

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

**SECTION G50.679.5**  
**Issue 3, January, 1956**  
**AT&T Co Standard**

## **CABLE SPLICING — GENERAL**

### **WRAPPED JOINT — MAIN SLEEVE**

### **ALPETH AND STALPETH SHEATH**

#### **1. GENERAL**

1.01 This section replaces Issue 2 and covers the method of making a wrapped, gastight, straight joint between the outer end of the main sleeve and the sheath in splicing or repairing alpeth or stalpeth sheath cable.

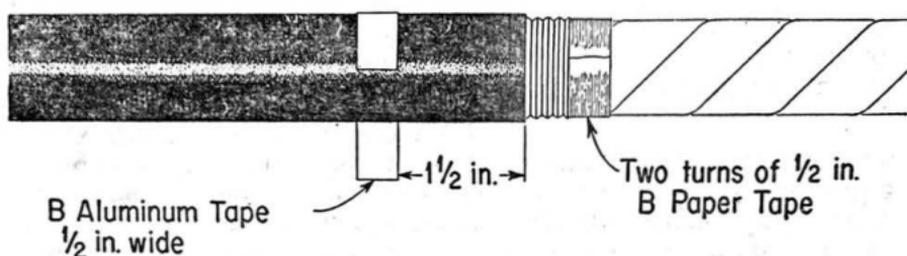
1.02 The section has been reissued to include stalpeth sheath cable. The position of the wire cloth and the method of soldering the sleeve to the wire cloth has been changed to increase the mechanical strength between the sleeve and the cable. **The outer wrapping of the joint has been changed for aerial use.** The outer wrapping for underground or buried use is covered in another section of the Practices.

1.03 This type of joint can be used on alpeth or stalpeth sheath cables when the **outside diameter of the sleeve is not more than 1 inch greater than the outside diameter of the cable.** If the difference in diameter is greater than 1 inch, or if the position of the splice makes it necessary to construct the joint before the cable is in its permanent position, use the auxiliary sleeve-type wrapped joint.

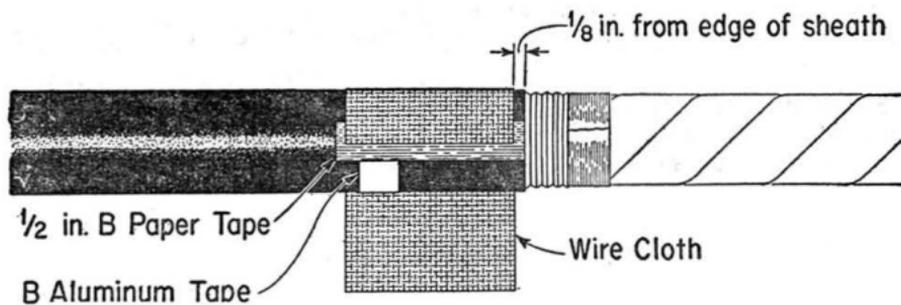
1.04 The joint is suitable on cables to be maintained under continuous gas pressure. The final wrapping for cables under continuous pressure is covered in another section of the Practices.

## 2. WRAPPING JOINTS

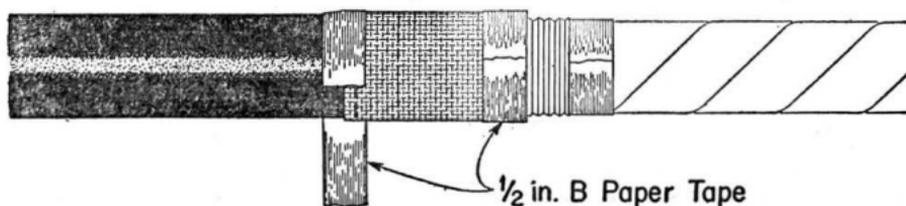
2.01 Cut a 1/2-inch wide piece of B Aluminum Tape long enough to encircle the cable. It prevents the polyethylene from melting and oozing into the wire cloth mesh when the copper is applied in soldering the sleeve to the wire cloth. Also, place 2 turns of 1/2-inch B Paper Tape smoothly over the core wrapper adjacent to the aluminum or terne plate.



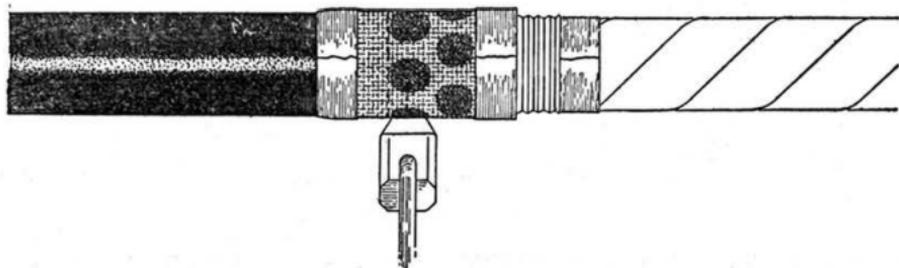
2.02 To prevent piercing of the polyethylene by the wire cloth ends place 1/2-inch B Paper Tape on the sheath. Place the starting edge of the wire cloth on the paper tape and wrap tightly around cable, overlapping the ends approximately 1 inch.



2.03 Hold the wire cloth in position with B Paper Tape.



2.04 With a hot copper held flat against the wire cloth, heat the plastic at a number of points around the cable. Black patches will show in the wire cloth when the plastic is soft enough. Do not overheat the polyethylene and do not use the point or an edge of the copper. Allow the polyethylene to cool then remove the inner paper tape collar.



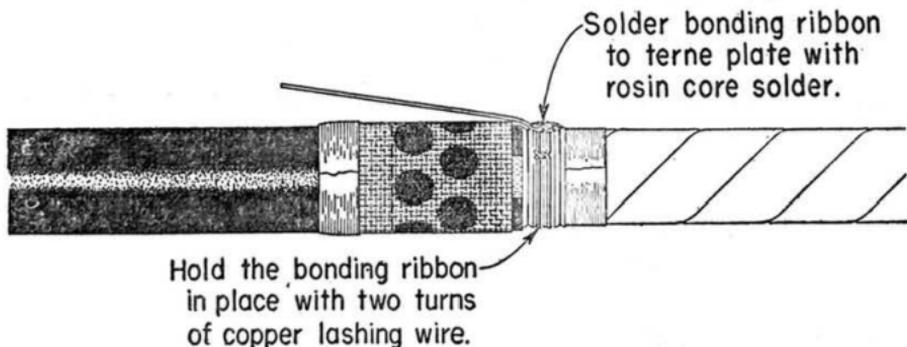
2.05 Place the bonding ribbon as follows:

(a) **On ALPETH**

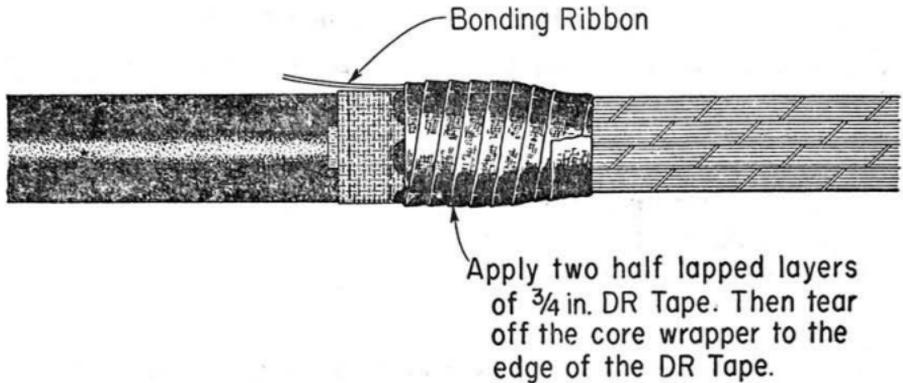
Place and solder the bonding ribbon to the aluminum using the method shown in the section of the Practices covering the auxiliary sleeve on alpeth cable.

(b) **On STALPETH**

Shape a piece of bonding ribbon to fit over the terne plate and the polyethylene. Solder the bonding ribbon to the terne plate with rosin core solder.

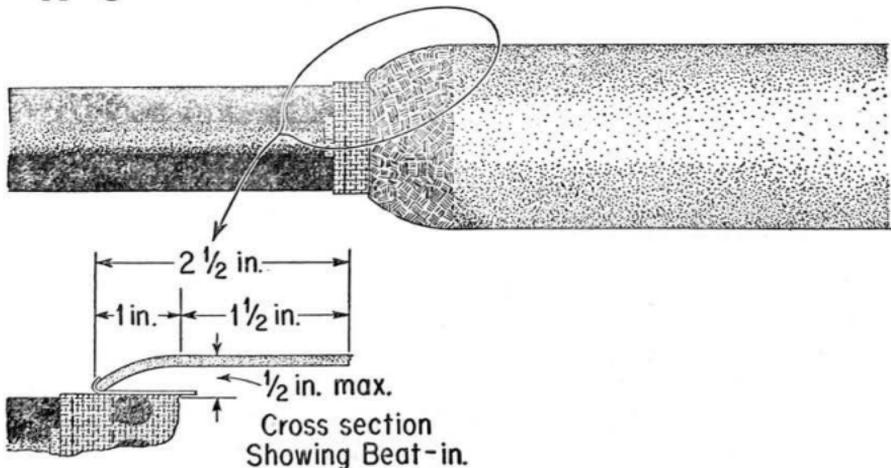


2.06 Remove the outer paper tape collar. Then apply two half-lapped layers of  $\frac{3}{4}$ -inch DR Tape covering part of the wire cloth, the aluminum or terne plate and the  $\frac{1}{2}$ -inch B Paper Tape. Then tear off the core wrapper to the edge of the DR Tape.

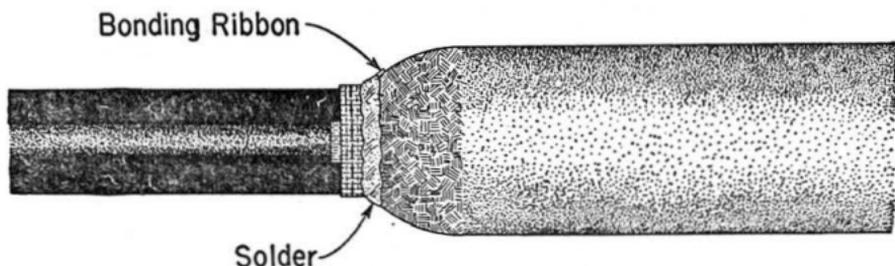


2.07 File the identification ridges off the sleeve for a distance of about 4 inches at each end to avoid the possibility of leaks in the wrappings at these points. Then slide the sleeve over the splice, making certain that the edge of the sleeve is centered over the underlying B Aluminum Tape.

2.08 Beat in the lead sleeve over the wire cloth and bonding ribbon. The beat-in should be smooth and a sharp shoulder at the end of the sleeve should be avoided. A close-up of the desired beat-in is shown in the inset. The beat-in should be completed within the first inch of the sleeve length to provide 1- $\frac{1}{2}$ -inches of straight sleeve for the DR Tape wrapping.

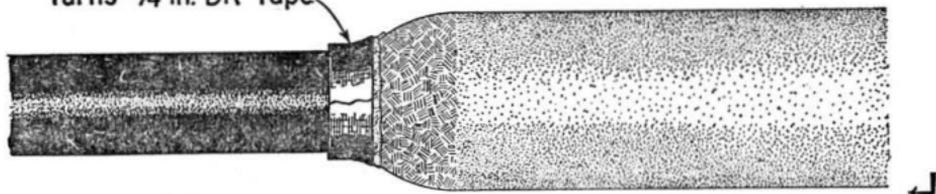


2.09 Lightly coat the exposed wire cloth with stearine. Cut off the bonding ribbon one-quarter inch from the end of the sleeve and bend back over the sleeve. Using stearine core solder, solder the bonding ribbon to the sleeve. Then solder the sleeve to the wire cloth, encircling the sleeve as far as practicable. The solder should flow into the wire cloth mesh in order to develop good mechanical strength.

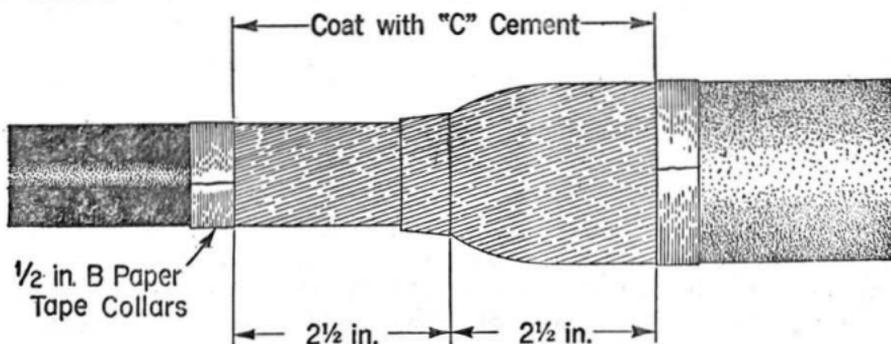


2.10 Place a collar over the wire cloth next to the sleeve to provide a build-up. The collar may extend over the solder but should not be carried up the sleeve.

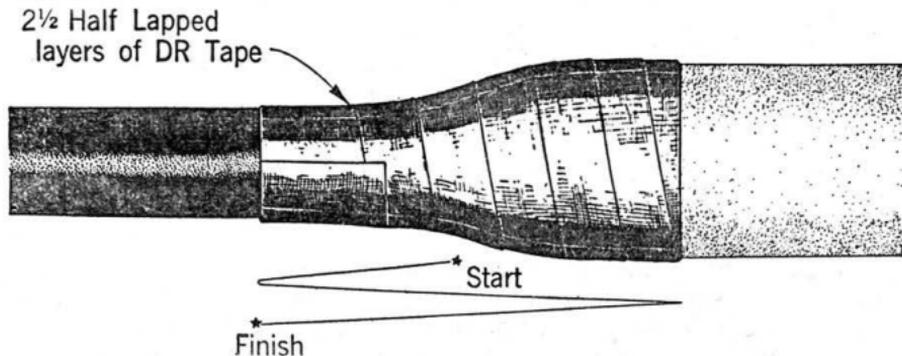
Place a collar of 3 turns  $\frac{3}{4}$  in. DR Tape



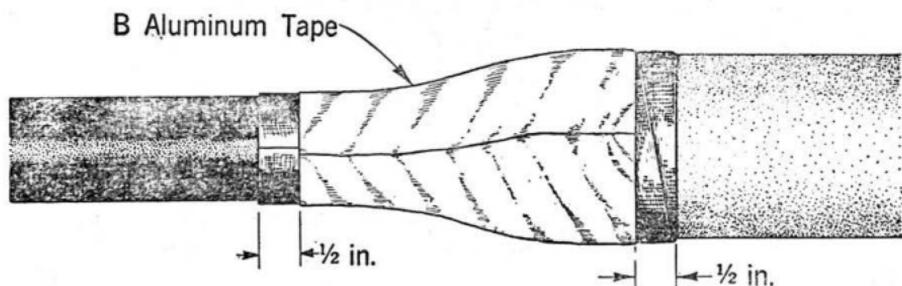
2.11 Clean the sleeve, scuff the sheath to a uniformly dull surface, place 1/2-inch B Paper Tape Collars on the sheath and sleeve, and coat the enclosed area with C Cement. Then remove the paper tape collars. Allow 3 to 5 minutes drying time in warm weather and 5 to 10 minutes in cold weather.



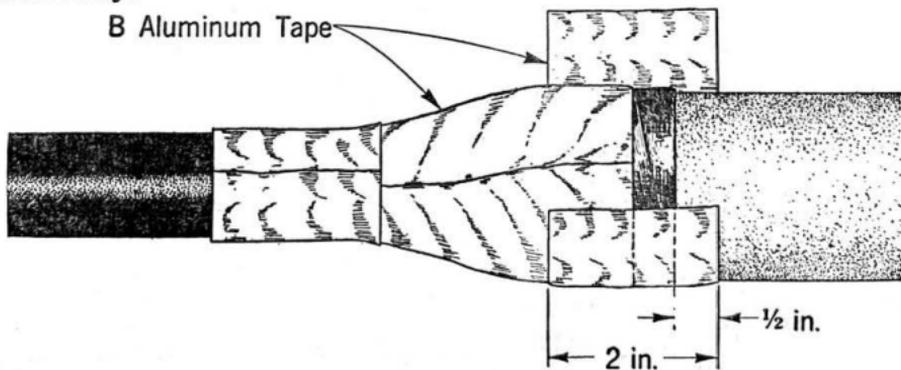
2.12 Apply 2-1/2 half-lapped layers of 2-inch DR Tape but no more, over the cemented area. In applying the tape it should be stretched to reduce its width to 1-1/2 inches. (This is a means of obtaining the correct tension in the DR Tape.)



2.13 Apply a collar of three turns of B Aluminum Tape centered on the DR Tape. Iron smoothly in place with the handle of the dresser or carding brush.



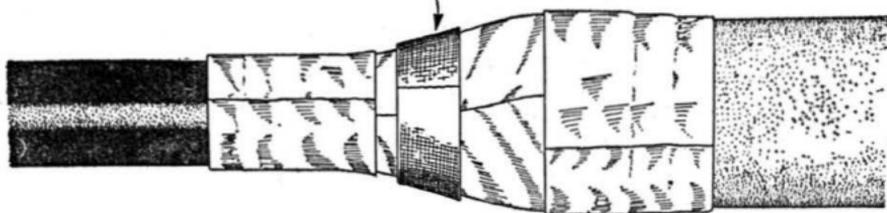
2.14 Apply a 1-1/4-turn wrapping of 2-inch wide B Aluminum Tape at each end, extending beyond the exposed DR Tape 1/2 inch. Then iron the 2-inch widths in place smoothly.



2.15 The outer wrappings provided in the following paragraphs are for use on aerial cable. The outer wrappings for underground plant are covered in another section of the Practices.

2.16 At the point directly over the three turn collar of DR Tape placed in Paragraph 2.10, place a tight collar of five turns of 3/4-inch friction tape.

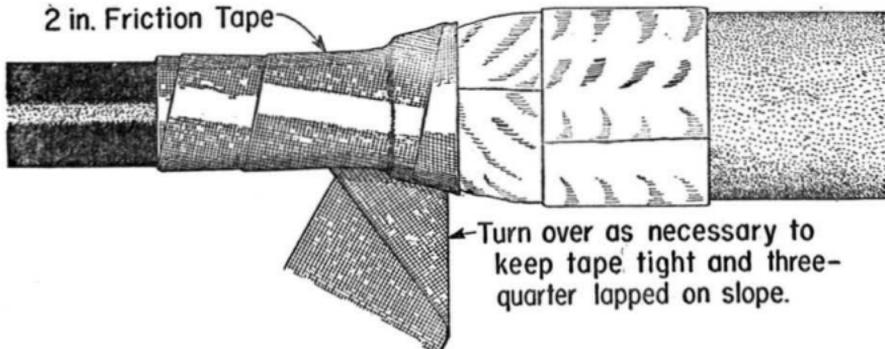
Five turns of 3/4 in. Friction Tape



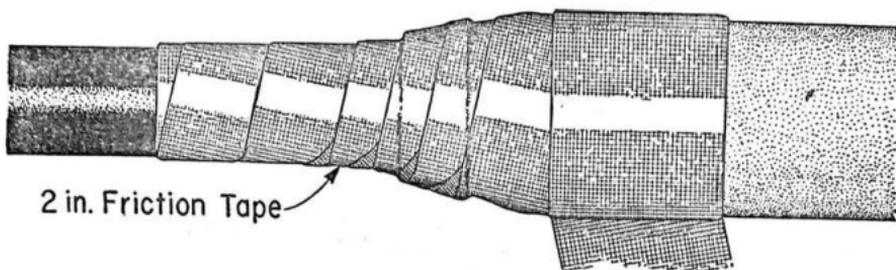
2.17 In the following Paragraphs 2.18 to 2.20, inclusive, 2-inch friction tape is illustrated. However, on cables of 1 inch and less in diameter, 3/4-inch friction tape is used instead of 2-inch friction tape, and applied in the same manner.

2.18 Starting on the sheath just beyond the outer edge of the B Aluminum Tape, apply a half-lapped layer of 2-inch friction tape toward the center of the aluminum tape. As the slope of the sleeve is reached, turn the friction tape over as necessary to keep the tape tight on the slope and increase the overlap to three-quarters on the slope.

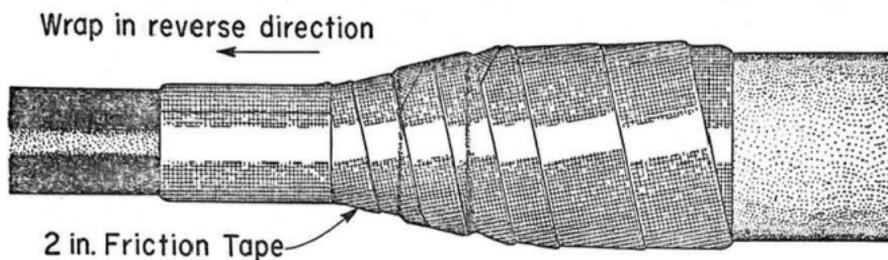
2 in. Friction Tape



- 2.19 Continue the friction tape wrapping just beyond the end of the aluminum tape on the sleeve.



- 2.20 Place a second half-lapped layer of friction tape starting on the sleeve and wrapping in the reverse direction.



- 2.21 Finish with a half-lapped layer of D Vinyl Tape. This black vinyl plastic tape has good outdoor weathering characteristics. Starting on the sleeve just beyond the edge of the friction tape apply it under slight tension. The last turn should extend just beyond the edge of the friction tape on the cable. **The last turn should be laid on free from all tension so that the end of the tape will not start to curl back.**

