

BELL SYSTEM PRACTICES
Outside Plant Construction
and Maintenance

SECTION G50.613.1
Issue 1, May, 1948
AT&T Co Standard

CABLE SPLICING—GENERAL

REMOVING LEAD SHEATH

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1. GENERAL

1.01 For the purpose of this section it is assumed that the cables are in position and that all sheath coverings, such as armor wires, tapes, jute, etc. have been removed or turned back from the location where the sheath is to be removed.

1.02 When sheath is removed at a cable end containing defective pair tags, care should be taken to prevent the tags from becoming detached from the conductors during the sheath removal.

1.03 The length of a sheath opening depends on the details of the splicing operations and the type and size of the cables. In general, the length of the opening is 3 inches less than the length of the lead sleeve that is to be used to close the opening. Standard sleeve sizes for most of the splicing operations and cable combinations are given in other sections.

1.04 If the sheath is to be removed under damp conditions, protective measures must be taken to keep moisture from the exposed conductors. If water is running along the cable, place muslin or friction tape drip collars around the cables beyond the location of the opening.

1.05 Cables having more than two paper wrappers between the core and the cable sheath are designated as high dielectric strength cables and are generally specified for new

installations of quadded, coaxial, disc-insulated spiral-four, and short pair twist toll cables. The increased number of wrappers provides additional insulation to prevent electrical breakdown between conductors and sheath. The sheath of high dielectric strength cables should be removed as specified in Part 6 of this section. If there is doubt as to whether a cable is of the high dielectric type, remove a small piece of sheath from the cable end or the center of the proposed opening to determine if there are more than two core wrapping papers.

2. MEASURING AND MARKING

2.01 The procedure for measuring and marking for a sheath opening is as follows:

- (1) Establish the center line of the opening.
- (2) Determine the size of the sleeve.
- (3) Subtract 3 inches from the length of the sleeve. This is the length of the sheath opening.
- (4) Measure half the length of the opening each side from the center line and place a mark on the sheath.
- (5) Check the length of the opening between the marks.

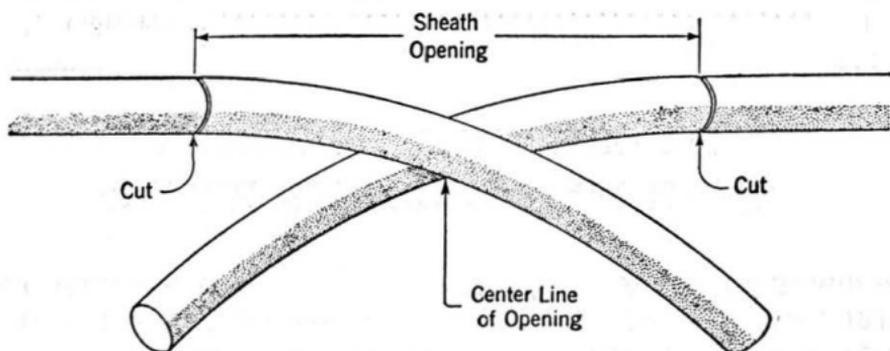
3. CUTTING RING IN SHEATH

3.01 Cut a ring in the cable sheath at the marks for the sheath opening. The cut should go completely around the cable and should extend about halfway through the sheath.

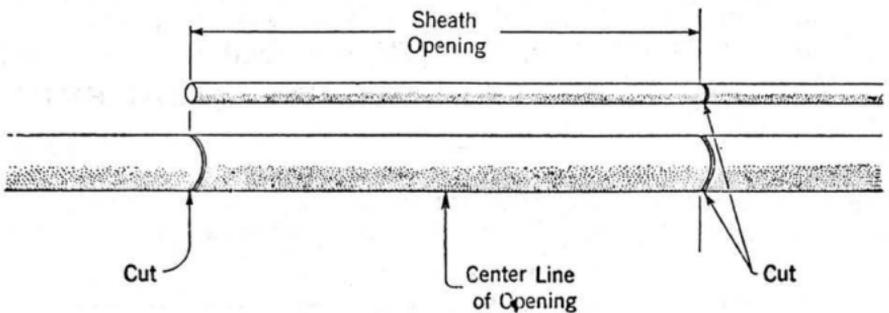
3.02 On small cables the cut can be made with a knife or shears. On large cables the cut should be made with a chipping knife and hammer.

3.03 Two typical arrangements are shown in the following illustrations.

- (a) Cables with free ends at the opening.



(b) Cable continuous through the opening.



4. CLEANING SHEATH

4.01 If a joint is to be wiped on the cable adjacent to the opening, it is generally desirable to clean about a 4-inch length of the cable beyond the cut prior to removing the sheath. This can be done by cleaning the sheath carefully with a carding brush.

4.02 Inspect the cleaned sheath surface to make sure that there are no dull spots or streaks. Coat the cleaned surface with stearine.

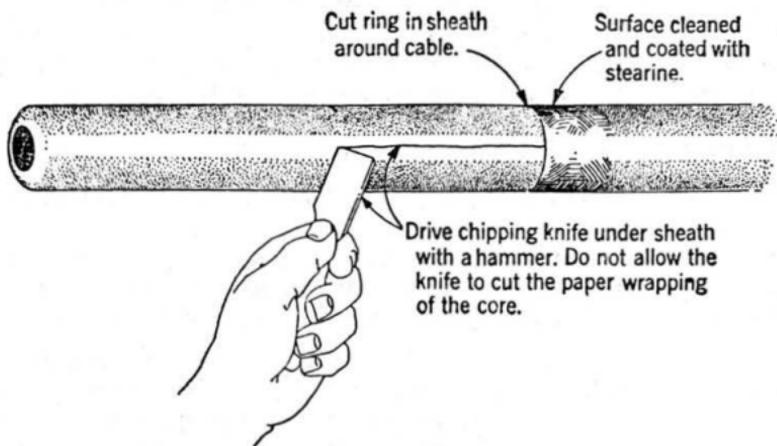
5. REMOVING SHEATH WITHOUT SLITTING

5.01 On small cables with free ends, except cables containing disc-insulated spiral-four quads or coaxials, the sheath may be removed without slitting. This is done by gently bending the cable back and forth until the sheath parts at the cut marking the end of the opening. The tubular length of sheath is then pulled off the end of the cable core, rotating it slightly if necessary in the direction of the spiral of the core wrapping paper.

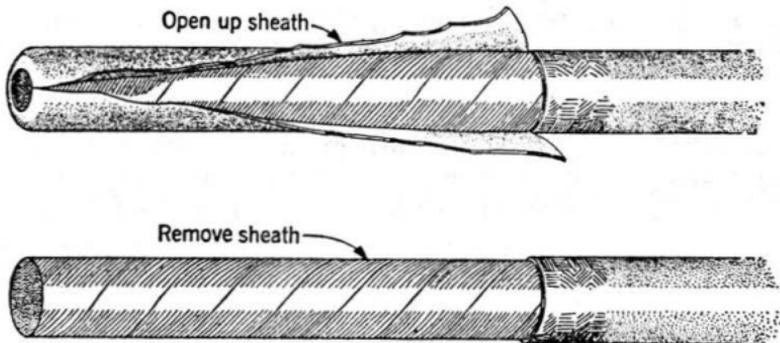
5.02 If a long length of sheath is to be removed, it may be necessary to make two or more cuts around the cable and to remove the sheath in several lengths.

6. SLITTING AND REMOVING SHEATH

6.01 If the cable is continuous through the opening, or is large in size, or contains disc-insulated spiral-four quads or coaxials, it is necessary to slit the sheath before removal. The sheath is slit with a hammer and chipping knife, the sheath being pried open slightly with the knife after each blow with the hammer so as to open the slit progressively.



6.02 After the slit has been completed, open the sheath by turning back the upper and lower portions with a hammer or pliers. Spread the sheath until the core can be pulled out, or until it is free enough to permit bending and breaking clear at the cut.

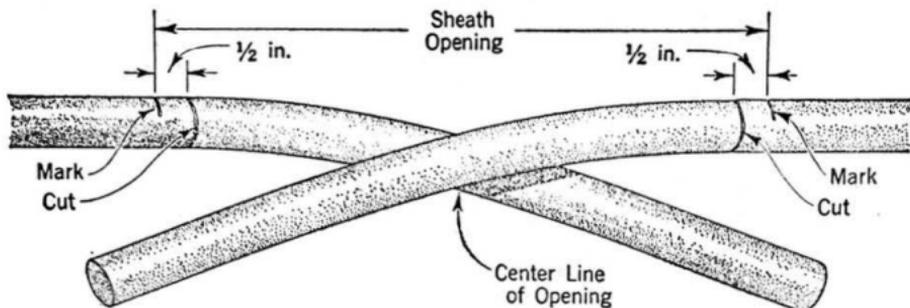


6.03 As the sheath is turned back there is a tendency for the edge of the remaining sheath to flare out from the core. Do not dress the flared edge down, but inspect it and remove any sharp edges or burrs.

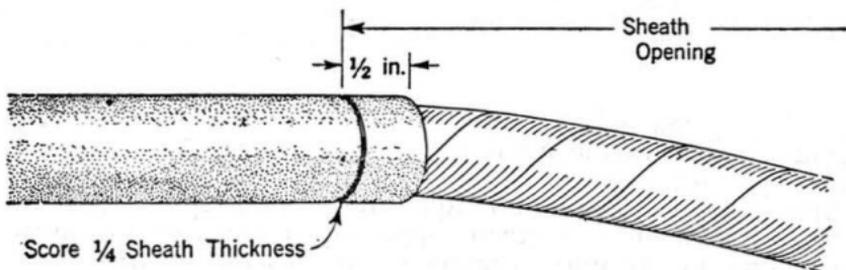
7. HIGH DIELECTRIC CABLES

7.01 In high dielectric cables it is necessary to flare the sheath at the edge of the opening to provide space for inserting a strip of insulating material between the sheath and the core wrapping paper. The flaring can be done by removing the sheath in the following way:

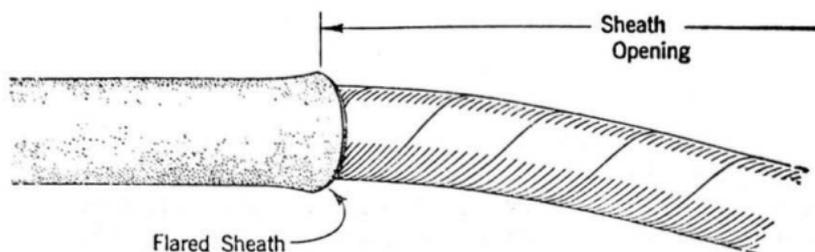
- (1) Determine the center line and the length of the opening.
- (2) Mark the cables at the ends of the opening and also 1/2 inch in from the ends.
- (3) Cut rings, extending about halfway through the sheath, at the marks 1/2 inch in from the ends of the opening.



- (4) Slit and remove the sheath up to the cuts located 1/2 inch in from the ends of the opening.
- (5) Cut rings, extending only about one-fourth way through the sheath, at the marks for the ends of the opening.



- (6) Slit the 1/2-inch sections with a chipping knife and remove them by peeling the sheath off with longnose pliers. This will flare the edge of the sheath as the sections are peeled off. At the point where the section finally breaks off from the cable it may be necessary to flare the edge slightly with longnose pliers. The appearance of the cable should be as shown in the following illustration.



8. AT KNUCKLE JOINTS

8.01 At locations where the sheath opening is to be closed with a sleeve having a knuckle joint at one end, it may be desirable to remove the cable sheath at approximately a 45° angle for the knuckle joint. The extended sheath should be toward the outer corner of the joint to protect the splice from solder that may enter through the small opening that generally occurs at the center of the beat-in of the sleeve.

