

MIL-C-13294C  
Amendment 3

18 December 1975

SUPERSEDING  
Amendment 2  
15 February 1968

MILITARY SPECIFICATION

CABLE, TELEPHONE, ELECTRICAL  
(INFANTRY FIELD WIRE, TWISTED PAIR, WIRE  
WD-1/TT and WD-1A/TT)

This amendment forms a part of Military Specification MIL-C-13294C,  
22 November 1966.

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2.2, delete and substitute:

"2.2 Other publications. The following document forms a part of this specification to the extent specified herein. Unless otherwise indicated, the issue in effect on date of invitation for bids or request for proposal shall apply.

American Association of Textile Chemists and Colorists.

AATC - Technical Manual and Year Book.

(Application for copies should be addressed to the American Association of Textile Chemists and Colorists, Box 12215, Research Triangle Park, Durham, North Carolina 27709)."

3.1.3, delete and substitute:

"3.1.3 Insulating compound. The insulating compound shall be Type III, Class L, Grade 1, in accordance with L-P-390."

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3.1.4, delete and substitute:

"3.1.4 Jacketing compound. The jacketing compound for type WD-1/TT field wire shall be a heat-and-light stabilized non-oxidizing nylon compound, Zytel 3606 NC-10 as manufactured by E.I. du Pont de Nemours and Co., Inc., or Allied Chemical Paskon Nylon 8225BK103, or equal. (See 6.5)."

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3.2.1.1, delete the third sentence and substitute:

"An antioxidant, such as Liquid Antox manufactured by E.I. du Pont de Nemours and Co., Inc., Bayol 35 manufactured by Humble Oil and Refining Co., MX-910 lube-oil manufactured by Mohawk Refining Co., or an equally satisfactory light oil, may be used as a lubricant in the stranding operation, in which case there shall be no excess oil on the finished stranded conductor."

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3.3.1.1, delete and substitute:

"3.3.1.1 Tubing. The insulated or jacketed conductor shall show no visible strains or cracking of the insulation when tested as specified in 4.4.3."

3.3.1.2, delete and substitute:

"3.3.1.2 Deformation. The decrease in diameter of the insulated or jacketed conductor when tested as specified in 4.4.4 shall not exceed 15 percent."

3.3.1.3, delete and substitute:

"3.3.1.3 Cold bend. The jacketed conductor shall not crack when tested as specified in 4.4.5."

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3.6.1.5, delete third sentence and substitute:

"Prior to braiding, the insulation shall be dipped into an adhesive such as polyvinyl acetate resin AYAF, mixed to form a solution which is 35% by weight of AYAF and 65% by weight of acetone, manufactured by the Bakelite Division of Union Carbide and Carbon Corp., or equal, to insure a tight bond between the insulation and the braid repair."

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4.3.3, Table I, Requirement paragraph column: Delete "3.3.1" and insert "3.1.1".

4.3.4, delete and substitute:

"4.3.4 Group A inspection. Group A inspection shall consist of the examinations and tests specified in Table II. Statistical sampling and inspection shall be in accordance with MIL-STD-105 using the general inspection levels and the AQL's specified in Table II."

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4.3.6.3, delete and substitute:

"4.3.6.3 Group C failures. Actions required relative to Group C failures shall be as specified in the contract."

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4.4.2, delete sub-paragraph (c) in its entirety.

4.4.4, delete fifth sentence and substitute:

"A specimen of insulated or jacketed conductor at room temperature shall then be placed on the platform, centrally located under the foot, and its diameter shall be read exactly 5 seconds after being so placed."

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4.4.5, delete first sentence and substitute:

"The specimen of jacketed conductor and a mandrel of  $0.090 \pm 0.003$ -inch diameter and  $0.160 \pm 0.005$ -inch diameter for conductor with insulation repairs shall be placed in a cold chamber maintained at a temperature of  $-40^\circ \pm 1^\circ\text{C}$  for a period of  $24 \pm 1$  hours."  
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4.4.12.1, delete second sentence and substitute:

"To qualify, the average tensile strength for each group of samples containing joints shall be not less than 35 percent of the average tensile strength of the strands adjacent to the joints."

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5.1.1.3.3, delete and substitute:

"5.1.1.3.3 Wire dispenser, MX-306A/G with wire. Each dispenser MX-306A/G (covered by MIL-C-10369) with wire shall be packaged method III in accordance with requirements of MIL-P-116. Each dispenser with wire shall be placed within a close-fitting box conforming to PPP-B-636, style RSC-L, W5c. A liner made of fiberboard conforming to PPP-F-320, type CF, class WR, grade W5c, shall be fabricated and applied in conformance with PPP-B-636. Closure of the box shall be in accordance with the appendix to the box specification. In addition, seal all seams and joints with pressure sensitive tape conforming to PPP-T-76 not less than 2 inches wide."

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5.2.1.3, delete and substitute:

"5.2.1.3 Wire dispenser MX-306A/G with wire.

5.2.1.3.1 Palletized load. Wire dispensers MX-306A/G with wire packaged as specified in 5.1.1.3.3 shall be placed on a pallet, load type 1, conforming to MIL-STD-147. A fiberboard cap shall be employed over the load having two sides extending down the stacked load at least 12 inches to accommodate marking requirements. The cap shall be fabricated of fiberboard conforming to PPP-F-320, class weather-resistant, W5a. The load shall be "bonded" to the pallet by strapping.

5.2.1.3.2 Less than pallet load. When quantities per destination are less than a pallet load, containers specified in 5.1.1.3.3 shall be reinforced by pressure-sensitive filament tape conforming to PPP-T-97, type IV, as specified in the appendix to the box specification. No further packing shall be required."

5.2.2.3, delete and substitute:

"5.2.2.3 Wire dispenser MX-306A/G with wire. The units packaged as specified in 5.1.1.3.3 shall be packed as specified in 5.2.1.3."

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6.5, new paragraph to be added.

"6.5 Jacketing material. Zytel 3606 NC-10 and Allied Chemical 8225BK103 were selected as the most superior jacketing compounds for WD-1/TT field wire after exhaustive tests on different polyamides were conducted on finished wire to determine:

(a) Resistance to cracking (mandrel wrap test at  $-40^{\circ}\text{C}$ ) after being subjected to extended outdoor weathering.

(b) Resistance to scuffing.

Results indicated that Zytel 3606 NC-10 and Allied Chemical 8225BK103 far exceeded all other known candidates which were tested as 'or equal'. In this regard, 'or equal' shall constitute at least an equal response to Zytel 3606 NC-10 or Allied Chemical 8225BK103 in long time outdoor weathering followed by a  $-40^{\circ}\text{C}$  mandrel wrap test (single finished conductor over a 0.090 inch diameter mandrel), and an equal response to scuffing."

**Custodian:**

Army EL  
Navy YD  
Air Force 80

**Preparing activity:**

Army EL  
Project No. 6145-0687

**Review:**

Army MI  
Navy YD  
Air Force 80  
DSA IS  
NSA

**User:**

Army ME  
Navy MC  
Air Force 17

