

# 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	27
MIL-W-16878/5	EE	1,000	PTFE (Extruded)	.015	Silver	200	28
MIL-W-16878/6	ET	250	PTFE (Extruded)	.006	Silver	200	29
MIL-W-16878/11	K	600	FEP (Extruded)	.010	Silver	200	30***
MIL-W-16878/12	KK	1,000	FEP (Extruded)	.015	Silver	200	31***
MIL-W-16878/13	KT	250	FEP (Extruded)	.006	Silver	200	32***
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.

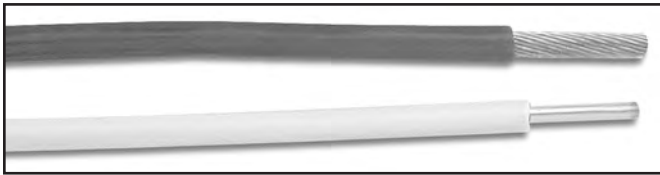
Conductor material	
Letter	Material
B	Coated copper
C	Coated copper-clad steel
D	Coated high-strength copper alloy

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 26).

**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.

**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 29).

## Performance:

**Voltage rating:** 600V.

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

**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**.

## 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 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 26). \*\* Complies with the latest issue of MIL-W-16878 having no surface marking, and NEMA HP-3.

(REF) indicates alternate constructions conforming to, but not specifically contained in, MIL-W-16878. All values are nominal unless otherwise indicated.

# MIL-W-16878/5 (Type EE) wire—heavy-wall extruded PTFE insulation

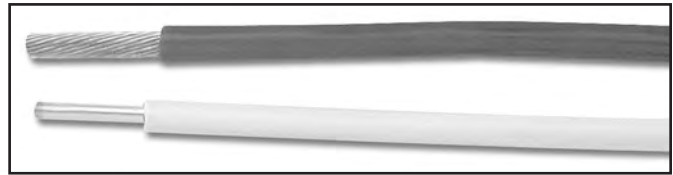
**MIL-W-16878/5 (type EE)** wires have extruded PTFE insulation (heavy wall thickness) for high-temperature applications. PTFE insulation offers high reliability with excellent thermal stability and chemical resistance.

For medium-wall (type E) versions of these wires, see M16878/4 (previous page); for thin-wall (type ET) versions, see M16878/6 (next page).

## Performance:

**Voltage rating:** 1,000V.

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



## Construction Details

**Insulation:** Extruded PTFE, wall thickness .015 (.38 mm).

**Conductor:** Silver-plated copper.

**Colors:** Color coded to MIL-STD-104 (See page 26).

**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-EEX.

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

To order with optional conductor materials:

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

For nickel-plated copper conductor, change **XT** in Thermax part number to **XTN**.

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

## Dimensions, Resistance, and Weights—M16878/5

M16878 P/N**	AWG Size	Stranding	Conductor Diameter	Insulation Diameter		Weight	Maximum Resistance	Thermax P/N
				Minimum	Maximum			
M16878/5 BNL-*	8	133/29	.162 (4.11)	.199 (5.05)	.219 (5.56)	65.9 (98.1)	.658 (2.16)	8-XT-13329
M16878/5 BMG-*	10	37/26	.108 (2.74)	.137 (3.48)	.153 (3.89)	35.3 (52.5)	1.19 (3.90)	10-XT-3726
M16878/5 BLE-*	12	19/25	.084 (2.13)	.117 (2.97)	.133 (3.38)	24.8 (36.9)	1.81 (5.94)	12-XT-1925
M16878/5 BKE-*	14	19/27	.067 (1.70)	.098 (2.49)	.114 (2.90)	16.4 (24.4)	2.88 (9.45)	14-XT-1927
M16878/5 BJE-*	16	19/29	.053 (1.35)	.083 (2.11)	.095 (2.41)	11.1 (16.5)	4.52 (14.8)	16-XT-1929
M16878/5 BJA-*	16	SOLID	.051 (1.30)	.077 (1.96)	.089 (2.26)	10.8 (16.1)	6.60 (21.6)	16-XT-116
M16878/5 BHE-*	18	19/30	.047 (1.19)	.074 (1.88)	.084 (2.13)	8.67 (12.9)	5.79 (19.0)	18-XT-1930
M16878/5 BHB-*	18	7/26	.048 (1.22)	.074 (1.88)	.084 (2.13)	8.10 (12.1)	6.28 (20.6)	18-XT-726
M16878/5 BHA-*	18	SOLID	.040 (1.02)	.066 (1.68)	.076 (1.93)	7.46 (11.1)	4.20 (13.8)	18-XT-118
M16878/5 BGE-*	20	19/32	.038 (.97)	.064 (1.63)	.072 (1.83)	6.10 (9.08)	9.19 (30.1)	20-XT-1932
M16878/5 BGB-*	20	7/28	.038 (.97)	.064 (1.63)	.072 (1.83)	5.84 (8.69)	10.0 (32.8)	20-XT-728
M16878/5 BGA-*	20	SOLID	.032 (.81)	.058 (1.47)	.066 (1.68)	5.22 (7.77)	10.5 (34.4)	20-XT-120
M16878/5 BFE-*	22	19/34	.030 (.76)	.056 (1.42)	.064 (1.63)	4.32 (6.43)	15.1 (49.5)	22-XT-1934
M16878/5 BFB-*	22	7/30	.030 (.76)	.056 (1.42)	.064 (1.63)	4.18 (6.22)	15.9 (52.2)	22-XT-730
M16878/5 BFA-*	22	SOLID	.025 (.64)	.051 (1.30)	.060 (1.52)	3.74 (5.57)	17.0 (55.8)	22-XT-122
M16878/5 BEE-*	24	19/36	.024 (.61)	.050 (1.27)	.058 (1.47)	3.18 (4.73)	24.3 (79.7)	24-XT-1936
M16878/5 BEB-*	24	7/32	.024 (.61)	.050 (1.27)	.058 (1.47)	3.12 (4.64)	25.2 (82.7)	24-XT-732
M16878/5 BEA-*	24	SOLID	.020 (.51)	.046 (1.17)	.054 (1.37)	2.80 (4.17)	26.8 (87.9)	24-XT-124
M16878/5 BDE-*	26	19/38	.019 (.48)	.045 (1.14)	.053 (1.35)	2.48 (3.69)	38.4 (126)	26-XT-1938
M16878/5 BDB-*	26	7/34	.019 (.48)	.045 (1.14)	.053 (1.35)	2.40 (3.57)	40.5 (133)	26-XT-734
M16878/5 BDA-*	26	SOLID	.016 (.41)	.042 (1.07)	.050 (1.27)	2.16 (3.21)	42.7 (140)	26-XT-126
M16878/5 (REF)	28	19/40	.015 (.38)	.041 (1.04)	.049 (1.24)	1.95 (2.90)	63.1 (207)	28-XT-1940
M16878/5 BCB-*	28	7/36	.015 (.38)	.041 (1.04)	.049 (1.24)	1.89 (2.81)	63.8 (209)	28-XT-736
M16878/5 BCA-*	28	SOLID	.013 (.33)	.039 (.99)	.047 (1.19)	1.74 (2.59)	68.1 (223)	28-XT-128
M16878/5 (REF)	30	19/42	.012 (.31)	.038 (.97)	.046 (1.17)	1.60 (2.38)	96.1 (315)	30-XT-1942
M16878/5 BBB-*	30	7/38	.012 (.31)	.038 (.97)	.046 (1.17)	1.55 (2.31)	101 (330)	30-XT-738
M16878/5 BBA-*	30	SOLID	.010 (.25)	.036 (.91)	.044 (1.12)	1.43 (2.13)	108 (354)	30-XT-130
M16878/5 (REF)	32	19/44	.010 (.25)	.036 (.91)	.044 (1.12)	1.34 (1.99)	153 (502)	32-XT-1944
M16878/5 BAB-*	32	7/40	.009 (.23)	.036 (.91)	.044 (1.12)	1.29 (1.92)	173 (567)	32-XT-740
M16878/5 BAA-*	32	SOLID	.008 (.20)	.034 (.87)	.042 (1.07)	1.23 (1.83)	169 (554)	32-XT-132

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 26). \*\* Complies with the latest issue of MIL-W-16878 having no surface marking, and NEMA HP-3.

(REF) indicates alternate constructions conforming to, but not specifically contained in, MIL-W-16878. All values are nominal unless otherwise indicated.

# MIL-W-16878/6 (Type ET) wire—thin-wall extruded PTFE insulation



## Construction Details

**Insulation:** Extruded PTFE, wall thickness .006 (.15 mm).

**Conductor:** Silver-plated copper.

**Colors:** Color coded to MIL-STD-104 (See page 26).

**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-ETX.

**MIL-W-16878/6 (type ET)** wires have extruded PTFE insulation (thin wall thickness) for high-temperature applications and light weight. PTFE insulation offers high reliability with excellent thermal stability and chemical resistance.

For medium-wall (type E) versions of these wires, see M16878/4 (page 27); for heavy-wall (type EE) versions, see M16878/5 (previous page).

## Performance:

**Voltage rating:** 250V.

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

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

To order with optional conductor materials:

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

For nickel-plated copper conductor, change **MT** in Thermax part number to **MTN**.

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

## Dimensions, Resistance, and Weights—M16878/6

M16878 P/N**	AWG Size	Stranding	Conductor Diameter	Insulation Diameter		Weight	Maximum Resistance	Thermax P/N
				Minimum	Maximum			
M16878/6 BGE-*	20	19/32	.038 (.97)	.048 (1.22)	.052 (1.32)	4.60 (6.85)	9.19 (30.1)	20-MT-1932
M16878/6 BGB-*	20	7/28	.038 (.97)	.048 (1.22)	.052 (1.32)	4.24 (6.31)	10.0 (32.8)	20-MT-728
M16878/6 BFE-*	22	19/34	.030 (.76)	.040 (1.02)	.044 (1.12)	3.98 (4.43)	15.1 (49.5)	22-MT-1934
M16878/6 BFB-*	22	7/30	.030 (.76)	.040 (1.02)	.044 (1.12)	2.80 (4.17)	15.9 (52.2)	22-MT-730
M16878/6 BEE-*	24	19/36	.024 (.61)	.034 (.86)	.038 (.97)	2.02 (3.01)	24.3 (79.7)	24-MT-1936
M16878/6 BEB-*	24	7/32	.024 (.61)	.034 (.86)	.038 (.97)	1.90 (2.83)	25.2 (82.7)	24-MT-732
M16878/6 BDE-*	26	19/38	.019 (.48)	.029 (.74)	.033 (.84)	1.40 (2.08)	38.4 (126)	26-MT-1938
M16878/6bdb-*	26	7/34	.019 (.48)	.029 (.74)	.033 (.84)	1.30 (1.93)	40.5 (133)	26-MT-734
M16878/6 BDA-*	26	SOLID	.016 (.41)	.026 (.66)	.030 (.76)	1.16 (1.73)	42.7 (140)	26-MT-126
M16878/6 (REF)	28	19/40	.015 (.38)	.025 (.64)	.029 (.74)	.980 (1.46)	63.1 (207)	28-MT-1940
M16878/6 BCB-*	28	7/36	.015 (.38)	.025 (.64)	.029 (.74)	.910 (1.35)	63.8 (209)	28-MT-736
M16878/6 BCA-*	28	SOLID	.013 (.33)	.023 (.58)	.027 (.69)	.800 (1.19)	68.0 (223)	28-MT-128
M16878/6 (REF)	30	19/42	.012 (.31)	.022 (.56)	.026 (.66)	.680 (1.01)	96.1 (315)	30-MT-1942
M16878/6 BBB-*	30	7/38	.012 (.31)	.022 (.56)	.026 (.66)	.660 (.982)	101 (331)	30-MT-738
M16878/6 BBA-*	30	SOLID	.010 (.25)	.020 (.51)	.024 (.61)	.590 (.878)	108 (354)	30-MT-130
M16878/6 (REF)	32	19/44	.010 (.25)	.020 (.51)	.024 (.61)	.520 (.774)	153 (502)	32-MT-1944
M16878/6 BAB-*	32	7/40	.009 (.23)	.020 (.51)	.024 (.61)	.480 (.714)	173 (567)	32-MT-740
M16878/6 (REF)	32	SOLID	.008 (.20)	.016 (.41)	.022 (.56)	.450 (.670)	169 (554)	32-MT-132
M16878/6 (REF)	34	7/42	.008 (.20)	.015 (.38)	.021 (.53)	.380 (.566)	258 (846)	34-MT-742
M16878/6 (REF)	34	SOLID	.006 (.15)	.014 (.36)	.020 (.51)	.340 (.506)	270 (886)	34-MT-134
M16878/6 (REF)	36	7/44	.006 (.15)	.014 (.36)	.020 (.51)	.300 (.446)	412 (1351)	36-MT-744
M16878/6 (REF)	36	SOLID	.005 (.13)	.013 (.33)	.019 (.48)	.270 (.402)	415 (1361)	36-MT-136
M16878/6 (REF)	38	7/46	.005 (.13)	.013 (.33)	.019 (.48)	.180 (.268)	541 (1774)	38-MT-746
M16878/6 (REF)	38	SOLID	.004 (.10)	.012 (.31)	.018 (.46)	.170 (.253)	648 (2125)	38-MT-138

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

\* Add color coding per MIL-STD-104 (see page 26). \*\*Complies with the latest issue of MIL-W-16878 having no surface marking, and NEMA HP-3.

(REF) indicates alternate constructions conforming to, but not specifically contained in, MIL-W-16878. All values are nominal unless otherwise indicated.

# MIL-W-16878/11 (Type K) equivalent wire—extruded FEP insulation

MIL-W-16878/11 (type K) *equivalent* wires have extruded FEP insulation (medium wall thickness) for high-temperature applications. These wires have tin-plated copper conductors for economy. MIL-spec versions (silver-plated conductors) are also available.

For heavy-wall (type KK) versions of these wires, see M16878/12 equivalent (following page); for thin-wall (type KT) versions, see M16878/13 equivalent (page 32).

## Performance:

**Voltage rating:** 600V.

**Temperature rating:** Tin-plated conductor: -55 to 150° C;  
Silver-plated conductor: -55 to 200° C;  
Nickel-plated conductor: -55 to 200° C.

**Ordering Information:** Specify Thermax part number and color.

To order with optional conductor materials:

For silver-plated copper conductor, change **DXZ** in Thermax part number to **DX**.

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

For nickel-plated copper conductor, change **DXZ** in Thermax part number to **DXN**.

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



## Construction Details

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

**Conductor:** Tin-plated copper.

**Colors:** Color coded to MIL-STD-104 (See page 26).

**Options:** Silver- or nickel-plated copper conductor; silver or nickel-plated high-strength copper alloy conductor; sodium naphthalene etched insulation for bondability. Also available to NEMA HP-4-K.

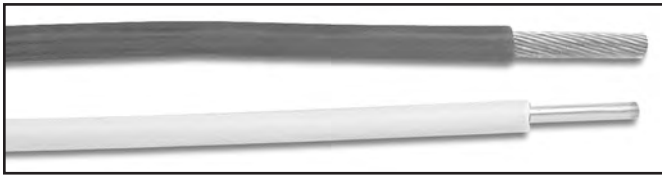
## Dimensions, Resistance, and Weights—M16878/11 equivalent—tin plated conductor

AWG Size	Stranding	Conductor Diameter	Insulation Diameter		Weight	Maximum Resistance	Thermax P/N
			Minimum	Maximum			
8	133/29	.162 (4.11)	.185 (4.70)	.199 (5.05)	63.6 (9.46)	.658 (2.16)	8-DXZ-13329
10	37/26	.108 (2.74)	.127 (3.23)	.141 (3.58)	33.1 (4.93)	1.26 (4.13)	10-DXZ-3726
12	19/25	.084 (2.13)	.107 (2.72)	.121 (3.07)	23.7 (3.53)	1.92 (6.30)	12-DXZ-1925
14	19/27	.067 (1.70)	.088 (2.24)	.102 (2.59)	15.5 (2.31)	3.06 (10.0)	14-DXZ-1927
16	19/29	.053 (1.35)	.073 (1.85)	.087 (2.21)	10.1 (1.50)	4.81 (15.8)	16-DXZ-1929
18	19/30	.047 (1.19)	.064 (1.63)	.074 (1.88)	7.74 (1.15)	6.23 (20.4)	18-DXZ-1930
18	7/26	.048 (1.22)	.064 (1.63)	.074 (1.88)	7.70 (1.15)	6.70 (22.0)	18-DXZ-726
20	19/32	.038 (.97)	.054 (1.37)	.062 (1.57)	5.08 (.756)	9.88 (32.4)	20-DXZ-1932
20	7/28	.038 (.97)	.054 (1.37)	.062 (1.57)	5.97 (.740)	10.7 (35.1)	20-DXZ-728
20	SOLID	.032 (.81)	.048 (1.22)	.056 (1.42)	4.18 (.622)	10.9 (35.1)	20-DXZ-120
22	19/34	.030 (.76)	.046 (1.17)	.054 (1.37)	3.42 (.509)	16.2 (53.1)	22-DXZ-1934
22	7/30	.030 (.76)	.046 (1.17)	.054 (1.37)	3.33 (.496)	17.1 (56.1)	22-DXZ-730
22	SOLID	.025 (.64)	.041 (1.04)	.050 (1.27)	2.92 (.435)	17.7 (58.1)	22-DXZ-122
24	19/36	.024 (.61)	.040 (1.02)	.048 (1.22)	2.39 (.356)	26.2 (85.9)	24-DXZ-1936
24	7/32	.024 (.61)	.040 (1.02)	.048 (1.22)	2.35 (.350)	27.0 (88.6)	24-DXZ-732
24	SOLID	.020 (.51)	.036 (.91)	.044 (1.12)	2.12 (.315)	27.8 (91.2)	24-DXZ-124
26	19/38	.019 (.48)	.035 (.89)	.043 (1.09)	1.70 (.253)	41.3 (135)	26-DXZ-1938
26	7/34	.019 (.48)	.035 (.89)	.043 (1.09)	1.66 (.247)	43.3 (142)	26-DXZ-734
26	SOLID	.016 (.41)	.032 (.81)	.040 (1.02)	1.55 (.231)	45.3 (149)	26-DXZ-126
28	7/36	.015 (.38)	.031 (.79)	.039 (.99)	1.22 (.182)	68.6 (225)	28-DXZ-736
28	SOLID	.013 (.33)	.029 (.74)	.037 (.94)	1.17 (.174)	71.6 (235)	28-DXZ-128
30	7/38	.012 (.31)	.028 (.71)	.036 (.91)	.930 (.138)	114 (374)	30-DXZ-738
30	SOLID	.010 (.25)	.026 (.66)	.034 (.86)	.900 (.134)	116 (380)	30-DXZ-130
32	7/40	.009 (.23)	.026 (.66)	.034 (.86)	.700 (.104)	189 (620)	32-DXZ-740
32	SOLID	.008 (.20)	.024 (.61)	.032 (.81)	.730 (.109)	178 (584)	32-DXZ-132

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

All values are nominal unless otherwise indicated.

# MIL-W-16878/12 (Type KK) *equivalent* wire—extruded FEP insulation



## Construction Details

**Insulation:** Extruded FEP, wall thickness .015 (.38 mm).

**Conductor:** Tin-plated copper.

**Colors:** Color coded to MIL-STD-104 (See page 26).

**Options:** Silver- or nickel-plated copper conductor; silver or nickel-plated high-strength copper alloy conductor; sodium naphthalene etched insulation for bondability. Also available to NEMA HP-4-KK.

**MIL-W-16878/12 (type KK) *equivalent*** wires have extruded FEP insulation (heavy wall thickness) for high-temperature applications. These wires have tin-plated copper conductors for economy. MIL-spec versions (silver-plated conductors) are also available.

For medium-wall (type K) versions of these wires, see M16878/11 equivalent (previous page); for thin-wall (type KT) versions, see M16878/13 equivalent (next page).

## Performance:

**Voltage rating:** 1,000V.

**Temperature rating:** Tin-plated conductor: -55 to 150° C;  
Silver-plated conductor: -55 to 200° C;  
Nickel-plated conductor: -55 to 200° C.

**Ordering Information:** Specify Thermax part number and color.

To order with optional conductor materials:

For silver-plated copper conductor, change **DXZ** in Thermax part number to **DX**.

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

For nickel-plated copper conductor, change **DXZ** in Thermax part number to **DXN**.

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

## Dimensions, Resistance, and Weights—M16878/12 *equivalent*—tin plated conductor

AWG Size	Stranding	Conductor Diameter	Insulation Diameter		Weight	Maximum Resistance	Thermax P/N
			Minimum	Maximum			
2	665/30	.330 (8.38)	.395 (10.03)	.415 (10.54)	268 (399)	.183 (.600)	2-XDXZ-66530
4	133/25	.260 (6.60)	.349 (8.86)	.369 (9.37)	175 (260)	.280 (.918)	4-XDXZ-13325
6	133/27	.202 (5.13)	.286 (7.26)	.301 (7.65)	116 (173)	.445 (1.46)	6-XDXZ-13327
8	133/29	.162 (4.11)	.199 (5.05)	.219 (5.56)	63.4 (94.4)	.701 (2.30)	8-XDXZ-13329
10	37/26	.108 (2.74)	.137 (3.48)	.153 (3.89)	36.0 (53.6)	1.26 (4.13)	10-XDXZ-3726
12	19/25	.084 (2.13)	.117 (2.97)	.133 (3.38)	24.8 (36.9)	1.92 (6.30)	12-XDXZ-1925
14	19/27	.067 (1.70)	.098 (2.49)	.114 (2.90)	16.4 (24.4)	3.06 (10.0)	14-XDXZ-1927
16	19/29	.053 (1.35)	.083 (2.11)	.095 (2.41)	11.1 (16.5)	4.81 (15.8)	16-XDXZ-1929
18	19/30	.047 (1.19)	.074 (1.88)	.084 (2.13)	8.67 (12.9)	6.23 (20.4)	18-XDXZ-1930
18	7/26	.048 (1.22)	.074 (1.88)	.084 (2.13)	8.10 (12.1)	6.70 (22.0)	18-XDXZ-726
20	19/32	.038 (.97)	.064 (1.63)	.072 (1.83)	6.10 (9.08)	9.88 (32.4)	20-XDXZ-1932
20	7/28	.038 (.97)	.064 (1.63)	.072 (1.83)	5.84 (8.69)	10.7 (35.1)	20-XDXZ-728
20	SOLID	.032 (.81)	.058 (1.47)	.066 (1.68)	5.22 (7.77)	10.9 (35.8)	20-XDXZ-120
22	19/34	.030 (.76)	.056 (1.42)	.064 (1.63)	4.32 (6.43)	16.2 (53.1)	22-XDXZ-1934
22	7/30	.030 (.76)	.056 (1.42)	.064 (1.63)	4.18 (6.22)	17.1 (56.1)	22-XDXZ-730
22	SOLID	.025 (.64)	.051 (1.30)	.060 (1.52)	3.74 (5.57)	17.7 (58.1)	22-XDXZ-122
24	19/36	.024 (.61)	.050 (1.27)	.058 (1.47)	3.18 (4.73)	26.2 (85.9)	24-XDXZ-1936
24	7/32	.024 (.61)	.050 (1.27)	.058 (1.47)	3.12 (4.64)	27.0 (88.6)	24-XDXZ-732
24	SOLID	.020 (.51)	.046 (1.17)	.054 (1.37)	2.80 (4.17)	27.8 (91.2)	24-XDXZ-124
26	19/38	.019 (.48)	.045 (1.14)	.053 (1.35)	2.48 (3.69)	41.3 (135)	26-XDXZ-1938
26	7/34	.019 (.48)	.045 (1.14)	.053 (1.35)	2.40 (3.57)	43.1 (141)	26-XDXZ-734
26	SOLID	.016 (.41)	.042 (1.07)	.050 (1.27)	2.16 (3.21)	45.3 (149)	26-XDXZ-126
28	7/36	.015 (.38)	.041 (1.04)	.049 (1.24)	1.89 (2.81)	68.6 (225)	28-XDXZ-736
28	SOLID	.013 (.33)	.039 (.99)	.047 (1.19)	1.74 (2.59)	71.6 (235)	28-XDXZ-128
30	7/38	.012 (.31)	.038 (.97)	.046 (1.17)	1.55 (2.31)	114 (374)	30-XDXZ-738
30	SOLID	.010 (.25)	.036 (.91)	.044 (1.12)	1.43 (2.13)	116 (380)	30-XDXZ-130
32	7/40	.009 (.22)	.035 (.89)	.043 (1.09)	1.29 (1.92)	189 (620)	32-XDXZ-740

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

All values are nominal unless otherwise indicated.

# MIL-W-16878/13 (Type KT) equivalent wire—extruded FEP insulation

**MIL-W-16878/13 (type KT) equivalent** wires have extruded FEP insulation (thin wall thickness) for high-temperature applications. These wires have tin-plated copper conductors for economy. MIL-spec versions (silver-plated conductors) are also available.

For medium-wall (type K) versions of these wires, see M16878/11 equivalent (page 30); for heavy-wall (type KK) versions, see M16878/12 equivalent (previous page).

## Performance:

**Voltage rating:** 250V.

**Temperature rating:** Tin-plated conductor: -55 to 150° C;  
Silver-plated conductor: -55 to 200° C;  
Nickel-plated conductor: -55 to 200° C.

**Ordering Information:** Specify Thermax part number and color.

To order with optional conductor materials:

For silver-plated copper conductor, change **MDXZ** in Thermax part number to **MDX**.

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

For nickel-plated copper conductor, change **MDXZ** in Thermax part number to **MDXN**.

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



## Construction Details

**Insulation:** Extruded FEP, wall thickness .006 (.15 mm).

**Conductor:** Tin-plated copper.

**Colors:** Color coded to MIL-STD-104 (See page 26).

**Options:** Silver- or nickel-plated copper conductor; silver or nickel-plated high-strength copper alloy conductor; sodium naphthalene etched insulation for bondability. Also available to NEMA HP-4-KT.

## Dimensions, Resistance, and Weights—M16878/13 equivalent—tin plated conductor

AWG Size	Stranding	Conductor Diameter	Insulation Diameter		Weight	Maximum Resistance	Thermax P/N
			Minimum	Maximum			
20	19/32	.038 (.97)	.048 (1.22)	.052 (1.32)	4.60 (6.85)	9.88 (32.4)	20-MDXZ-1932
20	7/28	.038 (.97)	.048 (1.22)	.052 (1.32)	4.24 (6.31)	10.7 (35.1)	20-MDXZ-728
22	19/34	.030 (.76)	.040 (1.02)	.044 (1.12)	2.98 (4.43)	16.2 (53.1)	22-MDXZ-1934
22	7/30	.030 (.76)	.040 (1.02)	.044 (1.12)	2.80 (4.17)	17.1 (56.1)	22-MDXZ-730
24	19/36	.024 (.61)	.034 (.86)	.038 (.97)	2.02 (3.01)	26.2 (85.9)	24-MDXZ-1936
24	7/32	.024 (.61)	.034 (.86)	.038 (.97)	1.90 (2.83)	27.0 (88.6)	24-MDXZ-732
26	19/38	.019 (.48)	.029 (.74)	.033 (.84)	1.40 (2.08)	41.3 (135)	26-MDXZ-1938
26	7/34	.019 (.48)	.029 (.74)	.033 (.84)	1.30 (1.93)	43.1 (141)	26-MDXZ-734
26	SOLID	.016 (.41)	.026 (.66)	.030 (.76)	1.16 (1.73)	45.3 (149)	26-MDXZ-126
28	7/36	.015 (.38)	.025 (.64)	.029 (.74)	.910 (1.35)	68.6 (225)	28-MDXZ-736
28	SOLID	.013 (.33)	.023 (.58)	.027 (.69)	.800 (1.19)	71.6 (235)	28-MDXZ-128
30	7/38	.012 (.31)	.022 (.56)	.026 (.66)	.660 (.982)	114 (374)	30-MDXZ-738
30	SOLID	.010 (.25)	.020 (.51)	.024 (.61)	.590 (.878)	116 (380)	30-MDXZ-130
32	7/40	.009 (.23)	.020 (.51)	.024 (.61)	.480 (.714)	189 (620)	32-MDXZ-740
32	SOLID	.008 (.20)	.018 (.46)	.022 (.56)	.450 (.670)	178 (584)	32-MDXZ-132

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

All values are nominal unless otherwise indicated.