

MIL-W-16878 wire

MIL-W-16878 (NEMA HP3, HP4) wires are general-purpose, medium and high-temperature hookup wires, with PTFE or FEP insulation. Each insulation type is available in thin, medium, or heavy wall thickness, for voltage ratings from 250 to 1,000 volts.

Conductor choices within MIL-W-16878 are solid or stranded copper, high-strength copper alloy, or copper-covered steel; with silver, nickel, or tin plating.

Construction characteristics—MIL-W-16878 wires

MIL-W-16878 Slant Sheet	Type	Voltage	Insulation Material	Insulation Wall Thickness	Conductor Plating	Temperature Rating (Max.)	Page
MIL-W-16878/4	E	600	PTFE (Extruded)	.010	Silver	200	23
MIL-W-16878/5	EE	1,000	PTFE (Extruded)	.015	Silver	200	24
MIL-W-16878/6	ET	250	PTFE (Extruded)	.006	Silver	200	25
MIL-W-16878/11	K	600	FEP (Extruded)	.010	Silver	200	26***
MIL-W-16878/12	KK	1,000	FEP (Extruded)	.015	Silver	200	27***
MIL-W-16878/13	KT	250	FEP (Extruded)	.006	Silver	200	28***
MIL-W-16878/20	—	250	PTFE (Tape)	.006	Silver	200	**
MIL-W-16878/21	—	600	PTFE (Tape)	.010	Silver	200	**
MIL-W-16878/22	—	1,000	PTFE (Tape)	.015	Silver	200	**
MIL-W-16878/23	ET	250	PTFE (Extruded)	.006	Nickel	260	**
MIL-W-16878/24	—	250	PTFE (Tape)	.006	Nickel	260	**
MIL-W-16878/25	E	600	PTFE (Extruded)	.010	Nickel	260	**
MIL-W-16878/26	—	600	PTFE (Tape)	.010	Nickel	260	**
MIL-W-16878/27	EE	1,000	PTFE (Extruded)	.015	Nickel	260	**
MIL-W-16878/28	—	1,000	PTFE (Tape)	.015	Nickel	260	**

Temperature in °C. Wall thickness in inches. All values are nominal unless otherwise indicated.

** Contact factory for availability. *** Commercial equivalents (with tin-plated copper conductor). MIL-spec versions available.

MIL-W-16878 part numbering and example

MIL-W-16878/5 B C B 903

Insulation color, followed by color for up to two stripes.

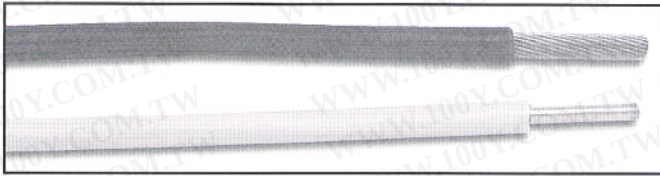
Conductor material	
Letter	Material
B	Coated copper
C	Coated copper-clad steel
D	Coated high-strength copper alloy

Conductor size			
Letter	AWG	Letter	AWG
A	32	M	10
B	30	N	8
C	28	P	6
D	26	R	4
E	24	S	2
F	22	T	1
G	20	U	0
H	18	W	2/0
J	16	Y	3/0
K	14	Z	4/0
L	12		

Conductor stranding			
Letter	Strands	Letter	Strands
A	1	L	133
B	7	M	168
C	10	N	259
D	16	P	665
E	19	R	817
F	26	S	1045
G	37	T	1330
H	41	V	1672
J	65	W	2109
K	105		

Color code	
Number	Color
0	Black
1	Brown
2	Red
3	Orange
4	Yellow
5	Green
6	Blue
7	Violet
8	Gray
9	White

MIL-W-16878/4 (Type E) wire—medium-wall extruded PTFE insulation



Construction Details

Insulation: Extruded PTFE, wall thickness .010 (.25 mm).

Conductor: Silver-plated copper.

Colors: Color coded to MIL-STD-104 (See page 22).

Options: Nickel-plated copper conductor; silver or nickel-plated high-strength copper alloy conductor; sodium naphthalene etched insulation for bondability. Also available to NEMA HP-3-EX.

Ordering Information: Specify Thermax part number, M16878 number, and color.

To order with optional conductor materials:

For silver-plated high-strength copper conductor, change **TE** in Thermax part number to **TETF**.

For nickel-plated copper conductor, change **TE** in Thermax part number to **TEN**.

For nickel-plated high-strength copper conductor, change **TE** in Thermax part number to **TETFN**.

MIL-W-16878/4 (type E) wires have extruded PTFE insulation (medium wall thickness) for high-temperature applications. PTFE insulation offers high reliability with excellent thermal stability and chemical resistance.

For heavy-wall (type EE) versions of these wires, see M16878/5 (following page); for thin-wall (type ET) versions, see M16878/6 (page 25).

Performance:

Voltage rating: 600V.

Temperature rating: Silver-plated conductor: -55 to 200° C;
Nickel-plated conductor: -55 to 260° C.

Dimensions, Resistance, and Weights—M16878/4

M16878 P/N**	AWG Size	Stranding	Conductor Diameter	Insulation Diameter		Weight	Maximum Resistance	Thermax P/N
				Minimum	Maximum			
M16878/4 BMG-*	10	37/26	.108 (2.74)	.127 (3.23)	.141 (3.58)	34.9 (51.9)	1.19 (3.90)	10-TE-3726
M16878/4 BLE-*	12	19/25	.084 (2.13)	.107 (2.72)	.121 (3.07)	22.6 (33.6)	1.81 (5.94)	12-TE-1925
M16878/4 BKE-*	14	19/27	.067 (1.70)	.088 (2.24)	.102 (2.59)	14.7 (21.9)	2.88 (9.45)	14-TE-1927
M16878/4 BJE-*	16	19/29	.053 (1.35)	.073 (1.85)	.087 (2.21)	9.77 (14.5)	4.53 (14.8)	16-TE-1929
M16878/4 BJA-*	16	SOLID	.051 (1.30)	.067 (1.70)	.081 (2.06)	9.80 (14.6)	6.60 (21.6)	16-TE-116
M16878/4 BHE-*	18	19/30	.047 (1.19)	.064 (1.63)	.074 (1.88)	7.60 (11.3)	5.79 (19.0)	18-TE-1930
M16878/4 BHB-*	18	7/26	.048 (1.22)	.064 (1.63)	.074 (1.88)	7.52 (11.2)	6.28 (20.6)	18-TE-726
M16878/4 BHA-*	18	SOLID	.040 (1.02)	.056 (1.42)	.066 (1.68)	6.50 (9.67)	4.20 (13.8)	18-TE-118
M16878/4 BGE-*	20	19/32	.038 (.97)	.054 (1.37)	.062 (1.57)	5.12 (7.62)	9.19 (30.1)	20-TE-1932
M16878/4 BGB-*	20	7/28	.038 (.97)	.054 (1.37)	.062 (1.57)	5.05 (7.52)	10.0 (32.8)	20-TE-728
M16878/4 BGA-*	20	SOLID	.032 (.81)	.048 (1.22)	.056 (1.42)	4.34 (6.46)	10.5 (34.4)	20-TE-120
M16878/4 BFE-*	22	19/34	.030 (.76)	.046 (1.17)	.054 (1.37)	3.47 (5.16)	15.1 (49.5)	22-TE-1934
M16878/4 BFB-*	22	7/30	.030 (.76)	.046 (1.17)	.054 (1.37)	3.44 (5.12)	15.9 (52.2)	22-TE-730
M16878/4 BFA-*	22	SOLID	.025 (.64)	.041 (1.04)	.049 (1.24)	2.95 (4.39)	17.0 (55.8)	22-TE-122
M16878/4 BEE-*	24	19/36	.024 (.61)	.040 (1.02)	.048 (1.22)	2.44 (3.63)	24.3 (79.7)	24-TE-1936
M16878/4 BEB-*	24	7/32	.024 (.61)	.040 (1.02)	.048 (1.22)	2.44 (3.63)	25.2 (82.7)	24-TE-732
M16878/4 BEA-*	24	SOLID	.020 (.51)	.036 (.91)	.044 (1.12)	2.09 (3.11)	26.8 (87.9)	24-TE-124
M16878/4 BDE-*	26	19/38	.019 (.48)	.035 (.89)	.043 (1.09)	1.83 (2.72)	38.4 (126)	26-TE-1938
M16878/4 BDB-*	26	7/34	.019 (.48)	.035 (.89)	.043 (1.09)	1.74 (2.59)	40.5 (133)	26-TE-734
M16878/4 BDA-*	26	SOLID	.016 (.41)	.032 (.81)	.040 (1.02)	1.51 (2.25)	42.7 (140)	26-TE-126
M16878/4 REF	28	19/40	.015 (.38)	.031 (.79)	.039 (.99)	1.33 (1.98)	63.1 (207)	28-TE-1940
M16878/4 BCB-*	28	7/36	.015 (.38)	.031 (.79)	.039 (.99)	1.28 (1.90)	63.8 (209)	28-TE-736
M16878/4 BCA-*	28	SOLID	.013 (.33)	.029 (.74)	.037 (.94)	1.14 (1.70)	68.0 (223)	28-TE-128
M16878/4 REF	30	19/42	.012 (.31)	.028 (.71)	.036 (.91)	1.01 (1.50)	96.1 (315)	30-TE-1942
M16878/4 BBB-*	30	7/38	.012 (.31)	.028 (.71)	.036 (.91)	.990 (1.47)	101 (330)	30-TE-738
M16878/4 BBA-*	30	SOLID	.010 (.25)	.026 (.66)	.034 (.86)	.880 (1.31)	108 (354)	30-TE-130
M16878/4 REF	32	19/44	.010 (.25)	.026 (.66)	.034 (.86)	.830 (1.24)	153 (502)	32-TE-3726
M16878/4 BAB-*	32	7/40	.009 (.23)	.026 (.66)	.034 (.86)	.790 (1.18)	173 (567)	32-TE-1944
M16878/4 BAA-*	32	SOLID	.008 (.20)	.025 (.64)	.033 (.84)	.610 (.908)	169 (554)	32-TE-132
M16878/4 REF	34	7/42	.008 (.20)	.024 (.61)	.032 (.81)	.660 (.982)	258 (846)	34-TE-742
M16878/4 REF	36	7/44	.006 (.15)	.022 (.56)	.030 (.76)	.540 (.804)	412 (1351)	36-TE-744

Dimensions in inches (mm). Weights in pounds/1000 feet (Kg/1000 m). Resistance in Ω /1,000 feet (Ω /Km), @20° C.

* Add color coding per MIL-STD-104 (see page 22). ** Complies with the latest issue of MIL-W-16878 having no surface marking, and NEMA HP-3. All values are nominal unless otherwise indicated.

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Item # 20-TE-1932 MIL-W-16878/4 (Type E) wire , Medium-wall extruded PTFE insulation



MIL-W-16878/4 (Type E) wire , Medium-wall extruded PTFE insulation

MIL-W-16878/4 (type E) wires have extruded PTFE insulation (medium wall thickness) for high- temperature applications. PTFE insulation offers high reliability with excellent thermal stability and chemical resistance.

Specifications

Voltage rating – volts/電壓	600
Temperature rating °C/溫度	-55 to 200
Insulation/絕緣	Extruded PTFE, wall thickness .010 (.25 mm).
Conductor/導體	Silver-Plated Copper
Conductor Size (AWG) 導體線號	20
Conductor Diameter - inches (mm) 導體線徑	.038 (.97)
Stranding 導體線數	19/32
Insulation Diameter Minimum - inches (mm) 絕緣體線徑最小值	.054 (1.37)
Insulation Diameter Maximum - inches (mm) 絕緣體線徑最大值	.062 (1.57)
Weight - pounds/1000 feet (Kg/1000m)重量	5.12 (7.62)
Maximum Resistance Ohm/1,000 feet (ohm/Km), @ 20°C 最大阻抗	9.19 (30.1)
Options 選擇	Nickel-plated copper conductor; silver or nickel-plated high-strength copper alloy conductor; sodium naphthalene etched insulation for bondability. Also available to NEMA HP-3-EX. 鍍鎳層的銅導體；銀或鍍鎳層的高強度銅合金導體；鈉 naphthalene etched 絕緣 for bondability. 並且對 NEMA HP-3-EX 有效。

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