

## B STEEL SLEEVE WIPED JOINTS

### GENERAL

- 1.001 This addendum supplements Section 633-250-200PT.
- 1.002 It is issued to provide an alternate method of providing corrosion protection for sleeves on coaxial splices.

### 9. CORROSION PROTECTION

The following changes apply to Part 9 of the section:

- (a) 9.13 - 9.22 - Add instruction for placing THERMOFIT\* Coax Splice Kits.
- (b) Fig. 26 - 32 - added.

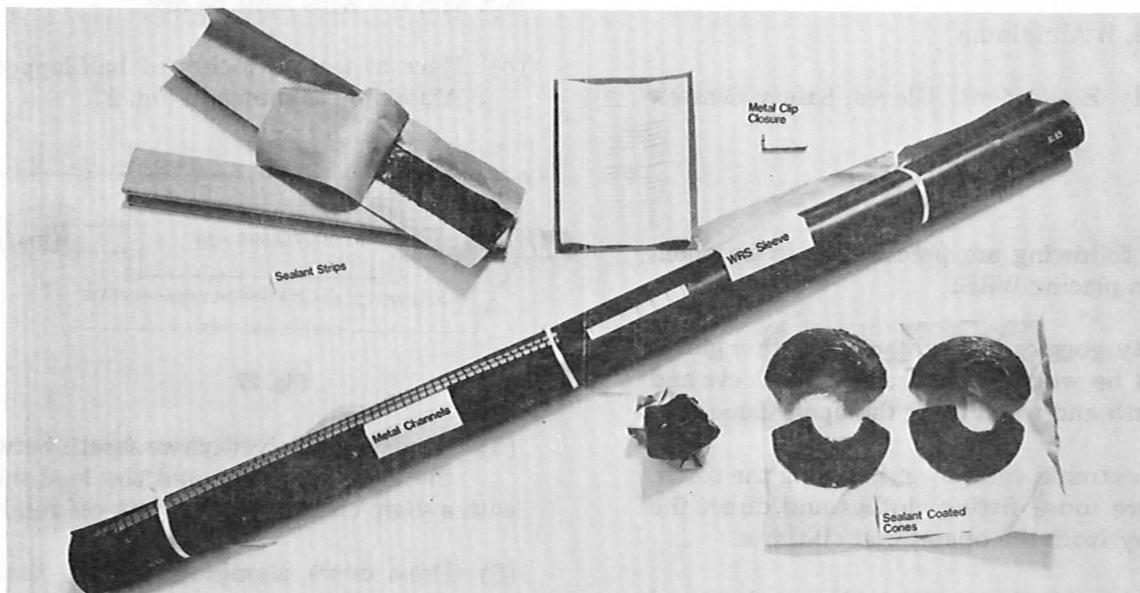
#### CSE-M-Type Thermofit Coax Splice Kits

9.13 The CSE-M-20/22 and CSE-M-20/22-01 kits are used to provide corrosion protection on sleeves covering 20/22 tube coaxial splices. The CSE-M-20/22 is designed for use at straight splices and the CSE-M-20/22-01 at branch splices (valve points, etc.). These kits will not withstand air pressure leaks.

#### 9.14 Description:

(a) CSE-M-20/22 Kit:

- 1 each - 65" long Thermofit Heat Shrinkable WRS (Wraparound Repair Sleeve) with a U-shaped metal channel — an irradiated heat shrinkable polyolefin, coated on the inner surface with a sealant which bonds to the sleeve and cable. The outer surface of the WRS is splattered with a blue, heat-sensitive paint which changes to a yellowish brown when sufficient heat has been applied to shrink the WRS and activate the sealant.
- 2 sets - Sealant Coated Split Cones - These are used to make a gradual transition from the larger diameter of the sleeve to the smaller diameter of the cable.
- 4 strips - Sealant (1" x 1/8" x 24") - Used to build up areas where: (1) the flange is wiped to the B steel sleeve, (2) the cones meet the flange and the cable, (3) gaps exist in mating surfaces, and (4) the valve cable stub passes through the cone adapters.



Thermofit Coax Splice Kit  
Fig. 26

\*Registered U.S. Patent Office by Raychem Corporation.

## ADDENDUM 633-250-200PT

### (b) CSE-M-20/22-01 Kit

- All of the above, plus
- 1 each - Sealant Coated Half-Cone Adapter - Used to fit the WRS to the branch cable contour at valve points, etc.
- 1 each - Metal Clip - Used to clamp the WRS together between the main cable and the stub cable.

### 9.15 Tools: The following tools and material are required for the application of Thermofit CSE-M-type kits:

- Tool, Channel, Pulling, 1355
- Torch, FH 2601, FH 2603 and FH 2605
- Hose, LPG
- Regulator and Gauge (0-30 PSI)
- Cylinder, Propane
- Wrench for Regulator and Hose
- Striker or Matches
- Fluid, B Cleaning
- Knife, Skinning R-2761
- Tape, B Aluminum
- Safety Equipment: Gloves, Safety Glasses, etc.

### Precautions:

### 9.16 The following are precautions to be taken when placing WRS:

- (a) Safety goggles and protective leather gloves must be worn when cleaning the sleeve and cable sheath and when using the open flame.
- (b) Use extreme caution in handling the torch. Secure loose fitting clothes and direct the flame away from the operator at all times.
- (c) Be sure the sleeve and cable are clean and free from moisture. Dirt and moisture will prevent bonding of the sealant.

(d) Maintain gas pressure on the torch between 6-12 PSI (depending on hose length). Too high pressure may result in excessively intense flame, while too low pressure may not provide adequate coverage or sufficient heat to shrink the sleeve or activate the sealant.

(e) Keep the torch 10-12 inches from the WRS. Keep the torch moving. Use it like a paint brush. Do not touch the sleeve with the torch head, as this could cause the material to split.

*Note:* A training demonstration by a Raychem representative should be arranged before placing the Thermofit kits.

### 9.17 Installation:

#### (a) Straight Splice - CSE-M20/22 kit:

(1) Clean all surfaces of the sleeve and cable which will be in contact with the Thermofit WRS, especially the metal surfaces. Wash with water and clean exposed metal with B cleaning fluid, especially where stearine has been used.

(2) Pressure test the sleeve and repair leaks if necessary. Clean pressure testing solution from the sleeve and cable.

(3) Preheat area with torch. This will help dry the sleeve and cable. The area in contact with the WRS must be dry.

(4) Place at least 8 inches of half-lapped B Aluminum as shown in Fig. 27.

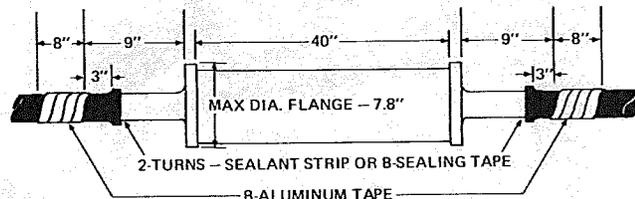


Fig. 27

(5) Abrade the polyethylene sheath between the aluminum tape and the lead sheath with a sharp carding brush. Clean off residue.

(6) Dress down aluminum tape so that no sharp edges protrude. Also check the wiped joint and tape armor for sharp protrusions.

(7) Place two wraps of the sealant strip or 1½-inch B sealing tape around cable as shown in Fig. 27.

*Note:* The CSE-M kits will fit a maintenance splice where a standard C sleeve liner is used under the lead sleeve (44-inches long). Where it is necessary to place a longer sleeve, use two CSE-M kits. Overlap the two kits by 8 inches: cut 8 inches of the metal channel off of the first kit after the channel has cooled to the touch. Cut the second kit to length. (Make sure the edge is square.) Maintain the measurement on the cable as shown in Fig. 27.

(8) Install the sealant-coated split cones around the cable as shown in Fig. 28. Be sure that there are no gaps between the face of the lead disc and the rear of the cones.

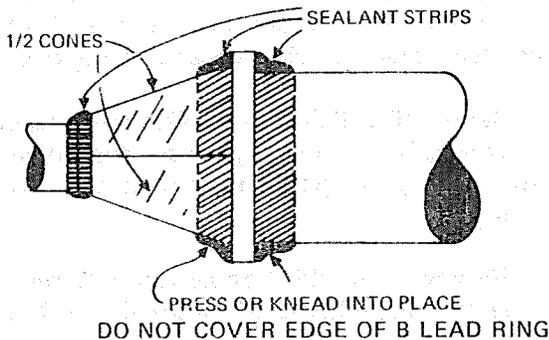


Fig. 28

(9) Press the sealant strips into place as shown in Fig. 28. Do Not Apply the strips on top of the B lead ring.

(10) Place a piece of sealant and a 2-inch by 2-inch piece of B aluminum tape over the pressure test flange and plug.

*Note:* Check tape armor, cable, and sleeve for sharp edges. File or dress down with glass tape to prevent splitting of the WRS during heating.

(11) Before positioning the WRS, remove the release paper backing, which covers the sealant on the inside of the WRS.

(12) Position the WRS over the sleeve so that it overlaps the aluminum tape by approximately 2 inches. The aluminum tape should extend at least 5 inches beyond the edge of the WRS as shown in Fig. 29.

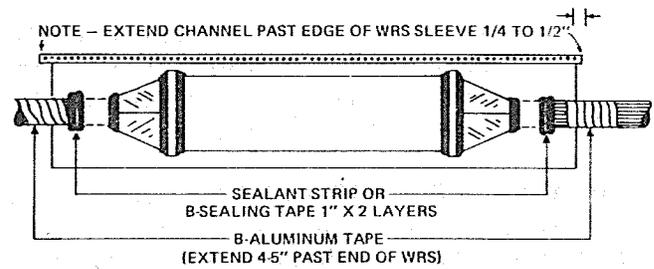


Fig. 29

(13) Place the metal channel in place. The ends of the channel should extend at least ½ inch beyond the edge of the WRS.

(14) Before shrinking, position the WRS so that the metal channel will not ride directly on top of the pressure plug and flange.

(15) Prepare to shrink the WRS:

- Ignite the torch and adjust flame as shown in Fig. 30.

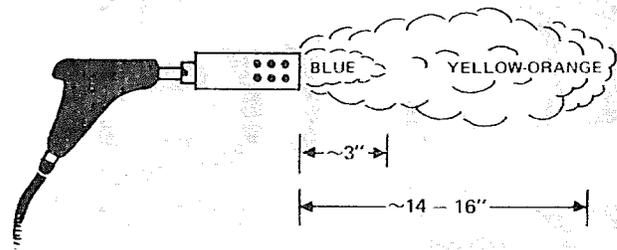


Fig. 30

- Start shrinking process from the center of the sleeve to the ends of the WRS.
- Shrink all of the material on the sleeve before proceeding to the transition cones.
- Shrink the area on the cones before starting on the cable. Press the metal channel in the transition area (sleeve to cable) with a hammer handle or equivalent to form it to the contour of the cone and cable during the shrinking process.
- Important: Keep the torch moving. Do not touch the WRS. Heat circumferentially and uniformly toward each end.

*Note:* The blue paint is a heat indicator. When it turns to a yellowish brown, the proper temperature has been reached. The finished product

should be smooth, wrinkle- and bubble-free, and the sealant should flow from the WRS where it contacts the cable. Reheat if necessary.

(b) Valve Point - CSE-M-20/22-01 Kit - In this kit there are five sections of sealant-coated split cones: Two ¼-split cones with a groove to accommodate the air pipe, a single half cone for the main cable (see Fig. 31) and two half cones for the straight end of the sleeve. Install as follows:

(1) Follow steps 1 through 6 in 9.17(a).

(2) Remove 5 inches of the polyethylene sheath from the air pipe and wrap with sealant strips or B sealing tape as shown in Fig. 31.

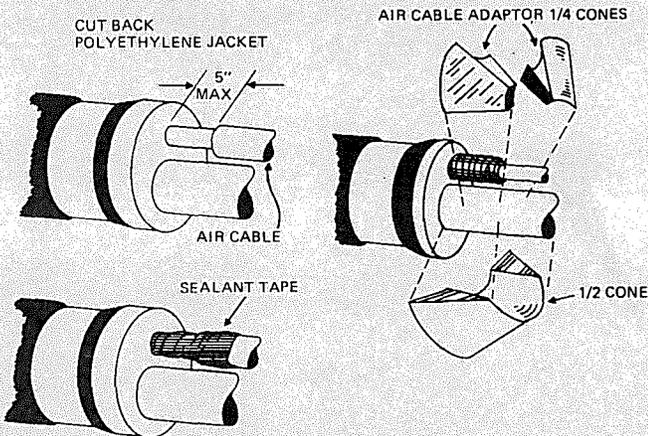


Fig. 31

(3) Place split cones as shown in Fig. 31. Fill in groove over air pipe with sealant strips or B sealing tape.

(4) Place split cones on the straight end as described in 9.17(a).

(5) Follow 9.17(a), steps 9 through 14 to complete the job.

(6) Place metal clip on the WRS between the air pipe and the main cable as shown in Fig. 32.

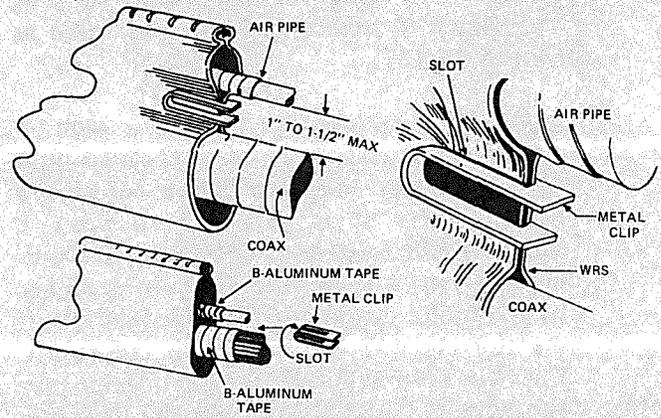


Fig. 32

(7) Shrink WRS as described in 9.17(a), step 15.

9.18 Wait until all parts are cool (approximately 15 minutes) before back filling. Cooling may be accelerated by using water or damp rags.

9.19 Section 627-395-330 - THERMOFIT Sleeve-Description and Use, provides additional information and photographs relating to the shrinking the WRS.

9.20 Removal: Should it be necessary to remove an installed CSE-M kit, proceed as follows:

(a) Heat the entire length of the sleeve with a torch (similar to installation) until the sealant has liquified. Do not overheat exposed ends.

(b) Draw the point of a skinning knife over the overlap area of the WRS across the full length of the sleeve.

(c) Apply more heat, which will cause a splitting along the length of the sleeve. Grasp the channel with a pair of pliers and peel the WRS from the sleeve and cable.

(d) A new Thermofit sleeve may be placed without removing the solidified sealant. However, the sealant cones should be replaced.

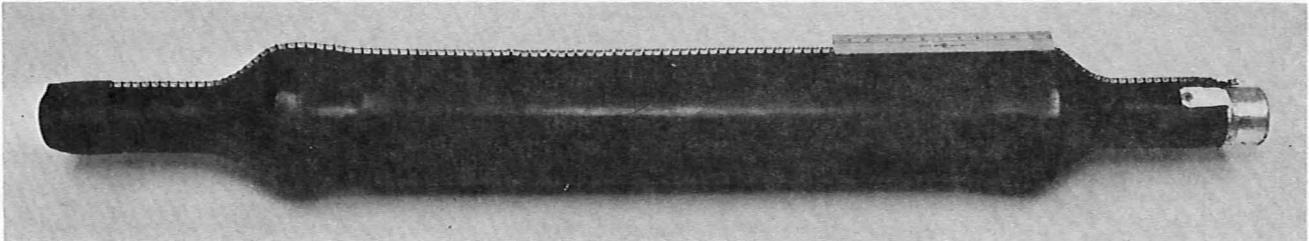
9.21 Making Air Pressure Test: Cut around the pressure flange and plug and remove the WRS material. Remove plug, place valve, and make necessary tests. Replace pressure plug and test for

leaks. Clean pressure testing solution from the flange area and the sleeve. Replace WRS material as follows:

- (a) Remove 8 inches of the metal channel (4 inches from each side of the pressure plug).
- (b) Abrade the 8 inch strip of WRS around the sleeve. Remove the residue.
- (c) Cover pressure flange and plug with a piece of sealant and a 2-inch x 2-inch square of B aluminum tape.

- (d) Center an 8-inch piece of CSE-M Thermofit sleeve over the pressure plug and shrink as described in 9.17.

9.22 Figure 33 shows a B steel sleeve protected with a CSE-M-20/22 Thermofit coax splice kit.



**B Steel Sleeve Protected with the CSE-M-20/22  
Thermofit Coax Splice Kit  
Fig. 33**