

INCH-POUND

MIL-DTL-16878/14B  
11 August 2000  
SUPERSEDING  
MIL-W-16878/14A(NAVY)  
11 September 1992

DETAIL SPECIFICATION SHEET

WIRE, ELECTRICAL,  
CROSSLINKED, MODIFIED POLYETHYLENE (XLPE) INSULATED,  
125 °C, 600 VOLTS

This specification is approved 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 MIL-DTL-16878G.

REQUIREMENTS.

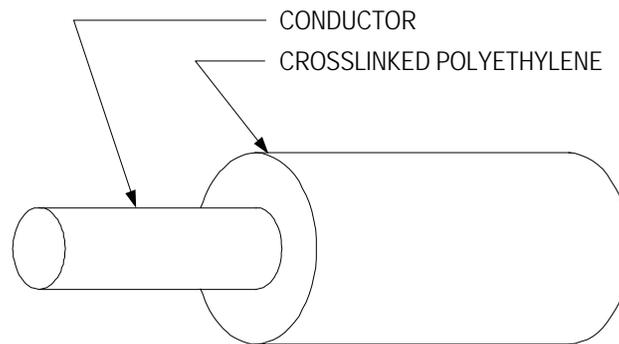


FIGURE 1. Wire configuration.

TABLE I. Wire configuration and dimensions.

PIN <sup>1/</sup>	Wire size	Stranding	Conductor		Conductor diameter (nominal) (inch)	Finished wire diameter (inch)	
			Material	Coating		Min	Max
M16878/14BAA*	32	1 X 32	Copper	Tin	.0080	.024	.030
M16878/14BAB*	32	7 X 40	Copper	Tin	.0100	.026	.032
M16878/14BBA*	30	1 X 30	Copper	Tin	.0100	.026	.032
M16878/14BBB*	30	7 X 38	Copper	Tin	.0120	.028	.034
M16878/14BCA*	28	1 X 28	Copper	Tin	.0126	.029	.035
M16878/14BCB*	28	7 X 36	Copper	Tin	.0150	.031	.037
M16878/14BDA*	26	1 X 26	Copper	Tin	.0159	.032	.038
M16878/14BDB*	26	7 X 34	Copper	Tin	.0190	.035	.041
M16878/14BDE*	26	19 X 38	Copper	Tin	.0200	.035	.041
M16878/14BEA*	24	1 X 24	Copper	Tin	.0201	.036	.044
M16878/14BEB*	24	7 X 32	Copper	Tin	.0240	.040	.047
M16878/14BEE*	24	19 X 36	Copper	Tin	.0250	.040	.047
M16878/14BFA*	22	1 X 22	Copper	Tin	.0254	.041	.0499
M16878/14BFB*	22	7 X 30	Copper	Tin	.0300	.046	.053
M16878/14BFE*	22	19 X 34	Copper	Tin	.0320	.046	.053
M16878/14BGA*	20	1 X 20	Copper	Tin	.0320	.048	.055
M16878/14BGB*	20	7 X 28	Copper	Tin	.0380	.054	.061
M16878/14BGE*	20	19 X 32	Copper	Tin	.0400	.054	.061
M16878/14BHA*	18	1 X 18	Copper	Tin	.0403	.056	.064
M16878/14BHB*	18	7 X 26	Copper	Tin	.0480	.064	.071
M16878/14BHE*	18	19 X 30	Copper	Tin	.0500	.064	.071
M16878/14BJA*	16	1 X 16	Copper	Tin	.0508	.067	.075
M16878/14BJE*	16	19 X 29	Copper	Tin	.0570	.073	.081
M16878/14BKA*	14	1 X 14	Copper	Tin	.0641	.080	.088
M16878/14BKE*	14	19 X 27	Copper	Tin	.0720	.088	.096

Notes:

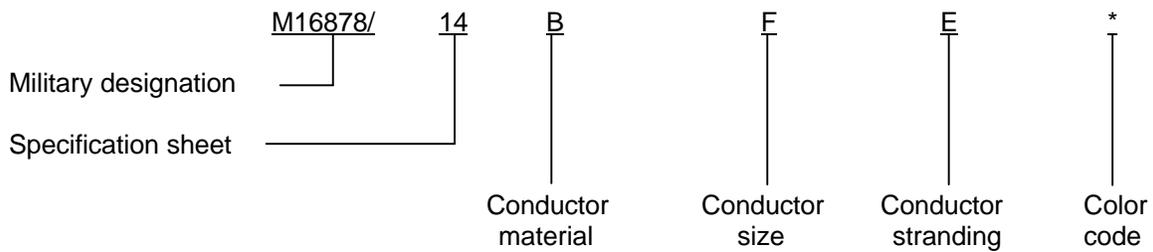
<sup>1/</sup> PIN stands for part or identifying number (see figure 2).

FIGURE 2. Example of PIN (see MIL-DTL-16878G).

Configuration and dimensions: See figure 1 and table I  
 Operating voltage: Up to 600 volts  
 Operating temperature: Up to 125 °C  
 Insulation: Crosslinked modified polyethylene (XLPE)  
 Spark test voltage: 3.4 kV  
 Impulse dielectric test voltage: 8.0 kV, or 5.7 kV using the 3.0 kHz spark test  
 Dielectric withstanding voltage: 2.0 kV  
 Insulation resistance:  $IR = K \log_{10} D/d$   
 Where: IR = Minimum insulation resistance in megohms  
           per 1000 feet at 20 °C  
           K = 10,000  
           D = Maximum average diameter of finished wire  
           d = Conductor diameter  
 Cold bend: Condition 4 hours at -55±1 °C (see table II)

TABLE II. Cold bend mandrel sizes.

Wire size	Cold bend mandrel diameter (inches, maximum)
32 through 26	1
24 through 14	2

Surface resistance: Not required  
 Heat resistance: Condition at 150 °C  
 Heat aging: 25 percent change (maximum) in 96 hours at 135 °C  
 Insulation tensile strength: 1800 pounds force per square inch (minimum)  
 Insulation elongation: 100 percent (minimum)  
 Marking and stripe durability: Not required

CHANGES FROM PREVIOUS ISSUE. Marginal notations are not used in this revision to identify changes with respect to the previous issues due to the extensiveness of the changes.

CONCLUDING MATERIAL

Custodians:  
 Navy - SH  
 Air Force - 11  
 DLA - CC

Preparing activity:  
 DLA - CC  
 (Project 6145-2193-007)

Review activity:  
 Navy - AS