

**BELL SYSTEM PRACTICES**  
**Outside Plant Construction**  
**and Maintenance**

**SECTION G50.720.5**  
**Issue 1, January, 1958**  
**AT&T Co Standard**

## **SPLICE CASES**

### **13A AND 14A TYPES**

### **INSTALLATION**

<b>Contents</b>	<b>Page</b>
1. General .....	1
2. Sheath Preparation .....	1
3. Installation of the Splice Case .....	5
4. Flash Testing .....	8
5. Supporting .....	8
6. Sheath to Strand Electrical Bond .....	8

#### **1. GENERAL**

1.01 This section describes the installation of the 13A and 14A Splice Cases on polyethylene sheath cable, for the following purposes:

- (a) Repair sleeves
- (b) Pressure testing valve points
- (c) Sheath to strand electrical bonds

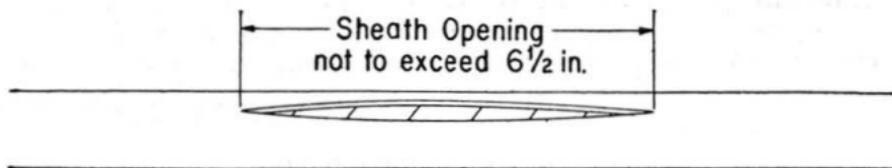
1.02 The method of installation when they are used for insulating joints is covered in another section of the Practices.

1.03 As far as possible when used for valve points and bonds the 13A and 14A Splice Cases should be located in a readily accessible portion of straight cable.

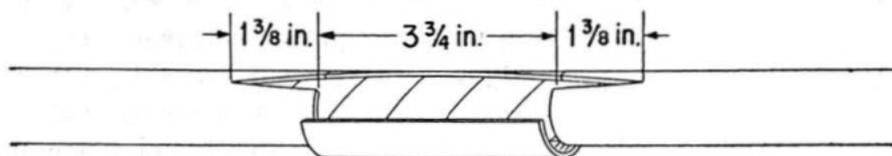
#### **2. SHEATH PREPARATION**

2.01 **For Repair Purposes.** Minor repairs which can be made in a sheath opening not exceeding 6-1/2 inches can be closed with these splice cases. Make the sheath opening as follows:

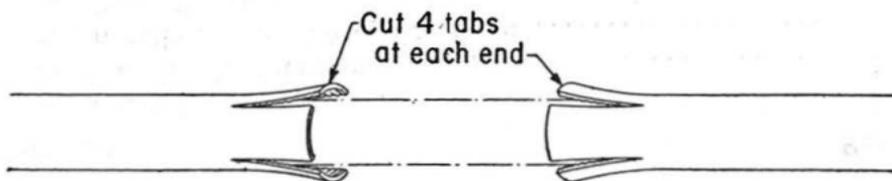
- (1) Make the initial cut to get at the core.



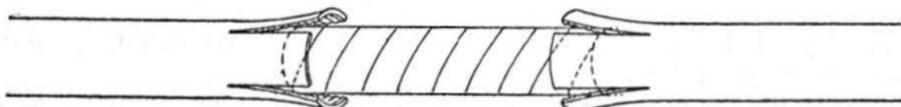
- (2) Then remove sheath and underlying metal.



- (3) After repairs have been made, form tabs at each end cutting through polyethylene and metal layers. Remove any slivers of metal, taking care not to damage the core.

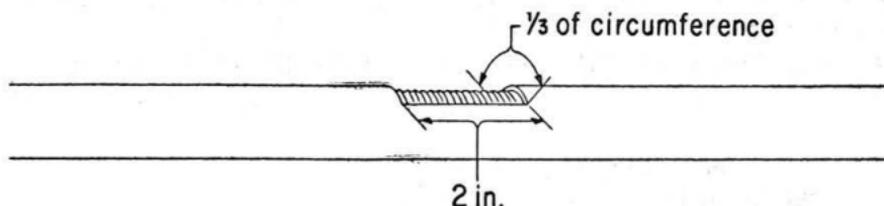


- (4) Then wrap the core. Wrap pulp or paper insulation with two half-lapped layers of B Paper Tape. Wrap PIC cable with a half-lapped layer of D Vinyl Tape. In both cases extend the wrappings underneath the tabs a half inch.

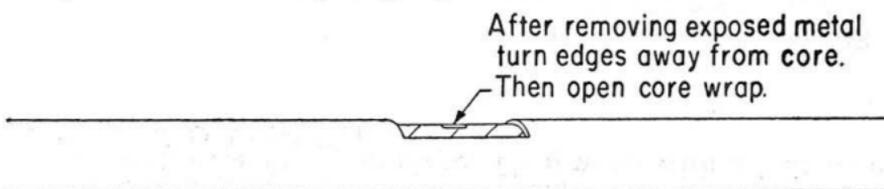


**2.02 For Pressure Testing Valve Points on Alpeith and Stalpeith Sheath:**

- (1) Remove polyethylene from the top of the cable at the location of the desired valve point.

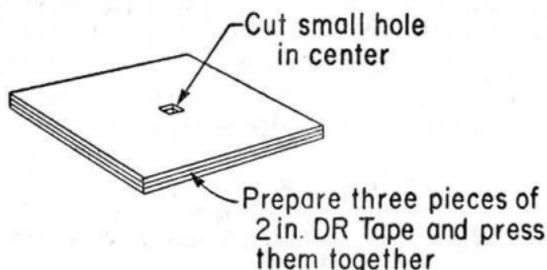


- (2) Remove the underlying metal, taking care not to damage the core wrap. Carefully turn the metal edges away from the core wrap and remove any slivers. Then open the core wrap slightly.

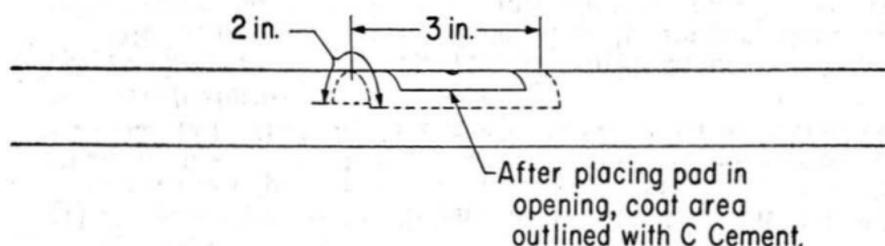


**2.03 For Pressure Testing Valve Points on PAP and PASP Sheath:**

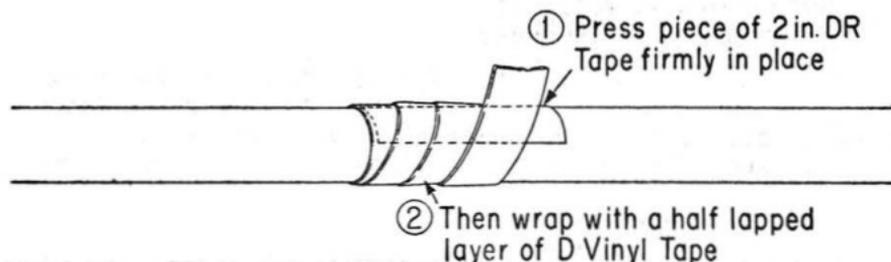
- (1) Remove the polyethylene and underlying metal and turn the edges as covered in Paragraph 2.02 (1) and (2). Then with a cable drill make a hole in the center of the exposed polyethylene to expose the core wrap. Open the core wrap slightly.
- (2) Prepare an insulating pad of three layers of 2-inch DR Tape. Cut each piece slightly longer than the rectangular opening in the polyethylene and press the three pieces into a pad. In the center of the pad cut a small 1/4-inch hole with the splicer's scissors.



- (3) Then, carefully trim the pad to fit in the rectangular opening in the outer polyethylene sheath. The pad should butt against the cut edges of the polyethylene along all four sides.
- (4) Remove the pad from the opening and coat the exposed polyethylene opening and the cut edges of the polyethylene with C Cement and allow it to dry.
- (5) Place the pad back into the opening and press firmly in position. Then coat the area of cable sheath around the opening with C Cement and allow it to dry.



- (6) Cut a piece of 2-inch DR Tape to fit over this area and press firmly in place. Then wrap with a half-lapped layer of D Vinyl Tape.



- (7) Cut a small opening through the D Vinyl Tape and the DR Tape over the hole in the pad. Check that the core wrap is open slightly to permit the free flow of air.

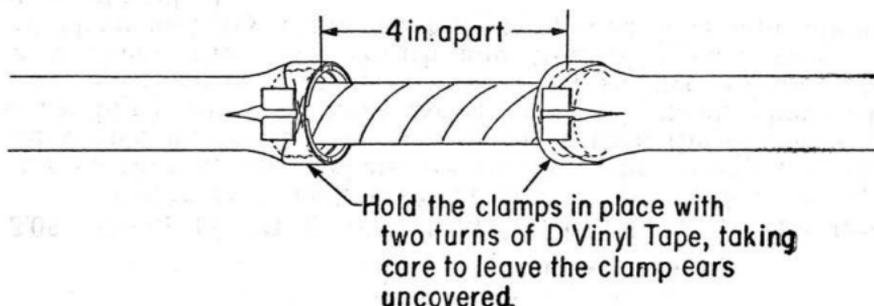
2.04 **For Sheath to Strand Electrical Bonds.** Where additional sheath to strand bonds are required on polyethylene covered cables in lightning areas as covered in Section G10.345.1, the sheath preparation for the bond follows.

(1) Ring the polyethylene half way through and cut and remove the center strip of polyethylene and the underlying metal as covered in Paragraph 2.01 (2). Then cut four tabs at each end as in Paragraph 2.01 (3).

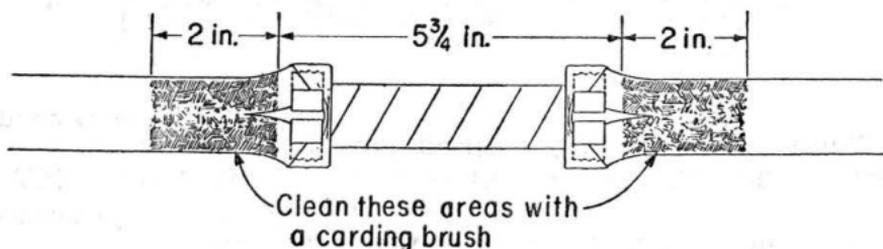
(2) Wrap the exposed portion of the core with a half-lapped wrapping of D Vinyl Tape extending underneath the tabs. The addition of the splice case in the next part completes the bond.

### 3. INSTALLATION OF THE SPLICE CASE

3.01 Place the sheath clamps under the polyethylene and metal tabs, working them back under until they are 4 inches apart. The projecting ears of the clamp should be placed to be covered entirely by a splice case. The ears should NOT be placed at the joint between the two splice cases. At pressure testing valve points no sheath clamps are needed.

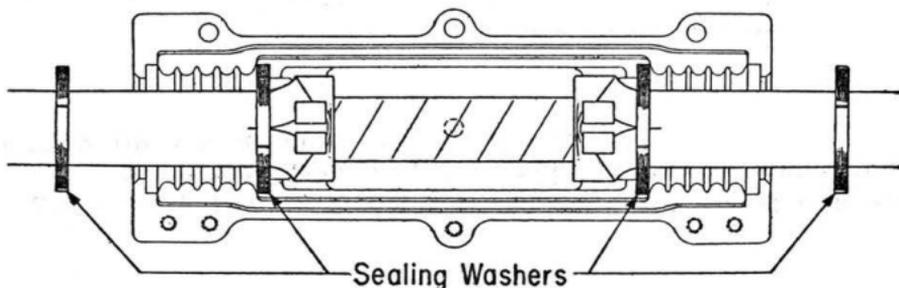


3.02 With the carding brush clean around the sheath area as shown. Remove with a cable file any scratches made during the operation of placing the cable.

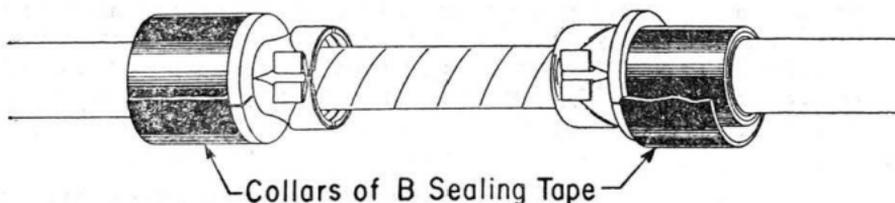


3.03 Polyethylene sealing washers are available for the various diameters of cable as covered in another section of the Practices.

3.04 Select four washers of the correct size. Place them over the cable and position the inner pair using a splice case as a guide.



3.05 Open the B Sealing Tape. Carefully wrap the tape around each end. Butt all joints between sealing tape strips so that no air pockets are formed. The amount of tape used should be equal to or slightly more than the diameter of the sealing washer. A slight excess of tape is good. There will be no seal if insufficient tape is used. The surfaces of the tape, the washers, the cable sheath and the splice case must be kept clean and dry while the tape is applied. The tape should not be stretched.

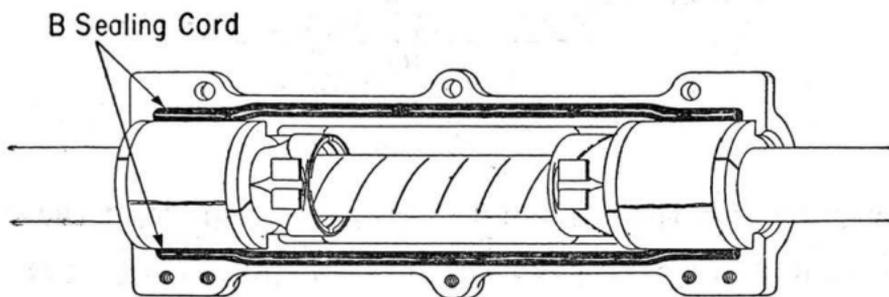


3.06 Move the outer polyethylene washers inward until they butt against the collars of sealing tape.

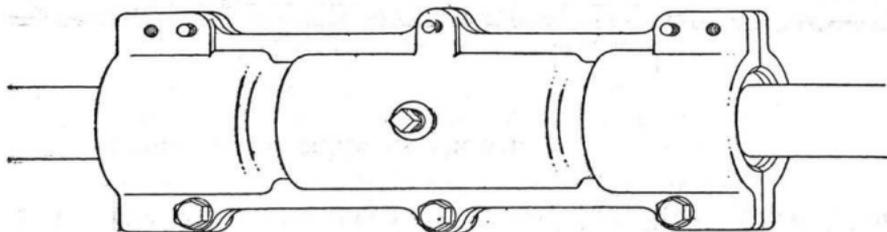
3.07 No compression collars are used. The heavily grooved ends of the splice case apply enough compression to seal the ends.

3.08 Fit the back splice case so that the end seals are confined and firmly seated and the clamps line up in their position. The ears of the clamps should be directly opposite this case as shown.

3.09 Examine the grooves which will receive the sealing cords. They should be clean and free from oil, grease, water, etc. Lay a length of B Sealing Cord in each groove. Take care not to stretch the cords and avoid making flat spots or dents that might prevent a good seal.



3.10 Add the front splice case, taking care that the washers, sealing tape and cords are in position, and tighten the bolts. It is not necessary to keep the joint between the splice cases vertical.



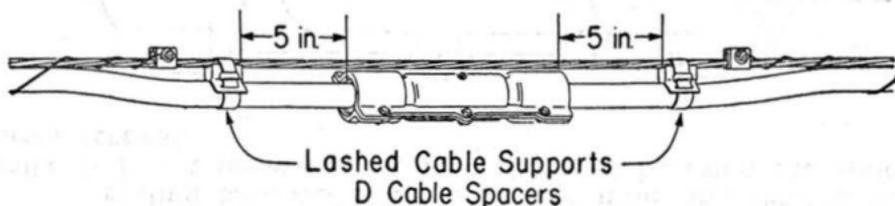
3.11 Check the end seals. The outer polyethylene washers should bulge a little, or some of the tape should be forced past the washers indicating that enough tape was used to get a tight seal. After an interval to allow the sealing compound to equalize pressure, retighten all bolts.

#### 4. FLASH TESTING

- 4.01 Each splice case has a pressure testing plug for use in flash testing.
- 4.02 Flash testing is done in the usual manner, after closing and sealing the terminal on splice case, using the flash testing material approved for use with the type of cable sheath involved.

#### 5. SUPPORTING

- 5.01 The cable supports the 13A and 14A Splice Case. There are no lugs fastening the case to the strand.
- 5.02 Support the cable as shown.



#### 6. SHEATH TO STRAND ELECTRICAL BOND

- 6.01 Back off the top center bolt and place a loop of tinned copper lashing wire under the head and retighten. Connect the other end of the loop to a C Cable Lashing Clamp.

