**BELL SYSTEM PRACTICES**
**Outside Plant Construction and Maintenance**

**SECTION G50.602.4**
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# CABLE SPLICING—GENERAL
# NON-QUADDED COMPOSITE EXCHANGE CABLE

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## 1. GENERAL

1.01 This section describes composite non-quadded cable: that is, cable which contains two gauges of conductors.

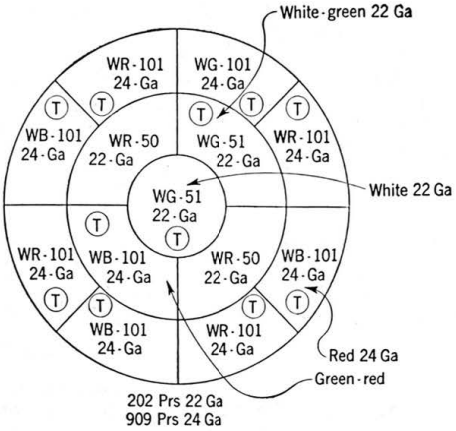
1.02 The DNB and CNB type pairs are strip paper insulated. The CSA, DSM and BST type pairs are generally insulated with wood pulp.

## 2. COLOR GROUPS

2.01 The color code is applied to successive groups in a continuous manner regardless of whether a change in gauge occurs. Only pairs of one gauge are included in any color group even though the group may not comprise a full 51 or 101 pair complement.

## 3. UNIT TYPE CABLES

3.01 The arrangements of the units, number of pairs in a unit, colors of insulation, number and location of tracer pairs and the colors of binding strings around the individual units in a typical unit type non-quadded composite cable are as follows The example shown is an 1111 pair cable with a required complement of 202 pairs, 22 gauge and an elective complement of 909 pairs 24 gauge.




Numbers in units denote total pairs in units.
Letters in units indicate colors of insulation:
WG — White-green
WB — White-blue
WR — White-red
(T) — Blue-red tracer pair
All units of like gauge in same layer of units have like colored binding strings. Arrows indicate colors of Binders.
Binding strings on 24 & 26 Ga. units contain one black thread.

3.02 The color of the binder which is used to indicate the gauge of the wires and to distinguish units of the same group which are located in different layers of the cable is described in the section "Unit Type Cable—Pulp Insulation."

## 4. LAYER TYPE CABLES

4.01 The colors of insulation, the number of like colored pairs forming a color group and the location of each color group in a typical layer type cable, are as follows. The example shown is a 657 pair cable with a required complement of 51 pairs, 19 gauge and an elective complement of 606 pairs 22 gauge.

| Color Group | | Position in Cable | Number of Pairs in Each Color Group | |
|---|---|---|---|---|
| First Wire | Second Wire | | 19 Gauge | 22 Gauge |
| White | Green | 1st (Center) | 51 | |
| White | Red | 2nd | | 100 + Tracer* |
| White | Blue | 3rd | | 101 |
| White | Green | 4th | | 101 |
| White | Red | 5th | | 101 |
| White | Blue | 6th | | 101 |
| White | Green | 7th | | 100 + Tracer* |

* Blue-Red Tracer Pair

4.02 In cables containing less than 101 pairs, one tracer pair is substituted for one of the regular smaller gauge pairs in the outer layer of the cable. In cables containing 101 or more pairs two tracer pairs are substituted for two of the regular smaller gauge pairs, one in the outer layer of the cable and one in the first layer of the smaller gauge pairs. When there is only one layer of 22 gauge pairs both tracer pairs are in this layer. Tracer pairs are the same gauge as the other pairs in the same group. The color of the first wire of a tracer pair is blue and that of the second wire is red.

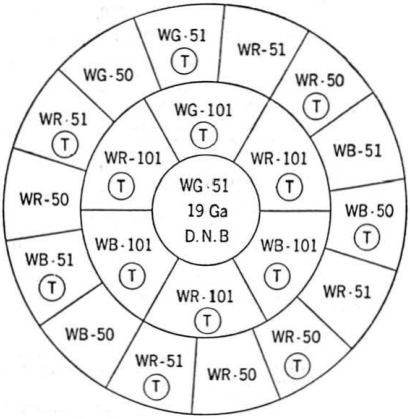
## 5. COMBINATION LAYER AND UNIT TYPE CABLES

5.01 In the larger composite cables the smaller gauge complement may be arranged in layer of units. A typical example is shown below.

| Required Complement | Elective Complement |
|---|---|
| 51 Pair 19 Ga. | 1313 Pair 24 Ga. |

As shown below the 19 gauge pairs are in the core of the cable and the 24 gauge pairs are arranged in layers of units as follows:

| Colors of Insulation and Number of Pairs in Units | Colors of Unit Binders |
|---|---|
| 1st Layer—WG-101, WR-101, WB-101, WR-101, WB-101, WR-101 | Green-Red |
| 2nd Layer—WG-51, WG-50, WR-51, WR-50, WB-51, WB-50, WR-51, WR-50, WR-50, WR-51, WB-50, WB-51, WR-50, WR-51 | Red |
| 101 and 51 Pair Units Contain one Blue-Red Tracer Pair | |




Numbers in units denote total pairs in units.
Letters in units indicate colors of insulation:
WG – White-green
WB – White-blue
WR – White-red
(T) – Blue-red tracer pair

## 6. PAIR COUNT

6.01 The pair count in non-quadded composite cable is determined in the same way as in the corresponding layer and multiple unit cables of one gauge. The pair count of the large and small gauge groups is continuous, starting with the large gauge group in the center of the cable.