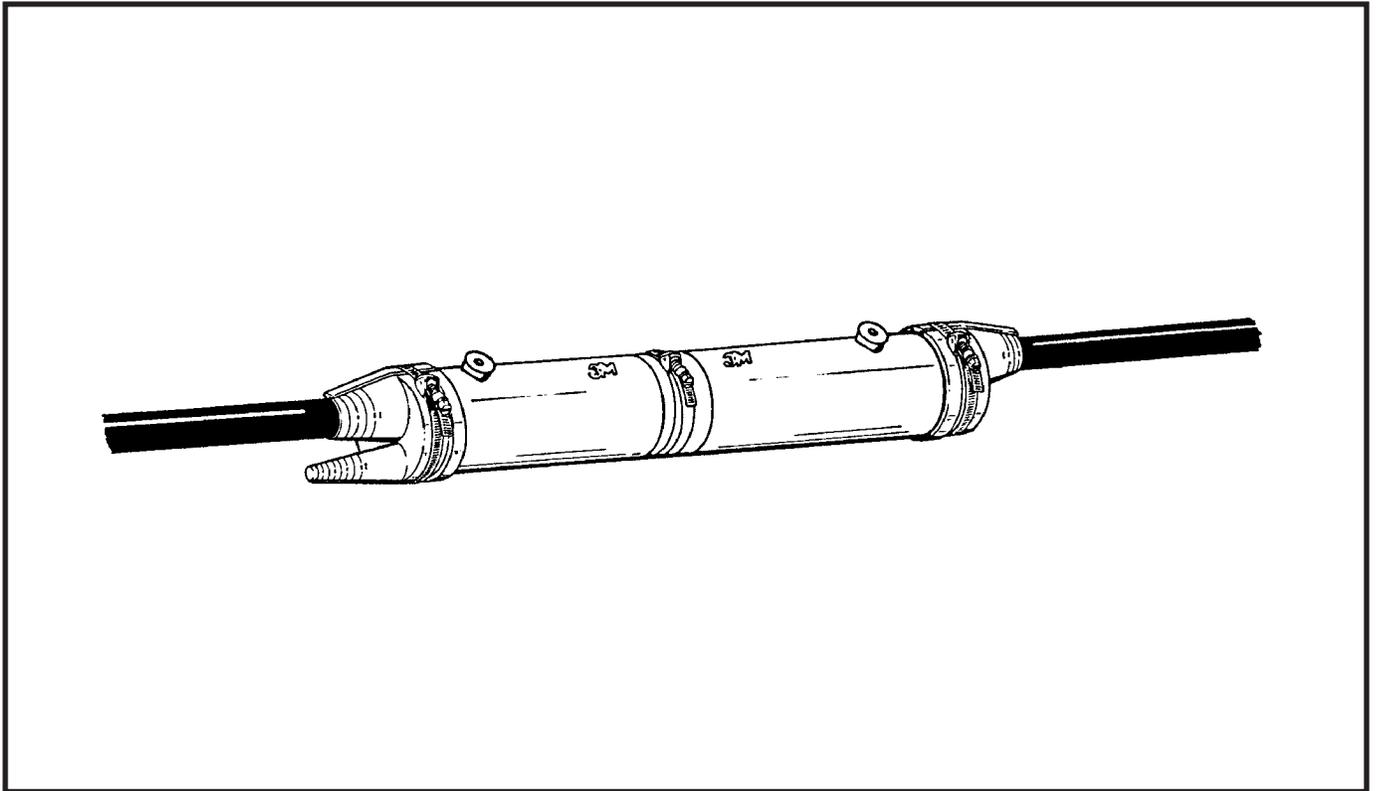


# 3M™ Better Buried Closure

(with 3M™ Scotchlok™ Shield Bond Connector 4462-FN and 3M™ High Gel Re-enterable Encapsulant 8882)

## Instructions



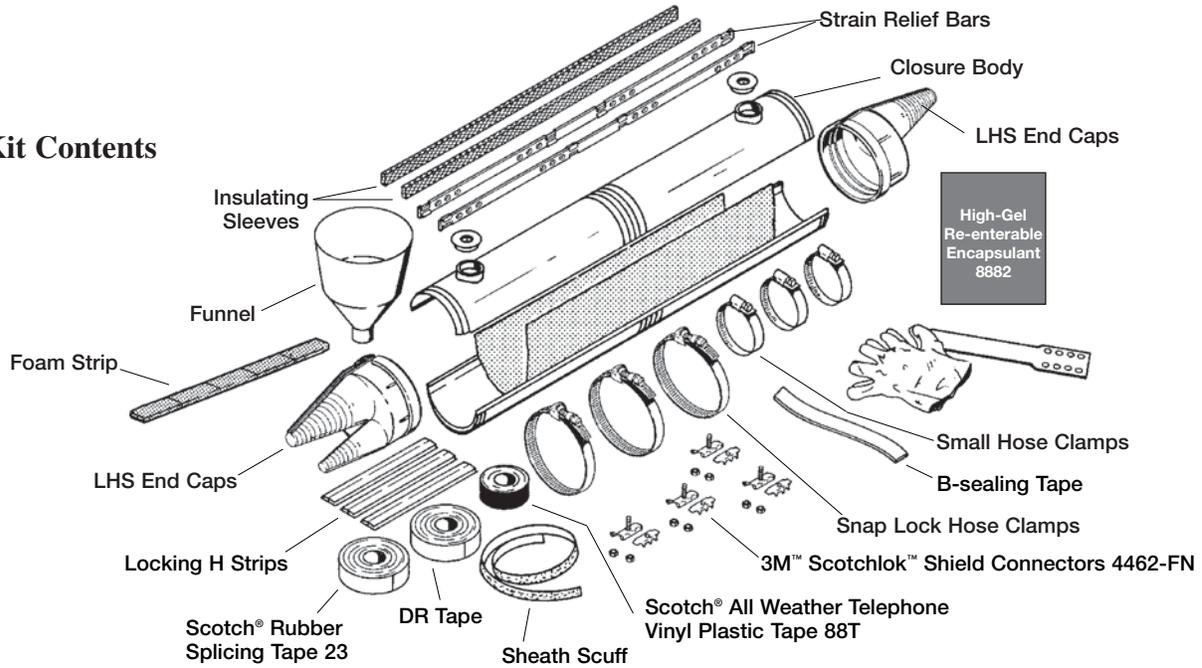
**Contents:**

- 1.0 General ..... 1
- 2.0 Kit Contents ..... 1
- 3.0 Closure Selection Guide..... 2
- 4.0 LHS End Cap Installation (2"- 9", 51 mm - 229 mm) ..... 3
- 5.0 Cable Preparations ..... 3
- 6.0 Closure Assembly ..... 7
- 7.0 Closure Reentry..... 8
- 8.0 Closure Extension ..... 8
- 9.0 Adding Service Wires (2"- 9", 51 mm - 229 mm Closures)..... 8

## 1.0 General

3M™ Better Buried Closures are rigid body splice closures designed for direct burial. When filled with an encapsulant like 3M™ High Gel Re-enterable Encapsulant 8882, the closure can be re-entered for splice rework.

## 2.0 Kit Contents



2.01 The following materials are included in each kit:

Kit Components	2" x 12" (51 mm x 305 mm)	2" x 24" (51 mm x 610 mm)	3" x 24" (76 mm x 610 mm)	4" x 24" (102 mm x 610 mm)	5" x 26" (127 mm x 660 mm)	6" x 26" (152 mm x 660 mm)	7" x 26" (178 mm x 660 mm)	9" x 26" (229 mm x 660 mm)
Closure Body	1	1	1	1	1	1	1	1
DR Tape	1	1	1	1	1	2	2	2
Scotch® Rubber Splicing Tape 23	1	1	1	1	1	2	1	1
B-sealing Tape	2	2	2	2	2	4	4	4
Scotch® All Weather Telephone Vinyl Plastic Tape 88T	1	1	1	1	1	1	1	1
3M™ Scotchlok™ Shield Connectors 4462-FN	3	3	4	4	4	4	5	5
End Cap, Single (SC)	1	1	1	1	1			
End Cap, Double (DC)	1	1	1	1	1	2	1	1
End Cap, Triple (TC)							1	1
Spacer Web (SW)	1	1	1	1	1	1	1	1
Strain Relief Bar (SB)	1	1	2	2	2	2	2	2
Hose Clamps, Closure	2	3	3	3	3	3	3	3
Hose Clamps, Strain Bar	2	2	3	3	3	4	4	4
Funnel	1	1	1	1	1	1	1	1
Snap-In Cap	1	2	2	2	2	2	2	2
3M High Gel Re-enterable Encapsulant 8882/grams	600	1200	3000	4500	7200	None	None	None
Locking "H" or Flex Strip	3	3	3	3	3	4	5	5
Sheath Scuff	1	1	1	1	1	1	1	1
Bonding Braid	4" (102 mm)	4" (102 mm)				14" (356 mm)	14" (356 mm)	14" (356 mm)

\*Foam strip provided in kits without high gel, tapes, or shield bond connectors.

## 2.02 Additional Materials Required

- 3M™ Scotchcast™ Spacer Web 4430 (For re-entry only)
- Pair Saver
- 3M™ Scotchcast™ Strain Relief Bar Kits 4465 or 4465-L
- Moisture Resistant Connectors
- 3M™ Better Buried Sleeve Kits (Closure Extension)

Visually inspect all components. If any component is missing or appears damaged, do not install and call 3M Customer Service at 1-800-426-8688 for a replacement product.

## 3.0 Closure Selection Guide

Select proper closure using the following tables.

### 3.01 Maximum Splice Bundle Capacities

Connector	2" x 12" (51 mm x 305 mm)	2" x 24" (51 mm x 610 mm)	3" x 24" (76 mm x 610 mm)	4" x 24" (102 mm x 610 mm)	5" x 26" (127 mm x 660 mm)	6" x 26" (152 mm x 660 mm)	7" x 26" (178 mm x 660 mm)	9" x 26" (229 mm x 660 mm)
4000-DWP	25 Pair 24 AWG (0.5 mm) UY Only	50 Pair 24 AWG (0.5 mm)	200 Pair 24 AWG (0.5 mm)	400 Pair 24 AWG (0.5 mm)	600 Pair 24 AWG (0.5 mm)	900 Pair 24 AWG (0.5 mm)	1200 Pair 24 AWG (0.5 mm)	2400 Pair 24 AWG (0.5 mm)
3M™ Scotchlok™ IDC Butt Connector UR or 3M™ Scotchlok™ IDC Butt Connector UR2 (w/ 3" Pigtailed)	25 Pair 22 AWG (0.6 mm)	50 Pair 22 AWG (0.6 mm)	100 Pair 22 AWG (0.6 mm)	200 Pair 22 AWG (0.6 mm)	300 Pair 22 AWG (0.6 mm)	400 Pair 22 AWG (0.6 mm)	600 Pair 22 AWG (0.6 mm)	900 Pair 22 AWG (0.6 mm)
Compound required if not supplied in kit	600 gms	1200 gms	3000 gms	4500 gms	7200 gms	12,500 gms	15,00 gms	21,000 gms

### 3.02 Closure Dimension Guide

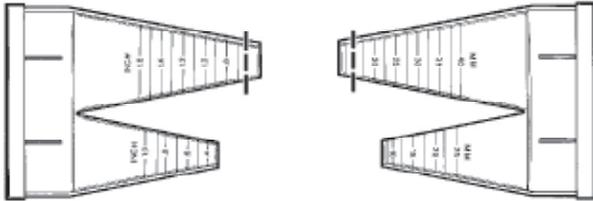
Closure End Cap Port Diameters					Max. Splice Openings			Approx. Amount Of Compound Required (Ave. Splice)
Closure Size	Single Entry (Max.)	Multiple Entry (Max.)			Single Sheath	Double Sheath		
		1	2	3		Outer	Inner	
2" x 12" (51 x 305 mm)	1.2" (30 mm)	1.2" (30 mm)	0.7" (18 mm)	-	5" (127 mm)	-	-	21 oz. (600 gms)
2" x 24" (51 x 610 mm)	1.2" (30 mm)	1.2" (30 mm)	0.7" (18 mm)	-	17" (432 mm)	17" (432 mm)	14" (356 mm)	42 oz. (1200 gms)
3" x 24" (76 x 610 mm)	1.6" (41 mm)	1.6" (41 mm)	1.0" (25 mm)	-	17" (432 mm)	17" (432 mm)	14" (356 mm)	106 oz. (3000 gms)
4" x 24" (102 x 610 mm)	2.0" (51 mm)	2.0" (51 mm)	1.5" (38 mm)	-	17" (432 mm)	17" (432 mm)	14" (356 mm)	159 oz. (4500 gms)
5" x 26" (127 x 660 mm)	2.4" (61 mm)	2.4" (61 mm)	1.8" (46 mm)	-	19" (483 mm)	19" (483 mm)	16" (406 mm)	254 oz. (7200 gms)
6" x 26" (152 x 660 mm)	-	3.0" (76 mm)	2.0" (51 mm)	-	19" (483 mm)	19" (483 mm)	16" (406 mm)	441 oz. (15000 gms)
7" x 26" (178 x 660 mm)	-	3.5" (89 mm)	2.2" (56 mm)	2.2" (56 mm)	19" (483 mm)	19" (483 mm)	16" (406 mm)	530 oz. (17000 gms)
9" x 26" (229 x 660 mm)	-	4.0" (102 mm)	2.5" (64 mm)	2.5" (64 mm)	19" (483 mm)	19" (483 mm)	16" (406 mm)	742 oz. (21000 gms)

ALL METRIC CONVERSIONS ARE APPROXIMATE.

## 4.0 LHS End Cap Installation (2" - 9", 51 mm - 229 mm)

### 4.01 End Cap Installation On Cut Cables

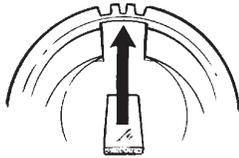
- Select desired port(s).
- Cut off cone(s) as close as possible to the diameter of the cable using the cut guides on either side of the cone(s). See cable diameter tape on back cover.



English Designation

Metric Designation

- When not slitting cap, place piece of foam in each slot on inside of cap.



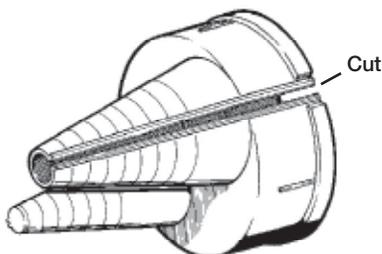
Inside End View

- Push cable through port and slide end cap down cable so not to interfere with cable preparations or splicing.

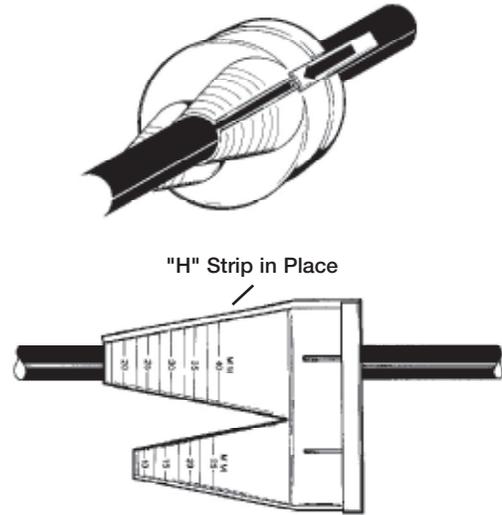
**DO NOT SPLIT END CAP  
UNLESS INSTALLING ON  
EXISTING CABLE.**

### 4.02 End Cap Installation on Straight Through or Express Cable

- Select desired port(s).
- Cut off cone(s) as close as possible to the diameter of the cable using the cut guides on the cone(s). See cable diameter tape on back cover.
- Cut end cap between raised guide rails.



- Place cap around cable.
- Slide locking "H" strip into place over the raised guide rails. Start at the large (body) end and work towards the small end of the cone. Cut "H" strip to length.



- Slide end cap down cable so not to interfere with cable preparations or splicing.

## 5.0 Cable Preparations

- Position and secure cables according to the splice opening for the closure size selected. See closure dimension guide for the maximum splice openings.

- Scuff 6" (152 mm) of outer sheaths as shown.

- Wrap all scuffed areas with vinyl tape.

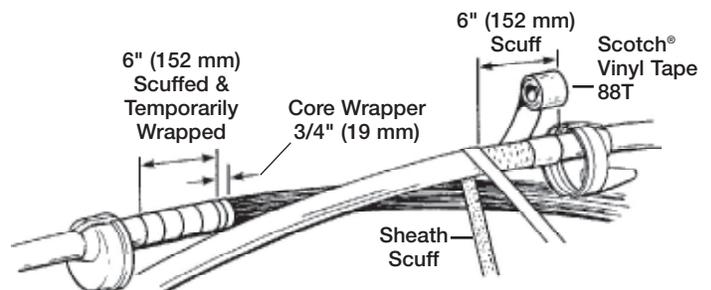
**Note:** *Vinyl tape should be removed from shield bond areas when connectors are installed.*

- Remove outer sheath for a splice opening no greater than the maximum splice opening listed for closure size in closure dimension guide.

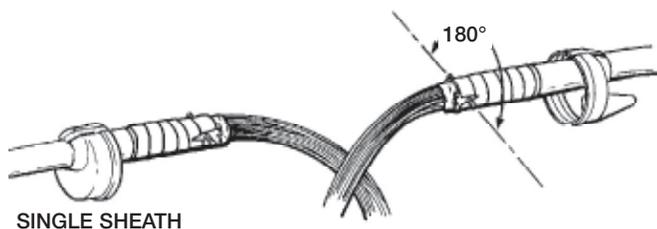
- Remove shield flush with outer sheath.

- Clean filled cable for good encapsulant adhesion and sealing.

### 5.07 ON SINGLE SHEATH CABLES:



- a. Insert base assemblies of shield bond connectors between the core wrapper and the shield 180° apart. Install first nut and torque to 45 ± 5 in-lbs (5.2 ± 0.6 kg-m).



SINGLE SHEATH

**Note:** Use only 1 (one) 3M™ Scotchlok™ Shield Bond Connector on each cable for the 2" (51 mm) diameter closures.

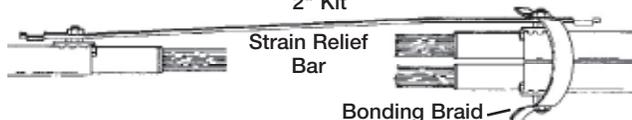
- b. Trim core wrapper leaving 3/4" (19 mm).
- c. Install insulation sleeve on strain relief bar(s). Trim length if necessary to clear mounting holes.
- d. Install one strain relief bar on Scotchlok Shield Bond Connectors (to hold splice opening and provide temporary bond). Torque second nut to 45 ± 5 in-lbs (5.2 ± 0.6 kg-m).

**Note:** Branch cables should be bonded according to illustrations. If necessary, shield bond connector studs may be trimmed to clear cover halves of smaller diameter closures.

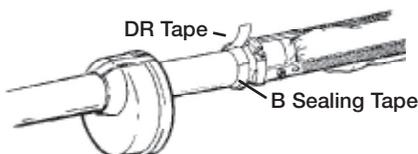
3-9" Kits



2" Kit

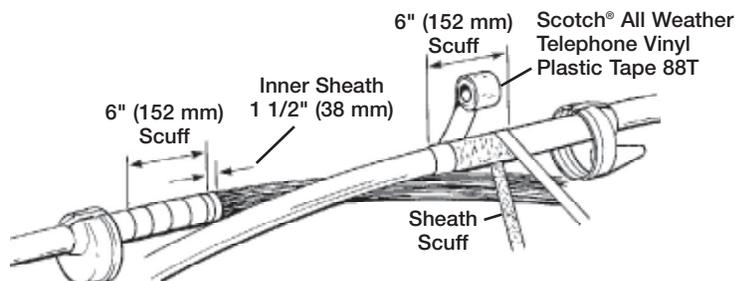


- e. Splice conductors per standard procedure.
- f. To insure thorough encapsulation of conductors, do not tightly bind the splice bundle.
- g. Install second bond bar if required.
- h. Remove Scotch® All Weather Telephone Vinyl Plastic Tape 88T from scuffed sheaths. Keep these areas clean during the following bonding and sealing collar construction operations.
- i. Build outer sheath sealing collars just beyond ends of strain relief bar(s). Sealing collars are one wrap of 3/4" (19 mm) B sealing tape. Completely overwrap with highly stretched DR tape (white side out).



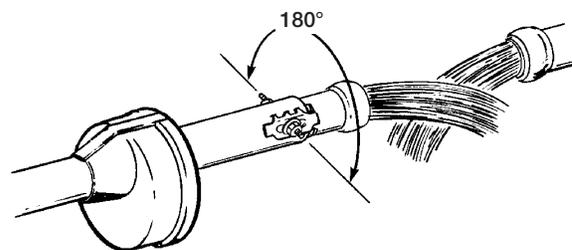
- j. Install hose clamps over ends of strain relief bar(s).
- k. Overwrap strain relief hose clamps with DR tape to keep hose clamp tails from flagging.

### 5.08 ON DOUBLE SHEATH CABLES:



- a. Remove outer sheath and shield for a splice opening no greater than the maximum splice opening listed for closure size in closure dimension guide.
- b. Scuff 6" (152 mm) of outer sheath.
- c. Wrap scuffed sheath with vinyl tape.
- d. Scuff 2" (51 mm) of inner sheath.
- e. Remove inner sheath, except for 1 1/2" (38 mm) at both ends of splice opening.
- f. Insert base assemblies of the shield connectors between the inner sheath and the shield, 180° apart. Install first nut and torque to 45 ± 5 in-lbs (5.2 ± 0.6 kg-m).

**Note:** Vinyl tape should be removed from shield bond areas when connectors are installed.



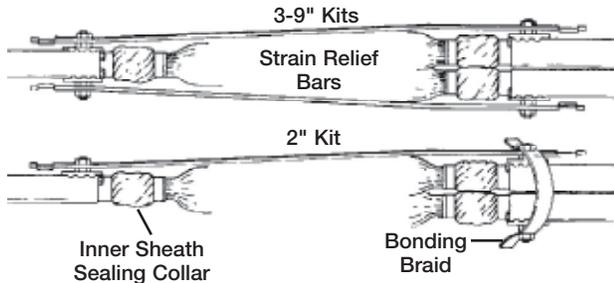
DOUBLE SHEATH

**Note:** Use only 1 (one) shield bond connector on each cable for 2" (51 mm) diameter closures.

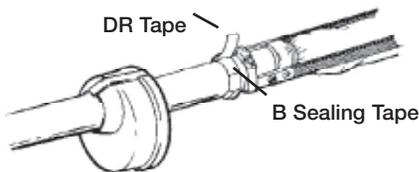
- g. Build inner sheath sealing collars on exposed inner sheaths. Sealing collars are one wrap of 3/4" (19 mm) B sealing tape completely overwrapped with highly stretched DR tape (white side out).
- h. Cover inner sheath sealing collars with vinyl tape to protect them from contamination of grease and dirt.
- i. Remove core wrap even with inner sheath.
- j. Install insulation sleeve on strain relief bar(s). Trim to length if necessary to clear mounting holes.

- k. Install one strain relief bar on 3M™ Scotchlok™ Shield Bond Connectors (to hold splice opening and provide temporary bond). Install second nut and torque to  $45 \pm 5$  in-lbs ( $5.2 \pm 0.6$  kg-m).

**Note:** *Branch cables should be bonded according to illustrations. If necessary, shield connector studs may be trimmed to clear cover halves of smaller diameter closures.*



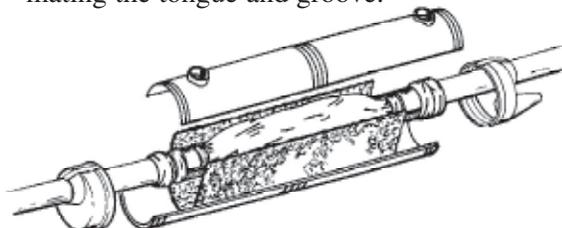
- l. Splice conductors per standard procedure.
- m. To ensure thorough encapsulating compound penetration, do not tightly bind the splice bundle.
- n. Install second bond bar if required.
- o. Remove Scotch® All Weather Telephone Vinyl Plastic Tape 88T from scuffed sheaths. Keep these areas clean during the following bonding and sealing collar construction operations.
- p. Build outer sheath sealing collars just beyond ends of strain relief bar(s). Build sealing collars to one wrap of 3/4" (19 mm) B sealing tape. Completely overwrap with highly stretched DR tape.
- q. Install hose clamps over ends of strain relief bar(s).
- r. Overwrap strain relief hose clamps with DR tape to keep hose clamp tails from flagging.



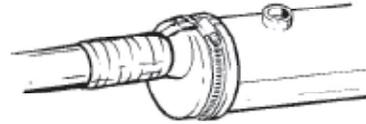
## 6.0 Closure Assembly

**Note:** *Make sure all vinyl tape has been removed from splice encapsulation area.*

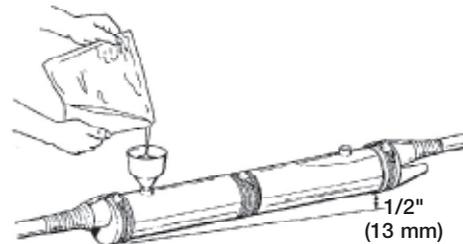
- 6.01 Center lower closure half on splice bundle and attach upper half (upper half has fill ports) mating the tongue and groove.



- 6.02 Place one large hose clamp around center of closure and tighten.
- 6.03 Set end caps in grooves on closure body ends and secure with large hose clamps. Seal end caps to cable sheaths with 2 half-lapped layers vinyl tape. Start the half-lap layers on the cable and tape up the cone.



- 6.04 Position closure for burial on firmly packed earth. Avoid sharp bends or kinks in the cable.
- 6.05 Slightly incline one closure end about 1/2" (13 mm). Properly place supports under the closure for compound filling.
- 6.06 Insert funnel into lower closure fill port. (During filling, air will escape from higher end).



- 6.07 Mix compound according to instructions.

**Note:** *For health, safety, and environmental information, refer to product label or Safety Data Sheet for encapsulating compound being used.*

- 6.08 Fill closure with compound. Continue mixing and pouring compound until closure is completely filled and trapped air is removed.
- 6.09 Close fill ports with the snap-in caps.
- 6.10 Check for any compound leaks. If leaks are observed, tighten hose clamps and retape as required.
- 6.11 Closure can be buried immediately.

DIA. INCHES TO 100THS. 1 0 2 0 3 0 4 0 5 0 6 0 7 0 8 0 9 0 1 1 0 2 0 3 0 4 0 5 0 6 0 7 0 8 0 9 0 2 1 0 2 0 3 0 4 0 5 0 6 0 7 0 8 0 9 0 3

## 7.0 Closure Re-entry

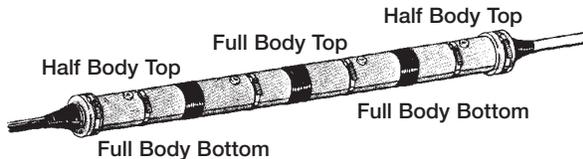
- 7.01 Remove hose clamps from closure and end caps. Remove any tape from end caps.
- 7.02 With a twisting motion, pull end caps from closure and slide down cable.
- 7.03 Grasping closure at one end, slowly separate halves from encapsulant.
- 7.04 Remove spacer web from splice and discard.  
**DO NOT REUSE THIS SPACER WEB.**
- 7.05 Tear cured encapsulant away, as necessary, to access splice.
- 7.06 After completion of repair, place new 3M™ Scotchcast™ Spacer Web 4430 around splice and reassemble closure as outlined in paragraphs 6.01-6.03. End caps and sleeves can be reused.

**Note:** *Be sure that the Scotchcast spacer web 4430 does not block the fill ports.*

- 7.07 Fill closure with new compound as outlined in paragraphs 6.04 - 6.11.

## 8.0 Closure Extension

- 8.01 Cut a closure body in half using a cable saw or similar tool. Cut grooves are provided on closure bodies.
- 8.02 Assemble the closure by staggering the cut sections. Position hose clamps. Tape seams with LR tape or vinyl tape.



- 8.03 Fill closure with compound as outlined in paragraphs 6.04 - 6.11.

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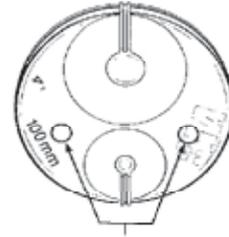
### Communication Markets Division

6801 River Place Blvd.  
Austin, TX 78726-9000

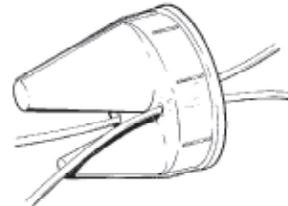
Phone 1-800-426-8688  
Web www.3M.com/Telecom

## 9.0 Adding Service Wires (2" - 9", 51 mm - 229 mm Closures)

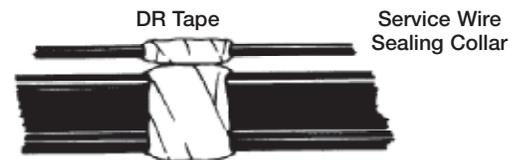
- 9.01 Cut a small "+" pattern through the service wire port.



- 9.02 Force service wire through port.



- 9.03 Scuff service wire sheath that will be located inside closure. Build a sealing collar on each service wire. Service wire collars are one wrap of 3/4" B sealing tape completely overwrapped with highly stretched DR tape (white side out). Align the service wire sealing collars directly over the outer sheath sealing collars on main cable.



- 9.04 Bond per standard procedure.
- 9.05 Install end cap. (See Section 4). Tighten hose clamps.
- 9.06 Complete closure assembly per Section 5 & 6.

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