

BELL SYSTEM PRACTICES
Outside Plant Construction
and Maintenance

SECTION G50.630.2
Issue 1, May, 1948
AT&T Co Standard

CABLE SPLICING—GENERAL

DESICCANT

Contents	Page
1. General	1
2. Containers	2
3. Quantity To Be Used.....	2

1. GENERAL

- 1.01 This section describes the use of desiccant in drying splices, cable ends, splicing materials, etc.
- 1.02 B Desiccant is a material that looks like white sand and may be used to dry the insulating materials in cables and splices.
- 1.03 Desiccant should not be allowed to enter the ends of coaxials and should not be placed inside the muslin wrappings around spiral-four disc-insulated conductors or co-axials. In duct splices in large exchange cables it is not advisable to use desiccant because there is not sufficient space to permit placing the quantity of desiccant required to dry the splice.
- 1.04 The presence of a small amount of moisture in paper or pulp insulation may make it difficult to break and strip the insulation when making conductor joints. This condition can generally be corrected by gently rubbing a small quantity of desiccant on the insulation at the location where it will be broken and stripped.
- 1.05 Desiccant in a container that is not tightly closed will absorb moisture from the atmosphere and become unsatisfactory for use. When only part of the contents of a container is used, it is permissible to hold the balance for future use within approximately one week if the cover is screwed down tight immediately after removal of part of the contents. How-

ever, if there is any doubt as to the condition of the desiccant in a partly used container, it should be discarded.

1.06 Handling desiccant may cause the hands to feel excessively dry. A light application of petrolatum or splicing oil will relieve this condition.

1.07 Desiccant should be handled carefully so that the air inhaled will be as free from dust particles as practicable. Although it is harmless, goggles should be worn if there is any danger of the dust particles entering the eye.

2. CONTAINERS

2.01 Desiccant is supplied in 40, 160 and 650-gram screw-top cans. The cap on the cans will hold 5 grams when level full and may be used to measure small quantities of desiccant.

2.02 When using the 650-gram can on small splices it may be convenient to use an empty 40 or 160-gram can for measuring the quantity of desiccant.

3. QUANTITY TO BE USED

3.01 The quantity of desiccant required for a splice depends on the type of insulation on the conductors and the number of pairs entering the splice.

3.02 The number of pairs in a splice where all conductors are cut is taken as the total of the pairs in all the cables entering the splice. In a straight splice without change of cable size, the total number of pairs is twice the number of pairs in the cable. In a bridge splice, the total number of pairs is the sum of the feeder pairs on each side plus the pairs in the branch cable.

3.03 The following table should be used to determine the quantity of desiccant required for a splice.

Number of Pairs	Type of Cable	
	19 gauge CNB 22 and finer gauge exchange 22 and finer gauge submarine	19 gauge DNB 19 and heavier gauge toll 19 and heavier gauge submarine Any gauge textile
	Quantity of Desiccant Grams	Quantity of Desiccant Grams
6	10*	10*
11	10*	10*
16	10*	15*
26	10*	20
51	10*	40
76	15*	65
101	20	85
152	25	125
202	35	170
303	50	250
404	70	340
455	75	380
606	100	500
909	150	750
1212	200	1000
1515	250	1250
1818	300	1500
2121	350	1750

* Use 20 grams for a cleared end or a cap splice.
For butt splice add 50% to quantities specified.

3.04 The following examples illustrate the use of the table.

- (a) Terminating splice between 1212 pair 24-gauge cable and 22-gauge textile cable.

$$\begin{aligned} 1212 \text{ pairs } 24\text{-gauge} &= 200 \\ 1212 \text{ pairs textile} &= 1000 \end{aligned}$$

$$\text{Total} = 1200 \text{ grams}$$

- (b) 16 pair terminal spliced into a 202 pair 26-gauge cable with all conductors cut.

$$\begin{aligned} 202 \text{ pairs } 26\text{-gauge} &= 35 \\ 202 \text{ pairs } 26\text{-gauge} &= 35 \\ 16 \text{ pairs terminal tap} &= 10 \end{aligned}$$

$$\text{Total} = 80 \text{ grams}$$

(c) Bridge splice consisting of a 404 pair cable diminishing to a 303 pair cable with a 202 pair branch cable. All cables are 24-gauge.

404 pairs 24-gauge	=	70
303 pairs 24-gauge	=	50
202 pairs 24-gauge	=	35

Total = 155 grams

3.05 At splices where all the conductors are not cut, as in splicing distribution terminals, determine the quantity of desiccant as if all conductors were cut, but use only half the quantity. In no case use less than 20 grams of desiccant.

3.06 At test openings, made in locating cable trouble, determine the quantity of desiccant as if all conductors were cut, but use only half the quantity. In no case use less than 20 grams of desiccant.

3.07 In closing an existing splice that has been opened, determine the quantity of desiccant as if it were a new splice.

3.08 In splices containing extra quantities of muslin such as in coaxial, spiral-four and layer shielded cables add 20 to 40 grams of desiccant, depending on the size of the splice, to whatever quantity is required for the paper, pulp or textile insulated pairs or quads.

3.09 In splices containing condensers or individual loading coils place additional desiccant in accordance with the following table:

5 grams per	388A	Condenser
10	"	" spool type Condenser
15	"	" splice type loading coil

3.10 In a temporarily closed sheath opening or splice, use the same amount of desiccant as would be required if the opening or splice were being permanently closed. When work is resumed, remove and discard the desiccant.

3.11 Muslin, cotton sleeving, cotton tape and other splicing materials can be dried in an airtight container with about 20 to 40 grams of desiccant. The materials should be kept in the container for at least 12 hours prior to use.