

**BURIED WIRE  
DESCRIPTION**

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Revision arrows are used to emphasize these changes.

**1. GENERAL**

**1.01** This section describes C service wire, E armored service wire, and E buried wire. Descriptions of service wires that are rated Mfr Disc. are retained in the section for reference.

**1.02** This section is reissued to:

- Include the new wire code designations
- Place superseded wire in separate tables.

**1.03** ♦The new wire code consists of three information groupings which are used to describe the wire. The codes for the several wire types are provided in Table A. The first grouping consists of up to three letters and describes the application of the wire. The second grouping provides the number of conductor pairs and their gauge. The third grouping is a letter code or feature acronym consisting of up to three letters. For currently used wire, the letter code coincides with the letter designation presently being used to identify the wire. For some wire types, a descriptive feature acronym of up to three letters will be used to highlight an outstanding property (an example is the acronym GR for gopher resistant wire).♦

♦ TABLE A ♦

**BURIED WIRE CODE DESIGNATIONS**

CURRENT DESIGNATION	DESCRIPTION AND USE	CODED DESIGNATION
C Service Wire	Buried Service Wire (2 and 5 pairs)	BSW-2/22-C BSW-5/22-C
E Buried Wire	Buried Distribution Wire (1 pair)	BDW-1/19-GRE
E Armored Wire	Buried Service Wire (2 pairs)	BSW-2/22-GRE

**NOTICE**

Not for use or disclosure outside the Bell System except under written agreement

2. DESCRIPTION

2.01 Service wire is furnished on large and small reels and in coils. Nominal lengths of 2-pair are 1300 feet on small reels, 5500 feet on large reels, and 925 feet in coils. Nominal lengths of 5-pair are 1000 feet on small reels and 5500 feet on large reels. Five-pair is not furnished in coils. Large reels will have no more than four pieces and no length will be less than 1000 feet. The length and number of pieces are marked on the reels. The small reels and coils are continuous in length. Distribution wire is furnished on 13,000-foot reels. The 1500-foot reels are used with the vibratory plow.

2.02 The outer jacket of buried wire is marked at 2-foot intervals. The numbering along the length may progress in either direction as wound on the reel. The wire length is the difference between the length markings at the two ends. These markings simplify the measuring and recording of wire lengths for accounting purposes and permit a more accurate measurement of wire being cut to a specific length.

2.03 The recommended depths for placing buried wires are specified in Section 629-200-206. See Section 629-720-200 for termination methods.

**Note:** When the placing method for buried wire is by plowing, do not use a plow that pulls the wire through the earth. Use one with a vibratory plowshare and feed tube. Do not mount the reel on the vibrator. Do not pass the wire through the engine compartment. Bending radius is one inch.

2.04 Figures 1 through 4 illustrate the makeup and distinctive features of buried wire.

**Note:** Parentheses in figure titles indicate old wire codes.

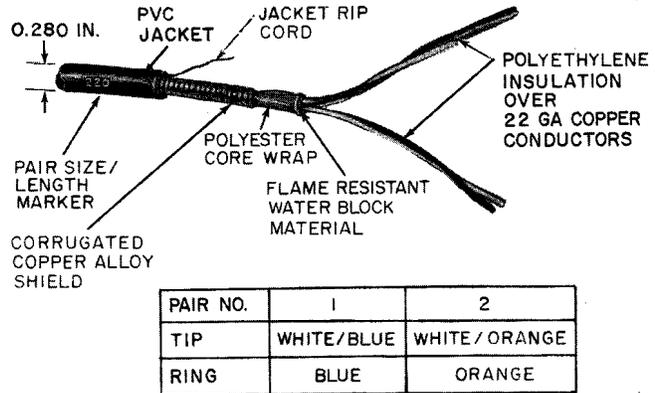


Fig. 1—BSW-2/22-C (C Service Wire—2 Pair)

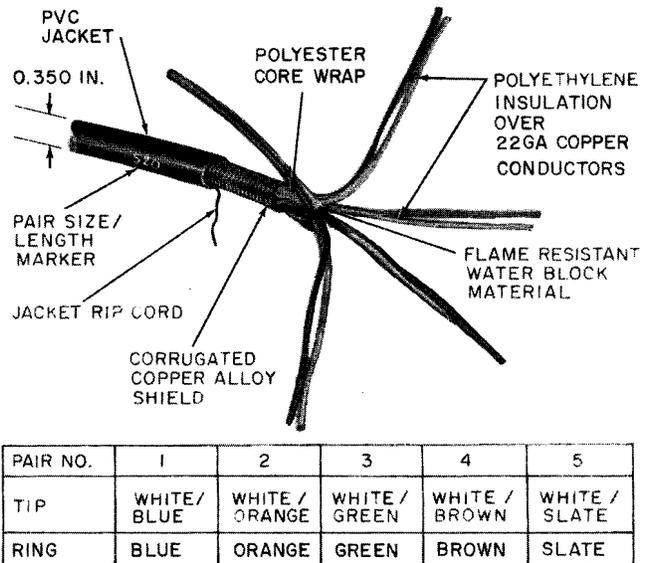


Fig. 2—BSW-5/22-C (C Service Wire—5 Pair)

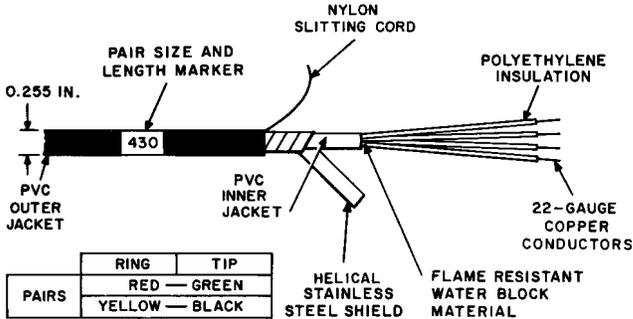


Fig. 3—BSW-2/22-GRE (E Armored Service Wire)

2.05 Physical characteristics and selection of buried wire are listed in Table B.

2.06 Table C lists the electrical characteristics of buried wire.

3. ~~SUPERSEDED~~ WIRE

3.01 The electrical and physical characteristics for superseded service wire are listed in Tables D and E.

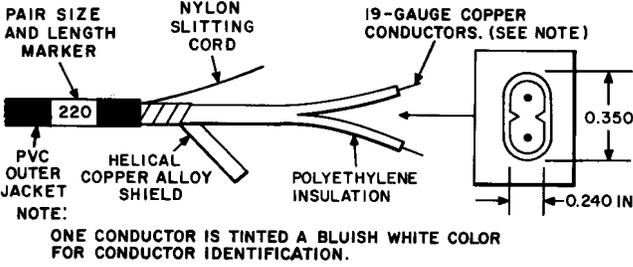


Fig. 4—BDW-1/19-GRE (E Buried Wire)

◆ TABLE B ◆

PHYSICAL CHARACTERISTICS AND SELECTION

WIRE TYPE	FIG. NO.	RATING	NO. PAIRS	GAUGE (AWG)	FILLED	RODENT PROTECTION	WEIGHT LB/1000 FT	BREAKING STRENGTH (POUNDS)	RECOMMENDED INSTALLATION LENGTH (MAX. FT)	COMMENTS
C Service Wire	1	STD	2	22	Yes	No	55	200	700*	Replaces F-59307 service wire. Provides improved impact and corrosion protection.
	2	STD	5	22	Yes	No	89	275	700*	Replaces F-59377 service wire. Provides improved impact and corrosion protection.
E Armored Service Wire	3	STD	2	22	Yes	Yes	41	200	700*	Replaces F-44541 armored service wire. Service drop from any cable.
E Buried Wire	4	STD	1	19	No	Yes	51	200	—	Used for rural distribution. Also, service drop from any cable.

\* Due to transmission limitations, the wire should not be used normally in runs exceeding 700 feet in length. When runs in excess of 700 feet are unavoidable, care should be taken that the service wire does not cause total loop loss to exceed "Resistance Design" objectives.

◆ TABLE C ◆

REPRESENTATIVE ELECTRICAL CHARACTERISTICS @68° F

TYPE WIRE	LOOP RESISTANCE ( $\Omega$ /1000 FT) (NOTE 1)	ARMOR SHIELD RESISTANCE ( $\Omega$ /1000 FT) MAX.	MUTUAL CAPACITANCE ( $\mu$ F/1000 FT) AVERAGE	BREAKDOWN VOLTAGE (DC) (NOTE 2)	INSULATION RESISTANCE (MEGOHMS – 1000 FT)
C Service Wire (2 and 5 Pair)	33	10	0.019	8 kV	10K
E Armored Service Wire	33	220	0.018	8 kV	10K
E Buried Wire	16	10	0.016*	30 kV	20K

*Note 1:* Loop resistance is twice conductor resistance.

*Note 2:* Conductor-to-conductor breakdown voltage.

\* 0.083  $\mu$  F per mile.

TABLE D

## PHYSICAL CHARACTERISTICS AND SELECTION OF SUPERSEDED WIRE

WIRE TYPE	FIG. NO.	RATING	NO. PAIRS	GAUGE (AWG)	FILLED	RODENT PROTECTION	WEIGHT LB/1000 FT	BREAKING STRENGTH (POUNDS)	RECOMMENDED INSTALLATION LENGTH (MAX. FT)	COMMENTS
F-59307 Service Wire	5	Mfr Disc.	2	20	Yes	No	37	230	500	Service drop from any cable. Replaced by 2-pair C service wire.
F-59377 Service Wire	6	Mfr Disc.	5	22	Yes	No	83	275	700	Service drop from any cable. Replaced by 5-pair C service wire.
B Service Wire	7	Mfr Disc.	2	20	No	No	36	230	500	Service drop from air core PIC cables.
F-44541 Armored Service Wire	8	Mfr Disc.	2	22	No	Yes	39	200	700	Service drop from air core PIC cables. Replace by E armored service wire.

◆ TABLE E ◆

REPRESENTATIVE ELECTRICAL CHARACTERISTICS @68°F  
OF SUPERSEDED WIRE

TYPE WIRE	LOOP RESISTANCE (Ω/1000 FT)	ARMOR (SHIELD) RESISTANCE (Ω/1000 FT)	MUTUAL CAPACITANCE (μF/1000 FT)	BREAKDOWN VOLTAGE (DC)	INSULATION RESISTANCE (MEGOHMS – 1000 FT)
F-59307 Service Wire	52	13	0.022	8 kV	10K
F-59377 Service Wire	33	11	0.021	8 kV	10K
B Service Wire	52	13	0.021	8 kV	10K
F-44541 Armored Service Wire	33	220	0.018	8 kV	10K

SECTION 626-300-100

3.02 Figures 5 through 8 illustrate the makeup and distinctive features of these wires.

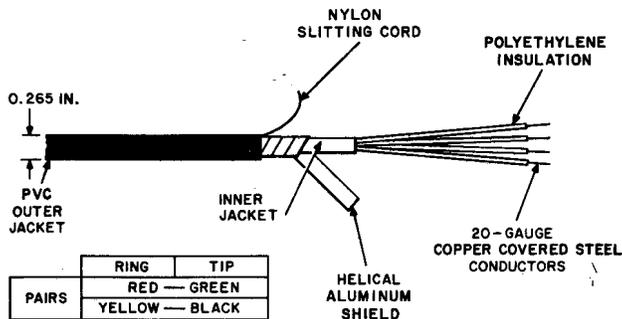


Fig. 5—F-59307 Service Wire—2 Pair (Mfr Disc.)

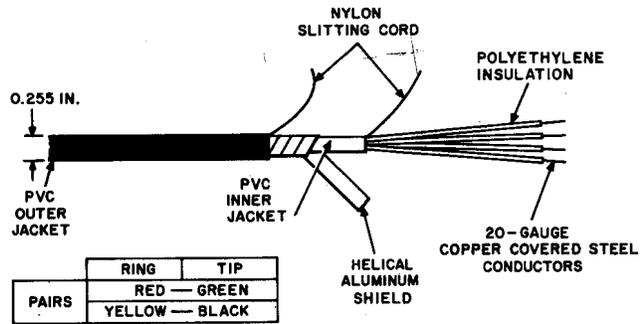


Fig. 7—B Service Wire (Mfr Disc.)

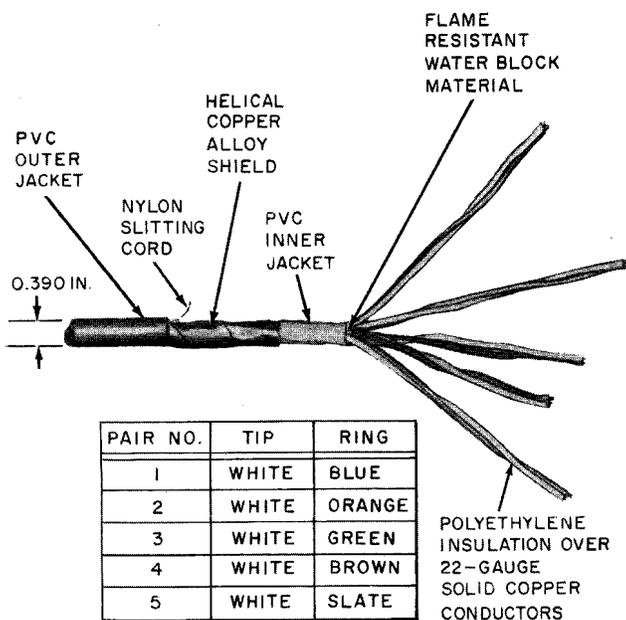


Fig. 6—F-59377 Service Wire—5 Pair (Mfr Disc.)

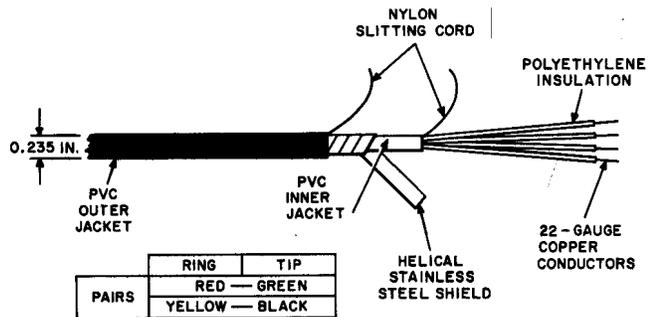


Fig. 8—F-44541 Armored Service Wire (Mfr Disc.)