BELL SYSTEM PRACTICES
Outside Plant Construction
and Maintenance

SECTION G73.157.5
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PRESSURE TESTING

RESIN PLUGS—SLEEVE INJECTION ALPETH, STALPETH, AND PASP CABLES

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1. GENERAL

1.01 This section describes the lead-sleeve method of constructing cold resin plugs in strip paper or pulp-insulated conductor cables having alpeth, stalpeth, or PASP sheath.

1.02 The same tools and materials are required and the same precautions should be observed as in making resin plug in lead sheath cable. The tools and materials used in making tape-wrapped joints between a lead sleeve and polyethylene sheath are also required.

1.03 **Plugging Cable Under Pressure:** Refer to Section G73.157.1.

2. LOCATION OF PLUG

2.01 Because of the way in which the lead sleeve is installed, it is necessary to locate the plug in a straight section of cable to avoid severe bending strains. The plug can be made in a horizontal or vertical section of cable.

2.02 The locations of plugs with reference to splices are the same as for resin plugs in lead cables.

3. PREPARATION

3.01 Essentially the preparations for plugging an alpeth, stalpeth, or PASP sheath cable are as follows:

(1) Make an outer sheath opening (8 in. for alpeth or stalpeth and 11 in. for PASP).

(2) Remove inner sheath or sheaths but leave a strip of the aluminum tape across the opening to provide a bond. The aluminum strip should have a width of about 1/3 the cable circumference. Stretch the strip slightly to provide clearance from the core and the cotton rope. See illustration in Paragraph 3.02 (3).

(3) Pack dry cotton tape between core and sheath, and between sheath layers to restrict the flow of resin back along the core. See illustration in Paragraph 3.02 (1).

(4) Prepare sheath ends in a manner similar to that for making an auxiliary sleeve joint.

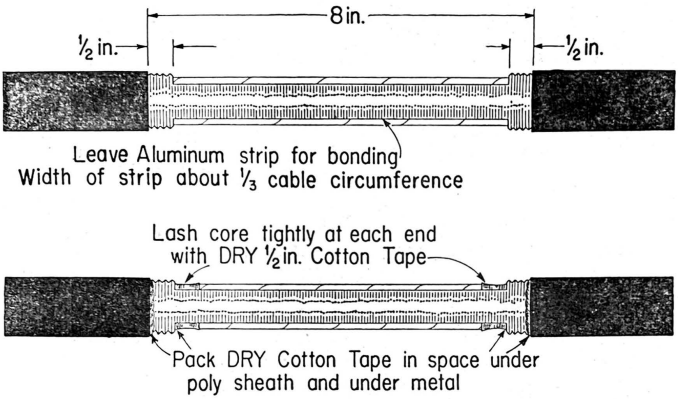
(5) Remove core wrapping and balloon the core.

(6) Finish wrapped joints with DR Tape, B Aluminum Tape, Friction Tape, and D Vinyl Tape just as in finishing an auxiliary sleeve.

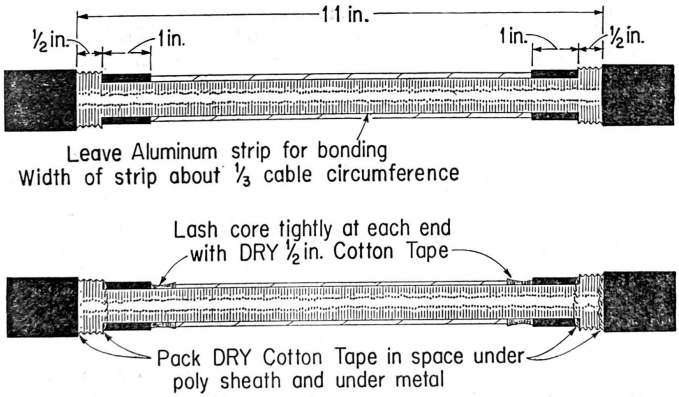
(7) Install a D Pressure Flange in the center of the sleeve and drill a 1/4-in. hole about 3 inches each side of the flange. (For a vertical plug drill only one hole, locating it 3 inches above the flange.)

3.02 The sequence of operations is illustrated in the following:

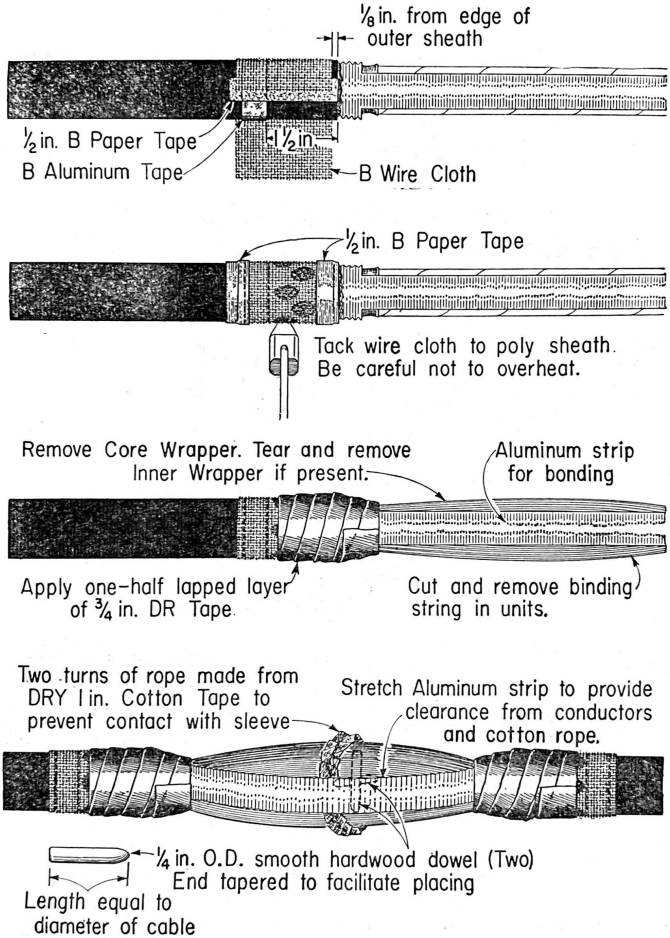
(1) **For alpeth or stalpeth**

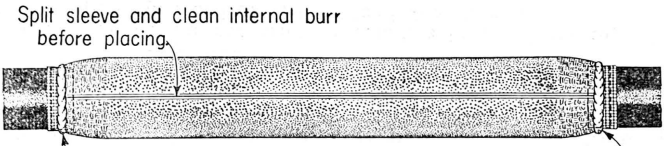


(2) **For PASP**



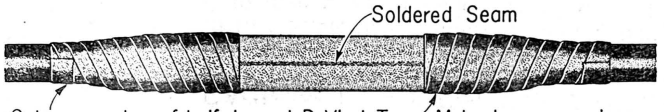
(3) **For alpeth, stalpeth, or PASP.** These illustrations show the setup for alpeth or stalpeth, but the outer sheath preparation is identical for PASP.

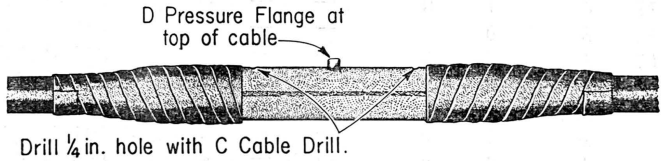




SLEEVE LENGTH–4 in. longer than outer sheath opening.

SLEEVE DIAMETER–Alpeth or Stalpeth–To provide snug fit over DR taped ends. PASP–½ in. larger than cable diam.





4. INJECTION OF COLD RESIN

4.01 Screw the C Pressure Gun into the D Pressure Flange.

4.02 Mix the C Resin with the C Activator and pour the mixed resin into the gun as covered in Section G73.157.3.

4.03 The quantity of resin and activator required for cables of various diameters is shown on the next page.

Outside Diam. of Cable (Inches)	Number of SMALL CHARGES*		Number of LARGE CHARGE** Injections		Number of Injections Using 3 SMALL CHARGES each	
	Alpeth or Stalpeth	PASP	Alpeth or Stalpeth	PASP	Alpeth or Stalpeth	PASP
.65 to .73 inclusive	2	2	—	—	—	—
.74 to .83 "	3	4	—	—	—	—
.84 to .90 "	4	5	—	—	—	—
.91 to .99 "	4	6	—	—	—	—
1.00 to 1.16 "	5	—	—	2	—	3
1.17 to 1.35 "	—	—	2	3	3	4
1.36 to 1.62 "	—	—	3	4	4	5
1.63 to 1.86 "	—	—	4	5	5	6
1.87 to 2.02 "	—	—	4	6	5	7
2.03 to 2.15 "	—	—	5	7	6	8
2.16 to 2.25 "	—	—	6	8	7	9
2.26 to 2.33 "	—	—	6	9	7	10
2.34 to 2.47 "	—	—	7	10	8	11
2.48 to 2.61 "	—	—	8	11	9	12

*SMALL CHARGE	**LARGE CHARGE
1 — 50 Gram Tube, C Resin and 1 — 19 Gram Tube, C Activator	1 — 168 Gram Can, C Resin and 1 — 50 Gram Tube, C Activator

4.04 Inject the resin into the cable slowly. The two end holes serve to vent the sleeve, thus minimizing the possibility of air pockets, and to give a visual indication of when the sleeve has been filled with resin.

4.05 Allow about 5 minutes between all injections except the last which should have about a 15-minute interval. During the final injection, when the sleeve is full of resin as checked at the vent holes, seal the holes with B Screw Plugs. Continue the injection slowly until back pressure develops. After about 3 minutes remove the gun.

4.06 Plug the flange with a C Pressure Flange Plug and solder the B Screw Plugs.

4.07 Do not apply pressure to the cable for at least 24 hours after injection.

4.08 Where it is necessary to repair a faulty sleeve injection plug, proceed as with a lead sheath cable.