BELL SYSTEM PRACTICES
Outside Plant Construction and Maintenance

SECTION G63.120.2
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AT&T Co Standard

ELECTROLYSIS DRAINAGE WIRE CONSTRUCTION
ATTACHMENTS TO POLES

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1. GENERAL

1.01 This section covers the pole attachments to be used in electrolysis drainage wire construction.

1.02 Bare or weather-proof wire shall be used for aerial drainage wire construction on poles. Wire data are covered in the following table.

WIRE DATA

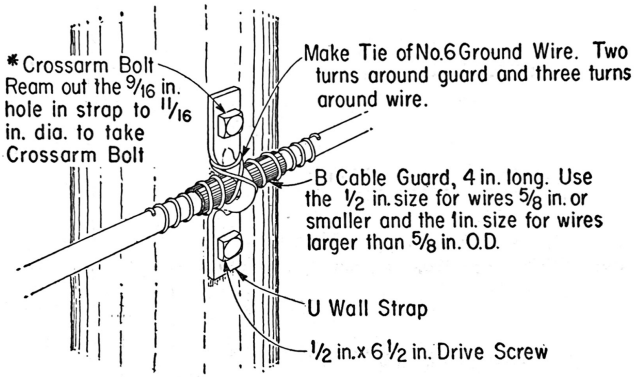
SIZE OF WIRE A.W.G. OR CM	BARE					WEATHER-PROOF				
	SOLID		STRANDED			SOLID		STRANDED		
	Weight per 1000 ft. in Pounds (Approx.)	Dia. in Inches (Approx.)	Weight per 1000 ft. in Pounds (Approx.)	No. of Wires	Dia. over all in Inches (Approx.)	Weight per 1000 ft. in Pounds (Approx.)	Dia. over all in Inches (Approx.)	Weight per 1000 ft. in Pounds (Approx.)	No. of Wires	Dia. over all in Inches (Approx.)
6	80	5/32				112	5/16			
4	126	7/32	129	3	1/4	164	13/32	170	7	7/16
2	201	1/4	205	3	5/16	260	15/32	270	7	17/32
1	253	9/32	258	3	11/32	316	1/2	328	7	9/16
0	320	5/16	326	7	3/8	407	9/16	424	7	15/32
00	403	11/32	411	7	7/16	502	5/8	522	7	11/16
000	508	13/32	518	12	1/2	629	3/4	653	12	13/16
0000	641	15/32	653	12	9/16	767	25/32	800	12	7/8
250,000 CM			772	12	19/32			985	19	15/16
300,000 "			926	12	21/32			1174	19	31/32
350,000 "			1081	12	11/16			1345	19	1
500,000 "			1544	19	13/16			1894	37	1 1/4

Note: For the proper sizes of Cable Clamps and Cable Straps to be used in attaching wires to poles and walls refer to the Section covering Cable Placing-Clamps and Straps.

2. POLE ATTACHMENTS

2.01 Support drainage wires on poles in straight sections of the line and at corners with less than 5 feet pull, as shown in the following illustrations.

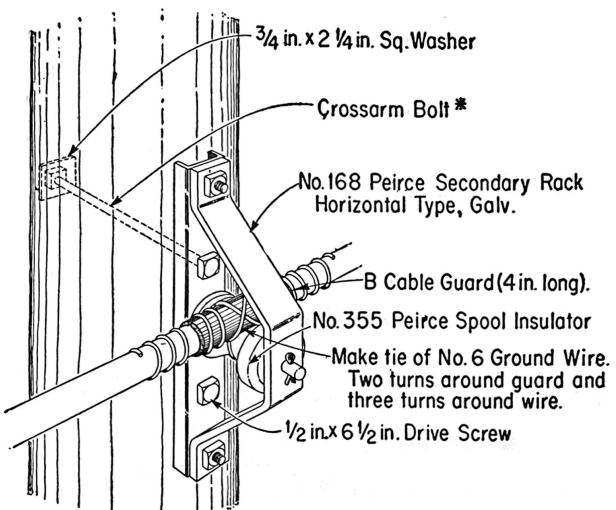
DRAINAGE WIRE 3/4 IN. O.D. OR LESS



*1/2 in. x 6 1/2 in. Drive Screw may be used in place of Crossarm Bolt on joint poles with Supply Companies with vertical power leads on pole.

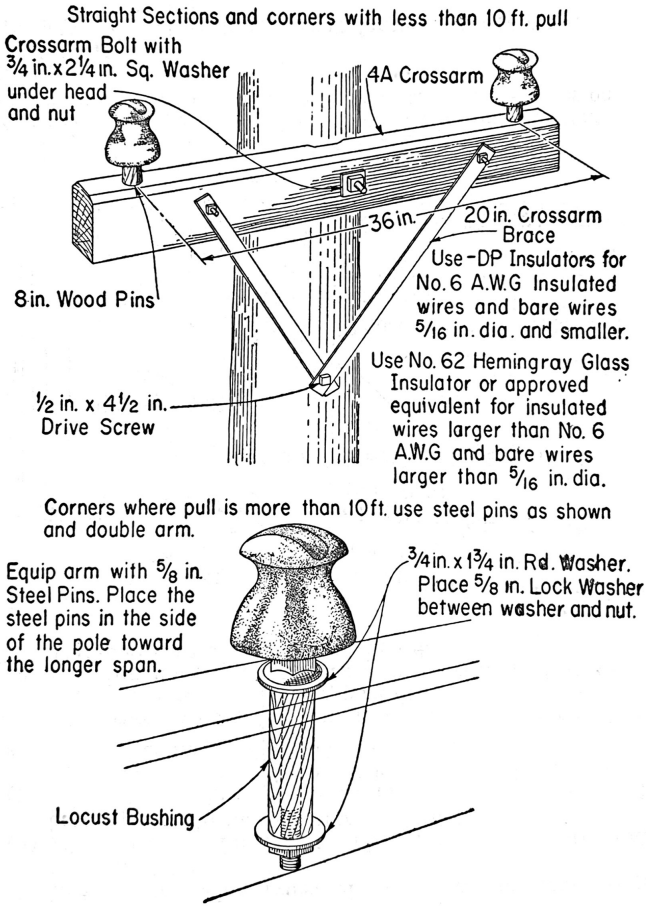
Note: Use cable blocks lashed to pole for pulling wire in place.

DRAINAGE WIRE LARGER THAN 3/4 IN. O.D.



*1/2 in. x 6 1/2 in. Drive Screw may be used in place of Crossarm Bolt on joint poles with Supply Companies with vertical power leads on pole.

2.02 When it is necessary to provide climbing space on jointly used poles, use crossarms having the required separation between pole pins. The following illustration shows a 4A crossarm equipped to support two drainage wires.

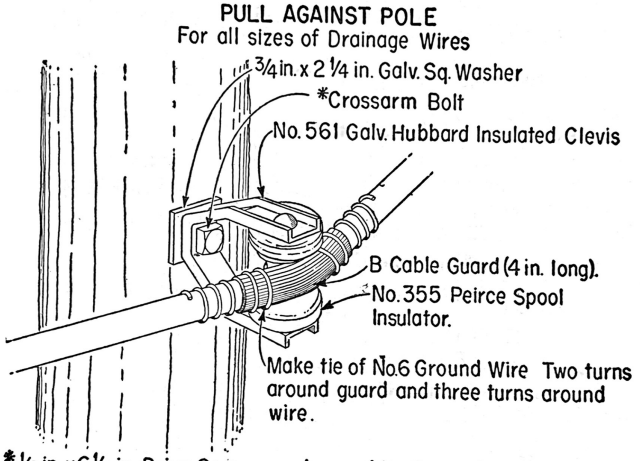


2.03 Use the following types of insulators for supporting drainage wire.

(a) DP insulators for No. 6 A.W.G. insulated wire and bare wires 5/16 in. diameter and smaller.

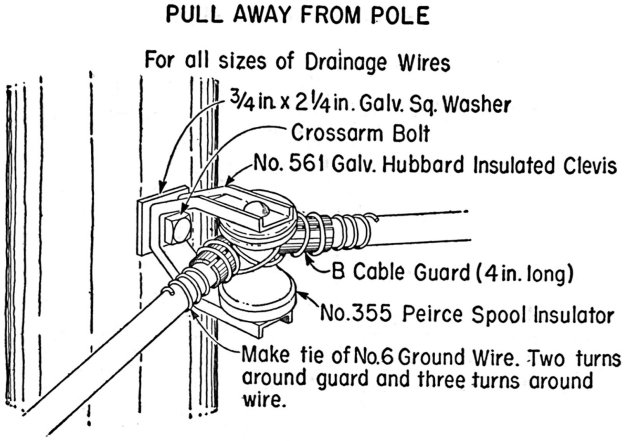
(b) No. 62 Hemingray glass insulators or approved equivalent for insulated wires larger than No. 6 A.W.G. and bare wires larger than 5/16 in. in diameter.

2.04 At corners where the pull is in excess of 5 feet but not greater than 50 feet support drainage wire as shown in the following illustrations. Where the corner pull is over 50 feet, dead-end wire as covered in Part 4.



* 1/2 in. x 6 1/2 in. Drive Screw may be used in place of Crossarm Bolt on joint poles with Supply Companies with vertical power leads on pole.

Note: Use cable blocks lashed to pole for pulling wire in place.



3. TYING WIRE TO INSULATORS

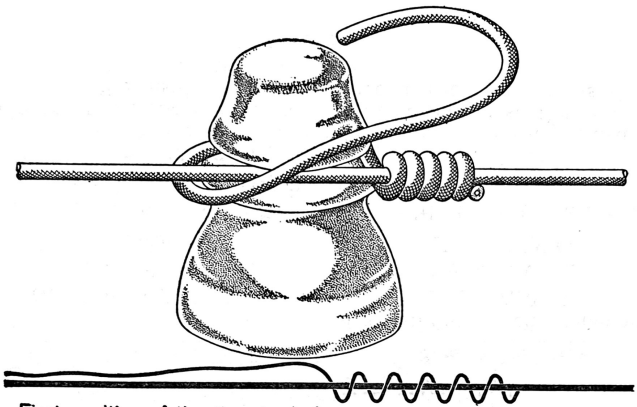
3.01 The sizes of tie wires for the various sizes of drainage wires are covered in the following table.

Size of Drainage Wire	Size of Tie Wire
	Use only annealed copper wire
Nos. 6 and 4 A.W.G.	No. 6 A.W.G.
Nos. 2, 1 and 0 A.W.G.	No. 4 A.W.G.
No. 00 or larger	No. 2 A.W.G.

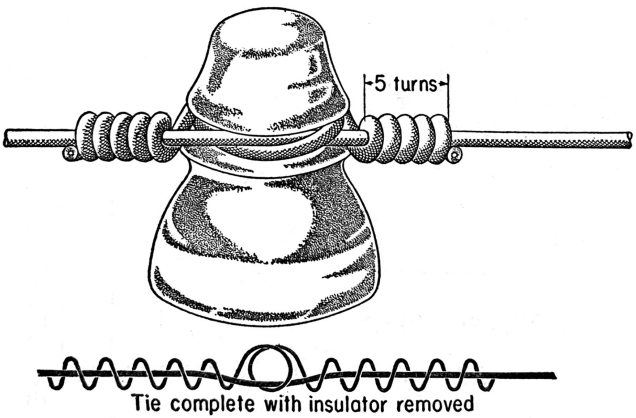
3.02 Bare wire shall be tied in with bare tie wires and insulated wire with insulated tie wires.

3.03 When the drainage wire is supported on crossarms, place the wire on the side of the insulator toward the pole except at corners where it shall be placed so that the pull is against the insulator. Tie the wire to the insulator as shown in the following illustrations.

(a) In Straight Sections

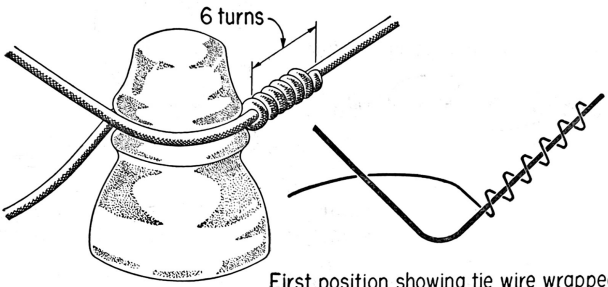


First position of the tie wire before commencing to wrap showing one end of the tie wire wrapped on line.

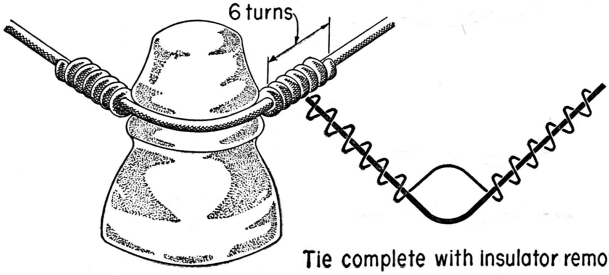


Tie complete with insulator removed

(b) At Corners



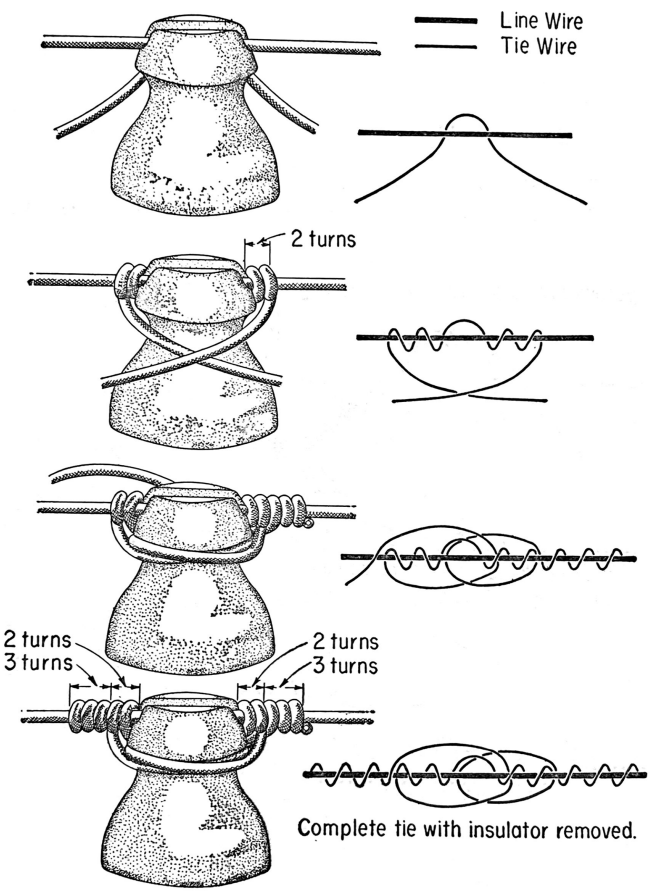
First position showing tie wire wrapped to line wire on one side of insulator



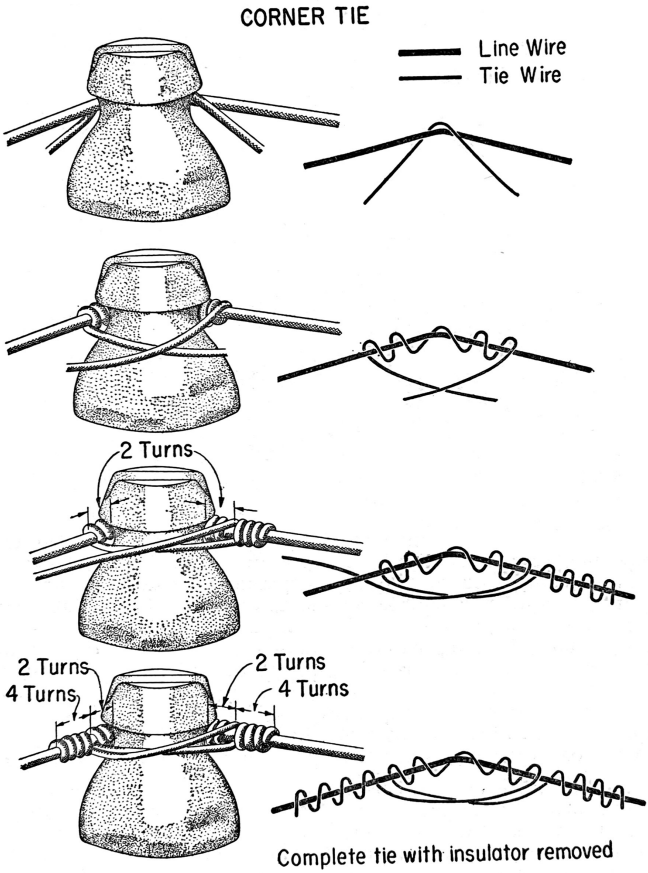
Tie complete with insulator removed

3.04 When top groove insulators are used, tie the drainage wire as shown in the following illustrations.

(a) In Straight Sections



(b) At Corners

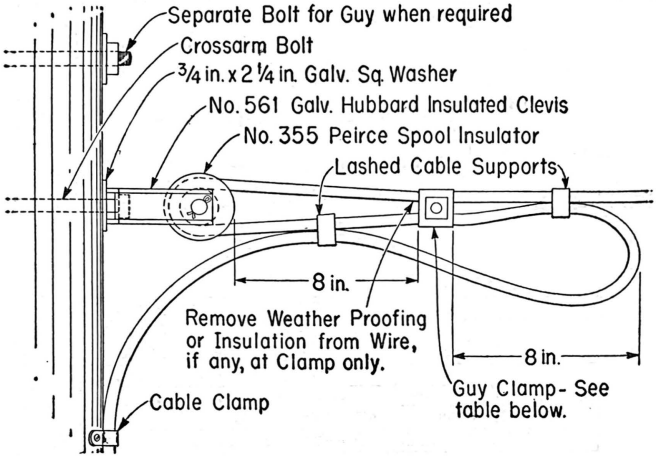

CORNER TIE
Line Wire
Tie Wire
2 Turns
2 Turns
4 Turns
2 Turns
4 Turns
Complete tie with insulator removed

4. DEAD ENDING

4.01 Electrolysis drainage wires shall be dead-ended at poles by using clevises as shown in the following illustrations. In general, the clevises may be placed so that the insulators are either horizontal or vertical positions. At any particular dead end or corner, ease of installation, accessibility, neatness, etc., may indicate the position to be chosen for the insulators.

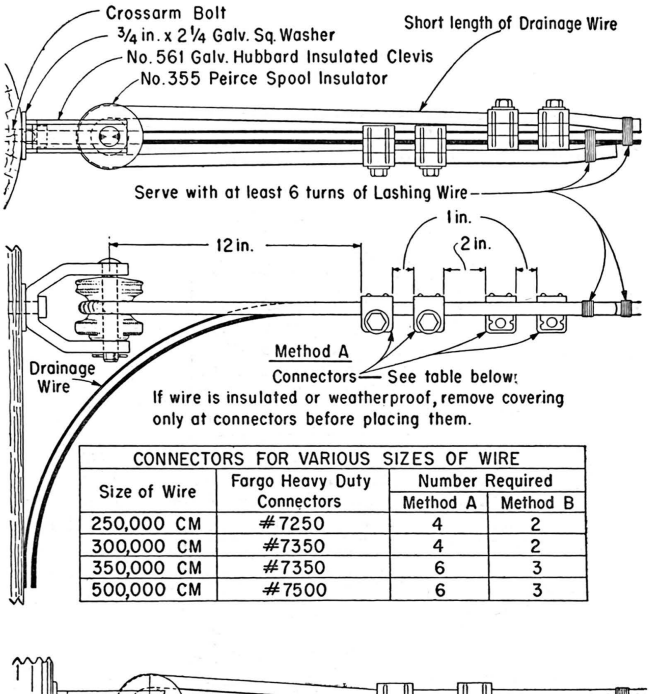
4.02 In making up the dead end, place the wire around the spool insulator. Pull the wire to the proper tension with a chain hoist or winch line attached to the wire beyond the clevis with wire grips or strand pullers. For larger than No. 4/0 wires commercial pullers of suitable size are required for holding the wire when under tension while being placed around the spool. Complete forming the wire around the spool and place guy clamps or connectors as required. Tighten them in position as shown. It may be advisable to pull the wire to a slightly greater tension in order to compensate for slack that may develop in making up the dead end.

DEAD-ENDING SOLID AND STRANDED WIRE NOT LARGER THAN 4/0 (A.W.G.)

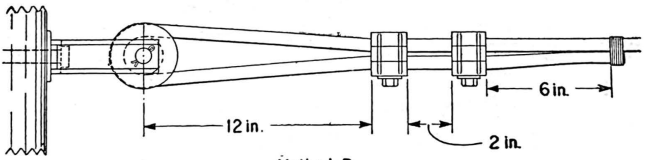


Size of Wire (A.W.G.)	Guy Clamps Required
No. 6	1-Bolt Guy Clamp
No. 4	1-Bolt Guy Clamp
2/0 to 4/0	3-Bolt Guy Clamp

DEAD-ENDING STRANDED WIRE
250,000 CM OR LARGER



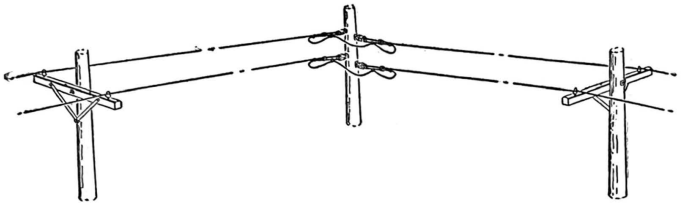
CONNECTORS FOR VARIOUS SIZES OF WIRE			
Size of Wire	Fargo Heavy Duty Connectors	Number Required	
		Method A	Method B
250,000 CM	#7250	4	2
300,000 CM	#7350	4	2
350,000 CM	#7350	6	3
500,000 CM	#7500	6	3

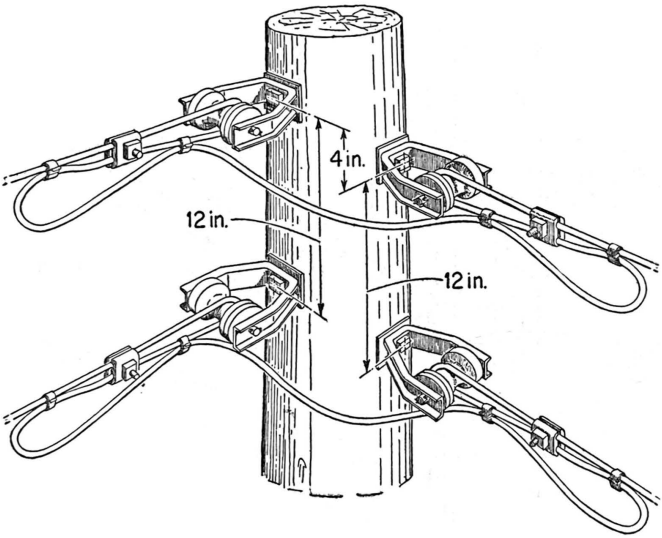


Method B

4.03 Where the corner is in excess of 50 feet, dead-end and support the drainage wires as shown in the following illustrations.

SOLID AND STRANDED WIRE NOT LARGER THAN 4/0 (A.W.G.)





STRANDED WIRE
250,000 CM OR LARGER