

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

**SECTION G50.604.3**  
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## **CABLE SPLICING—GENERAL**

### **CARRIER TOLL ENTRANCE CABLE**

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#### **1. GENERAL**

1.01 This section describes the cables which are available for use as entrance and intermediate cables in connection with open wire lines equipped for carrier circuit operation.

1.02 The non-quadded pairs are provided for the carrier circuits. Adjacent pairs in each layer are separated by quads, or, in a few cases, by other non-quadded pairs. The adjacent layers are separated by copper tape shields.

#### **2. PAIR AND QUAD TYPES**

2.01 Four types of pairs are used to give a separation of at least five units (pairs or quads) between carrier pairs having the same length of twist. The following table shows the types of pairs and the colors of insulation:

<u>Type of Pair</u>	<u>Colors of Insulation of Both Wires</u>
1	Blue
2	White
3	Red
4	Orange

Pairs in adjacent layers have different lengths of twist. They have the same colors of insulation as shown above and are distinguished by a stain on the edge of the insulation.

2.02 The toll entrance color code with four types of quads is used in these cables. Type of quads, colors of insulation and pair binding strings are shown in the following table:

Type of Quad	Colors of Insulation		Colors of Pair
	Pair 1	Pair 2	Binding Strings
1	White	Blue	White
2	Green	Red	White
3	Orange	Red	White
4	White	Red	Blue

In general, quads in a given layer have lengths of pair twist which differ from those of quads or non-quaddled pairs in adjacent layers. Quads in adjacent layers have similar colors of insulation but different lengths of twist and are distinguished by the use of a single binding string of a contrasting color.

### 3. ARRANGEMENT OF PAIRS AND QUADS

3.01 In each layer containing quads a Type 3 quad is used as starting point for identification and throughout the remainder of the layer Types 1, 2 and 4 quads are used in sequence, repeated as often as necessary. This arrangement is followed in the quads regardless of whether the layer contains non-quaddled pairs in addition to the quads.

3.02 If a layer contains both quads and non-quaddled pairs they are arranged alternately. The non-quaddled pairs consist mainly of Types 1, 2 and 3 pairs arranged in sequence, a Type 4 quad being used at one or more points in the layer when necessary to maintain a separation of five units (quads or pairs) between carrier non-quaddled pairs having the same length of twist.

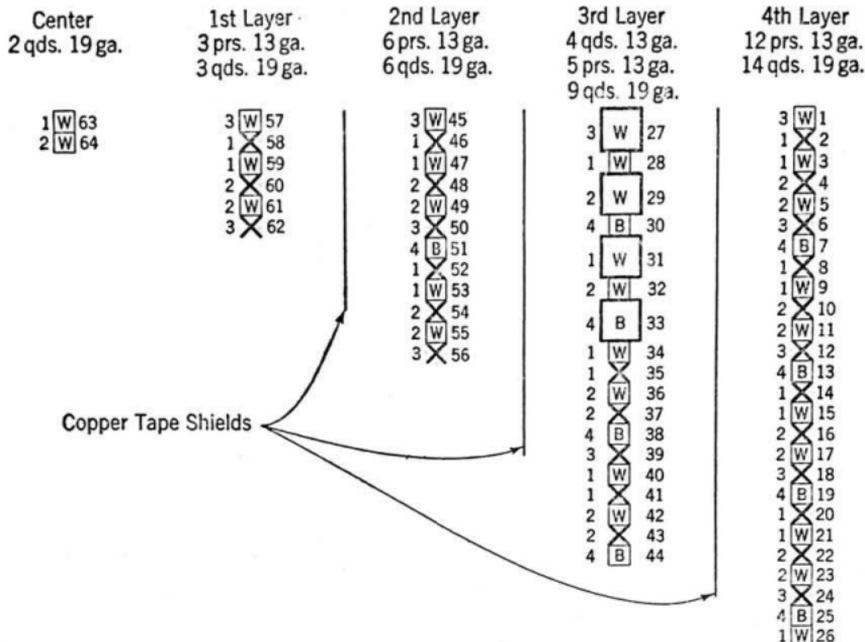
3.03 If a layer contains only non-quaddled pairs, 19-gauge pairs are used as separators between the adjacent carrier pairs and the sequence is the same as the pair sequence in a layer containing both quads and pairs.

3.04 If the cable contains a complement of non-quaddled exchange pairs, the color code is essentially the same as that described in the section "Non-Quaddled Composite Cable."

### 4. EXAMPLE

4.01 The following is a typical example of a Carrier Toll Entrance Cable with a make-up consisting of 4 quads, 13 gauge, 26 pairs 13 gauge and 34 quads 19 gauge.

## ARRANGEMENT OF CORE



EACH QUAD IS REPRESENTED BY A SQUARE, THE RELATIVE SIZE OF THE SQUARE INDICATING THE GAUGE			
Numerals at left of squares indicate types of quads, viz.		Letters indicate colors of binding strings on pairs, viz.	
Colors of insulation		B-Blue W-White	
Type	Pair 1	Pair 2	
1	White	Blue	
2	Green	Red	
3	Orange	Red	
4	White	Red	
EACH NON-QUADED PAIR IS REPRESENTED BY A CROSS			
Numerals at left of crosses indicate types of pairs, viz.			
Colors of insulation			
Type	Wire	Mate	
1	Blue	Blue	
2	White	White	
3	Red	Red	
Numerals at right of squares and crosses indicate numbering provided for the splicer's use in segregating layers and boarding			