COYOTE® RUNT CLOSURES
FOR UNDERGROUND, AERIAL AND BURIED SPLICES

Be sure to read and completely understand this procedure before applying product. Be sure to select the proper PREFORMED™ product before application.

CONTENTS PAGE

1. NOMENCLATURE ........................................ 2,3

2. DESCRIPTION AND CLOSURE CAPACITIES ........................................ 3

3. CABLE ENTRY CONFIGURATIONS ............ 3

4. CABLE PREPARATION–LOCK-TAPE™ SEALANT APPLICATION ....................... 3,4,5

5. INSTALLING SHIELD CONNECTORS ............ 5

6. INSTALLING CABLES, PLUGS AND GROMMETS ................................ 5,6

7. ROUTING CENTRAL TUBE AND FIBERS OF UNITUBE CABLES ............... 6,7

8. ROUTING BUFFER TUBES OF LOOSE TUBE CABLES .................................. 8

9. SPlicINg UNITUBE CABLE TO LOOSE TUBE CABLE .................................. 8

10. securing buffer tubes and transport tubes to splice trays ................................ 8

11. ROUTING FIBERS ON SPLICE TRAYS .................................................... 9,10

12. connecting shield connectors to external grounding studs ....... 10

13. installing top shell half ......................... 10

14. EXTERNAL BOND PROCEDURE .................... 11

15. STRAND MOUNT PROCEDURE ...................... 11

16. MANHOLE SUPPORT BRACKET INSTALLATION ..................................... 11

17. BURIED INSTALLATION ................................................................. 11

18. MAINTENANCE PROCEDURES ............. 11,12

19. SAFETY CONSIDERATIONS ................... 12
1.00 NOMENCLATURE

1. Top Shell Half with Gasket and Air Valve
2. Cable Retainer Plate
3. Bottom Shell Half
4. 3/4" (19 mm) Plug (1)
5. 1" (25 mm) Plug (1)
6. Twelve-Count Splice Tray (sold separately)
7. Strength Member Hold-down Clips
8. 1" (25 mm) wide LOCK-TAPE™ Sealant
9. Cable Measure Tape
10. Bond Brackets (2)
11. Transport Tubing (4, 34" (86 mm) each)
12. Emery Cloth
13. Hold-down Strap
14. Inner Cover
15. Retainer Clips (4)

ACCESSORY KITS

<table>
<thead>
<tr>
<th>PLP Cat. No.</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>80806033</td>
<td>Splice Tray Kit (12-count), includes Splice Tray with Elastomer Splice Block, Felt Tape, Tie Wraps, Cover and Fiber Recording Label</td>
</tr>
<tr>
<td>80806037</td>
<td>3/4&quot; (19 mm) Plug Kit (contains 2 plugs)</td>
</tr>
<tr>
<td>80806038</td>
<td>1&quot; (25 mm) Plug Kit (contains 2 plugs)</td>
</tr>
<tr>
<td>8003394</td>
<td>One Entry Grommet for 3/4&quot; (19 mm) entry, cable range of 0.31&quot;-0.38&quot; (8 - 10 mm)</td>
</tr>
<tr>
<td>8003392</td>
<td>Two Entry Grommet for 3/4&quot; (19 mm) entry, cable range of 0.27&quot;-0.31&quot; (7 - 8 mm)</td>
</tr>
<tr>
<td>8003391</td>
<td>Three Entry Grommet for 3/4&quot; (19 mm) entry, cable range of 0.20&quot;-0.27&quot; (5 - 7 mm)</td>
</tr>
<tr>
<td>8003399</td>
<td>Two Entry Grommet for 1&quot; (25 mm) entry, cable range of 0.38&quot;-0.43&quot; (10 - 11 mm)</td>
</tr>
<tr>
<td>8003400</td>
<td>Three Entry Grommet for 1&quot; (25 mm) entry, cable range of 0.31&quot;-0.38&quot; (8 - 10 mm)</td>
</tr>
<tr>
<td>8003402</td>
<td>Three Entry Grommet for 1&quot; (25 mm) entry, cable range of 0.27&quot;-0.31&quot; (7 - 8 mm)</td>
</tr>
<tr>
<td>8003401</td>
<td>Four Entry Grommet for 1&quot; (25 mm) entry, cable range of 0.20&quot;-0.27&quot; (5 - 7 mm)</td>
</tr>
<tr>
<td>80803448</td>
<td>Six Entry Grommet for 1&quot; (25 mm) entry, cable range 0.12&quot; x 0.16&quot; (3 - 4 mm)</td>
</tr>
<tr>
<td>8003467</td>
<td>Adjustable Aerial Hanger Bracket Kit</td>
</tr>
<tr>
<td>8003470</td>
<td>Manhole Support Bracket Kit</td>
</tr>
<tr>
<td>80805238</td>
<td>C-cement, 1 oz. (28.3 gram) tube</td>
</tr>
<tr>
<td>8003281</td>
<td>External Bond Braid Clip Kit (two per kit)</td>
</tr>
<tr>
<td>80803989</td>
<td>Shield Connector for fiber optic cables (1 each)</td>
</tr>
<tr>
<td>8003571</td>
<td>Universal Pole/Wall Mounting Bracket Kit</td>
</tr>
</tbody>
</table>
1.01 The COYOTE® RUNT Closure contains everything needed for installation except hand tools, vinyl tape, cable cleaning fluid and C-cement.

1.02 Tools Needed:
- 1/2" Socket*
- 7/16" Socket*
- 3/8" Socket/Can Wrench
- Snips
- Ratchet Wrench*
- Torque Wrench (adjustable between 50 and 150 inch-lbs. (5 and 17 N-M))*
- Fiber optic cable opening tools

*Available from Preformed Line Products

2.00 DESCRIPTION AND CLOSURE CAPACITIES

2.01 For Safety Considerations, refer to Section 19.00 of this procedure.

2.02 The COYOTE RUNT Closure is designed to provide a water and airtight seal for fiber optic splices in any environment (aerial, buried, underground and vault). The unique, molded-in features in the bottom shell half protect and organize the buffer tubes or fibers from any type of fiber optic cables, including different cable types in the same closure.

2.03 The Standard COYOTE RUNT Closure will accommodate up to two 12-count Splice Trays (cat. no. 80806033) for a maximum capacity of 24 fiber splices. The Expanded COYOTE RUNT Closure will accommodate up to four Splice Trays (48 fiber splices).

2.04 Sufficient room is provided to “express” up to 48 fibers through the closure.

3.00 CABLE ENTRY CONFIGURATIONS

3.01 The Cable Retainer Plate works with the bottom shell half to provide three cable entries: two 3/4" (19 mm) entries and one 1" (25 mm) entry. (Figure 2)

3.02 Threaded Ground Inserts pass through the Cable Retainer Plate adjacent to the 3/4" (19 mm) diameter entries. (Figure 2)

3.03 The 3/4" (19 mm) diameter entries will accept cables up to 0.75" (19 mm) in diameter, a 3/4" (19 mm) plug (one provided) or standard 3/4" (19 mm) COYOTE Grommets (see Accessory Kits, page 2).

3.04 The 1" (25 mm) diameter entry will accept a cable up to 1.00" (25 mm) in diameter, a 1" (25 mm) plug (one provided), or standard 1" (25 mm) COYOTE Grommets (see Accessory Kits, page 2).

4.00 CABLE PREPARATION AND LOCK-TAPE™ SEALANT APPLICATION

4.01 Cable sheath opening measurements are listed in the following table:

<table>
<thead>
<tr>
<th>Cable Type</th>
<th>Cut Cable</th>
<th>Continuous Loop (Express)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Buffer</td>
<td>66&quot; (1677 mm)</td>
<td>140&quot; (3556 mm)</td>
</tr>
<tr>
<td>Unitube</td>
<td>80&quot; (2032 mm)</td>
<td>172&quot; (4369 mm)</td>
</tr>
</tbody>
</table>

NOTE: For “express” applications, the feeder cable should enter and exit the outside (3/4") (19 mm) cable entries.

4.02 The color-coded COYOTE Cable Measure Tape is used to determine the number of half-lapped layers of LOCK-TAPE Sealant required to seal the cable in the cable entries. The blue-colored end is used to measure cables entering the outside 3/4" (19 mm) entries, while the green-colored end measures the cable entering the center 1" (25 mm) entry. The back of the Measure Tape is used to check whether the LOCK-TAPE Sealant wrap is the proper diameter to ensure a water and airtight seal. (Figure 3)
4.03 TO USE COYOTE CABLE MEASURE TAPE:
• Wrap the correct end of COYOTE Cable Measure Tape around cable where it will enter the Cable Retainer Plate.
• If the index line falls directly between two numbers use the higher number.
• The number on the COYOTE Cable Measure Tape indicates the number of half-lapped layers of LOCK-TAPE Sealant to be applied around the cable. (Figure 4)

**FIGURE 4 - MEASURING CABLE – BE SURE TO USE CORRECT END OF CABLE MEASURE TAPE**

4.04 Using the provided Emery Cloth, thoroughly scuff the cable sheath for 5” (13 mm) from measured opening. Always scuff around the cable, never lengthwise.

4.05 Coat the scuffed area with C-Cement and allow to dry. It is important that the C-Cement dries to a tacky base before LOCK-TAPE Sealant is applied.

**PLP TIP:** Use removed LOCK-TAPE Sealant backing from Step 4.06 to dry and remove excess C-Cement applied to cable.

4.06 Remove backing from LOCK-TAPE Sealant and wrap LOCK-TAPE Sealant onto the cable with the black side up. Stretch the 1” (25 mm) LOCK-TAPE Sealant to a width of 7/8” (22 mm). (Figure 5A) Apply the required numbers of half-lapped layers of LOCK-TAPE Sealant, as indicated on the Cable Measure Tape, to the area coated with C-Cement. (Figure 5B)

**FIGURE 5A - STRETCH LOCK-TAPE**

**FIGURE 5B - APPLIED LOCK-TAPE**

4.07 To check LOCK-TAPE Sealant application, wrap the proper end of the COYOTE Cable Measure Tape check gauge around the applied LOCK-TAPE Sealant. If the measurement line falls outside of the index lines of the check gauge, LOCK-TAPE Sealant must be reapplied. It is acceptable to reapply the original LOCK-TAPE Sealant. (Figure 6)

**FIGURE 6 - CHECK GAUGE**
4.08 To protect LOCK-TAPE Sealant from cable grease, cover the LOCK-TAPE Sealant with vinyl tape.

**NOTE:** In order to secure the cable’s strength member(s), leave 3-4” (76 -102 mm) of metallic or nonmetallic strength members exposed from the sheath opening.

4.09 Open and clean cable according to accepted company practices.

**5.00 INSTALLING SHIELD CONNECTORS**

5.01 On cables with a metallic shield beneath the sheath, install a company approved shield connector following the manufacturer’s recommended procedures. (Figure 7). A shield connector is available separately from PLP under Catalog No.80803989 (one each).

![FIGURE 7 - INSTALL SHIELD CONNECTORS](image1)

**6.00 INSTALLING CABLES, PLUGS AND GROMMETS**

6.01 Disassemble the Cable Retainer Plate by loosening the two bolts. Discard the packing plugs.

6.02 Remove the protective vinyl tape applied to the LOCK-TAPE Sealant in paragraph 4.08.

6.03 Lay the cables in the grooves in the bottom shell half. For cables with shield connectors, position the stud of the shield connectors 1-1/8” (29 mm) to 1-1/4”(32 mm) out from the inside end of the entry groove and facing upward. (Figure 8)

![FIGURE 8 - POSITION CABLES WITH SHIELD CONNECTOR IN BOTTOM SHELL HALF](image2)

6.04 For dielectric cables, position the cable so that the sheath will extend about 3/4” (19 mm) into the closure. (Figure 9)

![FIGURE 9 - POSITION DIELECTRIC CABLES](image3)

6.05 Mark the cable on the outside end of the entry and apply vinyl tape over the LOCK-TAPE Sealant that will be on the outside of the closure. **Do not apply vinyl tape in the seal area.**

6.06 Trim the strength member of each cable so that it will be captured within the strength member hold-down clip. (Figure 10)

![FIGURE 10 - TRIM STRENGTH MEMBER](image4)

6.07 Remove the cables from the bottom shell half and apply C-cement along the edge of all three entry grooves. (Figure 11)

![FIGURE 11 - APPLY C-CEMENT TO CABLE ENTRIES](image5)
6.09 Lay prepared cables, plug, or grommet in the entry grooves of the bottom shell half.

**PLP TIP:** Refer to the application procedures accompanying the COYOTE Grommet Kits for details on installing cables initially and at a future date.

6.10 Slide the strength member(s) under the cap of the strength member hold-down clip and tighten. (Figure 12)

6.11 Place the Cable Retainer Plate over the cables, plug or grommet.

**NOTE:** The white lines on the Cable Retainer Plate should be toward the inside of the closure. (Figure 13)

6.12 Tighten the Cable Retainer Plate bolts by rotating 2 or 3 turns on each bolt so the Cable Retainer Plate comes together with the bottom shell half evenly. Tighten bolts with a torque wrench to 150 inch-lbs. (16.95 N-M).

7.00 **ROUTING CENTRAL TUBE AND FIBERS OF UNITUBE CABLES**

7.01 For unitube-type cables entering either the outside or center cable entries, remove the central tube beginning at a point 7-1/2” (19 mm) from the end of the sheath. Clean the fibers per standard company practices.

7.02 Route the central tube from the outside cable entries over or outside of the small curved wall section and against the inside of the side wall section. (Figure 14)

7.03 Route the central tube from the cable(s) entering the center cable entry through the wall opening and against the inside of the side wall section. (Figure 15)
**PLP TIP:** Secure the central tubes to the Retainer Clips with the tie wraps provided with the Splice Tray.

7.04  “Expressed” fibers of the unitube-type cables should be coiled and laid within the storage channel formed by the inner and outer curved walls. (Figure 16)

**NOTE:** Fibers from the cable entering the right cable entry must cross over the center of the inner chamber to exit from the left opening in the back. (Figure 17)

7.05  Fibers of unitube-type cables to be spliced should be routed once around the storage channel and out of the left opening in the back of the curved wall sections. (Figure 17)

7.06  Gather the fibers to be spliced into groups of 12 fibers and feed each group through one of the transport tubes provided.

7.07  Position the near ends of all the transport tubes together so that they are even and positioned under the Retainer Clip. (Figure 18)

**FIGURE 18 - POSITION ENDS OF TRANSPORT TUBES**

**PLP TIP:** Use a strip of the blue felt tape supplied with the Splice Tray to keep the transport tubes together prior to securing them.

7.08  Secure the transport tubes to the Retainer Clip with the tie wraps provided with the Splice Tray. (Figure 18)

7.09  Route the transport tubes around the storage channel outside the curved walls to the front left corner. (Figure 19)

**FIGURE 19 - ROUTING TRANSPORT TUBES**

7.10  Proceed to Section 10.00
8.00 ROUTING BUFFER TUBES OF LOOSE TUBE CABLES

8.01 Buffer tubes to be "expressed" through the closure should be coiled and laid within the storage channel outside of the curved walls. (Figure 20)

8.02 Buffer tubes to be spliced should be routed once around the outer storage channel to the front left corner. (Figure 21)

NOTE: Buffer tubes from the cable entering the right cable entry must cross over the center of the inner chamber and proceed to the front left corner. (Figure 21)

8.03 Proceed to Section 10.00

9.00 SPLICING UNITUBE CABLE TO LOOSE TUBE CABLE

9.01 If one of the cables is a unitube cable and the other cable is a loose tube (buffer tube) cable, install the loose tube cable in the left cable entry to avoid crossing buffer tubes through the center chamber. (Figure 22)

9.02 Follow the procedures in Section 7.00 for routing the central tube, fibers and transport tubes for the unitube cable.

9.03 Follow the procedures in Section 8.00 for routing the buffer tubes of the loose tube cable.

9.04 For applications where the two cables entering the outside cable entries are loose tube (buffer tube) cables and the cables entering the center cable entry are unitube cables, follow the procedures in Section 8.00 for routing the buffer tubes.

9.05 Because buffer tubes will cross through the center storage area (Figure 21), it will be necessary to protect the bare fibers from the unitube cables as they route through the center storage area. The Transport Tubes provided can be used for this purpose.
10.00 SECURING BUFFER TUBES AND TRANSPORT TUBES TO SPLICE TRAYS

10.01 Install the inner cover on the threaded studs.

10.02 Remove the cover from a Splice Tray and loosely install it on the threaded studs with the entry slots towards the front of the closure.

10.03 Lay the buffer tubes and/or transport tubes with the fibers to be spliced into the entry slots on the Splice Tray.

**NOTE:** The buffer tubes or transport tubes from the “incoming” cable should enter the straight entry slot and the tubes from the outgoing cable(s)

10.04 Mark the buffer tubes or transport tubes at the inside end of the entry slots. (Figure 24)

10.05 Remove the excess length of Transport Tubes beyond the mark.

10.06 Remove the buffer tubes beyond the mark and clean fibers per standard company practices.

10.07 For buffer tubes, wrap one layer of felt tape (supplied with Splice Tray) around the buffer tubes at the end where it will be placed in the entry slots. (Figure 25)

**FIGURE 25 - APPLY FELT TAPE TO BUFFER TUBES**

10.08 Secure the buffer tubes and/or transport tubes to the Splice Tray using the tie wraps and the slotted holes in the entry slots. Use two tie wraps per buffer tube or transport tube.

**NOTE:** Multiple tubes can be secured with a single pair of tie wraps.

**PLP TIP:** Install the tie wraps in the Splice Tray first to ease installation.

10.09 Repeat steps 10.02 through 10.08 for the remaining Splice Tray(s) (if required).

11.00 ROUTING FIBERS ON SPLICE TRAYS

11.01 Route the fibers from the “incoming” cable clockwise around the Splice Tray at least 1-1/2 times and into the splice block. (Figure 26)
11.02 Route the fibers for the “outgoing” cable counterclockwise around the Splice Tray at least 1-1/2 times and into the splice block. (Figure 27)

11.03 Splice the fibers according to your accepted company practices.

11.04 Replace cover on Splice Tray.

11.05 Repeat steps 11.01 through 11.04 for the remaining Splice Tray(s) if required.

11.06 Secure Splice Tray(s) in place on the threaded studs with the Splice Tray Hold Down Strap. (Figure 28)

12.00 CONNECTING SHIELD CONNECTORS TO EXTERNAL GROUNDING STUDS

12.01 For shielded cables, electrically connect the shield connectors to the grounding studs in the cable retainer plate with the bond brackets provided. (Figure 29)

13.00 INSTALLING TOP SHELL HALF

13.01 The neoprene gasket in the top shell half must be pliable when installed. In cold weather (below 32° F (0°C) warm top shell prior to installation.

13.02 Remove protective paper liner from top shell half. Take care to keep gasket area clean.

13.03 Position the top shell half over the bottom shell half and HAND-TIGHTEN the bolts in the sequence shown on the shell. (Figure 30)

13.04 Once all the bolts are hand-tightened, repeat the sequence using a torque wrench set to 55 inch-pounds (6.2 N-M).

13.05 After completing the torquing sequence, re-torque bolts #7 and #8.

13.06 Flash test closure according to accepted company practices to 5 psi (34.5 KPa) maximum.

NOTE: Due to the small volume of this closure, a restriction feature has been incorporated into the air valve assembly to limit the flow of air into the closure. This feature may affect (increase) the readings on in-line air gauges while the air is being dispensed.

13.07 Release the air pressure for the closure and replace the cap on the air valve.
14.00 EXTERNAL BOND PROCEDURE

NOTE: For strand mount aerial applications, the Adjustable Aerial Hanger Bracket will provide the necessary bond connection to the strand (see Section 15.00).

14.01 A bonding braid clamp kit (cat. no. 8003281) is available and includes two clamps for connecting bonding braid (not supplied) to the external grounding studs. The clamp attaches between the hex nut and the square nut on the ground stud. DO NOT LOOSEN THE SQUARE NUT. After installing the clamp and braid, reinstall the hex nut and tighten to no more than 40 inch-pounds (4.5 N-M).

15.00 STRAND MOUNT PROCEDURE

15.01 The Adjustable Aerial Hanger Bracket Kit (cat. no. 8003467) is used to attach the closure to a messenger strand. (Figure 31)

15.02 Attach the adaptor bracket to the bottom shell half with the hex bolt provided. Tighten bolt. (Do not EXCEED 40 in-lbs. (4.5 N-M) of torque)

15.03 Attach one of the Adjustable Hanger Brackets to the Adaptor Bracket and tighten.

15.04 Remove the hex nuts from the ground studs on the cable Retainer Clip. DO NOT LOOSEN THE SQUARE NUTS.

15.05 Attach the other Adjustable Hanger Bracket to the ground studs, reinstall hex nuts and tighten (40 inch-pounds (4.5 N-M), maximum).

15.06 Secure strand clamps on Adjustable Hanger Brackets to strand. Adjust length of Adjustable Hanger Brackets if required.

16.00 MANHOLE SUPPORT BRACKET INSTALLATION

16.01 The Manhole Support Bracket Kit (cat. no. 8003470) can be used to secure the COYOTE RUNT Closure to manhole racking or hand hole racking. (Figure 32)

16.02 Attach the plastic “Ts” to the mounting holes on one side of the bottom shell half with the bolts and nuts provided.

16.03 Slide the long support bar over the “Ts” and position the closure near the center of the bar.

16.04 Secure the support bar to the manhole or handhole brackets with cable ties.

17.00 BURIED INSTALLATION

NOTE: COYOTE RUNT Closures may be direct buried if the following precaution is taken.

17.01 The COYOTE RUNT Closure must be completely surrounded by 1-2’ (305-610 mm) of sand or fine gravel prior to back filling.

17.02 Ground according to accepted company practices.
18.00 MAINTENANCE PROCEDURES

18.01 The COYOTE RUNT Closure is designed for numerous reentries.

18.02 Be sure to clean shells and Cable Retainer Clip thoroughly to remove sand, dirt and other foreign substances.

18.03 Any bent studs or stripped nuts should be replaced. Only use hardware supplied by Preformed Line Products.

18.04 The neoprene gasket in the shells should be lubricated prior to reapplication if dry. A uniform thin layer is all that is necessary. Only use lubrication supplied by Preformed Line Products (cat. no. 80801566).

18.05 Any shell components that are damaged must be replaced.

18.06 Prior to reinstallation, the neoprene gasket on the shells should be allowed to return to its original state. Warming the shells speeds up the process.

19.00 SAFETY CONSIDERATIONS

19.01 This application procedure is not intended to supersede any company construction or safety standards. This procedure is offered only to illustrate safe application for the individual. Failure to follow these procedures may result in personal injury.

19.02 When working in the area of energized lines, extra care should be taken to prevent accidental electrical contact.

19.03 For proper performance and personal safety, be sure to select the proper size PREFORMED™ Product before application.

19.04 This product is intended for use by trained technicians only. This product should not be used by anyone who is not familiar with, and not trained to use it.

19.05 Due to the small size of the COYOTE RUNT Closure special closure flash test procedures must be followed. Never pressurize the closure more than 5 PSI. Be aware closure will reach 5 PSI very quickly. Failure to follow this guideline may result in closure rupture and possible injury to the installer.