

BELL SYSTEM PRACTICES
Outside Plant Construction
and Maintenance

SECTION G31.121.1
Issue 2, October, 1955
AT&T Co Standard

OPEN WIRE
SLEEVES FOR JOINING LINE WIRE

Contents	Page
1. General	1
2. Types of Line Wire Sleeve Joints.....	1
3. Use of Line Wire Sleeves	1
4. Sizes of Line Wire Sleeves	2

1. GENERAL

- 1.01 This section describes the types of sleeves used for joining line wire.
- 1.02 This section is being reissued to provide information on the use of the 31-QC Nicopress Tool for pressing S Steel and S Copper Sleeves, and to omit reference to twisted sleeve joints.

2. TYPES OF LINE WIRE SLEEVE JOINTS

- 2.01 Splices in line wire are made by means of single tube sleeves, applied with a Sleeve Rolling Tool or with a Sleeve Pressing Tool.

3. USE OF LINE WIRE SLEEVES

- 3.01 Rolled or pressed sleeves are designated as follows:
- (a) S Copper Sleeves, for splicing copper or copper-steel wires of the same gauge.
 - (b) Combination S Copper Sleeves, for splicing copper or copper-steel wires not of the same gauge.
 - (c) S Steel Sleeves, for splicing steel wire of the same gauge, where the galvanizing has not deteriorated.
 - (d) Combination S Steel Sleeves, for placing steel wires not of the same gauge.

(e) Maintenance S Steel Sleeves, for splicing new steel wire to existing steel wire that has rusted to some extent. The large bore at one end accommodates new wire, the inner end of this bore being indicated by a dent in the outer surface of the sleeve. The bore at the other end will receive wire slightly reduced in diameter, and the middle bore will accommodate wire that has been reduced somewhat more in diameter. No maintenance sleeves are provided for high strength steel wire.

(f) TS Copper Sleeves, for use where existing wire is to be transposed on point transposition brackets. This sleeve provides the extra length of conductor required to make the transposition on a point transposition bracket. TS copper sleeves are supplied in sizes for 8-inch spaced and 6-inch spaced wires.

4. SIZES OF LINE WIRE SLEEVES

4.01 The following tables show the sleeves that are to be used for splicing the various kinds and sizes of line wire.

SLEEVE JOINTS

Wire Size	Sleeve Size	Length of Sleeve (inches)	Size of Groove in Sleeve Rolling Tool	Type of Sleeve Presser	Sleeve Presser Groove	No. of Presses on Each End of Sleeve
S Copper Sleeves for Copper Line Wire						
064	064	1-3/16	Small	31-QC	C	2
080	080	1-5/16	Small	31-QC	C	2
104	104	1-7/16	Small	31-QC	C	2
114	114	1-15/16	Medium	31-QC	Q	3
128	128	2-5/16	Medium	31-QC	Q	3
165	165	3-15/16	Large			
104 to 064	104 x 064	1-3/16	Small	31-QC	C	2
104 to 080	104 x 080	1-5/16	Small	31-QC	C	2
114 to 104	114 x 104	1-15/16	Medium	31-QC	Q	3
128 to 104	128 x 104	2-5/16	Medium	31-QC	Q	3
165 to 104	165 x 104	3-1/2	Large			
165 to 128	165 x 128	3-1/2	Large			

SLEEVE JOINTS (Cont'd)

Wire Size	Sleeve Size	Length of Sleeve (inches)	Size of Groove in Sleeve Rolling Tool	Type of Sleeve Presser	Sleeve Presser Groove	No. of Presses on Each End of Sleeve
S Copper Sleeves for Copper-Steel Line Wire						
080 CS	080	1-5/16	Small	31-QC	C	2
104 CS	104B	3	Medium	31-QC	Q	4
128 CS	128H	3-15/16	Large			
104 CS to 080 CS	104 x 080	1-5/16	Small	31-QC	C	2
104 Cu to 104 CS	104	1-7/16	Small	31-QC	C	2
128 Cu to 104 CS	128 x 104	2-5/16	Medium	31-QC	Q	3
165 Cu to 104 CS	165 x 104	3-1/2	Large			
165 Cu to 128 CS	165 x 128	3-1/2	Large			

SLEEVE JOINTS (Cont'd)

Wire Size	Sleeve Size	Length of Sleeve (inches)	Size of Groove in Sleeve Rolling Tool	Type of Sleeve Presser	Sleeve Presser Groove	No. of Presses on Each End of Sleeve
S Steel Sleeves for High Strength Steel Line Wire						
083H	083	1-5/16	Small	31-QC	C	2
109H	109H	2-5/16	Medium	31-QC	Q	4
134H	134H	3-1/4		51-JE	J	5
109 to 083H	109 x 083	1-5/16	Small	31-QC	C	2
109 to 109H	109H	2-5/16	Medium	31-QC	Q	3
109H to 083H	109 x 083	1-5/16	Small	31-QC	C	2
134 to 109H	134 x 109	2-5/16	Medium	31-QC	Q	4
134H to 109E	134H x 109H	3-1/4		51-JE	J	5
S Steel Sleeves for Extra High Strength Steel Line Wire						
109E	109E	3-1/4		51-JE	J	5

SLEEVE JOINTS (Cont'd)

Wire Size	Sleeve Size	Length of Sleeve (inches)	Size of Groove in Sleeve Rolling Tool	Type of Sleeve Presser	Sleeve Presser Groove	No. of Presses on Each End of Sleeve
S Steel Sleeves for New Steel Line Wire						
083	083	1-5/16	Small	31-QC	C	2
109	109	1-7/16	Small	—	—	—
109	109H	2-5/16	Medium	31-QC	Q	4
134	134	2-5/16	Medium	31-QC	Q	4
109 to 083	109 x 083	1-5/16	Small	31-QC	C	2
134 to 109	134 x 109	2-5/16	Medium	31-QC	Q	3
S Steel Sleeves for River Crossing Wire and River Crossing Strand						
River Crossing Strand	207	5-1/4		3-L	L	7
River Crossing Strand to River Crossing Wire	207 x 165	5-1/4		3-L	L	7

SLEEVE JOINTS (Cont'd)

Wire Size	Sleeve Size	Length of Sleeve (inches)	Size of Groove in Sleeve Rolling Tool	Type of Sleeve Presser	Sleeve Presser Groove	No. of Presses on Each End of Sleeve
Maintenance S Steel Sleeves for Rusted Steel Line Wire						
083	083	2	Small	31-QC	C	2
109	109	2-3/16	Small	31-QC	C	3
134	134	3-1/2	Medium	31-QC	Q	4

SLEEVE JOINTS (Cont'd)

Wire Size		Sleeve Size	Length of Sleeve (inches)	Size of Groove in Sleeve Rolling Tool	Type of Sleeve Presser	Sleeve Presser Groove	No. of Presses on Each End of Sleeve
Steel or H.S. Steel	Copper or Copper-Steel						
S Steel Sleeves for Splicing Copper or Copper-Steel Line Wire to Steel or High Strength Steel Line Wire							
083	080 Cu	083	1-5/16	Small	31-QC	C	2
083	104 Cu	109 x 083	1-5/16	Small	31-QC	C	2
109	080 Cu	109 x 083	1-5/16	Small	31-QC	C	2
109	104 Cu	109H	2-5/16	Medium	31-QC	Q	3
109	104 CS	109H	2-5/16	Medium	31-QC	Q	4
134	128 Cu	134	2-5/16	Medium	31-QC	Q	4
083H	080 CS	083	1-5/16	Small	31-QC	C	2
083H	104 Cu	109 x 083	1-5/16	Small	31-QC	C	2
083H	104 CS	109 x 083	1-5/16	Small	31-QC	C	2
109H	080 Cu	109 x 083	1-5/16	Small	31-QC	C	2
109H	080 CS	109 x 083	1-5/16	Small	31-QC	C	2
109H	104 Cu	109H	2-5/16	Medium	31-QC	Q	3

SLEEVE JOINTS (Cont'd)

Wire Size		Sleeve Size	Length of Sleeve (inches)	Size of Groove in Sleeve in Rolling Tool	Type of Sleeve Presser	Sleeve Presser Groove	No. of Presses on Each End of Sleeve
Steel or H.S. Steel	Copper or Copper-Steel						
S Steel Sleeves for Splicing Copper or Copper-Steel Line Wire to Steel or High Strength Steel Line Wire (Cont'd)							
109H	104 CS	109H	2-5/16	Medium	31-QC	O	4
134	104 CS	134 x 109	2-5/16	Medium	31-QC	OO	3
134	128 CS	134	2-5/16	Medium	31-QC	OO	4

SLEEVE JOINTS (Cont'd)

Wire Size	Sleeve Size	Length of Sleeve (inches)	Size of Groove in Sleeve Rolling Tool	Type of Sleeve Presser	Sleeve Presser Groove	No. of Presses on Each End of Sleeve
TS Copper Sleeve for Copper Line Wire at Point Transpositions						
8-inch Spaced Wire						
104 128 165	104-8 128-8 165-8	4 4-3/4 6-3/8	Small Medium Large	* *		
6-inch Spaced Wire						
104 128 165	104-6 128-6 165-6	2-7/8 3-23/32 5-1/4	Small Medium Large	* *		

* TS sleeves shall be applied only with the Sleeve Rolling Tool, since pressing will not produce the same finished sleeve length that results from rolling.

SLEEVE JOINTS (Cont'd)

Wire Size	Sleeve Size	Length of Sleeve (inches)	Size of Groove in Sleeve Rolling Tool	Type of Sleeve Presser	Sleeve Presser Groove	No. of Presses on Each End of Sleeve
DB Copper Sleeves for Bridling to Copper or Copper-Steel Line Wire Dead Ends						
104	104	1	Medium	31-OC	O	2
128	128	1	Medium	31-QC	Q	2
165	165	1	Large			

OPEN WIRE
SLEEVES FOR JOINING LINE WIRE