

INCH-POUND
MIL-DTL-16878/14B
w/AMENDMENT 1
12 January 2016
SUPERSEDING
MIL-DTL-16878/14B
11 August 2000

DETAIL SPECIFICATION SHEET

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

Inactive for new design after 08 December 2014. For new design, use
National Electrical Manufacturers Association (NEMA) HP 5.

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-16878.

REQUIREMENTS.

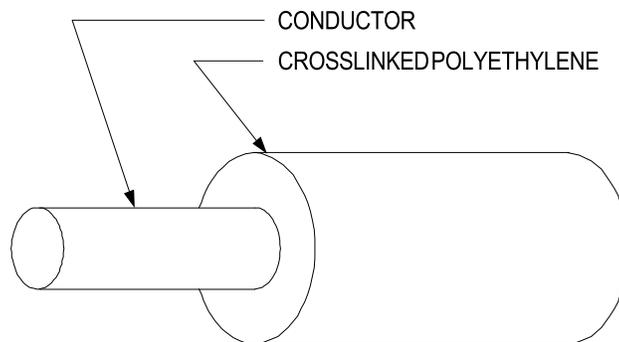


FIGURE 1. Wire configuration.



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TABLE I. Wire configuration and dimensions.

PIN ^{1/} ₋	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:

^{1/} PIN stands for part or identifying number (see figure 2).

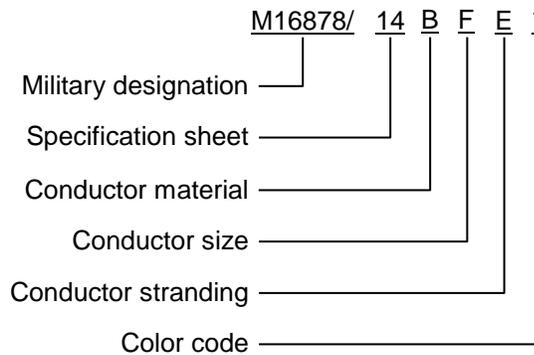


FIGURE 2. Example of PIN (see MIL-DTL-16878).

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Configuration and dimensions: See figure 1 and table I
 Operating voltage: Up to 600 volts
 Operating temperature: Up to 125 degrees 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-1000 feet at 20 degrees C
 K = 10,000
 D = Maximum average diameter of finished wire
 d = Conductor diameter

Cold bend: Condition 4 hours at -55±1 degrees 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 degrees C
 Heat aging: 25 percent change (maximum) in 96 hours at 135 degrees C
 Insulation tensile strength: 1800 pounds force per square inch (minimum)
 Insulation elongation: 100 percent (minimum)
 Marking and stripe durability: Not required

Amendment notations. The margins of this specification are marked with vertical lines to indicate modifications generated by this amendment. This was done as a convenience only and the Government assumes no liability whatsoever for any inaccuracies in these notations. Bidders and contractors are cautioned to evaluate the requirements of this document based on the entire content irrespective of the marginal notations.

Referenced documents: This document references MIL-DTL-16878.

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CONCLUDING MATERIAL

Custodians:

Navy - SH
Air Force - 85
DLA - CC

Preparing activity:
DLA - CC

(Project 6145-2015-040)

Review activity:

Navy – AS, 99

NOTE: The activities listed above were interested in this document as of the date of this document. Since organizations and responsibilities can change, you should verify the currency of the information above using the ASSIST Online database at <https://assist.dla.mil>.