

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

**SECTION G50.602.2**  
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**CABLE SPLICING—GENERAL**  
**LAYER TYPE EXCHANGE CABLE**

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**1. GENERAL**

1.01 This section describes the 19, 22 and 24-gauge exchange cables with strip paper insulated pairs arranged in concentric layers.

1.02 In these cables the paired conductors are arranged in concentric layers. Alternate layers are generally stranded in opposite spiral directions, but in some cables several successive layers may be stranded in the same direction.

**2. COLOR GROUPS**

2.01 The colors of the insulation on the pairs are arranged to identify pair groups that may contain up to 101 pairs. All of the pairs in the group with the exception of a tracer pair, have like colored insulation and it is usual to refer to the group as a color group. Theoretical counts are often assigned to the color groups to facilitate random splicing.

2.02 The color combinations that are used for the groups follow each other in a definite sequence of six colors, starting at the center of the cable and progressing to the outside. In small cables only part of the color sequence is required, but in large cables it is necessary to repeat part or all of the sequence and thus have inner and outer groups with the same color combination. The following table gives the sequence and colors of the groups.

Sequence of Color Group from Center	Color of Pairs in Group		Abbreviation for Group
	1st Conductor	2nd Conductor	
1	White	Red	W-R
2	White	Blue	W-B
3	White	Orange	W-O
4	White	Green	W-G
5	Blue	Red	B-R
6	Green	Red	G-R

2.03 All tracer pairs have Orange colored insulation on one conductor and Red colored insulation on the second conductor. In cables containing only one color group (6 to 76 pairs inclusive) there is one tracer pair. In cables containing two or more color groups (101 pairs and larger) there are two tracer pairs, one in the center group and one in the outer group.

### 3. CORE ASSEMBLY AND PAIR COUNT

3.01 The following table lists the color groups, the number of like colored pairs in the group, and the pair counts of the standard layer type exchange cables.

Size of Cable (Pairs)	Color Group			Color Group			Color Group		
	•	Number of Pairs and Colors	Pair Count	•	Number of Pairs and Colors	Pair Count	•	Number of Pairs and Colors	Pair Count
6	1	5 W-R+T	1-6						
11	1	10 W-R+T	1-11						
16	1	15 W-R+T	1-16						
26	1	25 W-R+T	1-26						
51	1	50 W-R+T	1-51						
76	1	75 W-R+T	1-76						
101	1	49 W-R+T	1-50	2	50 W-B+T	51-101			
152	1	50 W-R+T	1-51	2	50 W-B	52-101	3	50 W-O+T	102-152
202	1	49 W-R+T	1-50	2	51 W-B	51-101	3	50 W-O	102-151
	4	50 W-G+T	152-202						
303	1	49 W-R+T	1-50	2	51 W-B	51-101	3	50 W-O	102-151
	4	51 W-G	152-202	5	50 B-R	203-252	6	50 G-R+T	253-303
404	1	100 W-R+T	1-101	2	101 W-B	102-202	3	101 W-O	203-303
	4	100 W-G+T	304-404						
455	1	100 W-R+T	1-101	2	101 W-B	102-202	3	101 W-O	203-303
	4	101 W-G	304-404	5	50 B-R+T	405-455			
606	1	100 W-R+T	1-101	2	101 W-B	102-202	3	101 W-O	203-303
	4	101 W-G	304-404	5	101 B-R	405-505	6	100 G-R+T	506-606
909	1	100 W-R+T	1-101	2	101 W-B	102-202	3	101 W-O	203-303
	4	101 W-G	304-404	5	101 B-R	405-505	6	101 G-R	506-606
	7	101 W-R	607-707	8	101 W-B	708-808	9	100 W-O+T	809-909
1212	1	100 W-R+T	1-101	2	101 W-B	102-202	3	101 W-O	203-303
	4	101 W-G	304-404	5	101 B-R	405-505	6	101 G-R	506-606
	7	101 W-R	607-707	8	101 W-B	708-808	9	101 W-O	809-909
	10	101 W-G	910-1010	11	101 B-R	1011-1111	12	100 G-R+T	1112-1212

Notes

- Position of Color Group, Starting from Center.
- T Orange-Red Tracer pair, generally the last pair in count.
- W-R White-Red Pair
- W-B White-Blue Pair
- W-O White-Orange Pair
- W-G White-Green Pair
- B-R Blue-Red Pair
- G-R Green-Red Pair