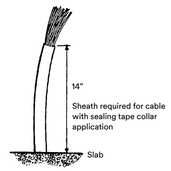
Materials required:

- ***1 ½ x ⅛ inch sealant tape***

a. Remove cable sheath.

b. Clean and scuff cable in location of cable ports.

c. Install shield connectors and attach bond straps, making sure that the straps will reach the bond plate.



d. Wrap sealing tape around cable. Build diameter to ¼" larger than I.D. of cable port.

e. Replace top access panel using supplied fasteners.

f. Install cable ports around cable with sealing tape.

g. Replace front access panel using supplied fasteners.

h. Attach foam seal across front of cabinet.

15.2 Method 2 – Foam collar (SVE only)

Materials required:

- ***3M™ Foam Tape 4430***
- ***3M™ Scotchcast™ Pedestal Base Sealant Kit 4411B***

a. Install base cover plate(s).

b. Replace top access panel using supplied fasteners.

c. Replace front access panel using supplied fasteners.

d. Attach foam seal across front of cabinet.

e. Wrap 3M foam tape 4430 around the cables at the top of the ports. Make it larger than the inside diameter of the ports.

f. Slide the tape bundle down into the port openings. Leave a ½" of space between the tape and the top of the ports for foam expansion. Tighten all bolts.

g. Mix the 3M Pedestal Base Sealant 4411 according to instructions provided.

Note: Carefully follow safety, health and environmental information given on product label or the Safety Data Sheet for the compound being used.

h. Pour the expandable foam ¼" thick on top of the foam tape. Ensure that the material surrounds the cables and creates a seal. Allow 10 minutes for the foam to harden before moving cables.

15.3 Method 3 – 3M™ Flexible Port Entry Kit 4297-FPE

Materials required:

- ***3M Flexible Port Entry Kit 4297-FPE***
- ***3M Scotchcast™ Pedestal Base Sealant Kit 4411B***

Note: This option is used when several cables enter into the cabinet. It uses a large, open cable port and is sealed with 3M Foam Tape 4430 and 3M Scotchcast Pedestal Base Sealant 4411.

a. Replace top access panel using supplied fasteners.

b. Replace front access panel using supplied fasteners.

c. Attach foam seal across front of cabinet.

d. Remove the front plate from the 3M™ Flexible Port Entry Kit. Install the port body using flange nuts and hardware.

e. Place cables into port and install the front plate. Wrap each cable with at least one layer of foam tape. Leave ½" of space between the top of the tape and top of the port. Install base cover plate. Tighten all bolts.

f. Mix the expanding sealant according to manufacturer's instructions.

Note: Carefully follow safety, health and environmental information given on product label or the Safety Data Sheet for the compound being used.

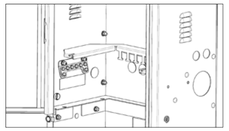
g. Pour 3M™ Scotchcast™ Pedestal Base Sealant 4411 ¼" thick on top of the foam tape and ensure that the material surrounds the cables and creates a seal. Allow space for foam to expand.

h. Allow foam to harden, usually 10 minutes, then continue with splicing.

16.0 Shield Bonding

16.1 Install 3M™ Scotchlok™ Shield Bond Connectors according to your company's practice. Attach bond straps between the shield bond connector(s) and the cabinet bond plate.

16.2 Identify cable bond straps on bond log label in the cabinet.



17.0 Cable Termination to the 3M™ Quick Connect System (QCS) 2810 Blocks

17.1 Break feeder and distribution field cables into 100-pair groups. Route the groups up to the tie bar and across to the appropriate frame location according to the cross-connect block counts.

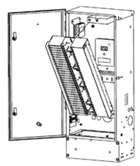
17.2 Installing the frames into the cabinet.

a. Double-sided cabinets: Install the frames on one side and splice them. Install the other side and splice. See Section 17.4.

b. Rest frames on bottom pivots.

c. Attach safety cable to frame.

Note: 3M™ Cable Frame Support Kit 4320 available in 28" and 38" length. See sales rep for information. 3M Part # 80-6113-2605-1.



17.3 Splice frame modules to the field cable.

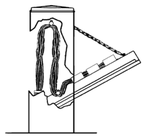
a. Set up a splicing head and supporting system.

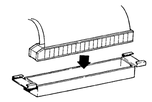
b. Position the splice head so that connections are made in staggered groups for maximum cable length.

c. Dress field cable to complete an up and down loop of conductors plus length to splice to the frame tails. Fold and bundle these groups so that they will tuck into the space behind the frames/blocks. Splice the field conductors to the block tails.

d. Splice frames to the field cable per your company procedure.

e. Use the holes in the back in the frame to secure the groups in place. Make sure to maintain the slack so the frame can be lowered from the cabinet. Secure the group to the bottom of the frame.





Note: If you are using non-sealed 3M™ MS™ Modules, install 3M™ Sealant Boxes 4075 or 4077 Series to them.

Note: Carefully follow safety, health and environmental information on sealant box label or Safety Data Sheet.

17.4 Splicing the frames on the second side of a double-sided cabinet.

a. After the first side of the cabinet is completely spliced, install one frame in the other side of the cabinet. Rest the frame on the pivots and attach the safety cable to the frame.

b. Mount the splice head alongside the frame. Splice the field conductors and block tails with the same method as the other frame splices.

c. Complete the splices, and bundle and store them following your company procedures.

d. Repeat this procedure with the middle frame.

e. Support the frame close to the last frame position. Do not install it into the cabinet. Keep it off the ground to prevent damage.

f. Untie the block tails from the frame. Lay it on the metal side. Bring the tails to the cabinet.

g. Mount the splice head in the cabinet so the splices can be bundled and stored in the same method as the frames.

h. Splice the field conductors and block tails following your company practice.

i. Complete the splicing and install the frame. Attach the safety cable to the frame.

j. Bundle the splices in the frame the same as the other frames.

k. Secure all frames in the upright position.

18.0 Identification of 3M™ Quick Connect System (QCS) 2810 Blocks Using Number Labels

18.1 Remove protector tape from identification pads on the blocks in the cabinet.

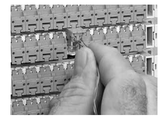
18.2 Select labels, blue for distribution or green for feeder. Detach a strip of 20 labels with your count from sheet. Carefully remove protective backing from strip.

18.3 Align the proper number such as 1-11-21, etc. with the block pads on left and press into place. Align numbers such as 10-20-30, etc. with right side block pads and press in place. Remove the top liner of the numbers.

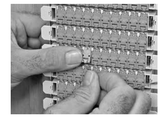
18.4 Fill in binding post log on the cabinet door with the cable pair count information.

19.0 Jumper Wire Installation and Routing of the 3M™ Quick Connect System (QCS) 2810 Blocks

19.1 Open feeder pair jumper cap by pushing up on latch and rotating up. Insert jumper wire ends A (tip) left and B (ring) right into wire openings in cap, making sure they are inserted all the way to the back of the cap.



19.2 While holding the jumper wires in place, close the cap and press to snap latch firmly into place.



19.3 Route jumper wires to distribution pair through wire loops on block ends and through vertical and horizontal wireways. Cut jumper wires to appropriate length, leaving at least 5 cm (2 inches) of slack.

19.4 Terminate the jumper wires to the distribution pair by repeating the procedure described in steps 19.1 and 19.2. Terminate additional jumper wires by repeating the above procedure.

19.5 To remove jumper wires, open the cap and pull wires straight out from block.

20.0 Accessories Installation of the 3M™ Quick Connect System (QCS) 2810 Blocks

20.1 Plug the 3M™ Pair Test Probe 2827 into the cap of the pair being tested, with the black lead to the left and the red lead to the right.

20.2 To install 3M™ Priority Caps, place over the jumper cap of the pair to be marked and push it into place. Latching is indicated by an audible snap.

Communication Markets Division
6801 River Place Blvd.
Austin, TX 78726-9000

Phone 1-800-426-8688
Web www.3M.com/Telecom