

BELL SYSTEM PRACTICES
Outside Plant Construction
and Maintenance

SECTION G61.142.1
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AT&T Co Standard

TERMINALS
BURIED WIRE TERMINALS

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1. GENERAL

1.01 This section is issued to revise and place in a separate section the information previously contained in G36.130 in reference to the description and installation of buried wire terminals. This section covers the 102A and 102B Wire Terminals and the superseded D-156209 U Wire Terminal. Inasmuch as these two types of terminals will represent the majority of the buried wire terminals in use, reference to earlier types has been omitted.

1.02 Information covering the wiring and protection provisions required at buried wire terminations is included in a separate section.

2. REQUIREMENTS FOR TERMINALS

2.01 In general, terminals should be established at all junctions of buried wire lines and at connections with aerial wire. Some of the more common uses for terminals are as follows:

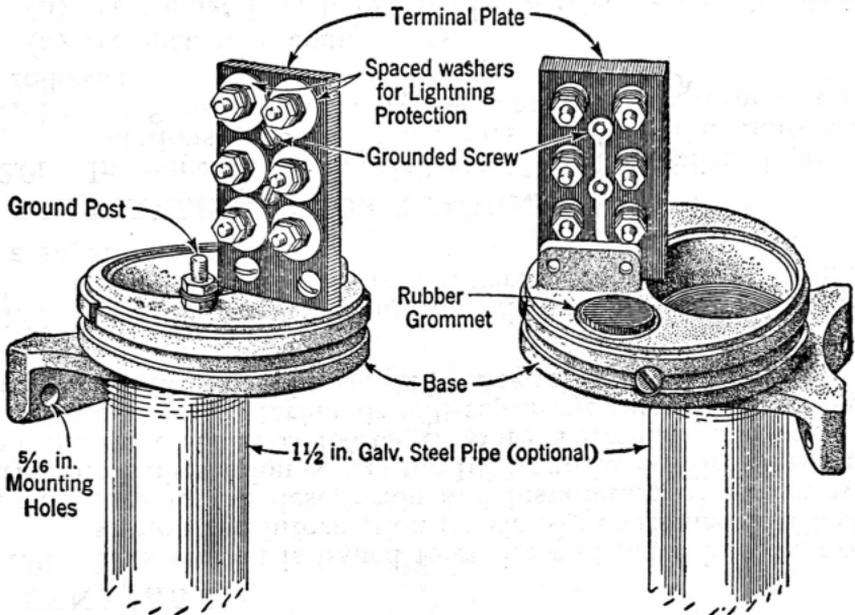
- (a) At open wire connections.
- (b) At connections between buried wire and aerial drops, subscribers' branch lines or open wire spurs.
- (c) At buried wire bridging points, test points or buried services from buried wire.

3. 102A AND 102B WIRE TERMINALS

Description

3.01 The 102-type terminal consists of a cast iron cover and base on which is mounted a terminal plate equipped with double-ended binding posts for terminating the conductors.

The 102A terminal has two pairs of binding posts and the 102B has three pairs. Another binding post is attached directly to the metal base to provide a point of termination for shield wire or for the armor of UG wire. The buried wires enter the terminal through a hole in the base threaded for 1-1/2 inch pipe. This size pipe will readily take 6 pairs of UG wire. External wiring, as for bridling or drop wires, emerges through a rubber grommited hole in the base.



3.02 A 1/8 inch hole is provided in a rib on the cover in the event it is desired to attach a chain to suspend the covers of any terminals mounted at heights which can not be reached from the ground.

Lightning Protection

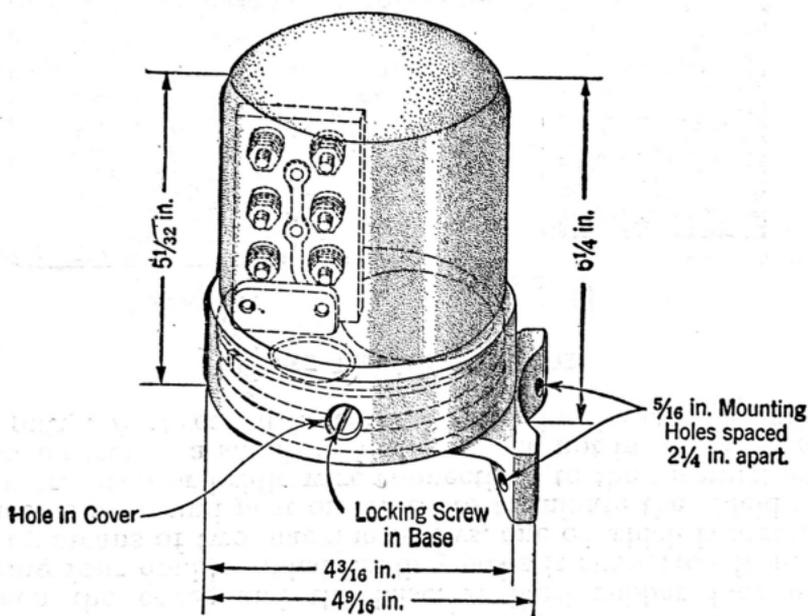
3.03 For the protection of buried wire against lightning, each conductor binding post carries a washer equally spaced from a washer on the other post of the pair and from the head of a grounded screw. The spacing is adjusted at the factory to provide an air gap which will break down in the event of excessive potentials between conductors or between conductors and ground. The effect is to equalize potentials between conductors and shield and prevent or at least localize insulation punctures.

3.04 The air gap arrangement provides adequate protection for buried wire and no external protective device is required with either of the 102-type wire terminals.

Locking Device

3.05 The base of the terminal carries in its side a cover locking screw which ordinarily is not seen when the cover is in place. To remove the cover proceed as follows:

- (1) Rotate the cover on the base until the screw head is visible through the hole in the skirt of the cover.
- (2) With a screwdriver turn the screw **inward** as far as possible.
- (3) While lifting up on the cover, turn it slowly to the left until it lifts from the base.



3.06 To lock the cover proceed as follows:

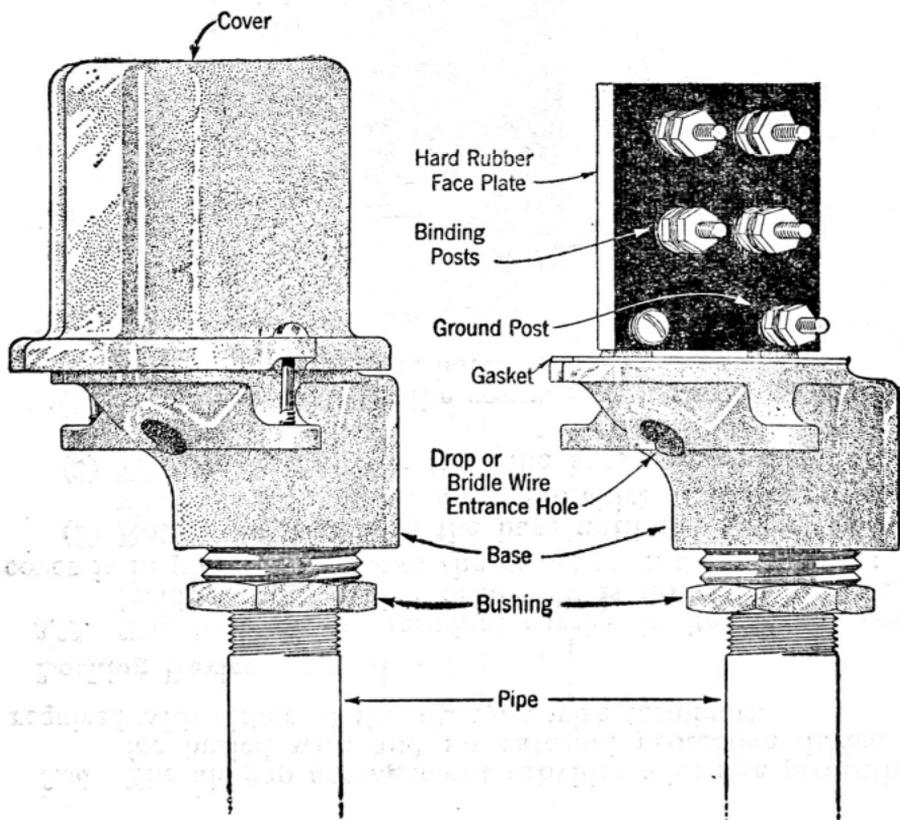
- (1) See that the locking screw is turned inward as far as possible.
- (2) Place the cover on the base with the hole in the skirt about in line with the outer edge of the terminal plate. Rotate the cover slightly in either direction until it drops to a seated position.
- (3) Turn the cover to the right until the screw head is visible through the hole in the base.

- (4) With a screwdriver, turn the screw **outward** until it touches the cover, then turn it back in about 1 or 1-1/2 complete turns.
- (5) Rotate the cover as far as possible to the right to cover the screw head.

4. D-156209 U WIRE TERMINAL

4.01 The housing of the D-156209 terminal consists of two castings, a base and a cover, the latter being attached to the base by means of two machine screws. Protection against the effects of light and weather is provided by a gasket placed between the cover and the base. A hard rubber face plate carrying four double-ended binding posts is supported from the base by means of two machine screws, one of which is arranged for use as a ground post on which to terminate the shield wire or armor. Drop or bridle wire connections to the terminal enter the base through a small hole which when not in use is plugged with putty. A threaded hole for 1 inch pipe is provided in the base.

U WIRE TERMINAL D-156209



4.02 The D-156209 U Wire Terminal carries no lightning protection, therefore where this terminal is used in lightning territory it will be necessary to provide 26-30 Protector Blocks or equivalent between the exposed plant and the terminal.

4.03 Limitations imposed by the size of the wire opening into this terminal restrict its use to situations where not more than 3 pairs of UG wire are required to enter the terminal.

5. MOUNTING TERMINALS

5.01 Terminals should ordinarily be mounted at a height of 3 to 4 feet above the ground. Where the terminal is susceptible to tampering or where it is associated with an external protector, its height above ground will be determined by local conditions.

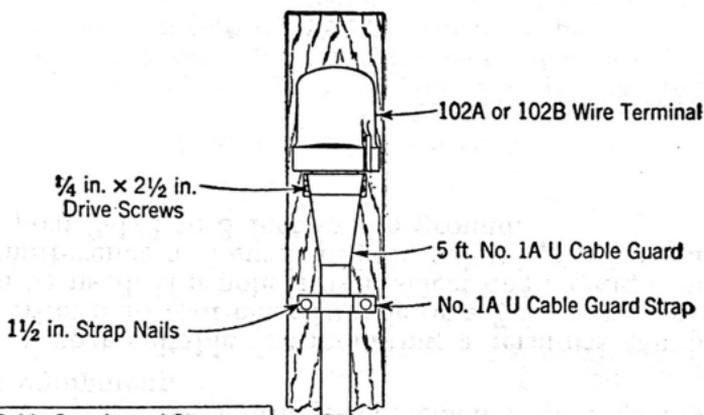
5.02 When a terminal is to be established other than by mounting on an existing pole, select a location either near the fence line or at some other suitable point out of the path of vehicles, agricultural implements or highway maintenance equipment.

5.03 A post suitable for mounting a terminal can be made from a 16 foot class 10 pole or a 7 foot creosoted fence post can be used. If a pole is used select one having a minimum top circumference and cut it in half, using both pieces as posts. Set the post 2-1/2 to 3 feet in the ground.

Mounting 102A and 102B Terminals

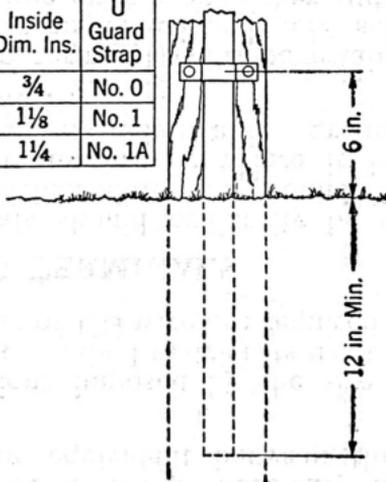
5.04 102-type terminals may be attached directly to a pole, post or other mounting surface through the two 5/16 inch holes in the base. Use two 1/4" x 2-1/2" Drive Screws in making the attachment.

5.05 Protect the wire from about 12 inches below the ground line to the terminal with a 5 foot length of No. 1A U Cable Guard, placing the flared end of the guard uppermost. Where the terminal is mounted at a greater height, protect the wire with an 8 foot length of U guard of suitable size. Set the U guard about 12 inches below the ground line.

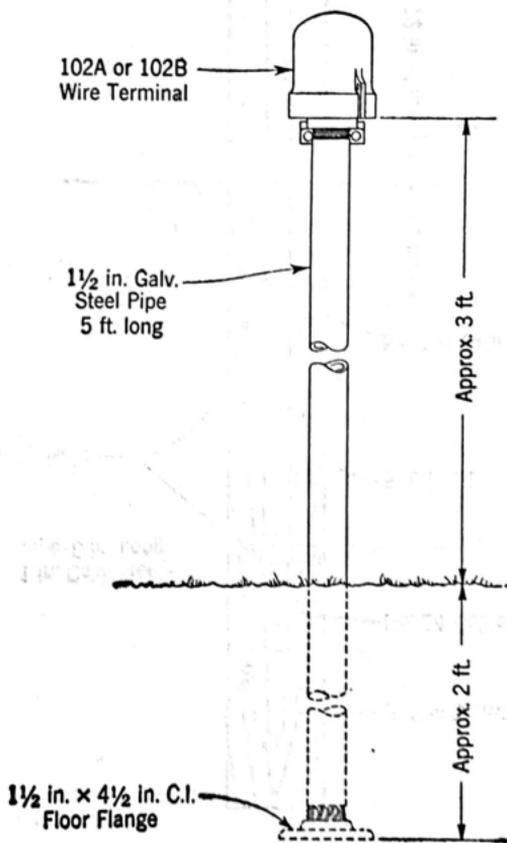


U Cable Guards and Straps			
Size of U Cable Guard	Max. No. U.G. Wires	Inside Dim. Ins.	U Guard Strap
No. 0	2	3/4	No. 0
No. 1	6	1 1/8	No. 1
No. 1A	6	1 1/4	No. 1A

Note - For terminals mounted at higher levels protect wire from 12 inches below ground line with 8 foot length of U Guard

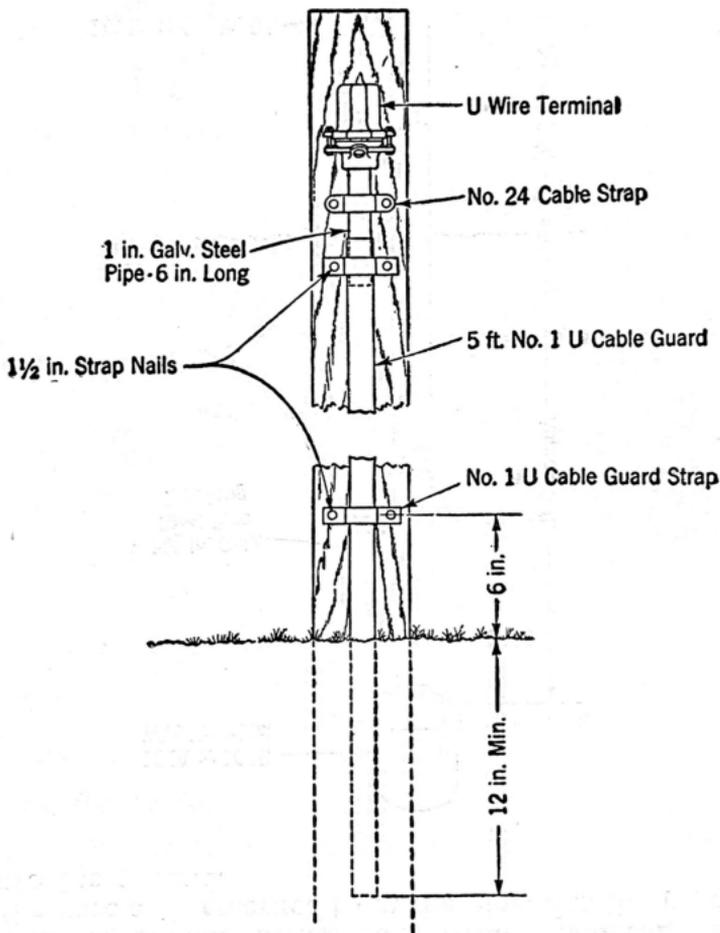


5.06 The 102-type terminals may also be mounted by screwing the base of the terminal to a 5 foot length of 1-1/2 inch galvanized steel pipe and using the pipe both to support the terminal and to carry the wires into it. The lower end of the pipe should be fitted with a 1-1/2 inch x 4-1/2 inch cast iron floor flange or similar fitting to provide anchorage and to protect the wire as it emerges from the pipe. Set the pipe about 2 feet into the ground.



Mounting D-156209 Terminals

5.07 The D-156209 terminal is attached to a pole or post by screwing a 6 inch length of 1 inch galvanized pipe into the base and clamping the pipe to the support surface. Use a No. 24 cable strap on the pipe and fasten it by 1-1/2 inch strap nails. Protect the wire from about 12 inches below the ground line with a 5 foot length of No. 1 U Cable Guard. Set the U guard so that it overlaps the pipe about 2 or 3 inches and place a No. 1 U Cable Guard Strap at the overlap.



5.08 Where the terminal is mounted at a higher level, secure the pipe to the pole with two No. 24 Cable Straps. Protect the wire from 12 inches below the ground with an 8 foot length of U guard of suitable size.