

REDDI™ Seal CLOSURE FOR FILLED CABLE

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

CONTENTS	PAGE
1. NOMENCLATURE	2
2. DESCRIPTION	2
3. SELECTING PROPER MODEL	2
4. RACKING AND SECURING CABLE	4
5. MEASURING CABLE FOR POWER END PLATE CUTTER BLADE SELECTION AND LOCK-TAPE™ SEALANT APPLICATION	4
6. CUTTING END PLATES WITH POWER END PLATE CUTTER	5

7. CABLE PREPARATION	8
8. APPLICATION OF 1-1/2" LOCK- TAPE™ SEALANT TO CABLE	9
9. APPLYING END PLATES TO CABLE	9
10. BONDING	13
11. END SEAL-FLANGE SEAL APPLICATION	13
12. INSTALLING THE SHELL	14
13. RE-ENTERING	15
14. SAFETY CONSIDERATIONS	16

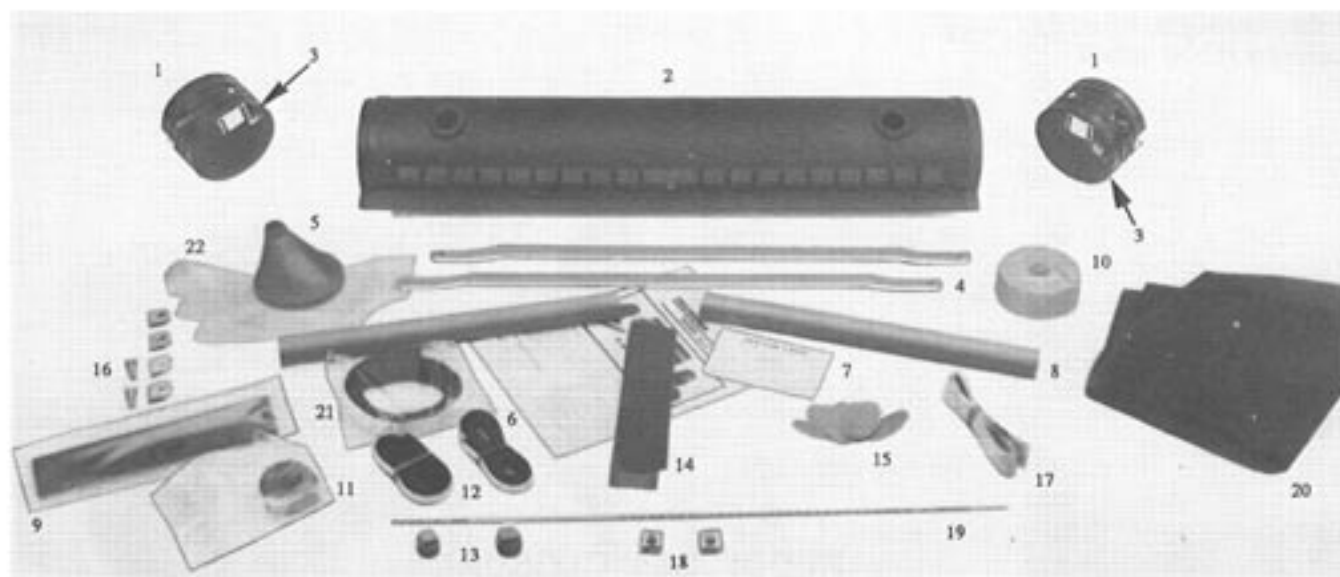


Figure 1 — REDDI Seal Kit

1.00 NOMENCLATURE, Figure 1

1. Standard Two-Section End Plates
2. Shell
3. End Plate Insert (Grounding)
4. Torque Bars
5. Funnel
6. Application Procedure
7. Cue Card
8. Closing Clamps
9. End Plate LOCK-TAPE™ Sealant strips
10. Cable LOCK-TAPE™ Sealant roll
11. Moisture Barrier Sealant
12. End Seals
13. Threaded Plastic Plugs
14. Emery cloth (for scuffing sheath)
15. Pair Protectors
16. Suspension Plates
17. Cable Bonding Braid
18. SURE-GRIP™ Shield Connectors
19. CABLE Mea-SURE™ Tape
20. Spacer Mat
21. Flange Seal
22. Gloves

1.01 PREFORMED™ Plastic re-enterable closure kit contains everything needed for installation except tools, Cement, and vinyl tape.

1.02 Tools Needed

- Snips
 - Tabbings Shears
 - Common Screwdriver
 - 3/8" Nut Driver
 - 1/2" and 7/16" Deep Well Sockets
 - Torque Wrench (Inch-Pound Readings)**
 - Power End Plate Cutter**
- ** Available from PLP®

2.00 DESCRIPTION

2.01 The REDDI Seal Cable Closure must be filled with resin and will not hold air pressure. It is available for use in underground, buried and aerial plant. It is not affected by ultraviolet rays.

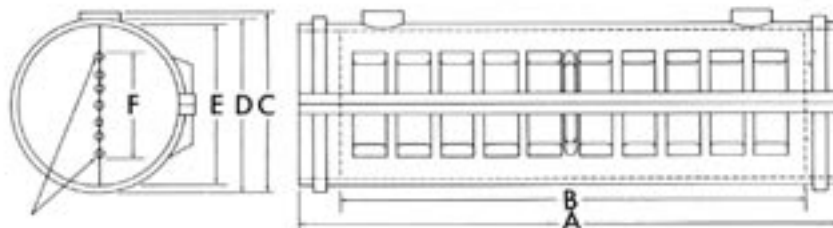
2.02 Caution — REDDI Seal End Plates are not interchangeable with the pressurized PREFORMED Splice Case.

3.00 SELECTING PROPER MODEL

3.01 Use the following charts to select proper size case for splice bundle diameter, cable opening, and End Plate cable capacity (Fig. 2)

CABLE OPENING CHART (CM)	
REDDI Seal/Closure Diameters	*Maximum Cable Opening
3.0" x 25.8" (7.62x65.53)	16.5" (41.91)
4.0" x 25.8" (10.16x65.53)	16.5" (41.91)
6.5" x 28.4" (16.51x72.14)	19.0" (48.26)
9.5" x 28.4" (24.13x72.14)	18.0" (45.72)
6.5" x 38.5" (16.51x97.79)	29.0" (73.66)
9.5" x 38.5" (24.13x97.79)	28.0" (71.12)

CASE DIMENSIONS (CM)						
REDDI Seal/Closure Diameters	A	B	C	D	E	F
3.0" x 25.8" (7.62x65.53)	25.8" (65.53)	20.3" (51.56)	3.6" (9.14)	3.5" (8.89)	3.0" (7.62)	1.06" (2.69)
4.0" x 25.8" (10.16x65.53)	25.8" (65.53)	20.3" (51.56)	4.6" (11.68)	4.4" (11.18)	4.0" (10.16)	2.2" (5.59)
6.5" x 28.4" (16.51x72.14)	28.4" (72.14)	22.7" (56.66)	7.1" (18.03)	6.8" (17.27)	6.5" (16.51)	4.1" (10.41)
9.5" x 28.4" (24.13x72.14)	28.4" (72.14)	21.7" (55.12)	10.1" (25.65)	9.8" (24.89)	9.5" (24.13)	7.1" (18.03)
6.5" x 38.5" (16.51x97.79)	38.5" (97.79)	32.8" (83.31)	7.1" (18.03)	6.8" (17.27)	6.5" (16.51)	4.1" (10.41)
9.5" x 38.5" (24.13x97.79)	38.5" (97.79)	31.8" (80.77)	10.1" (25.65)	9.8" (24.89)	9.5" (24.13)	7.1" (18.03)



Marks on End Plates
denoting area for cable entrance holes.

MAXIMUM END PLATE CABLE CAPACITY* (CM)				
REDDI Seal/Closure Diameters	1 Cable	2 Cables	3 Cables	4 Cables
3.0" x 25.8" (7.62x65.53)	1.06" (2.69)	—	—	—
4.0" x 25.8" (10.16x65.53)	2.2" (5.59)	1.95" (4.95)	1.70" (4.32)	1.45" (3.68)
6.5" x 28.4" (16.51x72.14)	4.1" (10.41)	3.85" (9.78)	3.60" (9.14)	3.35" (8.51)
9.5" x 28.4" (24.13x72.14)	7.1" (18.03)	6.85" (17.40)	6.60" (16.76)	6.35" (16.13)
6.5" x 38.5" (16.51x97.79)	4.1" (10.41)	3.85" (9.78)	3.60" (9.14)	3.35" (8.51)
9.5" x 38.5" (24.13x97.79)	7.1" (18.03)	6.85" (17.40)	6.60" (16.76)	6.35" (16.13)

*Always allow 1/4" (0.64cm) clearance between cable holes. This clearance is allowed for in the above chart. These dimensions indicate the maximum combined cable diameters that can be accommodated in one end of the entire splice closure.

REDDI SEAL RESIN CAPACITY (CM)		
REDDI Seal Diameters	Resin	
	Grams ¹	Grams ²
3.0" x 25.8" (7.62x65.53)	2,350	2,115
4.0" x 25.8" (10.16x65.53)	4,200	3,780
6.5" x 28.4" (16.51x72.14)	12,300	11,070
9.5" x 28.4" (24.13x72.14)	25,000	22,500
6.5" x 38.5" (16.51x97.79)	17,800	16,020
9.5" x 38.5" (24.13x97.79)	36,800	33,120

¹Amount of resin required to fill entire closure without splice.

²Recommended amount of resin assuming 10% of closure is occupied by splice.

Figure 2 — REDDI Seal Dimensional Charts

4.00 RACKING AND SECURING CABLE

4.01 The cables entering the Splice Case should have at least 6" of straight, and non-stressed entry into the End Plates.

4.02 All cable should be tied within 12" of the End Plate. (Figure 3)

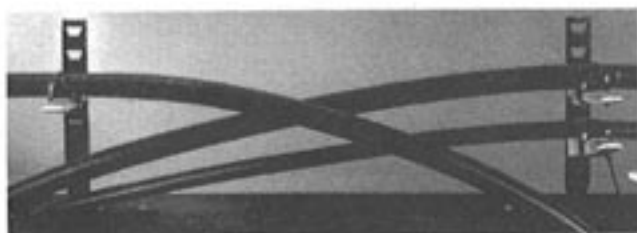


Figure 3 — Racking and Securing Cable

5.00 MEASURING CABLE FOR POWER END PLATE CUTTER BLADE SELECTION AND LOCK-TAPE™ SEALANT APPLICATION.

5.01 Measure the cable. The cable measuring tape serves two purposes:

A. It designates the proper blade to use for cutting holes in the End Plates.

B. It designates either one or two half-lapped layers of 1½" LOCK-TAPE™ Sealant to be wrapped around the cable. See Figure 4, Figure 5.

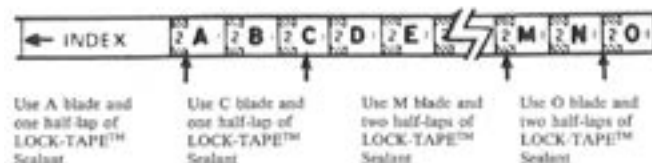


Figure 4 — CABLE Mea-SURE™ Tape

PLP® TIP: If the index line falls on the line between areas, proceed as if the index line had fallen immediately to the right of the indexed line. Refer to Figure 5.

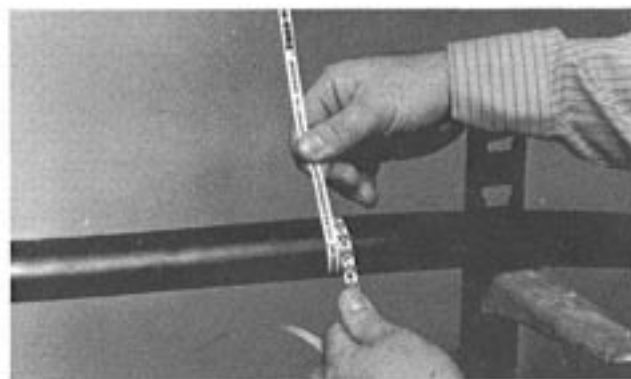


Figure 5 — Measuring Cable with Measuring Tape

PLP® TIP: Cable will vary in diameter from place to place along its length so be sure to measure each cable, at the area where the End Plate will be placed.

Be sure to use the PLP CUE CARD, found in each splice closure, when measuring cables. This field worksheet will assure correct cutter blade size, proper hole cutting locations, and correct amount of LOCK-TAPE™ Sealant to be wrapped around cable(s). Figure 5a.

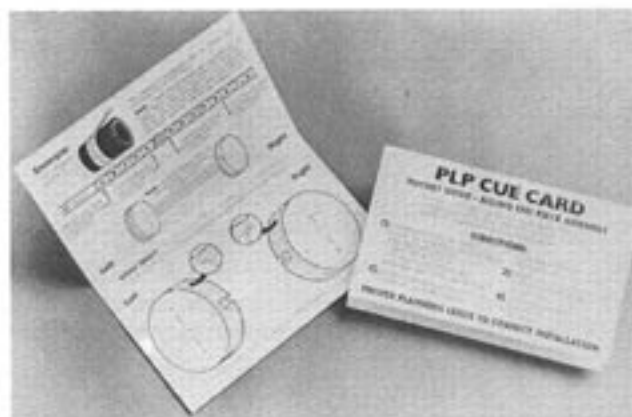


Figure 5a — Cue Card

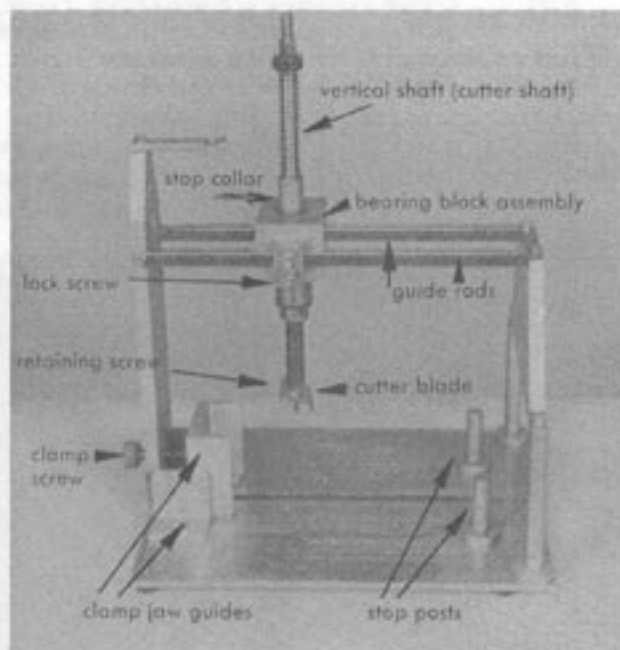


Figure 6 — Power End Plate Cutter

6.00 CUTTING END PLATE WITH POWER END PLATE CUTTER

6.01 Choose the correct size blade from the Power End Plate Cutter Blade Kit according to the reading acquired from CABLE Mea-SURE Tape.

6.02 Slide the blade into the slot in the lower end of the vertical shaft and tighten the retaining screw. See Figure 7.

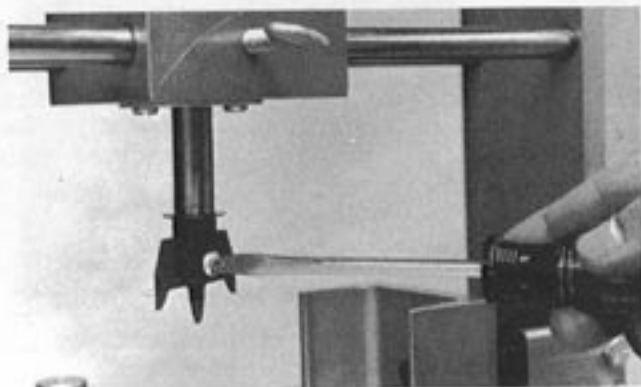


Figure 7 — Tightening Retaining Screw

PLP[®] TIP: If retaining screw is difficult to tighten, be sure it is not clogged with dust from previous cuttings.

6.03 Insert stop-posts in tapped holes in base of cutter corresponding to End Plate diameter and hand tighten firmly. Figure 8.

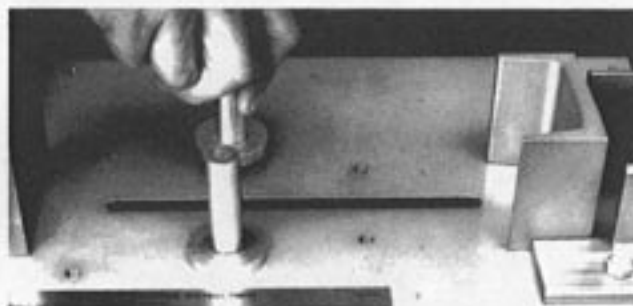


Figure 8 — Inserting Stop-Posts

6.04 Back off clamp screw until End Plate can be placed in cutter. End Plate should lie on top of flanges of stop-posts and clamp-jaw guides. Figure 9.

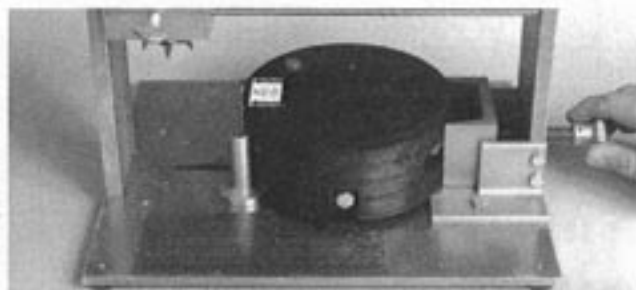


Figure 9 — Placing Power End Plate in Power Cutter

PLP[®] TIP: Make sure outer edges of End Plate sections are mated. If not, loosen clamp screw and adjust.

- 6.05 Place End Plate with seam, see Figure 10, parallel to guide rods and hand tighten screws.

NOTE: The holes must cut along the seam of the End Plate halves and within the outer dimensional marks indicated by the arrows. Figures 10, 10a.

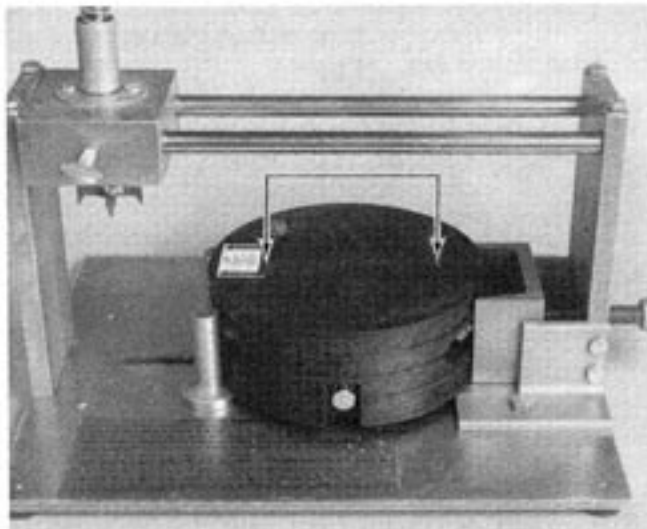


Figure 10 — Positioning End Plate

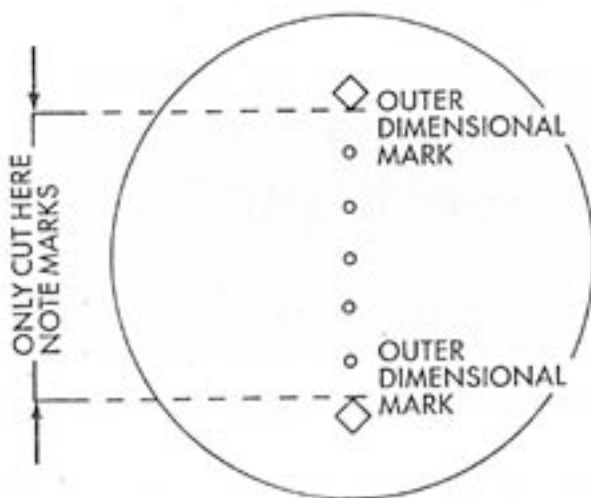


Figure 10a — Positioning End Plate

NOTE: Always allow 1/4" (0.64 cm) clearance between cable holes for Two-Section End Plates. This clearance is allowed for in the dimensional chart. (Figure 2) These dimensions, indicate the maximum combined cable diameters that can be accommodated in one end of the splice closure.

- 6.06 Loosen lock screw in bearing block. Lower shaft until center point of cutter blade is on desired position for center of hole. Hand tighten lock screw in bearing block. Figure 11.

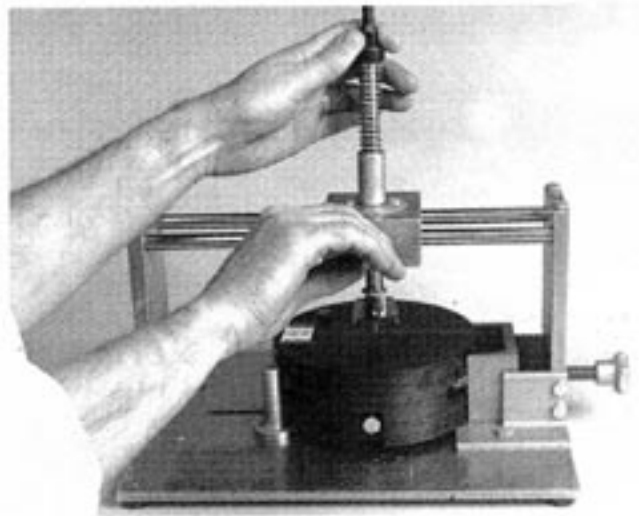


Figure 11 — Centering Cutter Blade

PLP® TIP: The lock screw in the bearing block is backed up by a small nylon pellet. If undue pressure is necessary to hold the bearing block in place, this pellet may be missing. Do not force the lock screw. This can scar the guide rails and render the cutter unusable. Remove the screw and insert a small piece of able sheath. This will serve the same purpose as the nylon pellet. Additional nylon pellets are available from PLP.

- 6.07 Mount a 3/8" electric drill (Drill Part #80851659) with a 1/2" deep well socket to upper end of cutter shaft.

PLP® TIP: A special drill motor is available from PLP. No matter what type of electric drill you use, be sure to press down on the body of the drill so the pressure is not exerted sideways on the shaft. This will result in a much longer life of the bearing blocks. Drill through the End Plate slowly.

6.08 Cut through the black plastic of End Plate until foam is just visible in ring. (Figure 12) Use screwdriver to pop out plastic disc (Not necessary for A, B, C, and D blades). (Figure 13) Continue cutting through foam and lower black plastic until stop collar on shaft bottoms on bearing block. Never bring blade back up through the End Plate while it is turning.

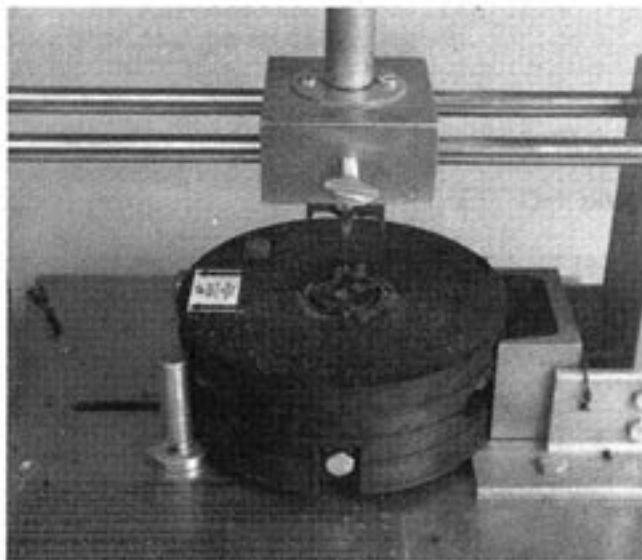


Figure 12 — Cutting Through Plastic Shell

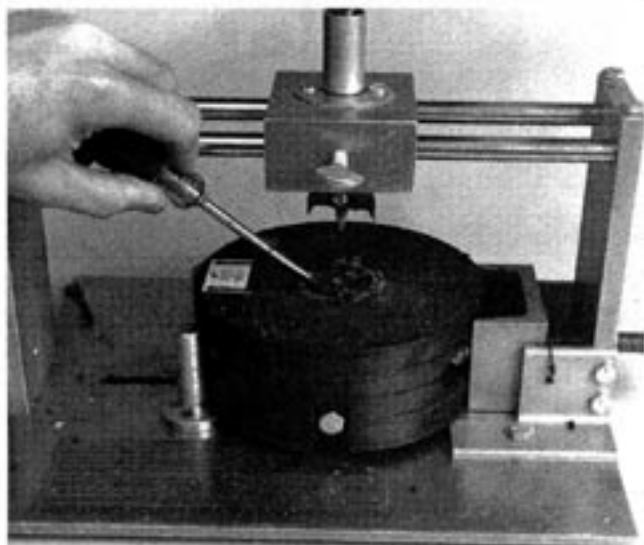


Figure 13 — Removing Plastic Disc

6.09 Remove drill motor. If another hole of the same or different diameter is required in End Plate, follow appropriate steps above to change cutter blades or to move bearing block to new position.

6.10 Disassemble End Plates by removing the two bolts.

6.11 Use emery cloth provided to remove sharp edges on plastic and foam in area of opening (Figure 14). *Scuff Lightly* DO NOT REMOVE TOO MUCH MATERIAL.

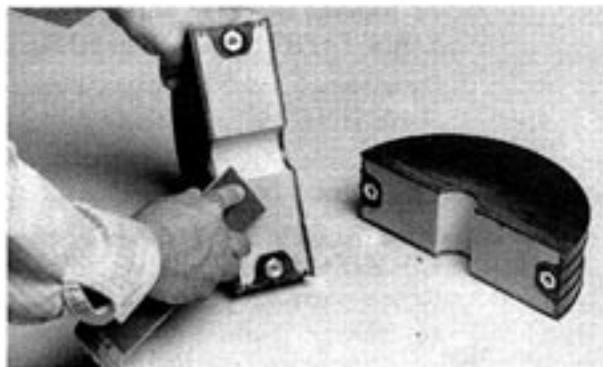


Figure 14 — Scuffing Cable Opening Area

PLP® TIP: This simple operation will help prevent catching the sheath and pinching it when drawing the End Plates together. ONLY USE EMERY CLOTH PROVIDED FOR THIS PROCEDURE.

7.00 CABLE PREPARATION

7.01 General Information about cable preparation

1. Refer to REDDI Seal Closure dimensional charts for maximum cable opening. Figure 2
2. Apply 1½" LOCK-TAPE™ Sealant to the cable(s) only if the End Plates are to be installed immediately. This will help prevent the LOCK-TAPE™ Sealant from getting dirty.
3. Do not attach splicing tool on the cable sheath where End Plates will be placed.
4. Always try to place the End Plate on cable sheath that is in good condition.
5. Since the cable is locked into place with the LOCK-TAPE™ Sealant, it makes no difference where the Shield Bond Connectors are placed, but the tab slit for the connector must not extend under the End Plate.
6. If Jelly Filled Cable is opened (prior to installing the End Plates) mask the cable sheath with vinyl tape to protect the cable sheath. This simple procedure prevents any cable compounds from affecting the adhesion of LOCK-TAPE™ Sealant to the cable sheath. Make certain that the vinyl tape is removed prior to application of LOCK-TAPE™ Sealant.
7. If splicing methods permit, it is preferable to apply the End Plates prior to the bonding and splicing operation. This will assure a good clean seal.

- 7.02 Select End Plate halves with threaded bolt holes in the metal reinforcing collar. Bolt these halves to a torque bar. The offset in the torque bar should face the splice bundle. (Figure 15) Use this assembly to mark area to be cleaned, scuffed, and the cable opening. (Figure 15a).

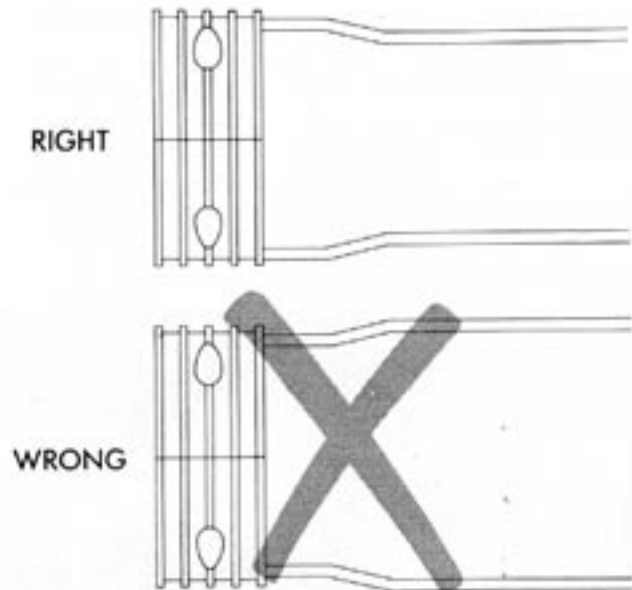


Figure 15 — Torque Bar Placement

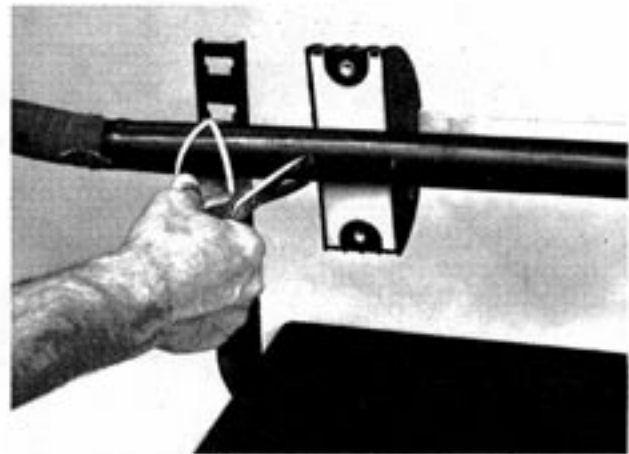


Figure 15a — Marking Sheath Area To Be Cleaned

7.03 Remove all grease, cable lubricant, mud etc., from cable. Thoroughly scuff cable for 6" (15.24cm) to 8" (20.32cm) in the area marked.

PLP[®] TIP: Use emery cloth provided with case. Always scuff around cable, never length-wise along it. Be sure all deep grooves are removed.

8.00 APPLICATION OF 1½" LOCK-TAPE[™] SEALANT TO CABLE

8.01 Coat the scuffed area of the cable with C-Cement and allow it to dry to a tacky base. Use the procedure described in PLP TIP 9.01 to help C-Cement dry fast.

8.02 Half lap 1½" LOCK-TAPE[™] Sealant around cable (black side up) in area of cable coated with C-Cement. Stretch tape while applying. Use one or two half lapped layers as determined by the measurement. Figure 16.

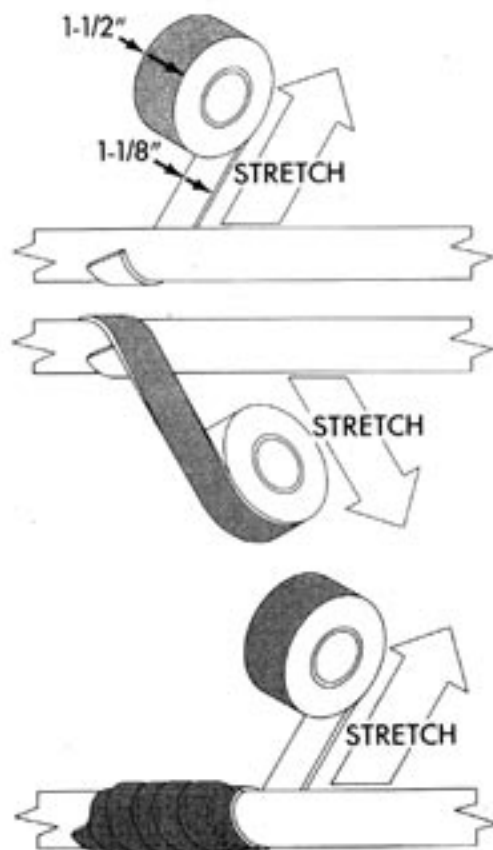


Figure 16 — Applying LOCK-TAPE[™] Sealant

PLP[®] TIP: Stretch tape enough to reduce its width to 1-1/8". Be sure to remove backing from white side while applying tape. The white side is the sticky side, and should be applied toward the cable. Figure 17 shows the completed application of one half-lap of LOCK-TAPE[™] Sealant.



Figure 17 — LOCK-TAPE[™] Sealant Applied to Sheath

8.03 Be sure to keep the LOCK-TAPE[™] Sealant wrap dry, free from grease and dirt.

9.00 APPLYING END PLATES TO CABLE

9.01 Apply a thin coat of C-Cement to each inside surface of End Plates as shown in Figure 18.

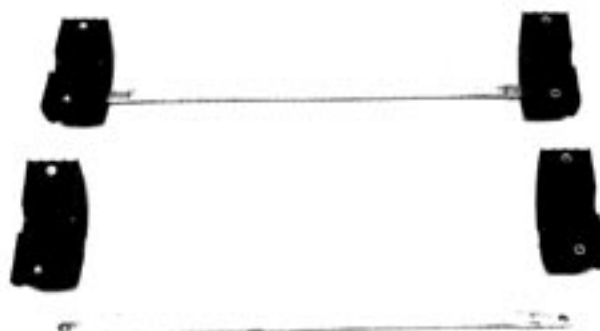


Figure 18 — Application of C-Cement to End Plate Surfaces

PLP TIP: Use removed backing from LOCK-TAPE™ Sealant to dry C-Cement to End Plate. Figure 19.



Figure 19 — Drying C-Cement

9.02 When C-Cement becomes tacky, remove protective backing and apply the LOCK-TAPE™ Sealant, white side down and without stretching tape, to each End Plate half, following the contour of the cables holes. Square cut the tape away from the bolt hole area just beyond metal insert. Figure 20.



Figure 20 — LOCK-TAPE™ Sealant Application to End Plate Half.

9.03 Before applying the prepared End Plate halves to cable, apply the C-Cement 1/2" (1.27 cm) wide adjacent to the hole and 1/2" wide into the hole for the total width of the End Plate. Figure 21.

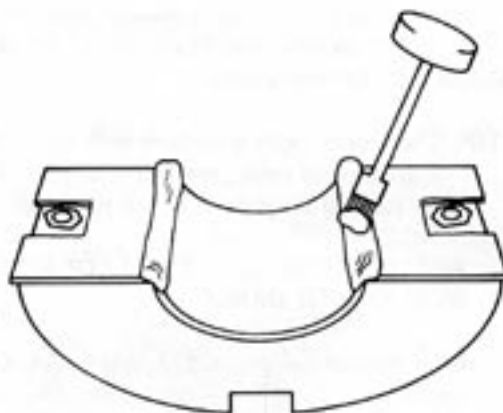


Figure 21 — Applying C-Cement to End Plate Half

9.04 Figure 22 shows the completed LOCK-TAPE Sealant application to the End Plate Halves.

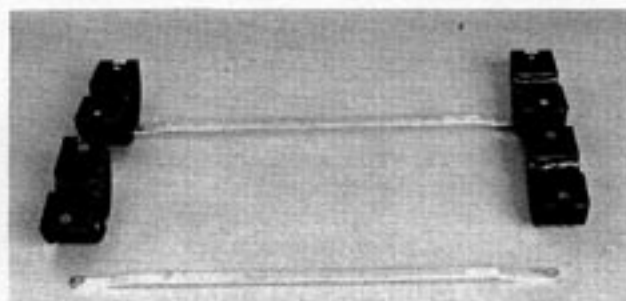


Figure 22 — Completed Preparation of End Plate Halves

9.05 Before applying End Plates, oval cable slightly to prevent pinching sheath and apply End Plates over oval as shown in Figure 23.

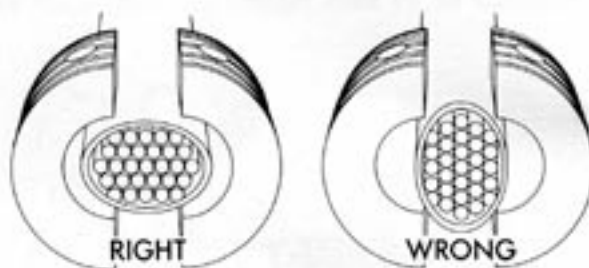


Figure 23 — Shaping Cable

NOTE: Lead cable must be *rounded*, layered with LOCK-TAPE™ Sealant, and then proceed with installation.

9.06 Position the End Plate torque bar assembly on the cable at the proper point and apply mating End Plate halves. Bring the End Plates together evenly, tightening each bolt in rotation 2 or 3 turns at a time. **DO NOT USE AIR WRENCHES FOR THIS OPERATION**

9.07 Using a ratchet wrench draw the End Plate halves completely together until the excess LOCK-TAPE™ Sealant separates and lays back as illustrated in Figure 24.

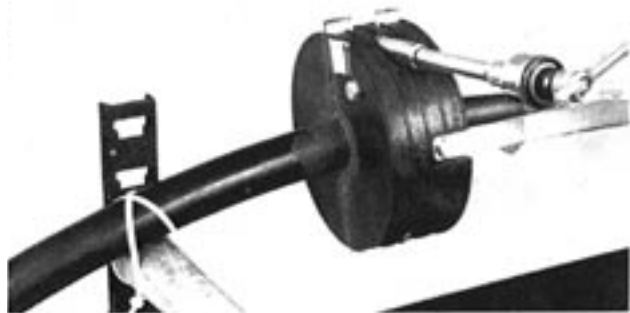


Figure 24 — Drawing End Plate Halves Together

9.08 When End Plates are completely together trim the excess LOCK-TAPE™ Sealant with snips to approximately 1/4" (.62cm) of the End Plate. Do not pull the tape when trimming. (Figure 25)

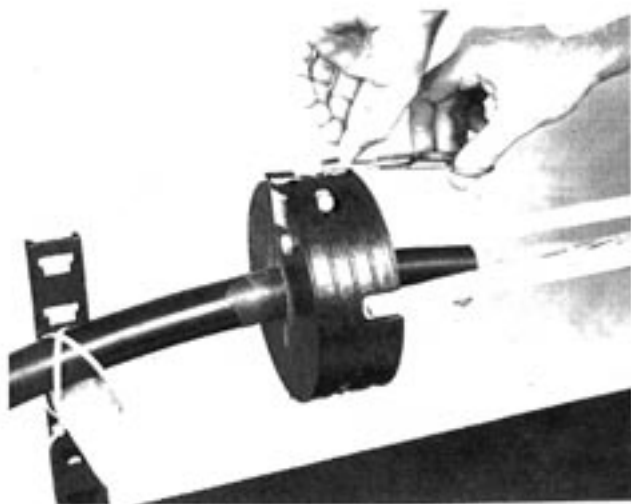


Figure 25 — Trimming the LOCK-TAPE™ Sealant

9.09 Apply two wraps of vinyl tape over exposed LOCK-TAPE™ Sealant on cables. Figure 26

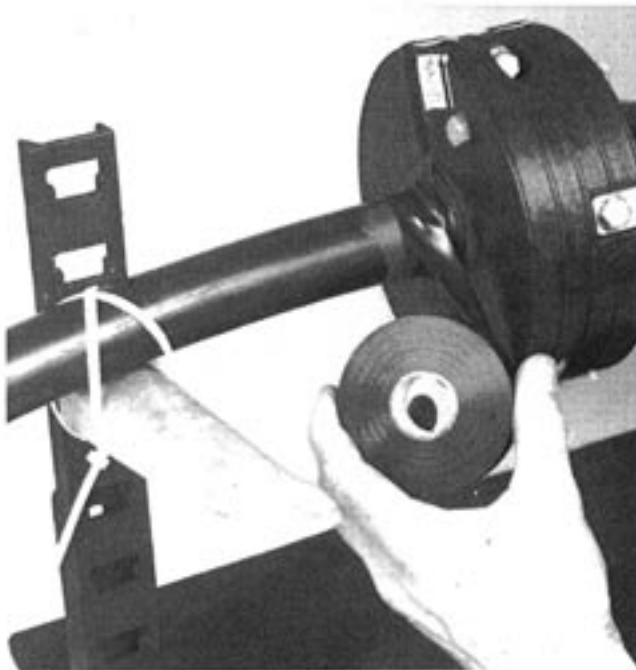


Figure 26 — Application of Vinyl Tape to Cable

9.10 After splice is completed, place a ring of Moisture Barrier sealant around the cable, in between the shield connector and End Plate, (Figure 27) cover Moisture Barrier sealant with LOCK-TAPE™ Sealant (supplied in kit) white side out. Figure 27.

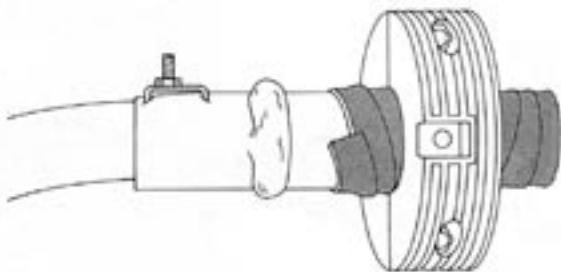


Figure 27 — Application of Moisture Barrier Sealant to Cable

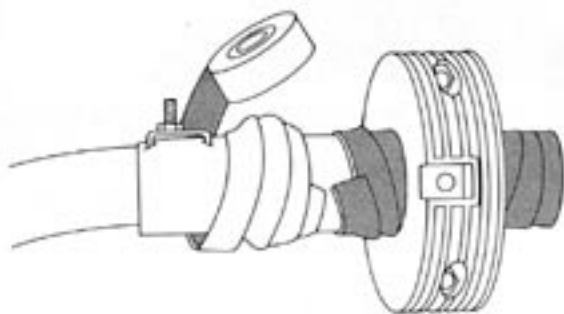


Figure 28 — LOCK-TAPE™ Sealant Application Over Sealant

9.11 Wrap the complete splice bundle with the open cell spacer mat supplied. This will prevent any part of the splice bundle from contacting the wall closure, Figure 29.



Figure 29 — Spacer Mat Application Over Splice Bundle

PLP® TIP: Front torque bar may be removed for ease of application of spacer mat. Do not wrap too tightly. A tight wrap will constrict the flow of resin into the core of the splice.

9.12 After the splice is wrapped, reinstall the torque bar.

PLP® TIP: After torque bars have been reapplied, be sure bolts are fully drawn down so as not to interfere with shell placement.

10.00 BONDING

10.01 If the cable shield is to be externally grounded, continue the bonding braid through the shield connector and insert the end of braid through the shield connector and insert the end of braid to the bonding clip. Bolt the clip and the braid to the bonding insert. Figure 30.

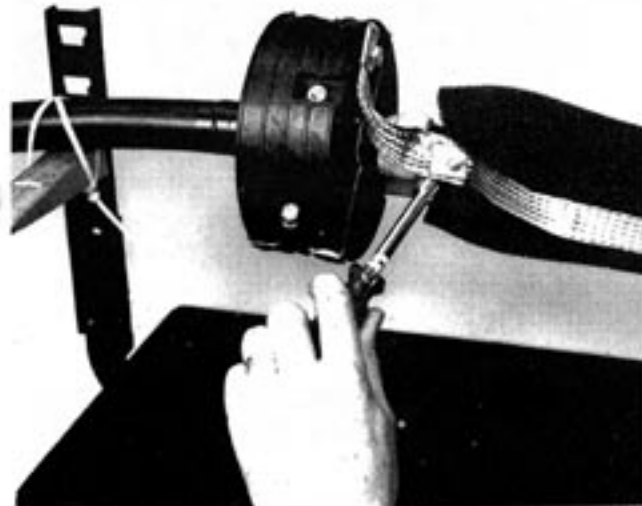


Figure 30 — Insertion of Bonding Braid into Bonding Clip—End Plate Interior

10.02 Bolt the bonding ribbon and clip to the outside face of the End Plate in a similar manner. Figure 31.

BOLT BONDING
RIBBON HERE



Figure 31 — Insertion of Bonding Ribbon into Bonding Clip—End Plate Exterior

11.00 END SEAL — FLANGE SEAL APPLICATION

11.01 Apply one 1½" (3.81cm) LOCK-TAPE™ Sealant wrap over the End Plates, around the outside three rings. Stretch LOCK-TAPE™ Sealant strip as you apply it around the End Plates. Figure 32 See PLP® TIP 8.02.

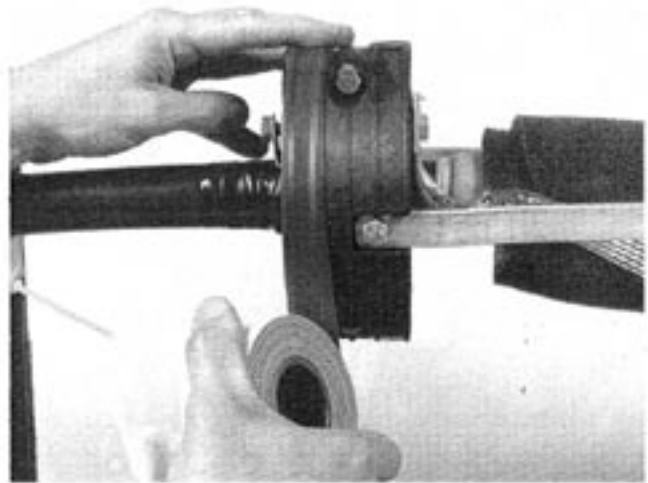


Figure 32 — LOCK-TAPE™ Sealant Application over End Plates

11.02 Remove the backing and apply the neoprene end seals around the End Plates over the LOCK-TAPE™ Sealant wrap. (Figure 33) Overlap the ends of the end seal. Make sure the overlap is where the flange opening will be located.

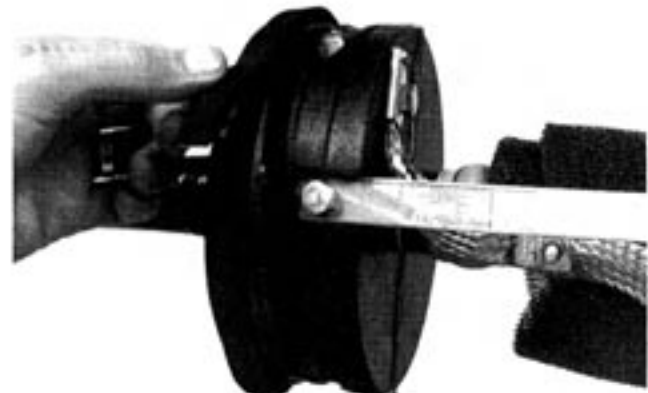


Figure 33 — Application of End Seals

PLP® TIP: When overlapping the end seal, press the overlap down onto the bevel so that the upper portion of the seal fills any void at the overlap junction.

11.03 Apply the flange seal by pressing (kneading) it under the flange lip. Do not stretch the seal. Leave approximately 1/4" extending beyond each end of the flange. (Figure 34) Trim off any excess neoprene seal.



Figure 34 — Application of Flange Seal

12.00 INSTALLING THE SHELL

12.01 Apply the shell over the End Plates by spreading the opening until the shell fits over the End Plates. Figure 35.

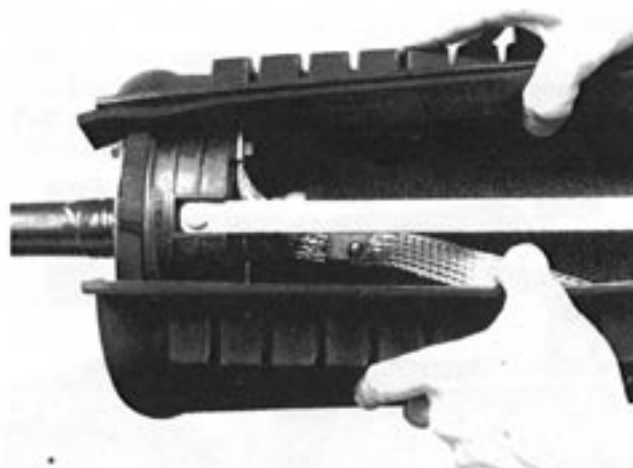


Figure 35 — Shell Application

12.02 Position the shell so that the filling holes are on top, but make sure the flange is facing you. Figure 36.



Figure 36 — Positioning the Shell

12.03 Squeeze the flanges together and fully apply the closing clamps. Figure 37.

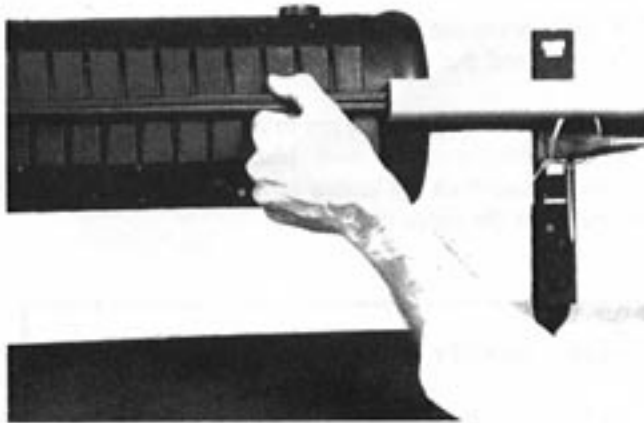


Figure 37 — Applying Closing Clamps

12.04 Completed closure ready to fill with resin. Figure 38.



Figure 38 — Completed Closure Before Resin

12.05 When using the port holes to fill the case, slightly elevate on end (approximately one inch, 2.54 cm) Place the filling funnel into the LOWER hole. Mix the encapsulant per instructions on the container.

12.06 Pour the encapsulant slowly into the funnel until the encapsulant can be seen in the higher port hole. Figure 39.

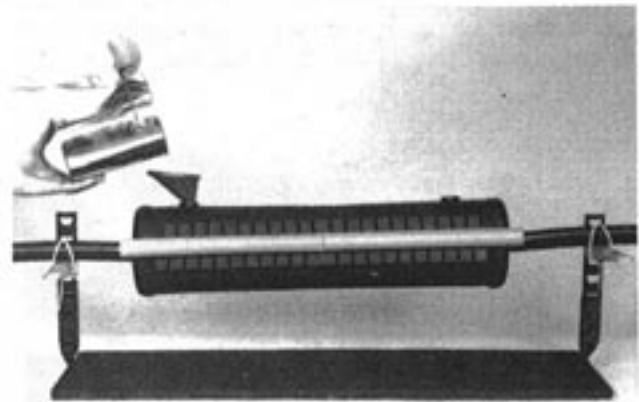


Figure 39 — Pouring The Resin

12.07 Level the Splice Case and continue to pour until the encapsulant pours out of both port holes. Install both plugs.

PLP TIP: Be certain there are no air pockets present.

13.00 RE-ENTERING

13.01 Remove the plastic closing clamps.

13.02 Start to open the top seam using a screwdriver

13.03 When possible, grab each side of the flange and apply force to spread the case apart until the shell can be removed. (Figure 40) (Resin has been omitted for clarity.)



Figure 40 — Re-entering the REDDI Seal

PLP TIP: Some encapsulates stick to the shell more than others. Apply pressure. Allow the shell to come apart slowly.

13.04 Remove the shell completely

13.05 To facilitate re-entry, the encapsulant may be scored lengthwise and perpendicular to cable to form large squares, then use your fingers. Be careful not to damage any pairs during this operation.

PLP TIP: Be certain to remove enough encapsulant to clear the port holes and clear a path for adding the new encapsulant.

13.06 To re-install the REDDI Seal, repeat steps 12.01-06.

PLP TIP: Be certain to use the same encapsulant that was used during the initial installation.

13.07 If additional cables are to be added, a new End Plate(s) must be used. Install according to this practice. Remove all old sealing tape and LOCK-TAPE™ Sealant from the cable and shell.

14.00 SAFETY CONSIDERATIONS

14.01 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.

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

14.03 For proper performance and personal safety, be sure to select the proper size PRE-FORMED™ product before application.

14.04 This product is intended for use by trained craftspeople only. This product should not be used by anyone who is not familiar with, and trained in the use of it.



PREFORMED LINE PRODUCTS

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