

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

**SECTION G50.604.4**  
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## **CABLE SPLICING—GENERAL**

### **NON-QUADED TOLL CABLE**

<b>Contents</b>	<b>Page</b>
1. General .....	1
2. Pair Types .....	1
3. Arrangement of Pairs.....	2
4. Example .....	2

#### **1. GENERAL**

1.01 This section describes the standard short pair twist non-quadded toll cables which are designed so that cable carrier toll circuits can be operated on all pairs. These cables are usually 19 gauge but in some instances 16 gauge, non-quadded conductors have been included for program transmission.

1.02 Non-quadded toll pairs are made by twisting together two insulated conductors the length of twist being similar to that of the pairs in short pair twist quadded cables (5" to 7").

#### **2. PAIR TYPES**

2.01 Seven types of pairs are used in non-quadded toll cables. The following table shows the types of pairs and the colors of insulation.

<u>Type of Pair</u>	<u>Colors of Insulation</u>
1	Blue
2	White
3	Red
4	Green
5	White <sup>G</sup>
6	Red <sup>B</sup>
7	Orange

<sup>B</sup>—Black Stain  
<sup>G</sup>—Green Stain

The Black and Green Stains are applied to the edges of the insulation for identification purposes.

2.02 All pairs in a layer have one direction of pair twist and those in the adjacent layer have the opposite direction of pair twist.

### 3. ARRANGEMENT OF PAIRS

3.01 The Type 7 marker pair appears once in each layer and the sequence of pairs is Types 1, 2, 3, 4, 5 and 6 following the marker quad.

3.02 In layers where the pairs exceed a multiple of six plus one for the marker pair, the sequence continues for the additional pairs except when there are two or less. When two pairs are involved they become Type 2 and Type 3 instead of Type 1 and Type 2. When one pair is involved it becomes Type 3 instead of Type 1. For example in a layer containing 8 pairs the sequence would be Type 7, 1, 2, 3, 4, 5, 6 and 3.

3.03 The marker pair does not appear in the center of the cable. The pairs in the center of the cable for the different arrangements are of the following types:

<u>No. of Pairs in Center</u>	<u>Type of Pair</u>
1	2
2	1 & 2
3	1, 2 & 3

3.04 If the cable contains 16-gauge program pairs they have white insulation on both wires, and no binding strings.

### 4. EXAMPLE

4.01 The following is a typical example of a standard Lead Covered Paper Insulated Non-Quadded Cable with a make-up consisting of 61 pairs, 19 gauge.

## ARRANGEMENT OF CORE

Center 1 Pr. 19 Ga.	1st Layer 6 Prs. 19 Ga.	2nd Layer 12 Prs. 19 Ga.	3rd Layer 18 Prs. 19 Ga.	4th Layer 24 Prs. 19 Ga.
2 x 61	7 x 55 1 x 56 2 x 57 3 x 58 4 x 59 5 x 60	7 x 43 1 x 44 2 x 45 3 x 46 4 x 47 5 x 48 6 x 49 1 x 50 2 x 51 3 x 52 4 x 53 5 x 54	7 x 25 1 x 26 2 x 27 3 x 28 4 x 29 5 x 30 6 x 31 1 x 32 2 x 33 3 x 34 4 x 35 5 x 36 6 x 37 1 x 38 2 x 39 3 x 40 4 x 41 5 x 42	7 x 1 1 x 2 2 x 3 3 x 4 4 x 5 5 x 6 6 x 7 1 x 8 2 x 9 3 x 10 4 x 11 5 x 12 6 x 13 1 x 14 2 x 15 3 x 16 4 x 17 5 x 18 6 x 19 1 x 20 2 x 21 3 x 22 4 x 23 5 x 24

Each non-quadded pair is represented by a cross.

Numerals at right of crosses indicate numbering provided for the splicer's use in segregating layers and in boarding.

Numerals at left of crosses indicate types of non-quadded pairs.

## COLORS OF INSULATION

### Non-Quadded Pairs

Type	1st Wire	2nd Wire
1	Blue	Blue
2	White	White
3	Red	Red
4	Green	Green
5	White <sup>G</sup>	White <sup>G</sup>
6	Red <sup>B</sup>	Red <sup>B</sup>
7	Orange	Orange

<sup>B</sup>—Black Stain

<sup>G</sup>—Green Stain