BELL SYSTEM PRACTICES
Outside Plant Construction and Maintenance

SECTION G73.150.1
Issue 1, January, 1953
AT&T Co Standard

PRESSURE TESTING
PREPARING MATERIALS FOR PRESSURE PLUGS

Contents **Page**

1. GENERAL

1.01 This section describes the method of preparing various materials used in the construction of lead sleeve type pressure testing plugs in paper insulated cables. This section replaces Section G50.670.1, Issue 1, which is cancelled.

1.02 The section also covers precautions to be observed in melting and heating asphalt and wax.

2. HEATING WAX AND ASPHALT

2.01 Three pots are generally used in constructing pressure plugs, one for heating the No. 1 Pressure Plug Wax and one for heating the No. 1 Pressure Plug Asphalt or No. 2 Pressure Plug Wax; a third pot is used to catch the overflow of No. 1 Wax in connection with the initial impregnating operation. The 18-quart size is necessary in making plugs requiring a 4-inch or larger diameter sleeve; the 12-quart size can be used if a smaller sleeve is used.

2.02 In heating solidified wax or asphalt the pot should first be held diagonally over the furnace with the flame directed outside of the pot near the surface of the material. As the material melts the flame should be directed progressively lower until there is a melted channel extending from the bottom of the pot to the top of the material.

2.03 Asphalt in metal shipping containers should be placed in the pot as follows: Remove the cover and then puncture the container in 10 or 12 places with a chipping knife and hammer. The container should be placed in the pot with the top down.

2.04 The No. 1 Pressure Plug Wax is used to impregnate the insulating paper on the conductors. This material is heated to a temperature of 350° to 390° F., depending on the atmospheric temperature.

2.05 When No. 1 Pressure Plug Asphalt is used in filling the sleeve, the asphalt is heated to a temperature of 200° to 220° F.

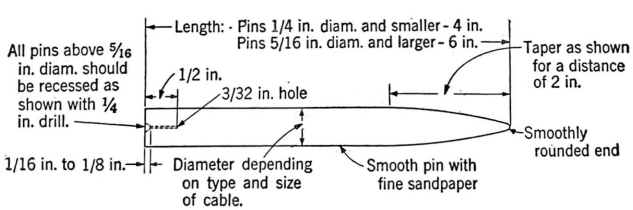
2.06 In heating asphalt it will be found that the temperature of the material varies considerably at different points in the pot. It is important, therefore, to keep the asphalt well stirred and to move the thermometer around the pot before taking temperature readings.

2.07 When No. 2 Pressure Plug Wax is used in filling a sleeve, this wax is heated to a temperature of 170° F.

3. PREPARATION AND PLACING CORE PINS

3.01 Hardwood core pins of the required length should be prepared and installed as outlined below.

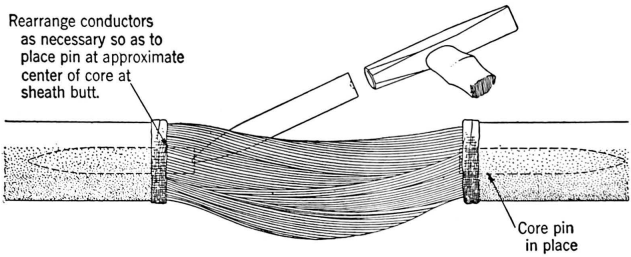
3.02 The pins should be made with a long tapered end as shown in the following sketch, and smoothed with sandpaper. A 3/32-inch diameter hole should be drilled in the end of all pins, 3/8 inch and larger, as indicated in the sketch, to permit the insertion of a screw-eye in the event that it is subsequently necessary to remove the pin. The larger shallow hole or recess is used to facilitate installation of the pin.



Material: - Any hard close-grained wood such as beech, birch or maple.

3.03 The core pins should be boiled for about 10 minutes in No. 1 Pressure Plug Wax heated to a temperature of 350° F. Just before placing, the pins should be given a liberal coating of petrolatum to serve as a lubricant.

3.04 The pointed end of the core pin should be inserted at the approximate center of the core, as indicated in the following sketch. The pin may be forced partly into position by hand; then the pointed end of a second pin may be placed in the recess at the large end of the first pin, tapping gently with the hammer until the large end of the first pin is approximately even with the end of the sheath.



4. PREPARING COTTON SLEEVING, HOUSELINE AND MUSLIN

4.01 These materials should be boiled out in No. 1 Pressure Plug Wax just prior to use in constructing plugs.

4.02 It is necessary to remove the bulk of the moisture from these materials before they are applied; excessive moisture would otherwise interfere with the impregnating and filling operations.