

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

**SECTION G50.699.2**  
**Issue 2, November, 1956**  
**AT&T Co Standard**

## **CABLE SPLICING—GENERAL**

### **USE OF B FILLED SLEEVES**

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#### **1. GENERAL**

1.01 This section covers the use of the B Filled Sleeves on joints in plastic insulated conductor cables of various gauges.

1.02 The section has been reissued due to a change in the design of the filled plastic sleeves and in their use. The new sleeve is filled with a compound which makes it unnecessary to solder the twisted joints unless specified in local instructions for transmission or other reasons.

1.03 Pressed sleeve joints are included in this section for use by forces who ordinarily join conductors by means of pressing tools.

#### **2. TOOLS AND MATERIALS**

2.01 When relatively few joints are to be made or if a workman is not equipped with facilities for soldering, pressed sleeve joints can be used on 19-, 22-, 24-, or 26-gauge conductors.

2.02 The pressed joints on any combination of these gauges of wire are made using the 032-025 S Brass Sleeves and No. 17-2 Nicopress Tool. The Nicopress Tool described in Section G85.125.7 **must be used** for pressing the 032-025 S Brass Sleeve in order to ensure making sound joints in the 24- and 26-gauge cables and T or 49A type terminals. This tool is also suitable for 19- and 22-gauge wires.

2.03 The following indicates the tools and materials required:

### TOOLS

Tool, Nicopress, Commercial tool for making pressed sleeve  
No. 17-2 joints.

### MATERIALS

Sleeve, Brass, S, For joining 19-, 22-, 24-, and 26-gauge  
032-025 wires.

Sleeve, Filled, B Available in various sizes, for insulating  
twisted or pressed sleeve joints.

2.04 **Description of Sleeves:** The available sizes, color designation and number per package are listed below.

<u>Sleeve Sizes I. D. -Mils</u>	<u>Length In.</u>	<u>Color</u>	<u>Number per Package</u>
085	2-1/2	Yellow	525
105	2-1/2	Green	425
125	2-1/2	Natural	325
145	2-1/2	Red	260
165	2-1/2	Blue	200

2.05 The sleeves are made of plastic tubing, closed at one end and partially filled with a sealing compound. The B Filled Sleeves are filled with an improved compound which makes it unnecessary to solder twisted joints unless otherwise specified. These sleeves will provide a water resistant seal on straight, bridge or butt, twisted pigtail joints, or pressed sleeve straight joints, and on dead pairs.

### **3. USES**

3.01 The main purpose of using filled sleeves on PIC cable is to prevent rapid failure of the cable in the event that water accumulates in a splice case or lead sleeve. Filled sleeves should therefore be used in such splices under the following conditions:

- (a) **Underground-Buried:** In both toll and exchange cable splices made in manholes or buried in the ground.
- (b) **Aerial:** On intercity toll cables, trunk cables, cables serving airports, defense installations or other important services.
- (c) When specified in local instructions.

3.02 Filled sleeves are also used in **Ready-Access Terminals** on aerial or buried cables in corrosive seacoast locations or where subject to corrosive industrial atmosphere.

3.03 The following table lists the recommended sleeve sizes for insulating straight and bridge pigtail joints.

Straight Joints (2 Wires)		Bridge Joints (3 Wires)			
Gauges	Sleeve Size	Gauges	Sleeve Size	Gauges	Sleeve Size
19-19**	125	19-19-19**	145	22-22-22	105
19-22*	105	19-19-22**	125	22-22-24	105
19-24	105	19-19-24**	125	22-22-26	105
19-26	105	19-19-26**	125	22-24-24	105
22-22	105	19-22-22*	125	22-24-26	.085
22-24	.085	19-22-24*	105	22-26-26	.085
22-26	.085	19-22-26*	105	24-24-24	.085
24-24	.085	19-24-24*	105	24-24-26	.085
24-26	.085	19-24-26*	105	24-26-26	.085
26-26	.085	19-26-26*	105	26-26-26	.085

\*Use next larger size sleeve for joints containing 19-Ga. .066 mf pairs (CA-1727 or equivalent cable).

\*\*Use 145 sleeve if one 19-Ga. wire is .066 mf type.

Use 165 sleeve if two or three 19-Ga. wires are .066 mf type. ↵

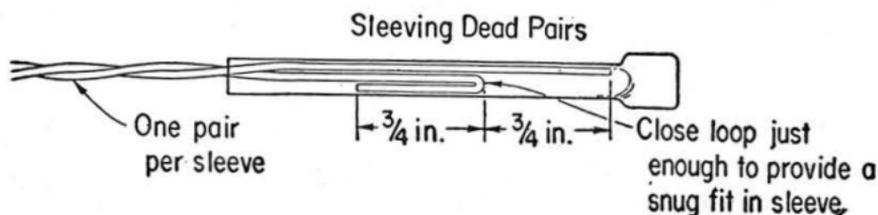
3.04 **"T" and 49A Terminals:** The thickness of the insulation used on the wire leads in these terminals makes the diameter equivalent to 22-gauge cable conductors. In determining the sleeve size from the table, the terminal should be treated as having 22-gauge conductors.

3.05 The sleeves used for pressed sleeve joints in terminal splices should be **one size larger** than those specified for straight joints in Paragraph 3.01. ↵

3.06 **Sleeving Dead Pairs:** The following shows the sizes of sleeves used on dead pairs and the method of preparing the wires.

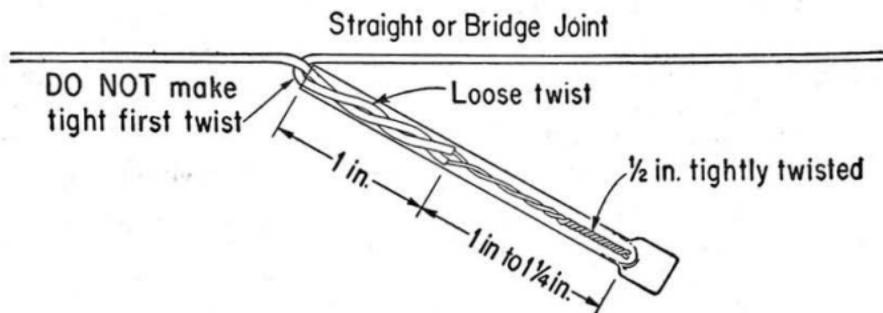
**Dead Pairs  
(1 Pair per Sleeve)**

Gauge	Sleeve Size
19—066 MF	165
19—083 MF	145
22	105
24	085
26	085



#### 4. METHODS OF MAKING JOINTS

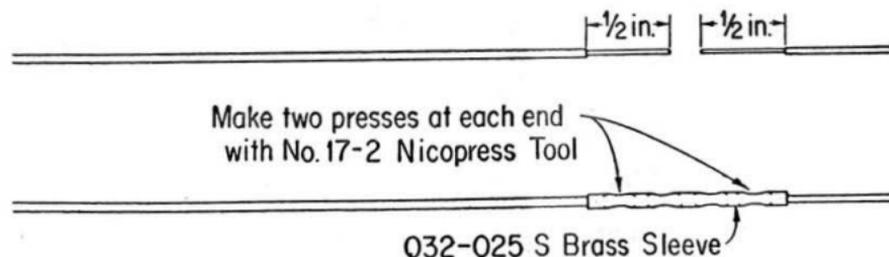
4.01 Twisted Pigtail Joints: The recommended sleeve sizes for twisted pigtail joints are based on catching at least 1-inch of the insulation in the twist. This is done to ensure complete coverage of the bare conductors and the ends of the insulation by the sealing compound, as illustrated below.

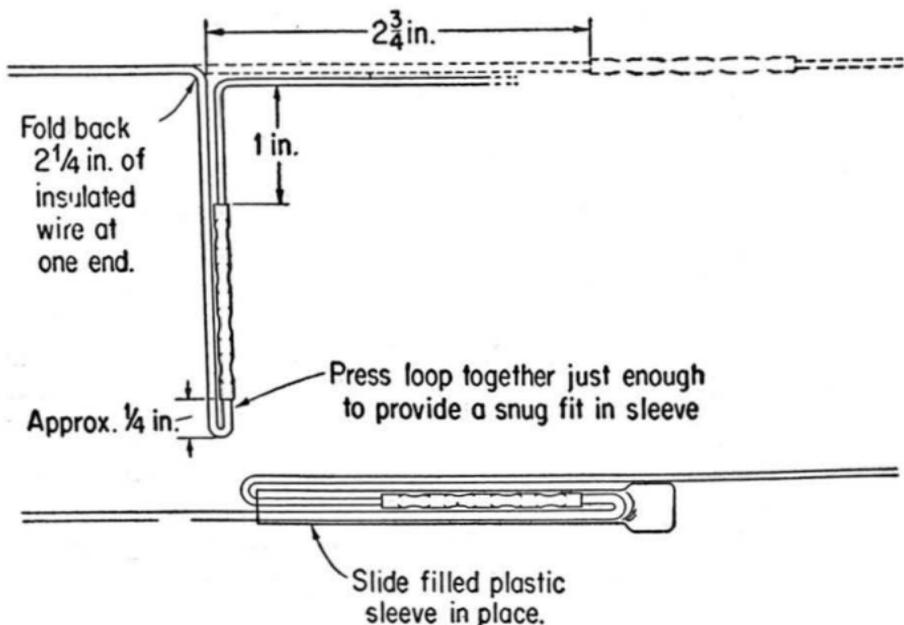


4.02 The insulated portion in the pigtail should not be twisted tightly.

4.03 In making three-wire joints of equal or nearly equal gauges, the insulated portion in the pigtail must be loosely twisted so as to allow the compound to flow into the space between the wires. Otherwise, the joint may not seal properly.

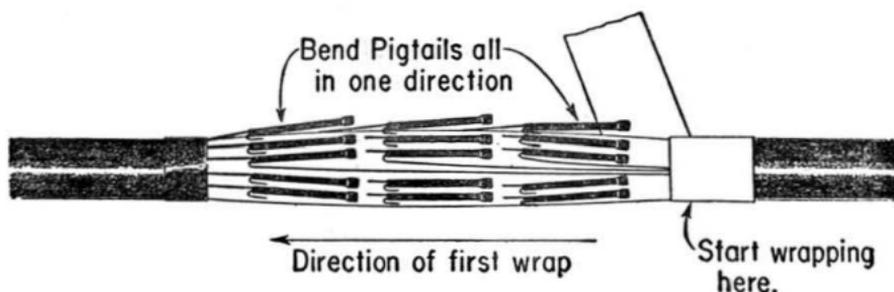
4.04 Pressed Sleeve Joints are made as illustrated below.





## 5. ARRANGEMENT OF SPLICE FOR WRAPPING

5.01 To avoid the tendency for the sleeves to slip off the joints when wrapping, it is advisable to lay the twisted joints in one direction, as illustrated. On completion of the splice, start wrapping at the end shown and wrap as loosely as practicable.



5.02 This wrapping procedure applies only to splices in lead sleeves or splice cases.