

BELL SYSTEM PRACTICES
Outside Plant Construction
and Maintenance

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CABLE SPLICING—GENERAL

PREPARATION OF LEAD SHEATH OPENING

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1. GENERAL

1.01 At all splices and sheath openings, with the exception of those for insulating joints and those at trouble or test openings that will be rearranged subsequently, it is necessary to protect the cable core at the edge of the sheath. The wrapping used for this purpose is sometimes referred to as a "choker". Its purpose is to maintain the dielectric strength between the core and sheath, and to prevent damage to the insulation on the conductors. At a trouble or test opening the protective wrapping will usually be placed when final repairs are made.

1.02 At splice points in multiple unit type cables it is generally desirable to rotate the layers so that corresponding units will be in line across the splice. This should be done before the protective wrapping is applied at the edge of the sheath. The position of the units can be determined by removing the core wrapping papers to within about one inch of the sheath.

1.03 At splice points in cables containing coaxials or spiral-four disc-insulated quads it is not permissible to rotate the core or individual layers to facilitate alignment across the splice. Rotation may disturb the assembly of the core, or damage the coaxials or spiral-four quads.

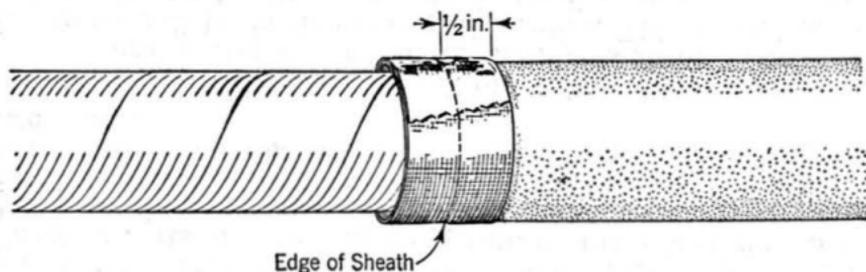
1.04 The method of making the protective wrapping depends on whether the cable is of the **normal dielectric** type with two paper wrappers under the sheath, or is of the **high dielectric** type with more than two paper wrappers under the sheath.

2. NORMAL DIELECTRIC CABLE

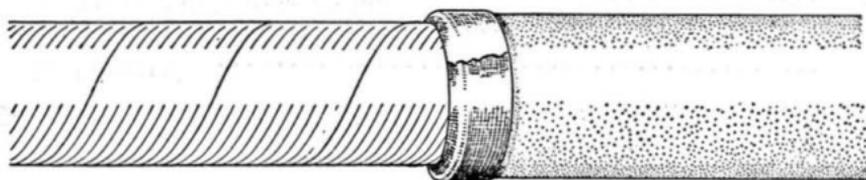
2.01 In cables that have two paper wrappers under the sheath, thus indicating that they are of the normal dielectric type, the method of making the protective wrapping may be varied to meet the size of the cable.

2.02 **Tuck Method.** On large cables the covering may be tucked under the sheath in the following way:

- (1) Apply two layers of dry 1-inch cotton tape over the sheath and the core wrapping paper as shown in the following illustration. The edge of the tape should extend 1/2 inch over the end of the sheath.

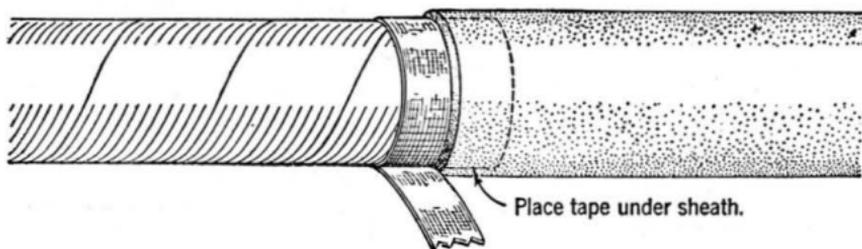


- (2) Tuck the cotton tape under the sheath with the scissors or cable butting tool.

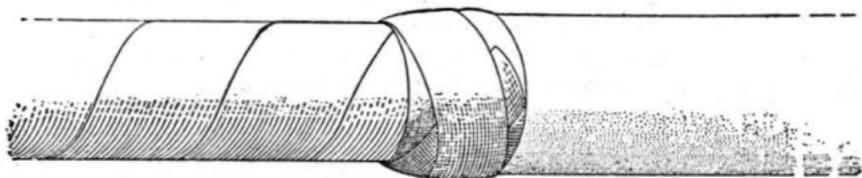


2.03 **Wrap Method.** The wrap method may be used on any size cable. It is made in the following way:

- (1) Wrap dry 1-inch cotton tape tightly around the core wrapping papers, extending it under the edge of the sheath. This is done by rotating the first layer of tape while pushing it toward and under the sheath.

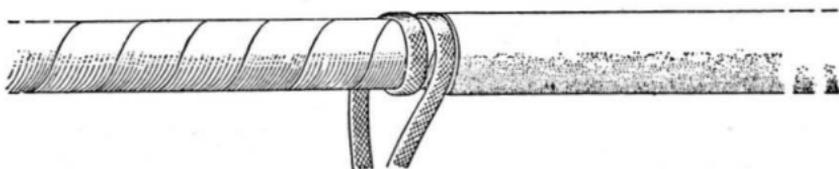


- (2) Continue the wrapping over the core and back over the sheath. Terminate with a slip tie and cut off the excess tape.



2.04 **Cotton Sleaving Method.** On small cables the wrapping may be made with dry cotton sleaving.

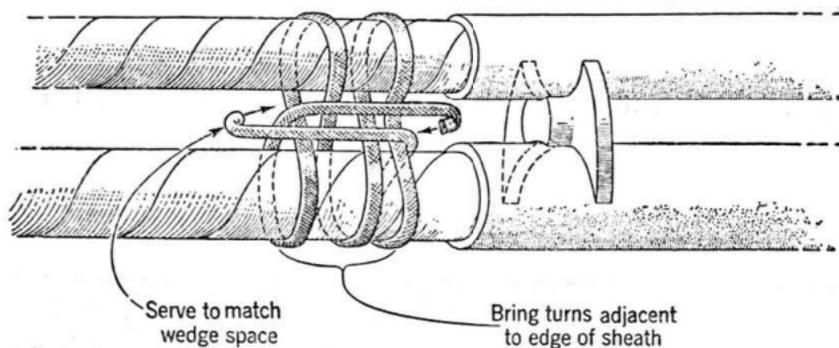
- (1) Apply two or three turns of sleaving over the core wrapping papers, depending on the size of the cable.



- (2) Tie in place with a clove hitch or square knot and cut off the excess cotton sleaving.



(3) At a "Y", the protective wrappings for the two cables may be combined with a serving and square knot between the cables.



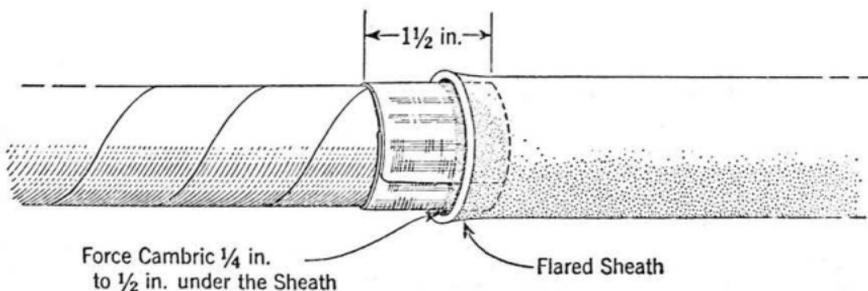
2.05 After the protective wrapping is completed, unwind the paper wrappers on the core to the edge of the protective wrapping. Tear off each wrapper carefully around the core at the edge of the protective wrapping.

3. HIGH DIELECTRIC CABLE

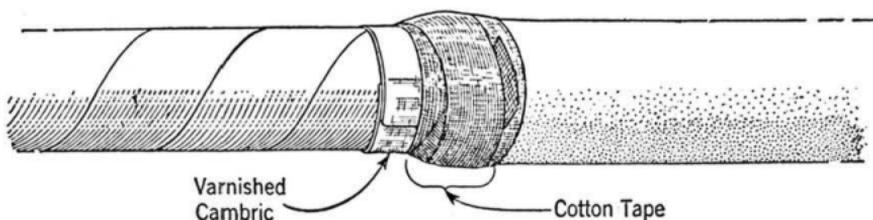
3.01 In cables that have more than two paper wrappers under the sheath, thus indicating that they are of the high dielectric type, it is necessary to provide additional protection in the following way:

(1) Prepare a strip of varnished cambric about 1-1/2 inches wide and long enough to go around the core with about a 1/4 or 1/2 circumference overlap.

(2) Wrap the cambric tightly around the core wrapping paper and insert it about 1/4 to 1/2 inch under the sheath. This is done by rotating the layer of cambric while pushing it toward the sheath that was flared when the sheath over the opening was removed.



(3) Wrap dry 1-inch cotton tape over the varnished cambric and the sheath. Terminate with a slip tie and cut off the excess tape.



(4) Cut the varnished cambric lengthwise to the edge of the cotton tape. Then tear off the excess cambric uniformly around the core at the edge of the cotton tape.

(5) Unwind the paper wrappers on the core to the edge of the protective wrapping. Tear off each wrapper carefully around the core at the edge of the protective wrapping.