

INCH-POUND

MIL-W-16878/13B(NAVY)

11 September 1992

SUPERSEDING

MIL-W-16878/13A(NAVY)

10 August 1981

# MILITARY SPECIFICATION SHEET

WIRE, ELECTRICAL, FLUORINATED ETHYLENE PROPYLENE  
(FEP) INSULATED, 200°C, 250 VOLTS

This specification is approved for use by the Department of the Navy and is available for use by all Departments and Agencies of the Department of Defense.

The requirements for acquiring the product described herein shall consist of this specification sheet and the issue of the following specification listed in that issue of the Department of Defense Index of Specifications and Standards (DODISS) specified in the solicitation: MIL-W-16878.

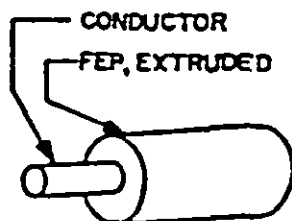


FIGURE 1. Construction.

AMSC N/A

FSC 6145

DISTRIBUTION STATEMENT A. Approved for public release; distribution is unlimited.

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TABLE I. Construction details.

PIN 3/	Wire size	Strand-ing	Conductor		Conductor diameter (nominal) (inch)	Finished wire diameter (inch)	
			Material 2/	Coating		Min	Max
M16878/13-BAA*	32	1 X 32	Copper	Silver	0.0080	0.018	0.022
M16878/13-CAA*	32	1 X 32	C.C. steel	Silver	.0080	.018	.022
M16878/13-BAB*	32	7 X 40	Copper	Silver	.010	.020	.024
M16878/13-BBA*	30	1 X 30	Copper	Silver	.0100	.020	.024
M16878/13-CBA*	30	1 X 30	C.C. steel	Silver	.0100	.020	.024
M16878/13-BBB*	30	7 X 38	Copper	Silver	.012	.022	.026
M16878/13-BCA*	28	1 X 28	Copper	Silver	.0126	.023	.027
M16878/13-CCA*	28	1 X 28	C.C. steel	Silver	.0126	.023	.027
M16878/13-BCB*	28	7 X 36	Copper	Silver	.015	.025	.029
M16878/13-BDA*	26	1 X 26	Copper	Silver	.0159	.026	.030
M16878/13-CDA*	26	1 X 26	C.C. steel	Silver	.0159	.026	.030
M16878/13-BDB*	26	7 X 34	Copper	Silver	.019	.029	.033
M16878/13-BDE*	26	19 X 38	Copper	Silver	.020	.029	.033
M16878/13-BEA*	24	1 X 24	Copper	Silver	.0201	.030	.034
M16878/13-CEA*	1/ 24	1 X 24	C.C. steel	Silver	.0201	.030	.034
M16878/13-BEB*	24	7 X 32	Copper	Silver	.024	.034	.038
M16878/13-BEE*	24	19 X 36	Copper	Silver	.025	.034	.038
M16878/13-BFA*	22	1 X 22	Copper	Silver	.0254	.035	.040
M16878/13-CFA*	1/ 22	1 X 22	C.C. steel	Silver	.0254	.035	.040
M16878/13-BFB*	22	7 X 30	Copper	Silver	.030	.040	.044
M16878/13-BFE*	22	19 X 34	Copper	Silver	.032	.040	.044
M16878/13-BGA*	20	1 X 20	Copper	Silver	.0320	.042	.046
M16878/13-BGB*	20	7 X 28	Copper	Silver	.038	.048	.052
M16878/13-BGE*	20	19 X 32	Copper	Silver	.040	.048	.052

1/ Inactive for new design.

2/ C.C. stands for copper-clad.

3/ PIN stands for part or identifying number.

## ADDITIONAL REQUIREMENTS:

Visual and mechanical examination: Required.

Spark test: 2.5 kV.

Impulse dielectric test: 4.0 kV.

Dielectric withstanding voltage: 1.5 kV.

Insulation resistance:  $IR = K \log_{10} D/d$ 

Where: IR - Minimum insulation resistance in megohms per 1000 feet at 20°C.

K - 50,000.

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- D - Maximum average diameter of finished wire.  
d - Conductor diameter.

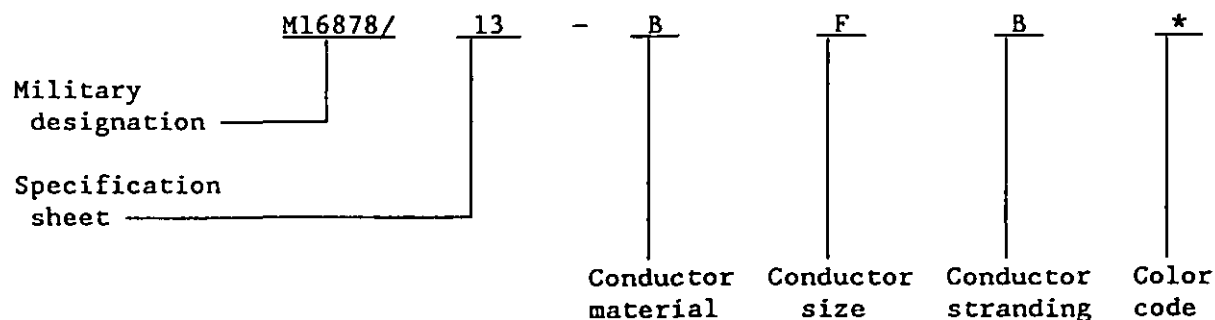
Cold bend: Condition 4 hours at minus  $65 \pm 1^{\circ}\text{C}$  (see table II).

TABLE II. Cold bend mandrel sizes.

Wire size	Cold bend mandrel (maximum diameter in inches)
32 through 20	1

Concentricity: 70 percent (minimum).  
Surface resistance: Not required.  
Wrap back: Not required.  
Heat resistance: Condition at  $230^{\circ}\text{C}$ .  
Flammability: Meets requirements of UL VW1 Flame Test.  
Toxicity: Meets requirements of concentration levels specified in MIL-E-917.  
Shrinkage: Required.  
Heat aging: Not required.  
Insulation tensile strength: 2000 pounds force per square inch (minimum).  
Insulation elongation: 100 percent (minimum).  
Marking and stripe durability: Required.  
Fungus resistance: Not required.  
Maximum dc resistance of finished wire: See table I of MIL-W-16878.  
Identification of product: Not required.

PIN example (see MIL-W-16878):



Revision letters are not used to denote changes due to the extensiveness of the changes.

Preparing activity:  
Navy - SH  
(Project 6145-N330-12)