INCH-POUND

MIL-DTL-16878/17B
11 August 2000
SUPERSEDING
MIL-W-16878/17A(NAVY)
11 September 1992

DETAIL SPECIFICATION SHEET

WIRE, ELECTRICAL, POLYVINYL CHLORIDE (PVC) INSULATED, POLYAMIDE JACKET, 105 °C, 600 VOLTS (NOT FOR NAVY SHIPBOARD USE)

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.

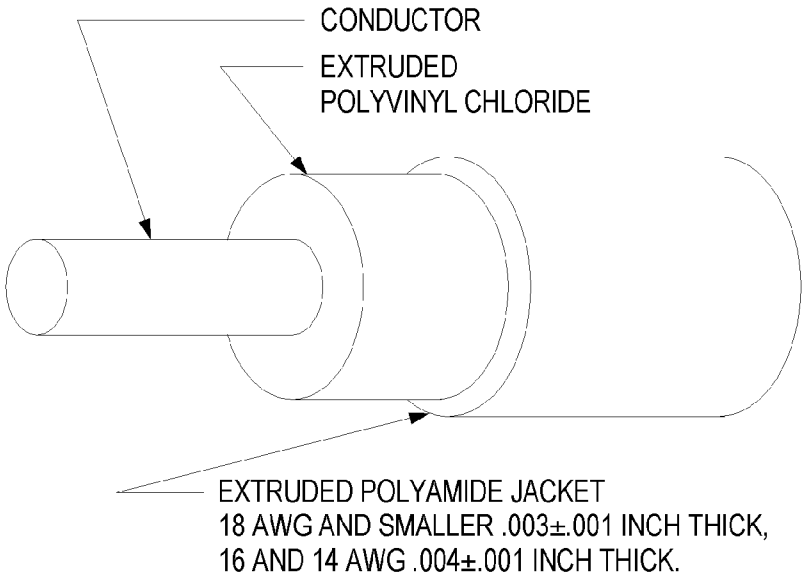

FIGURE 1. Wire configuration.

Note: Not for Navy shipboard use or use in aerospace applications.

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

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TABLE I. Wire configuration details.

PIN [1/]	Wire size	Stranding	Conductor		Conductor diameter (nominal) (inch)	Finished wire diameter (inch)	
			Material [2/, 3/]	Coating		Min	Max
M16878/17BAA*	32	1 X 32	Copper	Tin	.0080	.028	.038
M16878/17DAA*	32	1 X 32	H.S.C.A	Silver	.0080	.028	.038
M16878/17CAA*	32	1 X 32	C.C. steel	Tin	.0080	.028	.038
M16878/17BAB*	32	7 X 40	Copper	Tin	.0100	.030	.040
M16878/17DAB*	32	7 X 40	H.S.C.A	Silver	.0100	.030	.040
M16878/17BBA*	30	1 X 30	Copper	Tin	.0100	.030	.040
M16878/17DBA*	30	1 X 30	H.S.C.A	Silver	.0100	.030	.040
M16878/17CBA*	30	1 X 30	C.C. steel	Tin	.0100	.030	.040
M16878/17BBB*	30	7 X 38	Copper	Tin	.0120	.032	.042
M16878/17DBB*	30	7 X 38	H.S.C.A	Silver	.0120	.032	.042
M16878/17BCA*	28	1 X 28	Copper	Tin	.0126	.033	.043
M16878/17DCA*	28	1 X 28	H.S.C.A	Silver	.0126	.033	.043
M16878/17CCA*	28	1 X 28	C.C. steel	Tin	.0126	.033	.043
M16878/17BCB*	28	7 X 36	Copper	Tin	.0150	.035	.045
M16878/17DCB*	28	7 X 36	H.S.C.A	Silver	.0150	.035	.045
M16878/17BDA*	26	1 X 26	Copper	Tin	.0159	.036	.046
M16878/17DDA*	26	1 X 26	H.S.C.A	Silver	.0159	.036	.046
M16878/17CDA*	26	1 X 26	C.C. steel	Tin	.0159	.036	.046
M16878/17BDB*	26	7 X 34	Copper	Tin	.0190	.039	.049
M16878/17DDB*	26	7 X 34	H.S.C.A	Silver	.0190	.039	.049
M16878/17BDE*	26	19 X 38	Copper	Tin	.0210	.039	.049
M16878/17DDE*	26	19 X 38	H.S.C.A	Silver	.0210	.039	.049
M16878/17BEA*	24	1 X 24	Copper	Tin	.0201	.040	.051
M16878/17DEA*	24	1 X 24	H.S.C.A	Silver	.0201	.040	.051
M16878/17CEA*	24	1 X 24	C.C. steel	Tin	.0201	.040	.051
M16878/17BEB*	24	7 X 32	Copper	Tin	.0240	.044	.055
M16878/17DEB*	24	7 X 32	H.S.C.A	Silver	.0240	.044	.055
M16878/17BEE*	24	19 X 36	Copper	Tin	.0260	.044	.055
M16878/17DEE*	24	19 X 36	H.S.C.A	Silver	.0260	.044	.055
M16878/17BFA*	22	1 X 22	Copper	Tin	.0253	.045	.056
M16878/17DFA*	22	1 X 22	H.S.C.A	Silver	.0253	.045	.056
M16878/17CFA*	22	1 X 22	C.C. steel	Tin	.0253	.045	.056
M16878/17BFB*	22	7 X 30	Copper	Tin	.0300	.050	.061
M16878/17DFB*	22	7 X 30	H.S.C.A	Silver	.0300	.050	.061
M16878/17BFE*	22	19 X 34	Copper	Tin	.0320	.050	.061
M16878/17DFE*	22	19 X 34	H.S.C.A	Silver	.0320	.050	.061
M16878/17BGA*	20	1 X 20	Copper	Tin	.0320	.052	.063

TABLE I. Wire configuration details - Continued.

PIN 1/	Wire size	Stranding	Conductor		Conductor Diameter (nominal) (inch)	Finished wire diameter (inch)	
			Material 2/, 3/	Coating		Min	Max
M16878/17DGA*	20	1 X 20	H.S.C.A	Silver	.0320	.052	.063
M16878/17BGB*	20	7 X 28	Copper	Tin	.0380	.058	.069
M16878/17DGB*	20	7 X 28	H.S.C.A	Silver	.0380	.058	.069
M16878/17BGC*	20	10 X 30	Copper	Tin	.0380	.058	.069
M16878/17DGC*	20	10 X 30	H.S.C.A	Silver	.0380	.058	.069
M16878/17BGE*	20	19 X 32	Copper	Tin	.0410	.058	.069
M16878/17BHA*	18	1 X 18	Copper	Tin	.0403	.060	.072
M16878/17BHB*	18	7 X 26	Copper	Tin	.0490	.069	.080
M16878/17BHE*	18	19 X 30	Copper	Tin	.0510	.069	.080
M16878/17BJA*	16	1 X 16	Copper	Tin	.0508	.072	.084
M16878/17BJE*	16	19 X 29	Copper	Tin	.0590	.080	.092
M16878/17BJF*	16	26 X 30	Copper	Tin	.0620	.083	.095
M16878/17BKA*	14	1 X 14	Copper	Tin	.0641	.085	.097
M16878/17BKE*	14	19 X 27	Copper	Tin	.0720	.093	.105

Notes:
1/ PIN stands for part or identifying number (see figure 2).
2/ H.S.C.A. stands for high-strength copper alloy.
3/ C.C. stands for copper-clad.

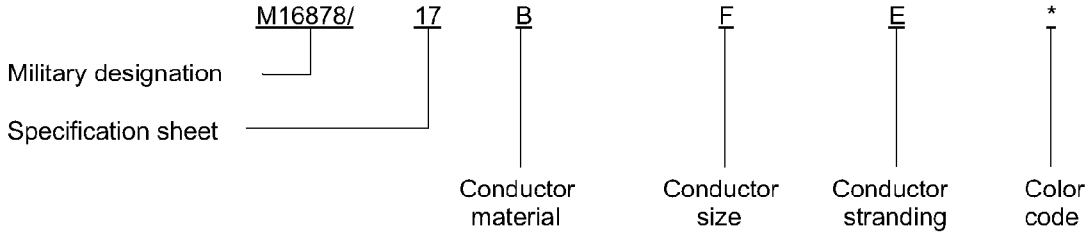

FIGURE 2. Example of PIN (see MIL-DTL-16878G).

Configuration and dimensions:	See figure 1 and table I
Operating voltage:	Up to 600 volts
Operating temperature:	Up to 105 °C
Insulation:	Polyvinyl chloride (PVC)
Jacket:	Extruded polyamide
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 = 2,000
D = Maximum average diameter of finished wire
d = Conductor diameter

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Cold bend: Condition 4 hours at -54±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. Cracking of the jacket shall constitute a failure.
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)

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

Review activity:
Navy - AS

Preparing activity:
DLA - CC

(Project 6145-2193-010)