BELL SYSTEM PRACTICES
Outside Plant Engineering and Maintenance

SECTION G50.637.3
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CABLE SPLICING—GENERAL
SPLICING B DISTRIBUTION CABLE TO C BLOCK WIRE

Contents

1. GENERAL

1.01 This section describes the method of joining B Distribution Cable to C Block Wire at points where the neoprene sheathed cable is to be connected to exposed binding posts in F, BB and EA cable terminals, or building cable terminals.

1.02 The rubber insulated pairs in B Distribution Cable should not be terminated directly in these terminals as the rubber insulation does not withstand exposure to air and light as well as C Block Wire which is equipped with a neoprene covering that is not affected by light and air.

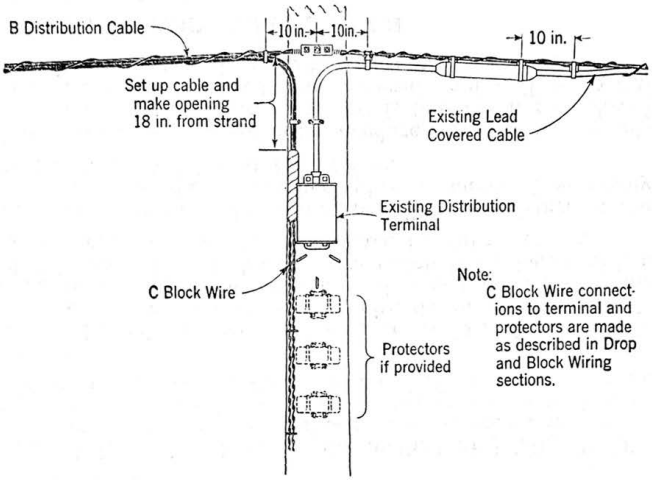
1.03 In order to minimize the possibility of moisture at the junction, the connecting splice is mounted vertically with the C Block Wire at the bottom.

1.04 **Materials:** The splicing procedure described herein calls for the use of certain materials that are not employed in splicing paper-insulated lead covered cables. The special materials are described in Section G50.637.1.

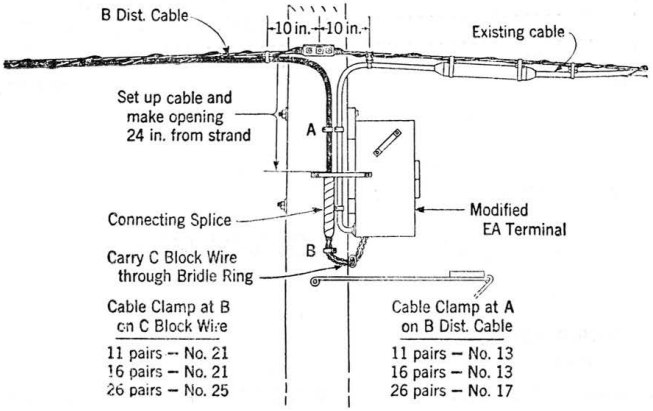
2. PLANNING AND PREPARATION

2.01 The following illustrates the proper arrangement of the B Distribution Cable and C Block Wire in typical installations on poles.

(a) At Distribution Terminals—With and Without Protectors.



(b) At Modified EA Terminals—Protectors Used.



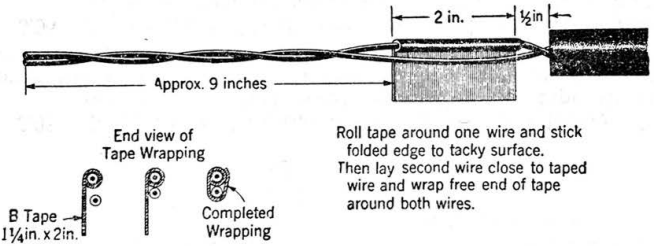
2.02 The splice between the B Distribution Cable and the C Block Wire can be made in a horizontal position to facilitate the work. The position of the sheath opening should be determined as indicated in the preceding sketches, marking the location with a turn of friction tape or a tight wrap of wire.

3. SPLICING PROCEDURE

3.01 Determine the length of the C Block Wire needed to reach from the connecting splice to the binding posts in the terminal, allowing approximately one foot of wire for making the splice. Then prepare the number of lengths needed to take all pairs from the B Distribution Cable into the terminal. In order to make a water-tight plug each C Block Wire pair is prepared as follows:

(1) Separate the two wires for a short distance approximately nine inches from one end.

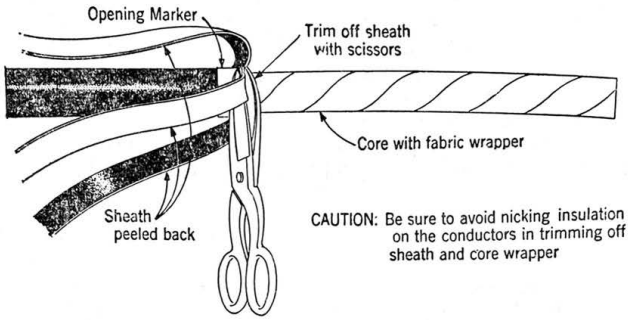
(2) Cut a 1-1/4 inch length of 2-inch B Tape and apply to the wires as illustrated below.



3.02 When all C Block Wires have been prepared, assemble the group in a compact bunch with the taped section carefully aligned. Press the taped section firmly and then wrap tightly with 2-inch B tape to build up a rubber collar about 2 inches wide and 2-1/2 inches in diameter.

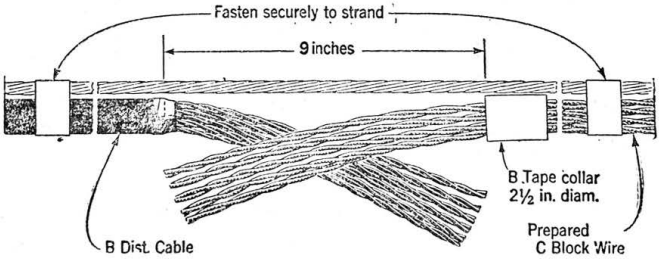
3.03 If necessary, cut off the B Distribution Cable to leave about ten inches of wire for splicing. Then remove the outer neoprene sheath to the opening mark. This can best be done using long nose pliers, by gripping the sheath at cut end and peeling back a narrow section to the mark. The rest of the sheath can be pulled back by hand.

3.04 The sheath should then be trimmed off around the cable at the mark using the splicer's scissors, as illustrated below.



3.05 Serve the end of the sheath with 3 or 4 layers of B tape cut to 1-inch width, extending the tape slightly over the core as illustrated below. Then remove the fabric core wrapper to the B tape serving and trim off carefully.

3.06 Set up the B Distribution Cable and prepared C Block Wire horizontally along the strand, leaving a 9-inch opening, and fasten securely for making the splice, as illustrated below.



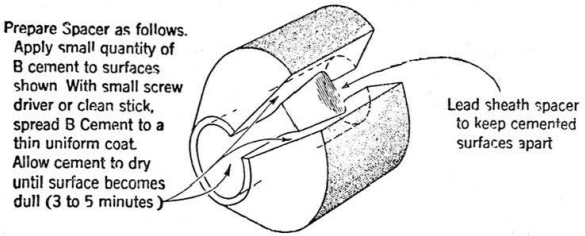
3.07 Join the cable conductors and C Block Wire in the same manner as that outlined for straight splices in Section G50.637.2.

3.08 Bend the sleeved joints alternately toward the left and right to make a symmetrical splice.

4. APPLYING SPLICE COVERING

4.01 Unfasten the cable and block wire from the strand and scuff the surface of the neoprene sheath on the cable for a distance of 5 inches from the cut end. This can best be done with the carding brush. Then apply a thin, uniform coat of B Cement to the scuffed surface using a firm swab of muslin.

4.02 Squeeze a small quantity of B Cement in the opening of a B1 spacer and with a stick or small screwdriver spread a thin, uniform coat on the surfaces in the hole as well as the surfaces where the disc is split to fit over the cable. Then spread the spacer and insert a piece of sheath or similar material, as illustrated below, to hold the surfaces apart and allow the cement to dry.

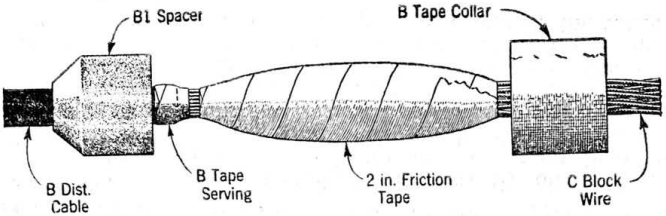


4.03 Allow the cement to dry until the shiny cemented surface becomes dull (3 to 5 minutes).

4.04 Apply a loose wrapping of 2-inch friction tape over the spliced pairs, overlapping adjacent turns about 1/2 inch. This tape should not extend over the neoprene sheath.

4.05 The B1 spacer is made to fit correctly on a 26-pair B Distribution Cable. To use the spacer on 10 or 16 pair cables, it is necessary to build up the diameter of the cable to approximately .8 inch with 2-inch B tape. The correct built-up diameter can best be determined by using a gauge consisting of a 1-inch length of a B1 spacer. The diameter is correct when the spacer closes to a snug fit over the taped portion with moderate pressure applied to compress the spacer.

4.06 When the cemented surfaces have dried, spread the spacer wide and place it on the neoprene jacketed cable, as indicated below.

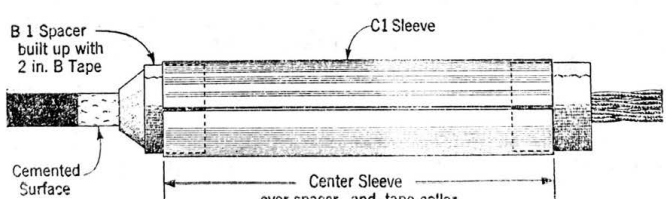


4.07 When the spacer has been fitted correctly it is wrapped tightly with 2-inch B tape, to compress it and ensure a tight seal around the cable and at the split. The wrapping also serves to build up the diameter of the spacer.

4.08 In starting the wrapping, trim the B tape to a point and stretch it well to thin the starting layer. Then continue the wrapping on the straight section of the spacer until the diameter is increased to approximately 2-7/16-inch diameter.

4.09 The correct diameter can best be determined by using as a gauge a 1-inch length of C1 Sleeve. When the diameter is correct the piece of C sleeve should come within about 1/8 inch of closing when held tightly around the built-up spacer.

4.10 The C1 Sleeve (split phenol fibre sleeve 12 inches long) is now centered over the splice as illustrated in the following sketch.

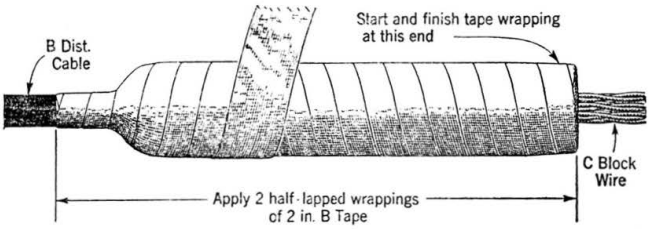


4.11 Before applying the C1 Sleeve make sure that the inside and outside of the ends are chamfered to remove burrs, and that any sharp edges have been smoothed.

4.12 The sleeve is somewhat springy, particularly in cold weather. Heating the inside and outside of the sleeve gently over the furnace will facilitate spreading it to fit over the splice. The material should be heated to a temperature just comfortable enough to handle with bare hands.

4.13 In placing the sleeve, hold it under the splice, spread one end and fit it over the B tape collar; then spread the other end and place the sleeve over the B1 spacer.

4.14 Starting at the C Block Wire end, apply two half lapped wrappings of 2-inch B tape over the sleeve and cemented area of the neoprene jacket as indicated below. Stretch the tape to 1-1/2-inch width as it is applied.



5. COMPLETION

5.01 On completion of the splice, arrange the splice as illustrated in the sketches, Paragraph 2.01.

5.02 Clamp the B Distribution Cable and C Block Wire to the pole as indicated.

5.03 If conditions make it necessary to clamp the wrapped sleeve in position wrap the sleeve with two or three turns of friction tape immediately under the clamp, to protect the 2-inch B tape against abrasion.