

BELL SYSTEM PRACTICES
Outside Plant Construction
and Maintenance

SECTION G50.609.2
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AT&T Co Standard

CABLE SPLICING — GENERAL

DEFECTIVE PAIR REPORT FOR

EXCHANGE CABLE

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1. GENERAL

1.01 This section describes the Defective Pair Report used⁷ by the factory primarily to record defects in strip paper or pulp insulated exchange cables and composite non-quadded cables, including both unit and layer types, and video pair cables.

1.02 This section is reissued to indicate the difference in the treatment of PIC cable from that of pulp and strip paper cables.

1.03 **Strip Paper or Pulp Insulated Cables:** When requested on the cable order, the factory will furnish reports covering all lengths of strip paper and pulp insulated cable that are manufactured to order. Reports **will not be furnished** for non-quadded cables with lead or stalpeth sheath that are supplied from distributing house or factory stocks.

1.04 **Coded PIC Cables:** No shorts, crosses, grounds, nor opens are permitted in coded PIC cables (land types) as shipped from the factory. Therefore, the defective pair report does not apply to these cables.

1.05 **Wire Armored PIC Cables** contain one or more distinctively colored extra pairs to take the place of any regular pair which is defective. A defective pair report will be furnished on these cables, if requested.

2. USE OF DEFECTIVE PAIR REPORT

2.01 The defects in a length of cable are kept within established limits depending on the gauge, type and size of cable. The defects are marked at both ends of the cable before leaving the factory. They can be located as described in the section of practices dealing with manufacturing defects.

2.02 The Defective Pair Report gives the factory record of defective pairs in a length of cable. It can be used in cases where the disposition of defective pairs in a cable run will be examined prior to the start of the splicing work. A splicing diagram can be prepared to keep the number of defective pairs in the run equal to but not more than the number in the length of cable with most defects. The report is also useful in checking the location of the defective pairs in a length of cable when difficulty is encountered in finding the colored rubber tubes placed at each end of the defective pairs, or in cases where the ends containing the markers are cut off.

3. DESCRIPTION OF DEFECTIVE PAIR REPORT

3.01 A sample report is shown on the last page of this section. The top portion and the first four columns on the left-hand side are used to identify the cable. A number of lengths of the same type of cable can be covered on one sheet of the report.

3.02 The portion of the report under the subtitle—**Defective Circuits**—gives the location and nature of the defects.

3.03 The various defects and the letters used to indicate these on the form are as follows:

LETTERS	NATURE OF TROUBLE
O	Open break in conductor
S	Short circuited pair
X	Conductor of a pair crossed with a conductor of another pair. The first cross is marked 1-1, the second 2-2, etc.
MP	Misplaced Pair. A replacement pair to compensate for a NG or WG pair. Will have correct color but will not be in proper location.
NG	Pair appears at only one end.
WG	Pair with Wrong Gauge conductors.
HPR PR	High pair to pair capacitance unbalance (19 and 22 gauge pairs only)

3.04 An asterisk marks each type of defect except crosses which are indicated by pairs of numerals.

3.05 The location of the unit or layer containing a defect is recorded under the subtitle—**Defective Circuits**—in the first six columns. With this information the unit or layer containing the defect can be identified and the markers quickly found. If the rubber tubes have been cut off or are missing, it will be necessary to test the pairs in the indicated unit or layer in order to locate the defect.

3.06 The count used for the report is made in a clockwise direction looking into the outside end of the cable on the reel shipped from the factory, as indicated in the notes at the bottom of report form.

3.07 Where the cable make-ups in these practices show the white wire preceding the colored wire, for example, white-green, white-red and white-blue, the reverse procedure is used on the Defective Pair Report and these same pairs are recorded as green-white, red-white and blue-white.

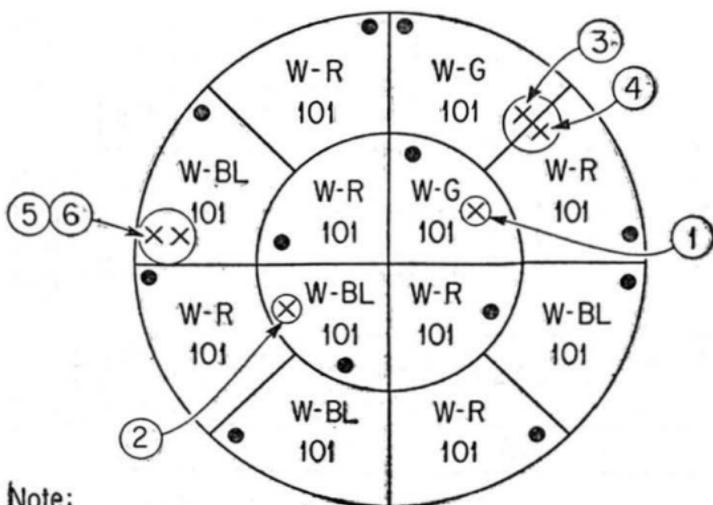
4. UNIT TYPE CABLE

4.01 The following example of a pulp insulated composite cable containing 404 pairs—24-gauge and 808 pairs—26-gauge illustrates the method of designating defects for uniform color, unit type cables.

Defect Number	Defective Circuits (C)												
	Ga.	Layer	Unit (A)		Pair Color	(B) Color Group No.							
			Color	No.			O	S	X	MP	NG	WG	HPR PR
①	24	C	GW	1	GW		*						
②	24	C	BL-W	3	BL-W		*						
③	26	1	GW	1	GW			1					
④	26	1	RW	2	RW			1					
⑤	26	1	BL-W	7	BL-W			2					
⑥	26	1	BL-W	7	BL-W			2					

This does not appear on report.

4.02 The locations of the defects recorded on the above form are shown below. The third and fourth defects are in the first cross marked 1—1 on the form. Similarly the fifth and sixth defects are in the second cross.



Note:

● Tracer Pair

4.03 A similar method is used to indicate the defects in cables having mixed colored units, except that these cables have three colors of pair insulation within a unit. For example, a green-white unit may have green-white, red-white or blue-white listed under the pair colors.

4.04 Should tracer pairs be defective the color of the tracer pair would be shown beside the unit color in which it is placed.

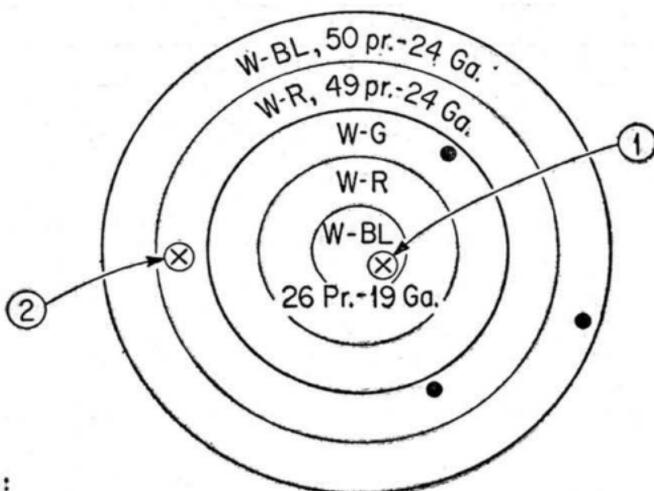
5. LAYER TYPE CABLE

5.01 The following example of a pulp insulated cable containing 26 pairs—19-gauge and 101 pairs—24-gauge illustrates the method of designating defects used on a composite cable in which the core of 19-gauge conductors are arranged in layers and the outside 24-gauge conductors are arranged in two color groups.

Defective Circuits (C)												
Defect Number	Ga.	Layer	Unit (A)		Pair Color	(B) Color Group No.						
			Color	No.			O	S	X	MP	NG	WG
①	19	C			BL-W		*					
②	24	3			R-W	R-W	*					

This does not appear on report.

5.02 The locations of the defects recorded on the above form are shown below.



Note:
● Tracer Pair

6. SAMPLE REPORT

6.01 A sample report is shown below. Note that Customer's Reels 6826 and 6827 have no defects.

DEFECTIVE PAIR REPORT FOR EXCHANGE CABLE

SEND REPORT TO:																	
Mr. John Doe - 199 Fulton Ave., Hempstead, N. Y.																	
CUSTOMER				DESTINATION				CUST. ORDER NO.									
N. Y. Tel. & Tel. Co.				Brooklyn				87-3-34538B									
CABLE CODE OR CA DWG. OR SPEC. NO.		PAIRS		GAUGE		NON-BELL CUSTOMER'S SPEC.				DATE							
DSA-909		909		22						1 29 52							
REEL NO.		REEL CODE	CABLE LENGTH	GA.	LAYER	UNIT (A)		PAIR		(B) COLOR							
CUSTOMER'S	W.E. CO					COLOR	NO.	COLOR	GROUP NO.	O	S	X	MP	NG	WG	HPR PR	
6822	116338	420	1003	22	1	RW	2	GW			*						
6826	116339	417	652														
6827	116340	420	911														
6828	116341	417	549	22	1	GW	1	RW			*						
6829	116342	420	1007	22	C	GW	1	BL-W			*						
				22	1	GW	1	GW			*						
				22	C	GW	1	RW					1				
				22	1	RW	2	RW					1				
6830	116343	420	1163	22	2	RW	3	RW					1				
				22	2	BL-W	4	BL-W					1				
				22	2	RW	3	BL-W							*		
6830	116343	420	1163	22	2	BL-W	4	BL-W			*						
				22	2	BL-W	4	BL-W			*						
6831	116344	420	1009	22	1	RW	2	RW					1				
				22	2	RW	3	RW					1				
				22	2	RW	11	GW					2				
				22	2	RW	11	RW					2				

NOTE A: OUTSIDE END OF CABLE - THE UNIT NUMBER SHALL BE TAKEN IN A CLOCKWISE ROTATION STARTING WITH THE FIRST GREEN-WHITE UNIT IN THE LAYER. THE LAYERS SHALL BE NUMBERED STARTING IN THE CENTER OF THE CABLE WITH "C" FOR CENTER, LAYER 1 FOR THE FIRST LAYER AROUND THE CENTER, LAYER 2, ETC. IF REFERENCE TO COLOR AND NUMBER OF UNIT IS OMITTED, CABLE IS LAYER TYPE.

NOTE B: IN LAYER TYPE CABLE, THE COLOR GROUP SHALL BE NUMBERED STARTING IN THE CENTER OF THE CABLE.

NOTE C: THE DEFECTS SHALL BE INDICATED BY AN * EXCEPT CROSSES, WHICH SHALL BE NUMBERED 1&1 FOR THE FIRST CROSS, 2&2 FOR THE SECOND CROSS, ETC.