

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.

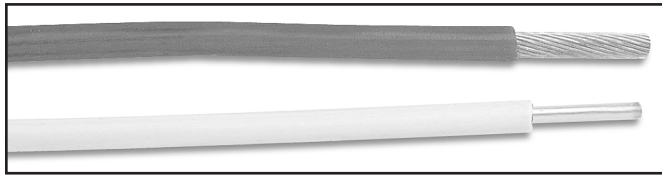
Conductor material	
Letter	Material
B	Coated copper
C	Coated copper-clad steel
D	Coated high-strength copper alloy

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.

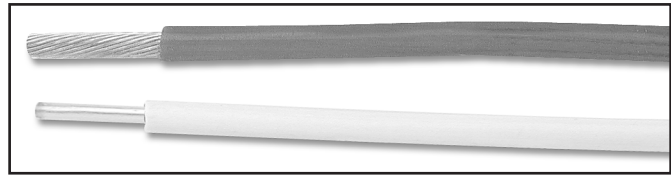
Ordering Information: Specify Thermax part number, M16878 number, and color.

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**.

**Construction Details**

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

Conductor: Silver-plated copper.

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

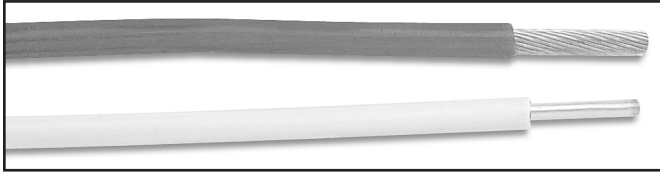
Options: Nickel-plated copper conductor; silver or nickel-plated high-strength copper alloy conductor; sodium naphthalene etched insulation for bondability. Also available to NEMA HP-3-EEX.

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
M16878/6 BDB-*	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 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-16878/11 (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.

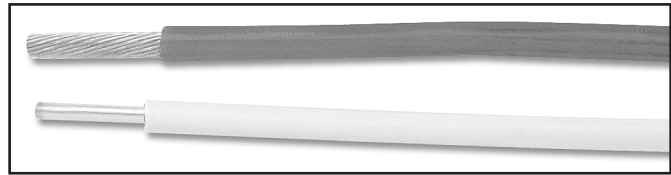
To order with optional conductor materials:

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).

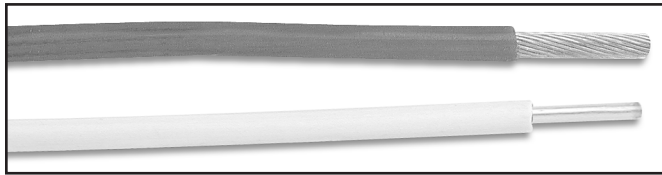
Options: Silver- or nickel-plated copper conductor;
silver or nickel-plated high-strength copper alloy conductor; sodium naphthalene etched insulation for bondability. Also available to NEMA HP-4-K.

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 Ω /1,000 feet (Ω /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 **XDXZ** in Thermax part number to **XDX**.

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

For nickel-plated copper conductor, change **XDXZ** in Thermax part number to **XDXN**.

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

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.

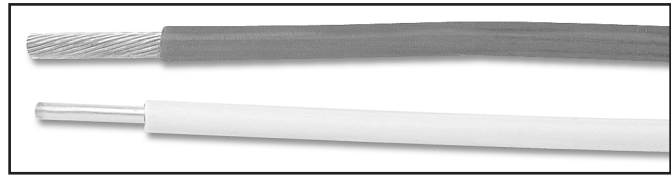
To order with optional conductor materials:

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.

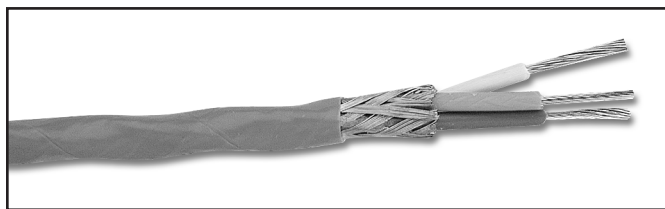
Dimensions, Resistance, and Weights—M16878/13 equivalent—tin plated conductor

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 Ω /1,000 feet (Ω /Km), @20° C.

All values are nominal unless otherwise indicated.

Type E Cables—MIL-W-16878/4 components



Construction Details

Component wire conductor:

Silver- or nickel-plated copper.

Component wire insulation:

Extruded PTFE.

Shield:

Silver-plated copper braid, 85% coverage.

Jacket:

Extruded FEP or PTFE tape.

Colors:

Component wires color coded to MIL-STD-104;
Jacket colors: White preferred; also available in
10 basic colors (see page 26).

Type E cables are shielded and jacketed cables with extruded FEP or PTFE tape jackets, incorporating MIL-W-16878/4 wires. These component wires are insulated with extruded PTFE, and have either silver-plated copper or nickel-plated copper conductors.

Cables with PTFE jackets are available with our unique **Seamless Wrap** PTFE tape (see page 2 for details).

Performance:

Voltage rating:

600V.

Temperature ratings:

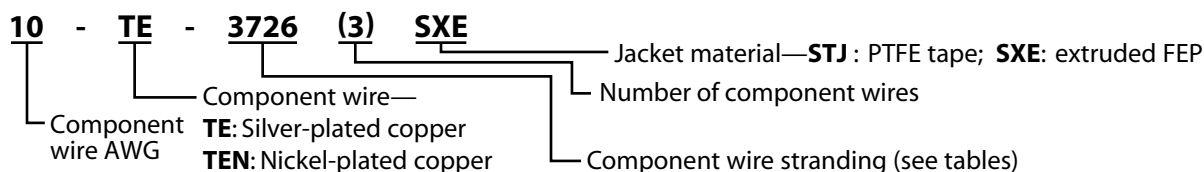
Silver-plated conductors and either jacket: -55 to 200° C.

Nickel-plated conductors and PTFE jacket: -55 to 260° C.

Nickel-plated conductors and and FEP jacket: -55 to 200° C.

See page 27 for component wire dimensions.

Part Numbers:



Dimensions and Weight—1 Conductor Cables

Component Wire AWG	Stranding	Shield Diameter	Jacket Diameter	Weight
10	37/26	.161 (4.09)	.185 (4.70)	51.1 (76.0)
12	19/25	.125 (3.18)	.147 (3.73)	34.9 (51.9)
14	19/27	.115 (2.92)	.137 (3.48)	25.2 (37.5)
16	19/29	.100 (2.54)	.122 (3.10)	18.0 (26.8)
18	19/30	.090 (2.29)	.110 (2.79)	15.7 (23.4)
20	19/32	.080 (2.03)	.100 (2.54)	11.8 (17.6)
22	19/34	.072 (1.83)	.092 (2.34)	9.69 (14.4)
24	19/36	.066 (1.68)	.086 (2.18)	8.55 (12.7)
26	19/38	.056 (1.42)	.076 (1.93)	6.30 (9.37)
28	7/36	.052 (1.32)	.072 (1.83)	5.14 (7.65)
30	7/38	.049 (1.24)	.069 (1.75)	4.78 (7.11)
32	7/40	.047 (1.19)	.067 (1.70)	4.49 (6.68)

Dimensions and Weight—2 Conductor Cables

Component Wire AWG	Stranding	Shield Diameter	Jacket Diameter	Weight
10	37/26	.299 (7.59)	.329 (8.36)	98.0 (146)
12	19/25	.227 (5.77)	.251 (6.38)	66.5 (99.0)
14	19/27	.207 (5.26)	.231 (5.87)	46.5 (69.2)
16	19/29	.177 (4.50)	.199 (5.05)	33.4 (49.7)
18	19/30	.157 (3.99)	.179 (4.55)	27.8 (41.4)
20	19/32	.137 (3.48)	.159 (4.04)	21.3 (31.7)
22	19/34	.121 (3.07)	.143 (3.63)	16.5 (24.6)
24	19/36	.109 (2.77)	.131 (3.33)	13.8 (20.5)
26	19/38	.099 (2.51)	.121 (3.07)	11.7 (17.4)
28	7/36	.091 (2.31)	.113 (2.87)	9.56 (14.2)
30	7/38	.085 (2.16)	.107 (2.72)	8.73 (13.0)
32	7/40	.081 (2.06)	.103 (2.62)	6.71 (10.0)

Dimensions and Weight—3 Conductor Cables

Component Wire AWG	Stranding	Shield Diameter	Jacket Diameter	Weight
10	37/26	.325 (8.25)	.357 (9.06)	140 (208)
12	19/25	.247 (6.28)	.273 (6.94)	94.0 (140)
14	19/27	.221 (5.61)	.245 (6.22)	64.3 (95.7)
16	19/29	.189 (4.79)	.213 (5.40)	46.1 (68.6)
18	19/30	.167 (4.24)	.189 (4.80)	37.7 (56.1)
20	19/32	.146 (3.70)	.168 (4.26)	28.2 (42.0)
22	19/34	.128 (3.26)	.150 (3.82)	21.6 (32.1)
24	19/36	.115 (2.93)	.137 (3.49)	17.3 (25.7)
26	19/38	.105 (2.66)	.127 (3.22)	14.8 (22.0)
28	7/36	.096 (2.44)	.118 (3.00)	11.8 (17.6)
30	7/38	.090 (2.28)	.112 (2.84)	10.5 (15.6)
32	7/40	.085 (2.17)	.107 (2.73)	9.36 (13.9)

Dimensions and Weight—4 Conductor Cables

Component Wire AWG	Stranding	Shield Diameter	Jacket Diameter	Weight
10	37/26	.361 (9.16)	.393 (9.97)	180 (268)
12	19/25	.274 (6.96)	.302 (7.67)	122 (182)
14	19/27	.250 (6.34)	.276 (7.00)	82.7 (123)
16	19/29	.209 (5.30)	.235 (5.96)	58.1 (86.5)
18	19/30	.184 (4.69)	.206 (5.24)	47.3 (70.4)
20	19/32	.160 (4.07)	.182 (4.63)	35.0 (52.1)
22	19/34	.141 (3.58)	.163 (4.14)	26.3 (39.1)
24	19/36	.127 (3.22)	.149 (3.78)	21.2 (31.5)
26	19/38	.115 (2.91)	.137 (3.47)	17.8 (26.5)
28	7/36	.105 (2.67)	.127 (3.22)	14.1 (21.0)
30	7/38	.098 (2.48)	.120 (3.04)	12.6 (18.7)
32	7/40	.093 (2.36)	.115 (2.92)	11.5 (17.1)

Dimensions in inches (mm). Weights in pounds/1000 feet (Kg/1000 M). • All values nominal unless otherwise indicated. • Dimensions calculated using a circumscribed circle.

Type EE Cables—MIL-W-16878/5 components

Type EE cables are shielded and jacketed cables with extruded FEP or PTFE tape jackets, incorporating MIL-W-16878/5 wires. These component wires are insulated with extruded PTFE, and have either silver-plated copper or nickel-plated copper conductors.

Cables with PTFE jackets are available with our unique **Seamless Wrap** PTFE tape (see page 2 for details).

Performance:

Voltage rating: 1,000V.

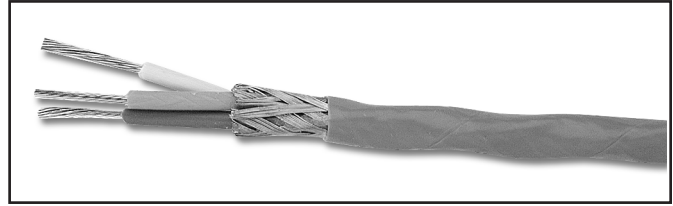
Temperature ratings:

Silver-plated conductors and either jacket: -55 to 200° C.

Nickel-plated conductors and PTFE jacket: -55 to 260° C.

Nickel-plated conductors and FEP jacket: -55 to 200° C.

See page 28 for component wire dimensions.



Construction Details

Component wire conductor:

Silver- or nickel-plated copper.

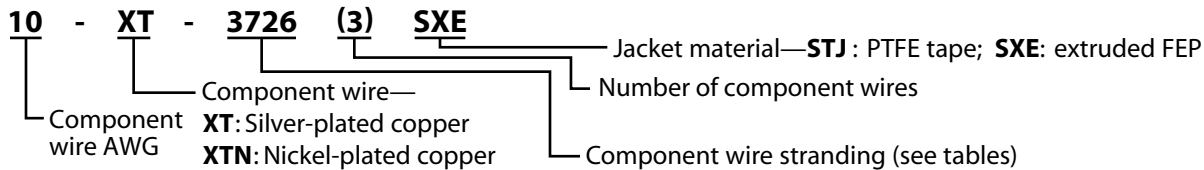
Component wire insulation: Extruded PTFE.

Shield: Silver-plated copper braid, 85% coverage.

Jacket: Extruded FEP or PTFE tape.

Colors: Component wires color coded to MIL-STD-104;
Jacket colors: White preferred; also available in 10 basic colors (see page 26).

Part Numbers:



Dimensions and Weight—1 Conductor Cables

Component Wire AWG	Stranding	Shield Diameter	Jacket Diameter	Weight
8	133/29	.227 (5.77)	.255 (6.48)	92.9 (138)
10	37/26	.165 (4.19)	.193 (4.90)	52.9 (78.7)
12	19/25	.144 (3.66)	.166 (4.22)	38.3 (57.0)
14	19/27	.125 (3.18)	.147 (3.73)	27.4 (40.8)
16	19/29	.110 (2.79)	.130 (3.30)	20.4 (30.4)
18	19/30	.100 (2.54)	.120 (3.05)	17.1 (25.4)
20	19/32	.090 (2.29)	.108 (2.74)	13.8 (20.5)
22	19/34	.082 (2.08)	.100 (2.54)	11.9 (16.2)
24	19/36	.076 (1.93)	.094 (2.39)	9.23 (13.7)
26	19/38	.066 (1.68)	.084 (2.13)	7.14 (10.6)
28	7/36	.061 (1.55)	.079 (2.01)	6.35 (9.45)
30	7/38	.059 (1.50)	.077 (1.96)	5.77 (8.59)
32	7/40	.057 (1.45)	.075 (1.91)	5.45 (8.11)

Dimensions and Weight—3 Conductor Cables

Component Wire AWG	Stranding	Shield Diameter	Jacket Diameter	Weight
8	133/29	.467 (11.9)	.501 (12.72)	269 (400)
10	37/26	.328 (8.34)	.360 (9.15)	141 (210)
12	19/25	.283 (7.19)	.309 (7.85)	101 (150)
14	19/27	.242 (6.15)	.266 (6.76)	71.3 (106)
16	19/29	.210 (5.34)	.234 (5.94)	52.4 (78.0)
18	19/30	.189 (4.79)	.211 (5.35)	42.5 (63.2)
20	19/32	.167 (4.24)	.189 (4.80)	32.8 (48.8)
22	19/34	.150 (3.81)	.172 (4.36)	26.0 (38.7)
24	19/36	.137 (3.48)	.159 (3.04)	21.3 (31.7)
26	19/38	.126 (3.21)	.148 (3.76)	18.3 (27.2)
28	7/36	.115 (2.93)	.137 (3.49)	15.8 (23.5)
30	7/38	.111 (2.82)	.133 (3.38)	13.8 (20.5)
32	7/40	.107 (2.71)	.129 (3.27)	12.80 (19.0)

Dimensions and Weight—2 Conductor Cables

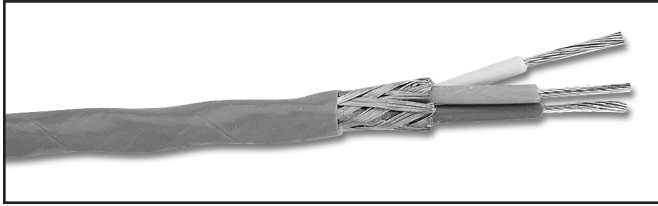
Component Wire AWG	Stranding	Shield Diameter	Jacket Diameter	Weight
8	133/29	.436 (11.1)	.470 (11.94)	190 (283)
10	37/26	.307 (7.80)	.337 (8.56)	100 (149)
12	19/25	.265 (6.73)	.289 (7.34)	71.4 (106)
14	19/27	.227 (5.77)	.251 (6.38)	51.5 (76.6)
16	19/29	.197 (5.00)	.219 (5.56)	37.8 (56.2)
18	19/30	.177 (4.50)	.199 (5.05)	31.4 (46.7)
20	19/32	.157 (3.99)	.179 (4.55)	24.6 (36.6)
22	19/34	.141 (3.58)	.163 (4.14)	19.8 (29.5)
24	19/36	.129 (3.28)	.151 (3.84)	16.5 (24.6)
26	19/38	.119 (3.02)	.141 (3.58)	14.2 (21.1)
28	7/36	.109 (2.77)	.131 (3.33)	12.7 (18.9)
30	7/38	.105 (2.67)	.127 (3.23)	11.1 (16.5)
32	7/40	.101 (2.57)	.123 (3.12)	9.14 (13.6)

Dimensions and Weight—4 Conductor Cables

Component Wire AWG	Stranding	Shield Diameter	Jacket Diameter	Weight
8	133/29	.520 (13.2)	.568 (14.4)	359 (534)
10	37/26	.365 (9.28)	.397 (10.1)	182 (271)
12	19/25	.315 (7.99)	.343 (8.70)	131 (195)
14	19/27	.269 (6.83)	.295 (7.49)	91.5 (136)
16	19/29	.233 (5.91)	.257 (6.52)	66.1 (98.4)
18	19/30	.209 (5.30)	.231 (5.86)	53.4 (79.5)
20	19/32	.184 (4.69)	.206 (5.24)	40.8 (60.7)
22	19/34	.165 (4.20)	.187 (4.75)	31.9 (47.5)
24	19/36	.151 (3.83)	.173 (4.39)	26.0 (38.7)
26	19/38	.139 (3.52)	.161 (4.08)	17.8 (26.5)
28	7/36	.127 (3.22)	.149 (3.78)	14.1 (21.0)
30	7/38	.122 (3.09)	.144 (3.65)	12.6 (18.7)
32	7/40	.117 (2.97)	.139 (3.53)	11.5 (17.1)

Dimensions in inches (mm). Weights in pounds/1000 feet (Kg/1000 M). • All values nominal unless otherwise indicated. • Dimensions calculated using a circumscribed circle.

Type ET Cables—MIL-W-16878/6 components



Construction Details

Component wire conductor:

Silver- or nickel-plated copper.

Component wire insulation:

Extruded PTFE.

Shield:

Silver-plated copper braid, 85% coverage.

Jacket:

Extruded FEP or PTFE tape.

Colors:

Component wires color coded to MIL-STD-104;
Jacket colors: White preferred; also available in
10 basic colors (see page 26).

Type ET cables are shielded and jacketed cables with extruded FEP or PTFE tape jackets, incorporating MIL-W-16878/4 wires. These component wires are insulated with extruded PTFE, and have either silver-plated copper or nickel-plated copper conductors.

Cables with PTFE jackets are available with our unique **Seamless Wrap** PTFE tape (see page 2 for details).

Performance:

Voltage rating: 250V.

Temperature ratings:

Silver-plated conductors and either jacket: -55 to 200° C.

Nickel-plated conductors and PTFE jacket: -55 to 260° C.

Nickel-plated conductors and and FEP jacket: -55 to 200° C.

See page 28 for component wire dimensions.

Part Numbers:

20 - **MT** - **1932** **(3)** **SXE**

Component wire AWG
Component wire—
MT: Silver-plated copper
MTN: Nickel-plated copper

Jacket material—**STJ**: PTFE tape; **SXE**: extruded FEP

Number of component wires

Component wire stranding (see tables)

Dimensions and Weight—1 Conductor Cables

Component Wire AWG	Stranding	Shield Diameter	Jacket Diameter	Weight
20	19/32	.068 (1.73)	.086 (2.18)	10.1 (15.0)
22	19/34	.060 (1.52)	.078 (1.98)	7.37 (11.0)
24	19/36	.054 (1.37)	.072 (1.83)	6.28 (9.34)
26	19/38	.049 (1.24)	.067 (1.70)	5.16 (7.68)
28	7/36	.045 (1.14)	.063 (1.60)	4.20 (6.25)
30	7/38	.042 (1.07)	.060 (1.52)	3.78 (5.62)
32	7/40	.040 (1.02)	.058 (1.47)	3.56 (5.30)
34	7/42	.031 (.79)	.049 (1.24)	3.60 (3.87)
36	7/44	.030 (.76)	.048 (1.22)	2.56 (3.81)

Dimensions and Weight—2 Conductor Cables

Component Wire AWG	Stranding	Shield Diameter	Jacket Diameter	Weight
20	19/32	.123 (3.12)	.141 (3.58)	18.4 (27.4)
22	19/34	.107 (2.72)	.125 (3.18)	14.3 (21.3)
24	19/36	.095 (2.41)	.113 (2.87)	11.1 (16.5)
26	19/38	.085 (2.16)	.103 (2.62)	9.34 (13.9)
28	7/36	.077 (1.96)	.095 (2.41)	8.10 (12.1)
30	7/38	.066 (1.68)	.084 (2.13)	5.91 (8.79)
32	7/40	.062 (1.57)	.080 (2.03)	5.15 (7.66)
34	7/42	.056 (1.42)	.074 (1.88)	4.45 (6.62)
36	7/44	.054 (1.37)	.072 (1.83)	4.38 (6.52)

Dimensions and Weight—3 Conductor Cables

Component Wire AWG	Stranding	Shield Diameter	Jacket Diameter	Weight
20	19/32	.131 (3.31)	.149 (3.77)	24.7 (36.8)
22	19/34	.113 (2.88)	.131 (3.34)	18.2 (27.1)
24	19/36	.100 (2.55)	.118 (3.01)	14.5 (21.6)
26	19/38	.090 (2.28)	.108 (2.73)	11.7 (17.4)
28	7/36	.081 (2.06)	.099 (2.52)	9.41 (14.0)
30	7/38	.070 (1.77)	.088 (2.23)	7.71 (11.5)
32	7/40	.065 (1.66)	.083 (2.12)	6.33 (9.42)
34	7/42	.059 (1.49)	.077 (1.95)	5.43 (8.08)
36	7/44	.057 (1.44)	.075 (1.90)	5.33 (7.93)

Dimensions and Weight—4 Conductor Cables

Component Wire AWG	Stranding	Shield Diameter	Jacket Diameter	Weight
20	19/32	.144 (3.64)	.162 (4.10)	31.0 (46.1)
22	19/34	.124 (3.16)	.142 (3.61)	22.4 (33.3)
24	19/36	.110 (2.79)	.128 (3.25)	17.3 (25.7)
26	19/38	.098 (2.48)	.116 (2.94)	14.2 (21.1)
28	7/36	.088 (2.24)	.106 (2.69)	11.9 (17.7)
30	7/38	.081 (2.05)	.099 (2.51)	9.48 (14.1)
32	7/40	.076 (1.93)	.094 (2.39)	8.50 (12.6)
34	7/42	.064 (1.62)	.082 (2.08)	6.15 (9.15)
36	7/44	.061 (1.56)	.079 (2.02)	6.03 (8.97)

Dimensions in inches (mm). Weights in pounds/1000 feet (Kg/1000 M). • All values nominal unless otherwise indicated. • Dimensions calculated using a circumscribed circle.

M22759 wire

M22759 (SAE AS22759) wires are high-performance, medium and high-temperature hookup wires with extruded PTFE or ETFE, or PTFE/polyimide tape insulators, and stranded conductors.

These wires are designed for severe-environment aerospace applications, such as engine controls and SWAMP areas. Some types are available with highly abrasion-resistant insulation and / or high-strength conductors for maximum performance under mechanical stresses.

Wire types with PTFE tape insulation are available with our unique **Seamless Wrap** PTFE tape insulation (see page 54 for details and part numbers).

Construction characteristics—M22759 wires

M22759 Slant Sheet	Insulation Material	Conductor Plating	Temperature Rating	Voltage Rating	Page
MIL-W-22759/5	Extruded mineral-filled PTFE*	Silver	200	600	37
MIL-W-22759/6	Extruded mineral-filled PTFE*	Nickel	260	600	37
MIL-W-22759/7	Extruded mineral-filled PTFE (light weight)*	Silver	200	600	38
MIL-W-22759/8	Extruded mineral-filled PTFE (light weight)*	Nickel	260	600	38
MIL-W-22759/9	Extruded PTFE	Silver	200	1000	39
MIL-W-22759/10	Extruded PTFE	Nickel	260	1000	39
MIL-W-22759/11	Extruded PTFE (medium weight)	Silver	200	600	40
MIL-W-22759/12	Extruded PTFE (medium weight)	Nickel	260	600	40
MIL-W-22759/16	Extruded ETFE	Tin	150	600	41
MIL-W-22759/17	Extruded ETFE	Silver	150	600	41
MIL-W-22759/18	Extruded ETFE (light weight)	Tin	150	600	42
MIL-W-22759/19	Extruded ETFE (light weight)	Silver	150	600	42
MIL-W-22759/20	Extruded PTFE	Silver***	200	1000	43
MIL-W-22759/21	Extruded PTFE	Nickel***	260	1000	43
MIL-W-22759/22	Extruded PTFE (light weight)	Silver***	200	600	44
MIL-W-22759/23	Extruded PTFE (light weight)	Nickel***	260	600	44
MIL-W-22759/28	Extruded PTFE with polyimide hardcoat*	Silver	200	600	45
MIL-W-22759/29	Extruded PTFE with polyimide hardcoat*	Nickel	260	600	45
MIL-W-22759/30	Extruded PTFE with polyimide hardcoat*	Silver***	200	600	46
MIL-W-22759/31	Extruded PTFE with polyimide hardcoat*	Nickel***	260	600	46
MIL-DTL-22759/80	PTFE/polyimide/PTFE tape and PTFE tape (light weight)**	Tin	150	600	47
MIL-DTL-22759/81	PTFE/polyimide/PTFE tape and PTFE tape (light weight)**	Silver***	200	600	47
MIL-DTL-22759/82	PTFE/polyimide/PTFE tape and PTFE tape (light weight)**	Nickel***	260	600	47
MIL-DTL-22759/83	PTFE/polyimide/PTFE tape and PTFE tape**	Silver	200	600	48
MIL-DTL-22759/84	PTFE/polyimide/PTFE tape and PTFE tape**	Nickel	260	600	48
MIL-DTL-22759/85	PTFE/polyimide/PTFE tape and PTFE tape**	Tin	150	600	48
MIL-DTL-22759/86	PTFE/polyimide/PTFE tape and PTFE tape**	Silver	200	600	49
MIL-DTL-22759/87	PTFE/polyimide/PTFE tape and PTFE tape**	Nickel	260	600	50
MIL-DTL-22759/88	PTFE/polyimide/PTFE tape and PTFE tape**	Tin	150	600	51
MIL-DTL-22759/89	PTFE/polyimide/PTFE tape and PTFE tape**	Silver***	200	600	52
MIL-DTL-22759/90	PTFE/polyimide/PTFE tape and PTFE tape**	Nickel***	260	600	52
MIL-DTL-22759/91	PTFE/polyimide/PTFE tape and PTFE tape (light weight)**	Silver	200	600	53
MIL-DTL-22759/92	PTFE/polyimide/PTFE tape and PTFE tape (light weight)**	Nickel	260	600	53

Temperature in °C. • *High abrasion resistance. • ** Available with **Seamless Wrap** PTFE tape outer insulation.

*** High-strength and ultra-high-strength copper alloy conductors.

M22759 color coding

Color coding for M22759 wires consists of up to four numbers added to designate wire color and up to three spiral stripe colors.

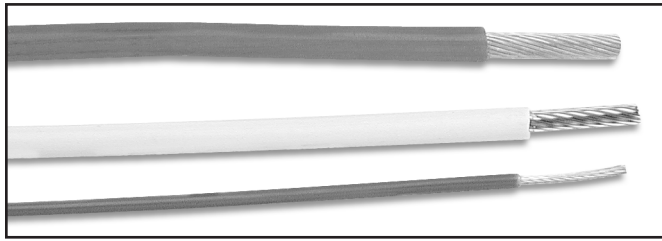
Example: M22759/8-**9045** is a white wire with black, yellow, and green stripes.

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

MIL-DTL-22759 identification

M22759 wires are surface printed with the MIL part number and manufacturer's CAGE code (FSCM number).

MIL-W-22759/5, /6 wire—mineral-filled PTFE insulation



Construction Details

Insulation: Extruded PTFE with abrasion-resistant mineral fillers.

Conductor: /5: Silver-plated copper;
/6: Nickel-plated copper.

Colors: Color coded to MIL-STD-104.

Identification: to M22759.

MIL-W-22759/5 and /6 wires have mineral-filled PTFE insulation for high-temperature applications such as aircraft engines, SWAMP zones, and others where increased abrasion resistance is required.

For reduced-weight versions of these wires, see M22759/7 and /8 (following page).

Performance:

Voltage rating: 600V.

Temperature rating: /5: -55 to 200° C
/6: -55 to 260° C

Dimensions, Resistance, and Weights—M22759/5 (silver-plated conductor)

M22759 P/N	AWG Size	Stranding	Conductor Diameter	Insulation Diameter		Weight	Maximum Resistance	Thermax P/N
				Minimum	Maximum			
M22759/5-8-*	8	133/29	.162 (4.11)	.241 (6.12)	.255 (6.48)	77.0 (115)	.658 (2.16)	8-AF3XT-13329
M22759/5-10-*	10	37/26	.108 (2.74)	.172 (4.37)	.186 (4.73)	42.5 (63.3)	1.19 (3.90)	10-AF3XT-3726
M22759/5-12-*	12	19/25	.086 (2.18)	.153 (3.89)	.167 (4.24)	30.9 (46.0)	1.81 (5.94)	12-AF3XT-1925
M22759/5-14-*	14	19/27	.067 (1.70)	.136 (3.45)	.150 (3.81)	22.5 (33.5)	2.88 (9.45)	14-AF3XT-1927
M22759/5-16-*	16	19/29	.053 (1.35)	.120 (3.05)	.130 (3.30)	16.6 (24.7)	4.52 (14.8)	16-AF3XT-1929
M22759/5-18-*	18	19/30	.047 (1.19)	.105 (2.67)	.115 (2.92)	12.9 (19.2)	5.79 (19.0)	18-AF3XT-1930
M22759/5-20-*	20	19/32	.038 (.97)	.090 (2.29)	.100 (2.54)	9.07 (13.6)	9.19 (30.1)	20-AF3XT-1932
M22759/5-22-*	22	19/34	.030 (.76)	.080 (2.03)	.090 (2.29)	6.83 (10.1)	15.1 (49.5)	22-AF3XT-1934
M22759/5-24-*	24	19/36	.024 (.61)	.070 (1.78)	.080 (2.03)	5.08 (7.60)	24.3 (79.7)	24-AF3XT-1936

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.

* Add color coding per MIL-STD-104 (see page 36).

Dimensions, Resistance, and Weights—M22759/6 (nickel-plated conductor)

M22759 P/N	AWG Size	Stranding	Conductor Diameter	Insulation Diameter		Weight	Maximum Resistance	Thermax P/N
				Minimum	Maximum			
M22759/6-8-*	8	133/29	.163 (4.14)	.241 (6.12)	.255 (6.48)	79.0 (118)	.694 (2.28)	8-AF3XTN-13329
M22759/6-10-*	10	37/26	.109 (2.77)	.172 (4.37)	.186 (4.73)	43.5 (64.8)	1.24 (4.07)	10-AF3XTN-3726
M22759/6-12-*	12	19/25	.086 (2.18)	.153 (3.89)	.167 (4.24)	31.9 (47.5)	1.89 (6.20)	12-AF3XTN-1925
M22759/6-14-*	14	19/27	.067 (1.70)	.136 (3.45)	.150 (3.81)	23.3 (34.7)	3.00 (9.84)	14-AF3XTN-1927
M22759/6-16-*	16	19/29	.053 (1.35)	.120 (3.05)	.130 (3.30)	16.9 (25.2)	4.76 (15.6)	16-AF3XTN-1929
M22759/6-18-*	18	19/30	.047 (1.19)	.105 (2.67)	.115 (2.92)	13.1 (19.5)	6.10 (20.0)	18-AF3XTN-1930
M22759/6-20-*	20	19/32	.038 (.97)	.090 (2.29)	.100 (2.54)	9.27 (13.9)	9.77 (32.1)	20-AF3XTN-1932
M22759/6-22-*	22	19/34	.030 (.76)	.080 (2.03)	.090 (2.29)	6.98 (10.4)	16.0 (52.5)	22-AF3XTN-1934
M22759/6-24-*	24	19/36	.024 (.61)	.070 (1.78)	.080 (2.03)	5.18 (7.70)	25.9 (85.0)	24-AF3XTN-1936

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.

* Add color coding per MIL-STD-104 (see page 36).

MIL-W-22759/7, /8 wire—mineral-filled PTFE insulation—medium wall

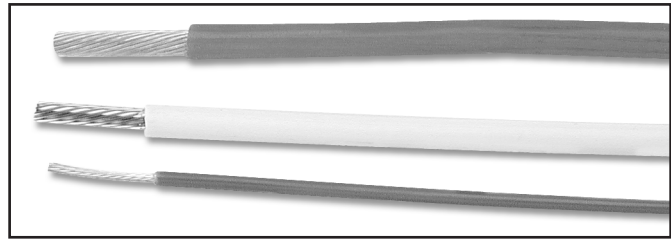
MIL-W-22759/7 and /8 wires have reduced weight, mineral-filled PTFE insulation for high-temperature applications such as aircraft engines, SWAMP zones, and others where increased abrasion resistance is required. These wires are reduced-weight versions of MIL-W-22759/5 and /6.

See page 68 for a selection of M27500 shielded and jacketed cables incorporating these wires.

Performance:

Voltage rating: 600V.

Temperature rating: /7: -55 to 200° C
/8: -55 to 260° C

**Construction Details**

Insulation: Extruded PTFE with abrasion-resistant mineral fillers.

Conductor: /7: Silver-plated copper;
/8: Nickel-plated copper.

Colors: Color coded to MIL-STD-104.

Identification: to M22759.

Dimensions, Resistance, and Weights—M22759/7 (silver-plated conductor)

M22759 P/N	AWG Size	Stranding	Conductor Diameter	Insulation Diameter		Weight	Maximum Resistance	Thermax P/N
				Minimum	Maximum			
M22759/7-8-*	8	133/29	.162 (4.11)	.215 (5.46)	.225 (5.72)	67.6 (101)	.658 (2.16)	8-AF2XT-13329
M22759/7-10-*	10	37/26	.108 (2.74)	.154 (3.91)	.162 (4.11)	37.4 (55.7)	1.19 (3.90)	10-AF2XT-3726
M22759/7-12-*	12	19/25	.086 (2.18)	.131 (3.33)	.137 (3.48)	25.7 (38.3)	1.81 (5.94)	12-AF2XT-1925
M22759/7-14-*	14	19/27	.067 (1.70)	.112 (2.84)	.118 (3.00)	17.3 (25.8)	2.88 (9.45)	14-AF2XT-1927
M22759/7-16-*	16	19/29	.053 (1.35)	.099 (2.51)	.105 (2.67)	12.7 (18.9)	4.52 (14.8)	16-AF2XT-1929
M22759/7-18-*	18	19/30	.047 (1.19)	.090 (2.29)	.094 (2.39)	10.2 (15.2)	5.79 (19.0)	18-AF2XT-1930
M22759/7-20-*	20	19/32	.038 (.97)	.080 (2.03)	.084 (2.13)	7.30 (10.9)	9.19 (30.1)	20-AF2XT-1932
M22759/7-22-*	22	19/34	.030 (.76)	.071 (1.80)	.075 (1.91)	5.00 (7.44)	15.1 (49.5)	22-AF2XT-1934
M22759/7-24-*	24	19/36	.024 (.61)	.060 (1.52)	.064 (1.63)	3.70 (5.51)	24.3 (79.7)	24-AF2XT-1936

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.

* Add color coding per MIL-STD-104 (see page 36).

Dimensions, Resistance, and Weights—M22759/8 (nickel-plated conductor)

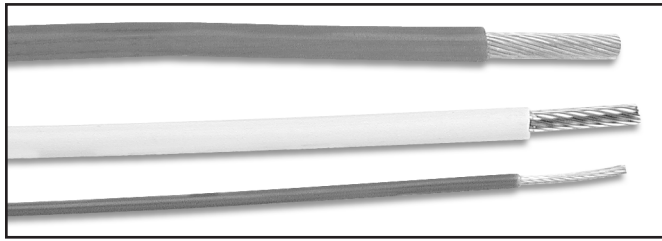
M22759 P/N	AWG Size	Stranding	Conductor Diameter	Insulation Diameter		Weight	Maximum Resistance	Thermax P/N
				Minimum	Maximum			
M22759/8-8-*	8	133/29	.163 (4.14)	.215 (5.46)	.225 (5.72)	69.6 (104)	.694 (2.28)	8-AF2XTN-13329
M22759/8-10-*	10	37/26	.109 (2.77)	.154 (3.91)	.162 (4.11)	38.4 (57.2)	1.24 (4.07)	10-AF2XTN-3726
M22759/8-12-*	12	19/25	.086 (2.18)	.131 (3.33)	.137 (3.48)	28.7 (42.8)	1.89 (6.20)	12-AF2XTN-1925
M22759/8-14-*	14	19/27	.067 (1.70)	.112 (2.84)	.118 (3.00)	18.1 (27.0)	3.00 (9.84)	14-AF2XTN-1927
M22759/8-16-*	16	19/29	.053 (1.35)	.099 (2.51)	.105 (2.67)	13.0 (19.4)	4.76 (15.6)	16-AF2XTN-1929
M22759/8-18-*	18	19/30	.047 (1.19)	.090 (2.29)	.094 (2.39)	10.4 (15.5)	6.10 (20.0)	18-AF2XTN-1930
M22759/8-20-*	20	19/32	.038 (.97)	.080 (2.03)	.084 (2.13)	7.50 (11.2)	9.77 (32.1)	20-AF2XTN-1932
M22759/8-22-*	22	19/34	.030 (.76)	.071 (1.80)	.075 (1.91)	5.15 (7.66)	16.0 (52.5)	22-AF2XTN-1934
M22759/8-24-*	24	19/36	.024 (.61)	.060 (1.52)	.064 (1.63)	3.80 (5.66)	25.9 (85.0)	24-AF2XTN-1936

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.

* Add color coding per MIL-STD-104 (see page 36).

MIL-W-22759/9, /10 wire—extruded PTFE insulation



Construction Details

Insulation: Extruded PTFE.

Conductor: /9: Silver-plated copper;
/10: Nickel-plated copper.

Colors: Color coded to MIL-STD-104.

Identification: to M22759.

MIL-W-22759/9 and /10 wires have extruded PTFE insulation for high-temperature applications where the additional abrasion resistance of mineral-filled PTFE insulation is not required. These wires are especially well-suited in applications where smoke emission, overload stability, and flammability are major concerns.

For versions of these wires with thinner-wall insulation and 600V voltage rating, see M22759/11 and /12 (following page).

Performance:

Voltage rating: 1,000V.

Temperature rating: /9: -55 to 200° C
/10: -55 to 260° C

Dimensions, Resistance, and Weights—M22759/9 (silver-plated conductor)

M22759 P/N	AWG Size	Stranding	Conductor Diameter	Insulation Diameter		Weight	Maximum Resistance	Thermax P/N
				Minimum	Maximum			
M22759/9-8-*	8	133/29	.162 (4.11)	.202 (5.13)	.212 (5.38)	65.4 (97.3)	.658 (2.16)	8-AXT-13329
M22759/9-10-*	10	37/26	.108 (2.74)	.137 (3.48)	.145 (3.68)	35.3 (52.5)	1.19 (3.90)	10-AXT-3726
M22759/9-12-*	12	19/25	.086 (2.18)	.116 (2.95)	.124 (3.15)	23.3 (34.7)	1.81 (5.94)	12-AXT-1925
M22759/9-14-*	14	19/27	.067 (1.70)	.097 (2.46)	.103 (2.62)	16.1 (24.0)	2.88 (9.45)	14-AXT-1927
M22759/9-16-*	16	19/29	.053 (1.35)	.083 (2.11)	.087 (2.21)	10.6 (15.8)	4.52 (14.8)	16-AXT-1929
M22759/9-18-*	18	19/30	.047 (1.19)	.076 (1.93)	.080 (2.03)	8.68 (12.9)	5.79 (19.0)	18-AXT-1930
M22759/9-20-*	20	19/32	.038 (.97)	.066 (1.68)	.070 (1.78)	6.09 (9.06)	9.19 (30.1)	20-AXT-1932
M22759/9-22-*	22	19/34	.030 (.76)	.058 (1.47)	.062 (1.57)	4.30 (6.40)	15.1 (49.5)	22-AXT-1934
M22759/9-24-*	24	19/36	.024 (.61)	.051 (1.30)	.055 (1.40)	3.13 (4.66)	24.3 (79.7)	24-AXT-1936
M22759/9-26-*	26	19/38	.019 (.48)	.046 (1.17)	.050 (1.27)	2.38 (3.54)	38.4 (126)	26-AXT-1938
M22759/9-28-*	28	7/36	.015 (.38)	.041 (1.04)	.045 (1.14)	1.78 (2.65)	63.8 (209)	28-AXT-736

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.

* Add color coding per MIL-STD-104 (see page 36).

Dimensions, Resistance, and Weights—M22759/10 (nickel-plated conductor)

M22759 P/N	AWG Size	Stranding	Conductor Diameter	Insulation Diameter		Weight	Maximum Resistance	Thermax P/N
				Minimum	Maximum			
M22759/10-8-*	8	133/29	.163 (4.14)	.202 (5.13)	.212 (5.38)	66.4 (98.8)	.694 (2.28)	8-AXTN-13329
M22759/10-10-*	10	37/26	.109 (2.77)	.137 (3.48)	.145 (3.68)	35.9 (53.4)	1.24 (4.07)	10-AXTN-3726
M22759/10-12-*	12	19/25	.086 (2.18)	.116 (2.95)	.124 (3.15)	23.4 (34.8)	1.89 (6.20)	12-AXTN-1925
M22759/10-14-*	14	19/27	.067 (1.70)	.097 (2.46)	.103 (2.62)	16.2 (24.1)	3.00 (9.84)	14-AXTN-1927
M22759/10-16-*	16	19/29	.053 (1.35)	.083 (2.11)	.087 (2.21)	10.8 (16.1)	4.76 (15.6)	16-AXTN-1929
M22759/10-18-*	18	19/30	.047 (1.19)	.076 (1.93)	.080 (2.03)	8.78 (12.9)	6.10 (20.0)	18-AXTN-1930
M22759/10-20-*	20	19/32	.038 (.97)	.066 (1.68)	.070 (1.78)	6.09 (9.06)	9.77 (32.0)	20-AXTN-1932
M22759/10-22-*	22	19/34	.030 (.76)	.058 (1.47)	.062 (1.57)	4.30 (6.40)	16.0 (52.5)	22-AXTN-1934
M22759/10-24-*	24	19/36	.024 (.61)	.051 (1.30)	.055 (1.40)	3.13 (4.66)	25.9 (85.0)	24-AXTN-1936
M22759/10-26-*	26	19/38	.019 (.48)	.046 (1.17)	.050 (1.27)	2.38 (3.54)	42.2 (138)	26-AXTN-1938
M22759/10-28-*	28	7/36	.015 (.38)	.041 (1.04)	.045 (1.14)	1.78 (2.65)	67.9 (223)	28-AXTN-736

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.

* Add color coding per MIL-STD-104 (see page 36).

MIL-W-22759/11, /12 wire—extruded PTFE insulation

MIL-W-22759/11 and /12 wires have extruded PTFE insulation for high-temperature applications where the additional abrasion resistance of mineral-filled PTFE insulation is not required. These wires are especially well-suited in applications where smoke emission, overload stability, and flammability are major concerns.

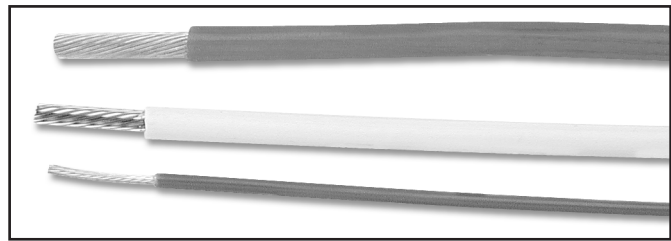
These wires are similar to MIL-W-22759/9 and /10 wires, but have a thinner-wall insulation and 600V voltage rating.

See page 69 for a selection of M27500 shielded and jacketed cables incorporating these wires.

Performance:

Voltage rating: 600V.

Temperature rating: /11: -55 to 200° C
/12: -55 to 260° C



Construction Details

Insulation: Thin-wall extruded PTFE.

Conductor: /11: Silver-plated copper;
/12: Nickel-plated copper.

Colors: Color coded to MIL-STD-104.

Identification: to M22759.

Dimensions, Resistance, and Weights—M22759/11 (silver-plated conductor)

M22759 P/N	AWG Size	Stranding	Conductor Diameter	Insulation Diameter		Weight	Maximum Resistance	Thermax P/N
				Minimum	Maximum			
M22759/11-8-*	8	133/29	.162 (4.11)	.198 (5.03)	.206 (5.23)	57.8 (86.1)	.658 (2.16)	8-ATE-13329
M22759/11-10-*	10	37/26	.108 (2.74)	.135 (3.43)	.143 (3.63)	34.9 (52.0)	1.19 (3.90)	10-ATE-3726
M22759/11-12-*	12	19/25	.086 (2.18)	.108 (2.74)	.114 (2.90)	23.5 (35.0)	1.81 (5.94)	12-ATE-1925
M22759/11-14-*	14	19/27	.067 (1.70)	.088 (2.24)	.092 (2.34)	14.7 (21.9)	2.88 (9.45)	14-ATE-1927
M22759/11-16-*	16	19/29	.053 (1.35)	.073 (1.85)	.077 (1.96)	9.64 (14.3)	4.52 (14.8)	16-ATE-1929
M22759/11-18-*	18	19/30	.047 (1.19)	.066 (1.68)	.070 (1.78)	7.58 (11.3)	5.79 (19.0)	18-ATE-1930
M22759/11-20-*	20	19/32	.038 (.97)	.056 (1.42)	.060 (1.52)	5.15 (7.66)	9.19 (30.1)	20-ATE-1932
M22759/11-22-*	22	19/34	.030 (.76)	.047 (1.19)	.051 (1.30)	3.44 (5.12)	15.1 (49.5)	22-ATE-1934
M22759/11-24-*	24	19/36	.024 (.61)	.041 (1.04)	.045 (1.14)	2.44 (3.59)	24.3 (79.7)	24-ATE-1936
M22759/11-26-*	26	19/38	.019 (.48)	.036 (.91)	.040 (1.02)	1.74 (2.59)	38.4 (126)	26-ATE-1938
M22759/11-28-*	28	7/36	.015 (.38)	.031 (.79)	.035 (.89)	1.22 (1.82)	63.8 (209)	28-ATE-736

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

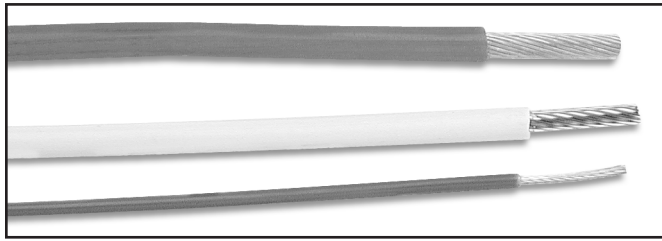
All values are nominal unless otherwise indicated. * Add color coding per MIL-STD-104 (see page 36).

Dimensions, Resistance, and Weights—M22759/12 (nickel-plated conductor)

M22759 P/N	AWG Size	Stranding	Conductor Diameter	Insulation Diameter		Weight	Maximum Resistance	Thermax P/N
				Minimum	Maximum			
M22759/12-8-*	8	133/29	.163 (4.14)	.200 (5.08)	.208 (5.28)	58.8 (87.5)	.694 (2.28)	8-ATEN-13329
M22759/12-10-*	10	37/26	.109 (2.77)	.135 (3.43)	.143 (3.63)	35.5 (52.8)	1.24 (4.07)	10-ATEN-3726
M22759/12-12-*	12	19/25	.086 (2.18)	.108 (2.74)	.114 (2.90)	24.0 (35.7)	1.89 (6.20)	12-ATEN-1925
M22759/12-14-*	14	19/27	.067 (1.70)	.088 (2.24)	.092 (2.34)	14.8 (22.0)	3.00 (9.84)	14-ATEN-1927
M22759/12-16-*	16	19/29	.053 (1.35)	.073 (1.85)	.077 (1.96)	9.74 (14.5)	4.76 (15.6)	16-ATEN-1929
M22759/12-18-*	18	19/30	.047 (1.19)	.066 (1.68)	.070 (1.78)	7.64 (11.4)	6.10 (20.0)	18-ATEN-1930
M22759/12-20-*	20	19/32	.038 (.97)	.056 (1.42)	.060 (1.52)	5.19 (7.72)	9.77 (32.0)	20-ATEN-1932
M22759/12-22-*	22	19/34	.030 (.76)	.047 (1.19)	.051 (1.30)	3.46 (5.15)	16.0 (52.5)	22-ATEN-1934
M22759/12-24-*	24	19/36	.024 (.61)	.041 (1.04)	.045 (1.14)	2.42 (3.60)	25.9 (85.0)	24-ATEN-1936
M22759/12-26-*	26	19/38	.019 (.48)	.036 (.914)	.040 (1.02)	1.75 (2.60)	42.2 (138)	26-ATEN-1938
M22759/12-28-*	28	7/36	.015 (.38)	.031 (.79)	.035 (.89)	1.23 (1.83)	67.9 (223)	28-ATEN-736

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. * Add color coding per MIL-STD-104 (see page 36).

MIL-W-22759/16, /17 wire—extruded ETFE insulation**Construction Details****Insulation:** Extruded ETFE.**Conductor:** /16: Tin-plated copper;
/17: Silver-plated, high strength copper alloy.**Colors:** Color coded to MIL-STD-104.**Identification:** to M22759.

MIL-W-22759/16 and /17 wires have extruded ETFE insulation for aerospace and other applications requiring light weight, tight diameter tolerances, and enhanced mechanical toughness.

ETFE insulation also provides exceptional resistance to radiation and chemicals.

For versions of these wires with thinner-wall insulation for light weight, see M22759/18 and /19 (following page).

See page 70 for a selection of M27500 shielded and jacketed cables incorporating these wires.

Performance:**Voltage rating:** 600V.**Temperature rating:** /16, /17: -55 to 150° C**Dimensions, Resistance, and Weights—M22759/16 (tin-plated copper conductor)**

M22759 P/N	AWG Size	Stranding	Conductor Diameter	Insulation Diameter		Weight	Maximum Resistance	Thermax P/N
				Minimum	Maximum			
M22759/16-02-*	2/0	1330/30	.460 (11.7)	.539 (13.7)	.553 (14.0)	485 (722)	.091 (.299)	2/0-ACFZ-1330/30
M22759/16-01-*	1/0	1045/30	.412 (10.5)	.473 (12.0)	.485 (12.3)	380 (566)	.126 (.380)	1/0-ACFZ-1045/30
M22759/16-1-*	1	817/30	.370 (9.40)	.426 (10.8)	.436 (11.1)	293 (437)	.149 (.489)	1-ACFZ-81730
M22759/16-2-*	2	665/30	.330 (8.38)	.384 (9.75)	.392 (9.96)	231 (344)	.183 (.600)	2-ACFZ-66530
M22759/16-4-*	4	133/25	.260 (6.60)	.308 (7.82)	.316 (8.03)	152 (227)	.280 (.916)	4-ACFZ-13325
M22759/16-6-*	6	133/27	.202 (5.13)	.247 (6.27)	.253 (6.43)	96.9 (144)	.445 (1.46)	6-ACFZ-13327
M22759/16-8-*	8	133/29	.162 (4.11)	.196 (4.98)	.202 (5.13)	61.5 (91.5)	.701 (2.30)	8-ACFZ-13329
M22759/16-10-*	10	37/26	.110 (2.79)	.136 (3.45)	.142 (3.61)	34.0 (50.6)	1.26 (4.13)	10-ACFZ-3726
M22759/16-12-*	12	37/28	.086 (2.18)	.111 (2.82)	.117 (2.97)	21.8 (32.4)	2.02 (6.63)	12-ACFZ-3728
M22759/16-14-*	14	19/27	.067 (1.70)	.091 (2.31)	.095 (2.41)	14.5 (21.6)	3.06 (10.0)	14-ACFZ-1927
M22759/16-16-*	16	19/29	.053 (1.35)	.077 (1.96)	.081 (2.06)	9.68 (14.4)	4.81 (15.8)	16-ACFZ-1929
M22759/16-18-*	18	19/30	.048 (1.22)	.069 (1.75)	.073 (1.85)	7.65 (11.4)	6.23 (20.4)	18-ACFZ-1930
M22759/16-20-*	20	19/32	.038 (.97)	.058 (1.47)	.062 (1.57)	5.18 (7.71)	9.88 (32.4)	20-ACFZ-1932
M22759/16-22-*	22	19/34	.030 (.76)	.050 (1.27)	.054 (1.37)	3.52 (5.24)	16.2 (53.1)	22-ACFZ-1934
M22759/16-24-*	24	19/36	.024 (.61)	.043 (1.09)	.047 (1.19)	2.45 (3.65)	26.2 (85.9)	24-ACFZ-1936

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.

* Add color coding per MIL-STD-104 (see page 36).

Dimensions, Resistance, and Weights—M22759/17 (silver-plated copper alloy conductor)

M22759 P/N	AWG Size	Stranding	Conductor Diameter	Insulation Diameter		Weight	Maximum Resistance	Break Strength	Thermax P/N
				Minimum	Maximum				
M22759/17-20-*	20	19/32	.038 (.97)	.058 (1.47)	.062 (1.57)	4.96 (7.38)	10.7 (35.1)	58.1 (26.4)	20-ACFTF-1932
M22759/17-22-*	22	19/34	.030 (.76)	.050 (1.27)	.054 (1.37)	3.40 (5.06)	17.5 (57.4)	35.8 (16.2)	22-ACFTF-1934
M22759/17-24-*	24	19/36	.024 (.61)	.043 (1.09)	.047 (1.19)	2.32 (3.45)	28.4 (93.2)	22.4 (10.2)	24-ACFTF-1936
M22759/17-26-*	26	19/38	.019 (.48)	.038 (.97)	.042 (1.07)	1.67 (2.49)	44.8 (147)	14.2 (6.44)	26-ACFTF-1938

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

Break strength in pounds (Kg) minimum.

All values are nominal unless otherwise indicated.

* Add color coding per MIL-STD-104 (see page 36).

MIL-W-22759/18, /19 wire—extruded thin-wall ETFE insulation

MIL-W-22759/18 and /19 wires have thin-wall extruded ETFE insulation for aerospace and other applications requiring light weight, tight diameter tolerances, and enhanced mechanical toughness.

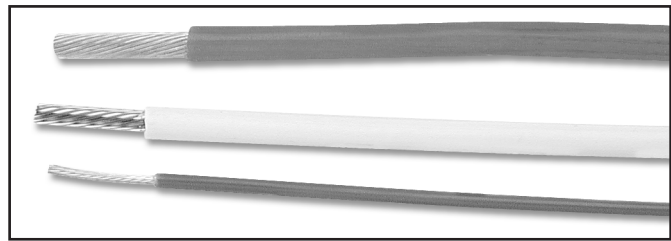
ETFE insulation also provides exceptional resistance to radiation and chemicals.

See page 71 for a selection of M27500 shielded and jacketed cables incorporating these wires.

Performance:

Voltage rating: 600V.

Temperature rating: /18, /19: -55 to 150° C



Construction Details

Insulation: thin-wall extruded ETFE.

Conductor: /18: Tin-plated copper;
/19: Silver-plated, high strength copper alloy.

Colors: Color coded to MIL-STD-104.

Identification: to M22759.

Dimensions, Resistance, and Weights—M22759/18 (tin-plated copper conductor)

M22759 P/N	AWG Size	Stranding	Conductor Diameter	Insulation Diameter		Weight	Maximum Resistance	Thermax P/N
				Minimum	Maximum			
M22759/18-10-*	10	37/26	.110 (2.79)	.131 (3.33)	.137 (3.48)	33.1 (49.3)	1.26 (4.13)	10-AMCFZ-3726
M22759/18-12-*	12	37/28	.086 (2.18)	.104 (2.64)	.110 (2.80)	21.0 (31.3)	2.02 (6.63)	12-AMCFZ-3728
M22759/18-14-*	14	19/27	.067 (1.70)	.083 (2.11)	.087 (2.21)	13.7 (20.4)	3.06 (10.0)	14-AMCFZ-1927
M22759/18-16-*	16	19/29	.053 (1.35)	.068 (1.73)	.072 (1.83)	8.93 (13.3)	4.81 (15.8)	16-AMCFZ-1929
M22759/18-18-*	18	19/30	.047 (1.19)	.059 (1.50)	.063 (1.60)	6.89 (10.3)	6.23 (20.4)	18-AMCFZ-1930
M22759/18-20-*	20	19/32	.038 (.97)	.049 (1.24)	.053 (1.35)	4.60 (6.85)	9.88 (32.4)	20-AMCFZ-1932
M22759/18-22-*	22	19/34	.030 (.76)	.041 (1.04)	.045 (1.14)	3.04 (4.52)	16.2 (53.1)	22-AMCFZ-1934
M22759/18-24-*	24	19/36	.024 (.61)	.034 (.86)	.038 (.97)	2.02 (3.01)	26.2 (85.9)	24-AMCFZ-1936
M22759/18-26-*	26	19/38	.019 (.48)	.030 (.76)	.034 (.86)	1.45 (2.26)	41.3 (135)	26-AMCFZ-1938

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.

* Add color coding per MIL-STD-104 (see page 36).

Dimensions, Resistance, and Weights—M22759/19 (silver-plated copper alloy conductor)

M22759 P/N	AWG Size	Stranding	Conductor Diameter	Insulation Diameter		Weight	Maximum Resistance	Break Strength	Thermax P/N
				Minimum	Maximum				
M22759/19-20-*	20	19/32	.038 (.97)	.049 (1.24)	.053 (1.35)	4.45 (6.62)	10.7 (35.1)	58.1 (26.4)	20-AMCFTF-1932
M22759/19-22-*	22	19/34	.030 (.76)	.041 (1.04)	.045 (1.14)	2.87 (4.27)	17.5 (57.4)	35.8 (16.2)	22-AMCFTF-1934
M22759/19-24-*	24	19/36	.024 (.61)	.034 (.86)	.038 (.97)	1.92 (2.86)	28.4 (93.2)	22.4 (10.2)	24-AMCFTF-1936
M22759/19-26-*	26	19/38	.019 (.48)	.030 (.76)	.034 (.86)	1.36 (2.02)	44.8 (147)	14.2 (6.44)	26-AMCFTF-1938

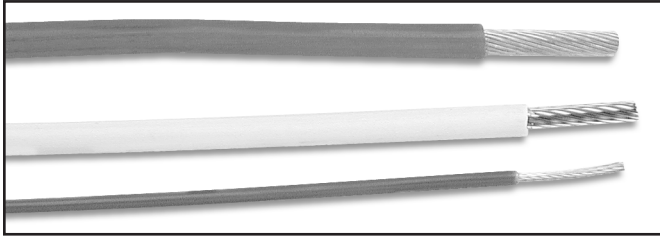
Dimensions in inches (mm). Weights in pounds/1000 feet (Kg/1000 M). Resistance in Ω /1,000 feet (Ω /Km), @20° C.

Break strength in pounds (Kg) minimum.

All values are nominal unless otherwise indicated.

* Add color coding per MIL-STD-104 (see page 36).

MIL-W-22759/20, /21 wire—high-strength conductor



Construction Details

Insulation: Extruded PTFE.

Conductor: /20: Silver-plated, high strength copper alloy;
/21: Nickel-plated, high strength copper alloy.

Colors: Color coded to MIL-STD-104.

Identification: to M22759.

MIL-W-22759/20 and /21 wires have extruded PTFE insulation and a high-strength copper alloy conductor for greater break strength. They are ideal for aerospace and other applications requiring high reliability and break strength, enhanced flex life, and resistance to high temperatures.

These wires are especially well-suited in applications where smoke emission, overload stability, and flammability are major concerns.

For versions of these wires with thinner-wall insulation and 600V voltage rating, see M22759/22 and /23 (following page).

Performance:

Voltage rating: 1,000V.

Temperature rating: /20: -55 to 200° C
/21: -55 to 260° C

Dimensions, Resistance, and Weights—M22759/20 (silver-plated copper alloy conductor)

M22759 P/N	AWG Size	Stranding	Conductor Diameter	Insulation Diameter		Weight	Maximum Resistance	Break Strength	Thermax P/N
				Minimum	Maximum				
M22759/20-20.*	20	19/32	.038 (.97)	.066 (1.68)	.070 (1.78)	6.09 (9.06)	10.7 (35.1)	58.1 (26.4)	20-AXTTF-1932
M22759/20-22.*	22	19/34	.030 (.76)	.058 (1.47)	.062 (1.57)	4.30 (6.40)	17.5 (57.4)	35.8 (16.2)	22-AXTTF-1934
M22759/20-24.*	24	19/36	.024 (.61)	.051 (1.30)	.055 (1.40)	3.13 (4.66)	28.4 (93.2)	22.4 (10.2)	24-AXTTF-1936
M22759/20-26.*	26	19/38	.019 (.48)	.046 (1.17)	.050 (1.27)	2.38 (3.54)	44.8 (147)	14.2 (6.44)	26-AXTTF-1938
M22759/20-28.*	28	7/36	.015 (.38)	.041 (1.04)	.045 (1.14)	1.78 (2.65)	74.4 (244)	8.16 (3.70)	28-AXTTF-736

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

Break strength in pounds (Kg) minimum.

All values are nominal unless otherwise indicated.

* Add color coding per MIL-STD-104 (see page 36).

Dimensions, Resistance, and Weights—M22759/21 (nickel-plated copper alloy conductor)

M22759 P/N	AWG Size	Stranding	Conductor Diameter	Insulation Diameter		Weight	Maximum Resistance	Break Strength	Thermax P/N
				Minimum	Maximum				
M22759/21-20.*	20	19/32	.038 (.97)	.066 (1.68)	.070 (1.78)	6.09 (9.06)	11.4 (37.4)	58.1 (26.4)	20-AXTTFN-1932
M22759/21-22.*	22	19/34	.030 (.76)	.058 (1.47)	.062 (1.57)	4.30 (6.40)	18.6 (61.0)	35.8 (16.2)	22-AXTTFN-1934
M22759/21-24.*	24	19/36	.024 (.61)	.051 (1.30)	.055 (1.40)	3.13 (4.66)	30.1 (98.7)	22.4 (10.2)	24-AXTTFN-1936
M22759/21-26.*	26	19/38	.019 (.48)	.046 (1.17)	.050 (1.27)	2.38 (3.54)	49.4 (162)	14.2 (6.44)	26-AXTTFN-1938
M22759/21-28.*	28	7/36	.015 (.38)	.041 (1.04)	.045 (1.14)	1.78 (2.65)	79.0 (259)	8.16 (3.70)	28-AXTTFN-736

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

Break strength in pounds (Kg) minimum.

All values are nominal unless otherwise indicated.

* Add color coding per MIL-STD-104 (see page 36).

MIL-W-22759/22, /23 wire—high-strength conductor

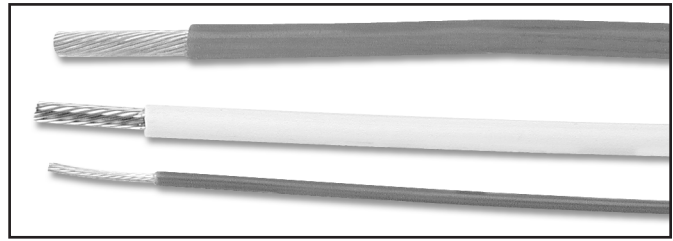
MIL-W-22759/22 and /23 wires have thin-wall extruded PTFE insulation and a high-strength copper alloy conductor for greater break strength. They are ideal for aerospace and other applications requiring high reliability and break strength, enhanced flex life, and resistance to high temperatures.

These wires are especially well-suited in applications where smoke emission, overload stability, and flammability are major concerns.

Performance:

Voltage rating: 600V.

Temperature rating: /22: -55 to 200° C
/23: -55 to 260° C



Construction Details

Insulation: Thin-wall extruded PTFE.

Conductor: /22: Silver-plated, high strength copper alloy;
/23: Nickel-plated, high strength copper alloy.

Colors: Color coded to MIL-STD-104.

Identification: to M22759.

Dimensions, Resistance, and Weights—M22759/22 (silver-plated copper alloy conductor)

M22759 P/N	AWG Size	Stranding	Conductor Diameter	Insulation Diameter		Weight	Maximum Resistance	Break Strength	Thermax P/N
				Minimum	Maximum				
M22759/22-20-*	20	19/32	.038 (.97)	.056 (1.42)	.060 (1.52)	5.19 (7.72)	10.7 (35.1)	58.1 (26.4)	20-ATETF-1932
M22759/22-22-*	22	19/34	.030 (.76)	.047 (1.19)	.051 (1.30)	3.55 (5.28)	17.5 (57.4)	35.8 (16.2)	22-ATETF-1934
M22759/22-24-*	24	19/36	.024 (.61)	.041 (1.04)	.045 (1.14)	2.51 (3.74)	28.4 (93.2)	22.4 (10.2)	24-ATETF-1936
M22759/22-26-*	26	19/38	.019 (.48)	.036 (.91)	.040 (1.02)	1.84 (2.74)	44.8 (147)	14.2 (6.44)	26-ATETF-1938
M22759/22-28-*	28	7/36	.015 (.38)	.031 (.79)	.035 (.89)	1.27 (1.89)	74.4 (244)	8.16 (3.70)	28-ATETF-736

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

Break strength in pounds (Kg) minimum.

All values are nominal unless otherwise indicated.

* Add color coding per MIL-STD-104 (see page 36).

Dimensions, Resistance, and Weights—M22759/23 (nickel-plated copper alloy conductor)

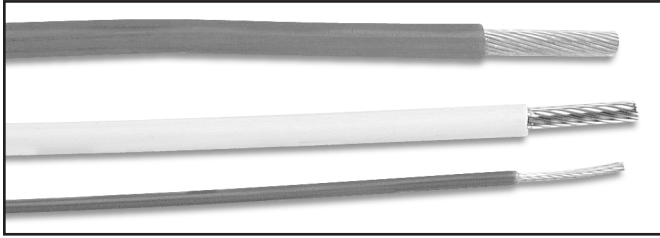
M22759 P/N	AWG Size	Stranding	Conductor Diameter	Insulation Diameter		Weight	Maximum Resistance	Break Strength	Thermax P/N
				Minimum	Maximum				
M22759/23-20-*	20	19/32	.038 (.97)	.056 (1.42)	.060 (1.52)	5.27 (7.84)	11.4 (37.4)	58.1 (26.4)	20-ATETFN-1932
M22759/23-22-*	22	19/34	.030 (.76)	.047 (1.19)	.051 (1.30)	3.62 (5.39)	18.6 (61.0)	35.8 (16.2)	22-ATETFN-1934
M22759/23-24-*	24	19/36	.024 (.61)	.041 (1.04)	.045 (1.14)	2.55 (3.79)	30.1 (98.7)	22.4 (10.2)	24-ATETFN-1936
M22759/23-26-*	26	19/38	.019 (.48)	.036 (.91)	.040 (1.02)	1.86 (2.77)	49.4 (162)	14.2 (6.44)	26-ATETFN-1938
M22759/23-28-*	28	7/36	.015 (.38)	.031 (.79)	.035 (.89)	1.29 (1.92)	79.0 (259)	8.16 (3.70)	28-ATETFN-736

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

Break strength in pounds (Kg) minimum.

All values are nominal unless otherwise indicated.

* Add color coding per MIL-STD-104 (see page 36).

MIL-W-22759/28, /29 wire—PTFE/polyimide insulation**Construction Details**

Insulation: Extruded PTFE with polyimide hard coat.

Conductor: /28: Silver-plated copper;
/29: Nickel-plated copper.

Colors: Color coded to MIL-STD-104 (before hard coat).

Identification: to M22759.

MIL-W-22759/28 and /29 wires have extruded PTFE insulation with a polyimide hard coat for increased cut-through and abrasion resistance.

These wires are designed for aerospace and other applications requiring excellent thermal stability, tight dimensional tolerances, and high reliability.

These wires are especially well-suited in applications where smoke emission, overload stability, and flammability are major concerns.

For versions of these wires with high-strength copper alloy conductor, see M22759/30 and /31 (following page).

Performance:

Voltage rating: 600V.

Temperature rating: /28: -55 to 200° C
/29: -55 to 260° C

Dimensions, Resistance, and Weights—M22759/28 (silver-plated conductor)

M22759 P/N	AWG Size	Stranding	Conductor Diameter	Insulation Diameter		Weight	Maximum Resistance	Thermax P/N
				Minimum	Maximum			
M22759/28-14-*	14	19/27	.067 (1.70)	.088 (2.24)	.094 (2.39)	14.8 (22.0)	2.88 (9.45)	14-ATEH-1927
M22759/28-16-*	16	19/29	.053 (1.35)	.073 (1.85)	.079 (2.01)	9.75 (14.5)	4.52 (14.8)	16-ATEH-1929
M22759/28-18-*	18	19/30	.047 (1.19)	.067 (1.70)	.071 (1.80)	7.68 (11.4)	5.79 (19.0)	18-ATEH-1930
M22759/28-20-*	20	19/32	.038 (.97)	.057 (1.45)	.061 (1.55)	5.24 (7.80)	9.19 (30.1)	20-ATEH-1932
M22759/28-22-*	22	19/34	.030 (.76)	.048 (1.22)	.052 (1.32)	3.51 (5.22)	15.1 (49.5)	22-ATEH-1934
M22759/28-24-*	24	19/36	.024 (.61)	.042 (1.07)	.046 (1.17)	2.47 (3.68)	24.3 (79.7)	24-ATEH-1936
M22759/28-26-*	26	19/38	.019 (.48)	.037 (.94)	.041 (1.04)	1.80 (2.68)	38.4 (126)	26-ATEH-1938
M22759/28-28-*	28	7/36	.015 (.38)	.032 (.81)	.036 (.91)	1.27 (1.89)	63.8 (209)	28-ATEH-736

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.

* Add color coding (applicable to inner PTFE insulation only) per MIL-STD-104 (see page 36).

Dimensions, Resistance, and Weights—M22759/29 (nickel-plated conductor)

M22759 P/N	AWG Size	Stranding	Conductor Diameter	Insulation Diameter		Weight	Maximum Resistance	Thermax P/N
				Minimum	Maximum			
M22759/29-14-*	14	19/27	.067 (1.70)	.088 (2.24)	.094 (2.39)	14.8 (22.0)	3.00 (9.84)	14-ATENH-1927
M22759/29-16-*	16	19/29	.053 (1.35)	.073 (1.85)	.079 (2.01)	9.75 (14.5)	4.76 (15.6)	16-ATENH-1929
M22759/29-18-*	18	19/30	.047 (1.19)	.067 (1.70)	.071 (1.80)	7.68 (11.4)	6.10 (20.0)	18-ATENH-1930
M22759/29-20-*	20	19/32	.038 (.97)	.057 (1.45)	.061 (1.55)	5.24 (7.80)	9.77 (32.0)	20-ATENH-1932
M22759/29-22-*	22	19/34	.030 (.76)	.048 (1.22)	.052 (1.32)	3.51 (5.22)	16.0 (52.5)	22-ATENH-1934
M22759/29-24-*	24	19/36	.024 (.61)	.042 (1.07)	.046 (1.17)	2.47 (3.68)	25.9 (85.0)	24-ATENH-1936
M22759/29-26-*	26	19/38	.019 (.48)	.037 (.94)	.041 (1.04)	1.80 (2.68)	42.2 (138)	26-ATENH-1938
M22759/29-28-*	28	7/36	.015 (.38)	.032 (.81)	.036 (.91)	1.27 (1.89)	67.9 (223)	28-ATENH-736

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.

* Add color coding (applicable to inner PTFE insulation only) per MIL-STD-104 (see page 36).

MIL-W-22759/30, /31 wire—high-strength conductor

MIL-DTL-22759/30 and /31 wires have extruded PTFE insulation with a polyimide polyimide hard coat for increased cut-through and abrasion resistance, and a high-strength copper alloy conductor for greater break strength.

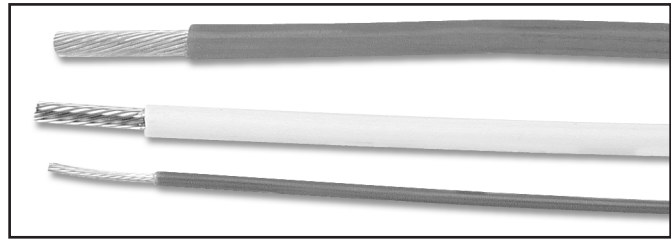
These wires are designed for aerospace and other applications requiring excellent thermal stability, tight dimensional tolerances, and high reliability.

These wires are especially well-suited in applications where smoke emission, overload stability, and flammability are major concerns.

Performance:

Voltage rating: 600V.

Temperature rating: /30: -55 to 200° C
/31: -55 to 260° C

**Construction Details**

Insulation: Extruded PTFE with polyimide hard coat.

Conductor: /30: Silver-plated, high strength copper alloy;
/31: Nickel-plated, high strength copper alloy.

Colors: Color coded to MIL-STD-104 (before hard coat).

Identification: to M22759.

Dimensions, Resistance, and Weights—M22759/30 (silver-plated copper alloy conductor)

M22759 P/N	AWG Size	Stranding	Conductor Diameter	Insulation Diameter		Weight	Maximum Resistance	Break Strength	Thermax P/N
				Minimum	Maximum				
M22759/30-20-*	20	19/32	.038 (.97)	.057 (1.45)	.061 (1.55)	5.24 (7.80)	10.7 (35.1)	58.1 (26.4)	20-ATETFH-1932
M22759/30-22-*	22	19/34	.030 (.76)	.048 (1.22)	.052 (1.32)	3.51 (5.22)	17.5 (57.4)	35.8 (16.2)	22-ATETFH-1934
M22759/30-24-*	24	19/36	.024 (.61)	.042 (1.07)	.046 (1.17)	2.47 (3.68)	28.4 (93.2)	22.4 (10.2)	24-ATETFH-1936
M22759/30-26-*	26	19/38	.019 (.48)	.037 (.94)	.041 (1.04)	1.80 (2.68)	44.8 (147)	14.2 (6.44)	26-ATETFH-1938
M22759/30-28-*	28	7/36	.015 (.38)	.032 (.81)	.036 (.91)	1.27 (1.89)	74.4 (244)	8.16 (3.70)	28-ATETFH-736

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

Break strength in pounds (Kg) minimum.

All values are nominal unless otherwise indicated.

* Add color coding (applicable to inner PTFE insulation only) per MIL-STD-104 (see page 36).

Dimensions, Resistance, and Weights—M22759/31 (nickel-plated copper alloy conductor)

M22759 P/N	AWG Size	Stranding	Conductor Diameter	Insulation Diameter		Weight	Maximum Resistance	Break Strength	Thermax P/N
				Minimum	Maximum				
M22759/31-20-*	20	19/32	.038 (.97)	.057 (1.45)	.061 (1.55)	5.28 (7.86)	11.4 (37.4)	58.1 (26.4)	20-ATETFNH-1932
M22759/31-22-*	22	19/34	.030 (.76)	.048 (1.22)	.052 (1.32)	3.52 (5.24)	18.6 (61.0)	35.8 (16.2)	22-ATETFNH-1934
M22759/31-24-*	24	19/36	.024 (.61)	.042 (1.07)	.046 (1.17)	2.48 (3.69)	30.1 (98.7)	22.4 (10.2)	24-ATETFNH-1936
M22759/31-26-*	26	19/38	.019 (.48)	.037 (.94)	.041 (1.04)	1.81 (2.69)	49.4 (162)	14.2 (6.44)	26-ATETFNH-1938
M22759/31-28-*	28	7/36	.015 (.38)	.032 (.81)	.036 (.91)	1.28 (1.90)	79.0 (259)	8.16 (3.70)	28-ATETFNH-736

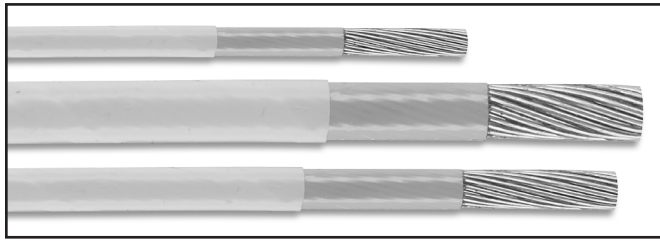
Dimensions in inches (mm). Weights in pounds/1000 feet (Kg/1000 M). Resistance in Ω /1,000 feet (Ω /Km), @20° C.

Break strength in pounds (Kg) minimum.

All values are nominal unless otherwise indicated.

* Add color coding (applicable to inner PTFE insulation only) per MIL-STD-104 (see page 36).

MIL-DTL-22759/80, /81, /82 wire—light weight, composite insulation



Construction Details

Insulation: PTFE/polyimide/PTFE tape (inner layer);
PTFE tape (outer layer).

Conductor: /80: Tin-plated copper;
/81: Silver-plated high-strength (AWG 20-24)
or ultra-high-strength copper alloy (AWG 26).
/82: Nickel-plated high-strength (AWG 20-24)
or ultra-high-strength copper alloy (AWG 26).

Colors: Color coded to MIL-STD-681.

Identification: Per MIL-DTL-22759/80, /81, and /82.

MIL-DTL-22759/80, /81, and /82 wires are light-weight, high-performance aerospace hookup wires with a dual-layer insulation of PTFE/polyimide/PTFE tape, covered with PTFE tape.

These wires are designed for aerospace and other applications requiring excellent thermal stability, light weight, and high break strength.

These wires are available with our unique **Seamless Wrap** PTFE tape insulation (see page 54 for details and part numbers).

Performance:

Voltage rating: 600V.

Temperature rating: /80: -55 to 150° C
/81: -55 to 200° C
/82: -55 to 260° C

Dimensions, Resistance, and Weights—M22759/80 (tin-plated copper conductor)

M22759 P/N	AWG Size	Stranding	Conductor Diameter		Insulation Diameter		Weight	Maximum Resistance
			Minimum	Maximum	Minimum	Maximum		
M22759/80-10-*	10	37/26	.1060 (2.69)	.1120 (2.84)	.119 (3.02)	.123 (3.12)	30.4 (45.2)	1.26 (4.13)
M22759/80-12-*	12	37/28	.0835 (2.12)	.0894 (2.27)	.096 (2.44)	.100 (2.54)	19.4 (28.9)	2.02 (6.63)
M22759/80-14-*	14	19/27	.0645 (1.64)	.0694 (1.76)	.076 (1.93)	.080 (2.03)	12.4 (18.4)	3.06 (10.0)
M22759/80-16-*	16	19/29	.0515 (1.31)	.0554 (1.41)	.063 (1.60)	.067 (1.70)	7.97 (11.9)	4.81 (15.8)
M22759/80-18-*	18	19/30	.0455 (1.16)	.0494 (1.25)	.056 (1.42)	.060 (1.52)	6.41 (9.5)	6.23 (20.4)
M22759/80-20-*	20	19/32	.0365 (.93)	.0394 (1.00)	.048 (1.22)	.051 (1.30)	4.29 (6.4)	9.88 (32.4)
M22759/80-22-*	22	19/34	.0285 (.72)	.0314 (.80)	.040 (1.02)	.043 (1.09)	2.78 (4.1)	16.2 (53.1)
M22759/80-24-*	24	19/36	.0225 (.57)	.0244 (.62)	.034 (.86)	.038 (.97)	1.87 (2.8)	26.2 (85.9)
M22759/80-26-*	26	19/38	.0175 (.44)	.0204 (.52)	.030 (.76)	.034 (.86)	1.30 (1.9)	41.3 (135)

Dimensions, Weights, and Resistance—M22759/81 (silver-plated high-strength conductor)

M22759 P/N	AWG Size	Stranding	Conductor Diameter		Insulation Diameter		Weight	Maximum Resistance
			Minimum	Maximum	Minimum	Maximum		
M22759/81-20-*	20	19/32	.0365 (.93)	.0395 (1.00)	.048 (1.22)	.051 (1.30)	4.36 (6.5)	10.7 (35.1)
M22759/81-22-*	22	19/34	.0285 (.72)	.0314 (.80)	.040 (1.02)	.043 (1.09)	2.80 (4.2)	17.5 (57.4)
M22759/81-24-*	24	19/36	.0225 (.57)	.0244 (.62)	.034 (.86)	.038 (.97)	1.87 (2.8)	28.4 (93.2)
M22759/81-26-*	†26	19/38	.0175 (.44)	.0204 (.52)	.030 (.76)	.034 (.86)	1.40 (2.1)	56.4 (185)

Dimensions, Weights, and Resistance—M22759/82 (nickel-plated high-strength conductor)

M22759 P/N	AWG Size	Stranding	Conductor Diameter		Insulation Diameter		Weight	Maximum Resistance
			Minimum	Maximum	Minimum	Maximum		
M22759/82-20-*	20	19/32	.0365 (.93)	.0404 (1.03)	.048 (1.22)	.051 (1.30)	4.32 (6.4)	11.4 (37.4)
M22759/82-22-*	22	19/34	.0285 (.72)	.0314 (.80)	.040 (1.02)	.043 (1.09)	2.83 (4.2)	18.6 (61.0)
M22759/82-24-*	24	19/36	.0225 (.57)	.0254 (.65)	.034 (.86)	.038 (.97)	1.87 (2.8)	30.1 (98.3)
M22759/82-26-*	†26	19/38	.0175 (.44)	.0204 (.52)	.030 (.72)	.034 (.86)	1.38 (2.1)	58.4 (191)

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-681 (see page 36). †Indicates ultra-high-strength copper alloy conductor.

All values are nominal unless otherwise indicated.

MIL-DTL-22759/83, /84, /85 wire—normal weight

MIL-DTL-22759/83, /84, and /85 wires are large size, high-performance aerospace hookup wires with a four-layer insulation of PTFE tape and PTFE/polyimide/PTFE tape, with an outer layer of polyamide braid for superior abrasion resistance.

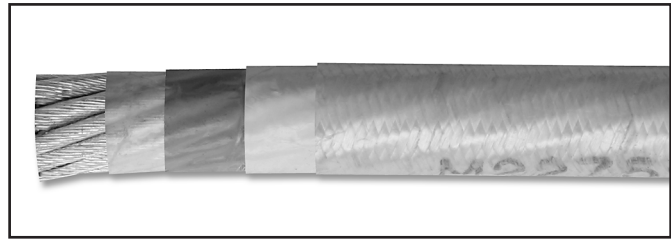
These wires are designed for aerospace and other applications requiring excellent thermal stability and abrasion resistance.

These wires are available with our unique **Seamless Wrap** PTFE tape insulation (see page 54 for details and part numbers).

Performance:

Voltage rating: 600V.

Temperature rating: /83: -55 to 200° C
/84: -55 to 260° C
/85: -55 to 150° C



Construction Details

Insulation: First layer: PTFE tape;

Second layer: PTFE/polyimide/PTFE tape;

Third and fourth layers: PTFE tape;

Fifth (outer) layer: 200 Denier polyamide braid with clear lacquer to prevent fraying.

Conductor: /83: Silver-plated copper;

/84: Nickel-plated copper.

/85: Tin-plated copper.

Colors: See below.

Identification: Per MIL-DTL-22759/83, /84, and /85.

Dimensions, Weight, and Resistance—M22759/83 (silver-plated copper conductor)

M22759 P/N	AWG Size	Stranding	Conductor Diameter		Insulation Diameter		Weight	Maximum Resistance
			Minimum	Maximum	Minimum	Maximum		
M22759/83-04-*	4/0	2109/30	.565 (14.35)	.605 (15.37)	.615 (15.62)	.655 (16.64)	661.4 (984.0)	.054 (.177)
M22759/83-03-*	3/0	1665/30	.500 (12.70)	.540 (13.72)	.554 (14.07)	.584 (14.83)	520.3 (774.1)	.068 (.223)
M22759/83-02-*	2/0	1330/30	.440 (11.18)	.475 (12.07)	.498 (12.65)	.528 (13.41)	414.7 (617.0)	.085 (.279)
M22759/83-01-*	0	1045/30	.395 (10.03)	.425 (10.80)	.442 (11.23)	.462 (11.73)	337.0 (501.4)	.108 (.354)
M22759/83-1-*	1	817/30	.366 (9.30)	.380 (9.65)	.400 (10.16)	.420 (10.67)	282.0 (419.6)	.139 (.456)
M22759/83-2-*	2	665/30	.320 (8.13)	.340 (8.64)	.360 (9.14)	.380 (9.65)	217.9 (324.2)	.170 (.558)

Dimensions, Weight, and Resistance—M22759/84 (nickel-plated copper conductor)

M22759 P/N	AWG Size	Stranding	Conductor Diameter		Insulation Diameter		Weight	Maximum Resistance
			Minimum	Maximum	Minimum	Maximum		
M22759/84-04-*	4/0	2109/30	.565 (14.35)	.605 (15.37)	.615 (15.62)	.655 (16.64)	661.4 (984.0)	.056 (.184)
M22759/84-03-*	3/0	1665/30	.500 (12.70)	.540 (13.72)	.554 (14.07)	.584 (14.83)	520.3 (774.1)	.071 (.233)
M22759/84-02-*	2/0	1330/30	.440 (11.18)	.475 (12.07)	.498 (12.65)	.528 (13.41)	414.7 (617.0)	.089 (.292)
M22759/84-01-*	0	1045/30	.395 (10.03)	.425 (10.80)	.442 (11.23)	.462 (11.73)	337.0 (501.4)	.113 (.371)
M22759/84-1-*	1	817/30	.366 (9.30)	.380 (9.65)	.400 (10.16)	.420 (10.67)	282.0 (419.6)	.144 (.472)
M22759/84-2-*	2	665/30	.320 (8.13)	.340 (8.64)	.360 (9.14)	.380 (9.65)	217.9 (324.2)	.177 (.581)

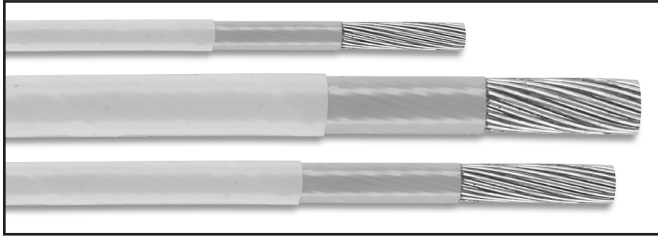
Dimensions, Weight, and Resistance—M22759/85 (tin-plated copper conductor)

M22759 P/N	AWG Size	Stranding	Conductor Diameter		Insulation Diameter		Weight	Maximum Resistance
			Minimum	Maximum	Minimum	Maximum		
M22759/85-04-*	4/0	2109/30	.565 (14.35)	.605 (15.37)	.615 (15.62)	.655 (16.64)	661.4 (984.0)	.056 (.184)
M22759/85-03-*	3/0	1665/30	.500 (12.70)	.540 (13.72)	.554 (14.07)	.584 (14.83)	520.3 (774.1)	.071 (.233)
M22759/85-02-*	2/0	1330/30	.440 (11.18)	.475 (12.07)	.498 (12.65)	.528 (13.41)	414.7 (617.0)	.091 (.298)
M22759/85-01-*	0	1045/30	.395 (10.03)	.425 (10.80)	.442 (11.23)	.462 (11.73)	337.0 (501.4)	.116 (.380)
M22759/85-1-*	1	817/30	.366 (9.30)	.380 (9.65)	.400 (10.16)	.420 (10.67)	282.0 (419.6)	.149 (.489)
M22759/85-2-*	2	665/30	.320 (8.13)	.340 (8.64)	.360 (9.14)	.380 (9.65)	217.9 (324.2)	.183 (.600)

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—dark green (5D) preferred, white (9) acceptable alternate. All values are nominal unless otherwise indicated.

MIL-DTL-22759/86 wire—silver-plated conductor



Construction Details

Insulation: See chart below.

Conductor: Silver-plated copper.

Colors: Color coded to MIL-STD-681.

Identification: Per MIL-DTL-22759/86.

MIL-DTL-22759/86 wires are normal-weight, high-performance aerospace hookup wires with insulation composed of PTFE/polyimide/PTFE tape and PTFE tape in several configurations.

These wires are designed for aerospace and other applications requiring excellent thermal stability and good abrasion resistance.

For versions of these wires with nickel-plated conductors, see MIL-DTL-22759/87 (following page). For versions with tin-plated conductors, see MIL-DTL-22759/88 (page 51).

These wires are available with our unique **Seamless Wrap** PTFE tape insulation (see page 54 for details and part numbers).

Performance:

Voltage rating: 600V.

Temperature rating: -55 to 200° C

Insulation—M22759/86

AWG Size	Inner Layer	Second Layer	Third Layer	Fourth Layer
4/0 through 4	PTFE tape	PTFE/polyimide/PTFE tape	PTFE tape	PTFE tape
8 and 6	PTFE tape	PTFE/polyimide/PTFE tape	PTFE tape	None
10 through 26	PTFE/polyimide/PTFE tape	PTFE tape	None	None

Dimensions, Resistance, and Weights—M22759/86 (silver-plated copper conductor)

M22759 P/N	AWG Size	Stranding	Conductor Diameter		Insulation Diameter		Weight	Maximum Resistance	
			Minimum	Maximum	Minimum	Maximum			
M22759/86-04-*	4/0	2109/30	.565 (14.35)	.605 (15.37)	.590 (14.99)	.630 (16.0)	680.8 (1012.9)	.054 (.177)	
M22759/86-03-*	3/0	1665/30	.500 (12.70)	.540 (13.72)	.530 (13.46)	.560 (14.2)	541.8 (806.1)	.068 (.223)	
M22759/86-02-*	2/0	1330/30	.440 (11.18)	.475 (12.07)	.475 (12.07)	.505 (12.8)	431.6 (642.1)	.085 (.279)	
M22759/86-01-*	0	1045/30	.395 (10.03)	.425 (10.80)	.420 (10.67)	.450 (11.4)	343.8 (511.5)	.108 (.354)	
M22759/86-1-*	1	817/30	.366 (9.30)	.380 (9.65)	.388 (9.86)	.408 (10.4)	272.5 (405.4)	.139 (.456)	
M22759/86-2-*	2	665/30	.320 (8.13)	.340 (8.64)	.344 (8.74)	.364 (9.25)	222.8 (331.5)	.170 (.558)	
M22759/86-4-*	4	133/25	.250 (6.35)	.263 (6.68)	.276 (7.01)	.288 (7.32)	141.1 (209.9)	.264 (.866)	
M22759/86-6-*	6	133/27	.198 (5.03)	.208 (5.28)	.219 (5.56)	.229 (5.82)	88.1 (131.1)	.418 (1.37)	
M22759/86-8-*	8	133/29	.158 (4.01)	.166 (4.22)	.180 (4.57)	.188 (4.78)	57.5 (85.5)	.658 (2.16)	
M22759/86-10-*	10	37/26	.106 (2.69)	.110 (2.79)	.122 (3.10)	.127 (3.23)	31.2 (46.4)	1.19 (3.90)	
M22759/86-12-*	12	37/28	.0835 (2.12)	.0874 (2.22)	.100 (2.54)	.105 (2.67)	19.6 (29.2)	1.90 (6.23)	
M22759/86-14-*	14	19/27	.0645 (1.64)	.0684 (1.74)	.081 (2.06)	.086 (2.18)	12.5 (18.6)	2.88 (9.45)	
M22759/86-16-*	16	19/29	.0515 (1.31)	.0544 (1.38)	.068 (1.73)	.073 (1.85)	8.55 (12.7)	4.52 (14.8)	
M22759/86-18-*	18	19/30	.0455 (1.16)	.0484 (1.23)	.061 (1.55)	.065 (1.65)	6.65 (9.9)	5.79 (19.0)	
M22759/86-20-*	20	19/32	.0365 (.93)	.0384 (.98)	.051 (1.30)	.055 (1.40)	4.50 (6.7)	9.19 (30.1)	
M22759/86-22-*	22	19/34	.0285 (.72)	.0304 (.77)	.043 (1.09)	.047 (1.19)	2.97 (4.4)	15.1 (49.5)	
M22759/86-24-*	24	19/36	.0225 (.57)	.0244 (.62)	.038 (.97)	.042 (1.07)	2.04 (3.0)	24.3 (79.7)	
M22759/86-26-*	26	19/38	.0175 (.44)	.0194 (.49)	.033 (.84)	.037 (.94)	1.44 (2.1)	38.4 (126)	

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-681 (see page 36). All values are nominal unless otherwise indicated.

MIL-DTL-22759/87 wire—normal weight

MIL-DTL-22759/87 wires are normal-weight, high-performance aerospace hookup wires with insulation composed of PTFE/polyimide/PTFE tape and PTFE tape in several configurations.

These wires are designed for aerospace and other applications requiring excellent thermal stability and good abrasion resistance.

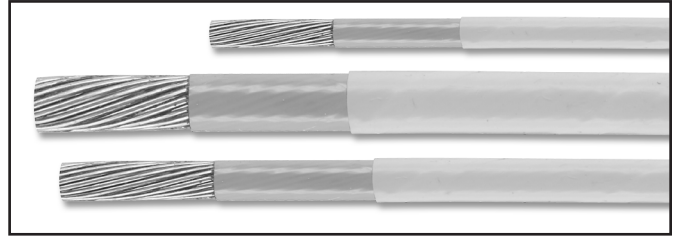
For versions of these wires with silver-plated conductors, see MIL-DTL-22759/86 (previous page). For versions with tin-plated conductors, see MIL-DTL-22759/88 (following page).

These wires are available with our unique **Seamless Wrap** PTFE tape insulation (see page 54 for details).

Performance:

Voltage rating: 600V.

Temperature rating: -55 to 260° C



Construction Details

Insulation: See chart below.

Conductor: Nickel-plated copper.

Colors: Color coded to MIL-STD-681.

Identification: Per MIL-DTL-22759/87.

Insulation—M22759/87

AWG Size	Inner Layer	Second Layer	Third Layer	Fourth Layer
4/0 through 4	PTFE tape	PTFE/polyimide/PTFE tape	PTFE tape	PTFE tape
8 and 6	PTFE tape	PTFE/polyimide/PTFE tape	PTFE tape	None
10 through 26	PTFE/polyimide/PTFE tape	PTFE tape	None	None

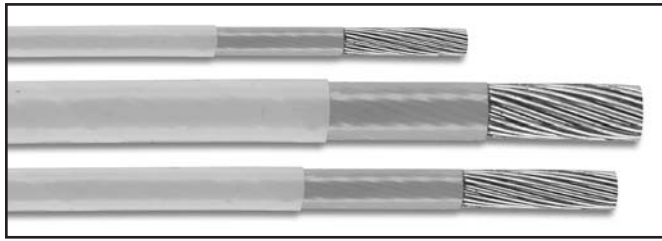
Dimensions, Resistance, and Weights—M22759/87 (nickel-plated copper conductor)

M22759 P/N	AWG Size	Stranding	Conductor Diameter		Insulation Diameter		Weight	Maximum Resistance
			Minimum	Maximum	Minimum	Maximum		
M22759/87-04-*	4/0	2109/30	.565 (14.35)	.605 (15.37)	.590 (14.99)	.630 (16.00)	680.8 (1012.9)	.056 (.177)
M22759/87-03-*	3/0	1665/30	.500 (12.70)	.540 (13.72)	.530 (13.46)	.560 (14.22)	541.8 (806.1)	.071 (.233)
M22759/87-02-*	2/0	1330/30	.440 (11.18)	.476 (12.09)	.475 (12.07)	.505 (12.83)	431.6 (642.1)	.089 (.292)
M22759/87-01-*	0	1045/30	.395 (10.03)	.425 (10.80)	.420 (10.67)	.450 (11.43)	343.8 (511.5)	.113 (.371)
M22759/87-1-*	1	817/30	.366 (9.30)	.380 (9.65)	.388 (9.86)	.408 (10.36)	272.5 (405.4)	.144 (.472)
M22759/87-2-*	2	665/30	.320 (8.13)	.340 (8.64)	.344 (8.74)	.364 (9.25)	222.8 (331.5)	.177 (.581)
M22759/87-4-*	4	133/25	.250 (6.35)	.268 (6.81)	.276 (7.01)	.288 (7.32)	141.1 (209.9)	.275 (.902)
M22759/87-6-*	6	133/27	.198 (5.03)	.212 (5.38)	.219 (5.56)	.229 (5.82)	88.1 (131.1)	.436 (1.43)
M22759/87-8-*	8	133/29	.158 (4.01)	.169 (4.29)	.180 (4.57)	.188 (4.78)	57.5 (85.5)	.694 (2.28)
M22759/87-10-*	10	37/26	.106 (2.69)	.112 (2.84)	.122 (3.10)	.127 (3.23)	31.3 (46.6)	1.24 (4.07)
M22759/87-12-*	12	37/28	.0835 (2.12)	.0894 (2.27)	.100 (2.54)	.105 (2.67)	20.0 (29.8)	1.98 (6.49)
M22759/87-14-*	14	19/27	.0645 (1.64)	.0694 (1.76)	.081 (2.06)	.086 (2.18)	12.5 (18.6)	3.00 (9.84)
M22759/87-16-*	16	19/29	.0515 (1.31)	.0554 (1.41)	.068 (1.73)	.073 (1.85)	8.55 (12.7)	4.76 (15.6)
M22759/87-18-*	18	19/30	.0455 (1.16)	.0494 (1.25)	.061 (1.55)	.065 (1.65)	6.65 (9.9)	6.10 (20.0)
M22759/87-20-*	20	19/32	.0365 (.93)	.0394 (1.00)	.051 (1.30)	.055 (1.40)	4.54 (6.8)	9.77 (32.0)
M22759/87-22-*	22	19/34	.0285 (.72)	.0314 (.80)	.043 (1.09)	.047 (1.19)	2.97 (4.4)	16.0 (52.5)
M22759/87-24-*	24	19/36	.0225 (.57)	.0244 (.62)	.038 (.97)	.042 (1.07)	2.04 (3.0)	25.9 (85.0)
M22759/87-26-*	26	19/38	.0175 (.44)	.0204 (.52)	.033 (.84)	.037 (.94)	1.48 (2.2)	42.2 (138)

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-681 (see page 36). All values are nominal unless otherwise indicated.

MIL-DTL-22759/88 wire—tin-plated conductor



Construction Details

Insulation: See chart below.

Conductor: Tin-plated copper.

Colors: Color coded to MIL-STD-681.

Identification: Per MIL-DTL-22759/88.

MIL-DTL-22759/88 wires are normal-weight, high-performance aerospace hookup wires with insulation composed of PTFE/polyimide/PTFE tape and PTFE tape in several configurations.

These wires are designed for aerospace and other applications requiring excellent thermal stability and good abrasion resistance.

For versions of these wires with silver-plated conductors, see MIL-DTL-22759/86 (page 49). For versions with nickel-plated conductors, see MIL-DTL-22759/87 (previous page).

These wires are available with our unique **Seamless Wrap** PTFE tape insulation (see page 54 for details).

Performance:

Voltage rating: 600V.

Temperature rating: -55 to 150° C

Insulation—M22759/88

AWG Size	Inner Layer	Second Layer	Third Layer	Fourth Layer
4/0 through 4	PTFE tape	PTFE/polyimide/PTFE tape	PTFE tape	PTFE tape
8 and 6	PTFE tape	PTFE/polyimide/PTFE tape	PTFE tape	None
10 through 26	PTFE/polyimide/PTFE tape	PTFE tape	None	None

Dimensions, Resistance, and Weights—M22759/88 (tin-plated copper conductor)

M22759 P/N	AWG Size	Stranding	Conductor Diameter		Insulation Diameter		Weight	Maximum Resistance
			Minimum	Maximum	Minimum	Maximum		
M22759/88-04-*	4/0	2109/30	.565 (14.35)	.605 (15.37)	.590 (14.99)	.630 (16.00)	680.8 (1012.9)	.056 (.177)
M22759/88-03-*	3/0	1665/30	.500 (12.70)	.540 (13.72)	.530 (13.46)	.560 (14.22)	541.8 (806.1)	.071 (.233)
M22759/88-02-*	2/0	1330/30	.440 (11.18)	.475 (12.07)	.475 (12.07)	.505 (12.83)	431.6 (642.1)	.091 (.298)
M22759/88-01-*	0	1045/30	.395 (10.03)	.425 (10.80)	.420 (10.67)	.450 (11.43)	343.8 (511.5)	.116 (.380)
M22759/88-1-*	1	817/30	.366 (9.30)	.380 (9.65)	.388 (9.86)	.408 (10.36)	274.5 (408.4)	.149 (.489)
M22759/88-2-*	2	665/30	.320 (8.13)	.340 (8.64)	.344 (8.74)	.364 (9.25)	222.8 (331.5)	.183 (.600)
M22759/88-4-*	4	133/25	.250 (6.35)	.268 (6.81)	.276 (7.01)	.288 (7.32)	141.1 (209.9)	.280 (.918)
M22759/88-6-*	6	133/27	.198 (5.03)	.212 (5.38)	.219 (5.56)	.229 (5.82)	88.1 (131.1)	.445 (1.46)
M22759/88-8-*	8	133/29	.158 (4.01)	.169 (4.29)	.180 (4.57)	.188 (4.78)	57.5 (85.5)	.701 (2.30)
M22759/88-10-*	10	37/26	.106 (2.69)	.112 (2.84)	.122 (3.10)	.127 (3.23)	31.3 (46.6)	1.26 (4.13)
M22759/88-12-*	12	37/28	.0835 (2.12)	.0894 (2.27)	.100 (2.54)	.105 (2.67)	20.0 (29.8)	2.02 (6.63)
M22759/88-14-*	14	19/27	.0645 (1.64)	.0694 (1.76)	.081 (2.06)	.086 (2.18)	12.9 (19.2)	3.06 (10.0)
M22759/88-16-*	16	19/29	.0515 (1.31)	.0554 (1.41)	.068 (1.73)	.073 (1.85)	8.44 (12.6)	4.81 (15.8)
M22759/88-18-*	18	19/30	.0455 (1.16)	.0494 (1.25)	.061 (1.55)	.065 (1.65)	6.67 (9.9)	6.23 (20.4)
M22759/88-20-*	20	19/32	.0365 (.93)	.0394 (1.00)	.051 (1.30)	.055 (1.40)	4.51 (6.7)	9.88 (32.4)
M22759/88-22-*	22	19/34	.0285 (.73)	.0314 (.80)	.043 (1.09)	.047 (1.19)	2.97 (4.4)	16.2 (53.1)
M22759/88-24-*	24	19/36	.0225 (.57)	.0244 (.62)	.038 (.97)	.042 (1.07)	2.04 (3.0)	26.2 (85.9)
M22759/88-26-*	26	19/38	.0175 (.44)	.0204 (.52)	.033 (.84)	.037 (.94)	1.44 (2.1)	41.3 (135)

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-681 (see page 36). All values are nominal unless otherwise indicated.

MIL-DTL-22759/89, /90 wire—normal weight

MIL-DTL-22759/89 and /90 wires are light-weight, high-performance aerospace hookup wires with a dual-layer insulation of PTFE/polyimide/PTFE tape, covered with PTFE tape. They are similar to MIL-DTL-22759/81 and /82 wires, but have thicker-wall insulation.

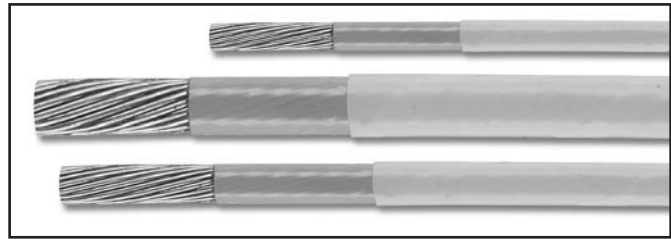
These wires are designed for aerospace and other applications requiring excellent thermal stability and high break strength.

These wires are available with our unique **Seamless Wrap** PTFE tape insulation (see page 54 for details).

Performance:

Voltage rating: 600V.

Temperature rating: /89: -55 to 200° C
/90: -55 to 260° C

**Construction Details**

Insulation: PTFE/polyimide/PTFE tape (inner layer);
PTFE tape (outer layer).

Conductor: /89: Silver-plated high-strength (AWG 20-24)
or ultra-high-strength copper alloy (AWG 26).
/90: Nickel-plated high-strength (AWG 20-24)
or ultra-high-strength copper alloy (AWG 26).

Colors: Color coded to MIL-STD-681.

Identification: Per MIL-DTL-22759/89 and /90.

Dimensions, Weights, and Resistance—M22759/89 (silver-plated high-strength conductor)

M22759 P/N	AWG Size	Stranding	Conductor Diameter		Insulation Diameter		Weight	Maximum Resistance
			Minimum	Maximum	Minimum	Maximum		
M22759/89-20-*	20	19/32	.0365 (.93)	.0395 (1.00)	.051 (1.30)	.055 (1.40)	4.54 (6.8)	10.7 (35.1)
M22759/89-22-*	22	19/34	.0285 (.72)	.0314 (.80)	.043 (1.09)	.047 (1.19)	2.99 (4.4)	17.5 (57.4)
M22759/89-24-*	24	19/36	.0225 (.57)	.0244 (.62)	.038 (.965)	.042 (1.07)	2.04 (3.0)	28.4 (93.2)
M22759/89-26-*	†26	19/38	.0175 (.44)	.0204 (.52)	.033 (.84)	.037 (.94)	1.52 (2.3)	56.4 (185)

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.

* Add color coding per MIL-STD-681 (see page 36). †Indicates ultra-high-strength copper alloy conductor.

Dimensions, Weights, and Resistance—M22759/90 (nickel-plated high-strength conductor)

M22759 P/N	AWG Size	Stranding	Conductor Diameter		Insulation Diameter		Weight	Maximum Resistance
			Minimum	Maximum	Minimum	Maximum		
M22759/90-20-*	20	19/32	.0365 (.93)	.0404 (1.03)	.051 (1.30)	.055 (1.40)	4.54 (6.8)	11.4 (37.4)
M22759/90-22-*	22	19/34	.0285 (.72)	.0314 (.80)	.043 (1.09)	.047 (1.19)	2.99 (4.4)	18.6 (61.0)
M22759/90-24-*	24	19/36	.0225 (.57)	.0254 (.65)	.038 (.965)	.042 (1.07)	2.04 (3.0)	30.1 (98.7)
M22759/90-26-*	†26	19/38	.0175 (.44)	.0204 (.52)	.033 (.84)	.037 (.94)	1.52 (2.3)	58.4 (191)

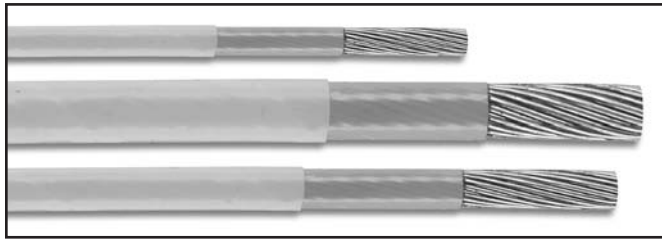
Dimensions in inches (mm). Weights in pounds/1000 feet (Kg/1000 M). Resistance in Ω /1,000 feet (Ω /Km), @20° C.

* Add color coding per MIL-STD-681 (see page 36).

†Indicates ultra-high-strength copper alloy conductor.

All values are nominal unless otherwise indicated.

MIL-DTL-22759/91, /92 wire—light weight



Construction Details

Insulation: PTFE/polyimide/PTFE tape (inner layer);
PTFE tape (outer layer).

Conductor: /91: Silver-plated copper.
/92: Nickel-plated copper.

Colors: Color coded to MIL-STD-681.

Identification: Per MIL-DTL-22759/91 and /92.

MIL-DTL-22759/91 and /92 wires are light-weight, high-performance aerospace hookup wires with a dual-layer insulation of PTFE/polyimide/PTFE tape, covered with PTFE tape.

These wires are designed for aerospace and other applications requiring excellent thermal stability and light weight.

For versions with high-strength conductors, see MIL-DTL-22759/81 and /82 (page 47)

These wires are available with our unique **Seamless Wrap** PTFE tape insulation (see page 54 for details).

Performance:

Voltage rating: 600V.

Temperature rating: /91: -55 to 200° C
/92: -55 to 260° C

Dimensions, Resistance, and Weights—M22759/91 (silver-plated copper conductor)

M22759 P/N	AWG Size	Stranding	Conductor Diameter		Insulation Diameter		Weight	Maximum Resistance
			Minimum	Maximum	Minimum	Maximum		
M22759/91-10-*	10	37/26	.1060 (2.69)	.1100 (2.79)	.119 (3.02)	.123 (3.12)	30.5 (45.4)	1.19 (3.90)
M22759/91-12-*	12	37/28	.0835 (2.12)	.0874 (2.22)	.096 (2.44)	.100 (2.54)	19.5 (29.0)	1.90 (6.23)
M22759/91-14-*	14	19/27	.0645 (1.64)	.0684 (1.74)	.076 (1.93)	.080 (2.03)	12.6 (18.7)	2.88 (9.45)
M22759/91-16-*	16	19/29	.0515 (1.31)	.0544 (1.38)	.063 (1.60)	.067 (1.70)	8.21 (12.2)	4.52 (14.8)
M22759/91-18-*	18	19/30	.0455 (1.16)	.0484 (1.23)	.056 (1.42)	.060 (1.52)	6.57 (9.8)	5.79 (19.0)
M22759/91-20-*	20	19/32	.0365 (.93)	.0384 (.98)	.048 (1.22)	.051 (1.30)	4.36 (6.5)	9.19 (30.1)
M22759/91-22-*	22	19/34	.0285 (.72)	.0304 (.77)	.040 (1.02)	.043 (1.09)	2.83 (4.2)	15.1 (49.5)
M22759/91-24-*	24	19/36	.0225 (.57)	.0244 (.62)	.034 (.86)	.038 (.97)	1.87 (2.8)	24.3 (79.7)
M22759/91-26-*	26	19/38	.0175 (.44)	.0194 (.49)	.030 (.76)	.034 (.86)	1.33 (2.0)	38.4 (126)

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-681 (see page 36).

All values are nominal unless otherwise indicated.

Dimensions, Resistance, and Weights—M22759/92 (nickel-plated copper conductor)

M22759 P/N	AWG Size	Stranding	Conductor Diameter		Insulation Diameter		Weight	Maximum Resistance
			Minimum	Maximum	Minimum	Maximum		
M22759/92-10-*	10	37/26	.1060 (2.69)	.1120 (2.84)	.119 (3.02)	.123 (3.12)	30.5 (45.4)	1.24 (4.07)
M22759/92-12-*	12	37/28	.0835 (2.12)	.0894 (2.27)	.096 (2.44)	.100 (2.54)	19.5 (29.0)	1.98 (6.49)
M22759/92-14-*	14	19/27	.0645 (1.64)	.0694 (1.76)	.076 (1.93)	.080 (2.03)	12.6 (18.7)	3.00 (9.84)
M22759/92-16-*	16	19/29	.0515 (1.31)	.0554 (1.41)	.063 (1.60)	.067 (1.70)	8.21 (12.2)	4.76 (15.6)
M22759/92-18-*	18	19/30	.0455 (1.16)	.0494 (1.25)	.056 (1.42)	.060 (1.52)	6.57 (9.8)	6.10 (20.0)
M22759/92-20-*	20	19/32	.0365 (.93)	.0394 (1.00)	.048 (1.22)	.051 (1.30)	4.36 (6.5)	9.77 (32.0)
M22759/92-22-*	22	19/34	.0285 (.72)	.0314 (.80)	.040 (1.02)	.043 (1.09)	2.83 (4.2)	16.0 (52.5)
M22759/92-24-*	24	19/36	.0225 (.57)	.0244 (.62)	.034 (.86)	.038 (.97)	1.87 (2.8)	25.9 (85.0)
M22759/92-26-*	26	19/38	.0175 (.44)	.0204 (.52)	.030 (.76)	.034 (.86)	1.33 (2.0)	42.2 (138)

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-681 (see page 36).

All values are nominal unless otherwise indicated.

MIL-DTL-22759 wire with *Seamless Wrap* insulation

Thermax *Seamless Wrap* PTFE wire insulation and cable jacket offers all the advantages of a tape wrap with the smooth appearance and installation characteristics of an extrusion.

Seamless Wrap features an outer surface that:

- Looks and feels like an extruded jacket;
- Reduces the possibility of damage during installation or re-routing (no seams to snag);
- Yields a more consistent final O.D. for cleaner stripping, marking, and striping;
- Accepts clear, permanent laser marking.

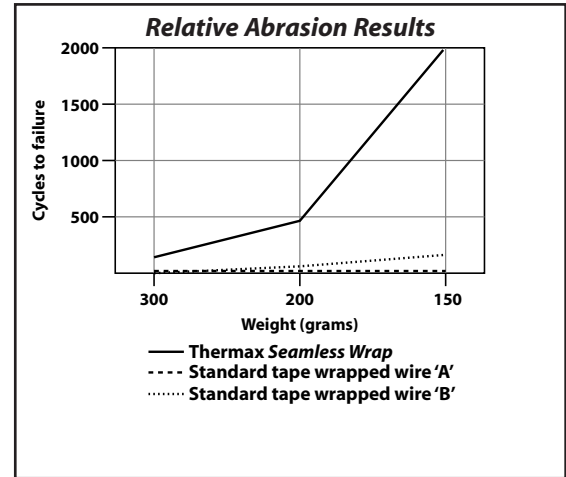
Because of its uniform cross section, *Seamless Wrap* is superior to conventional wrapped tape in:

- Consistent wall thickness;
- Increased dielectric strength;
- Enhanced wet and dry arc propagation resistance.

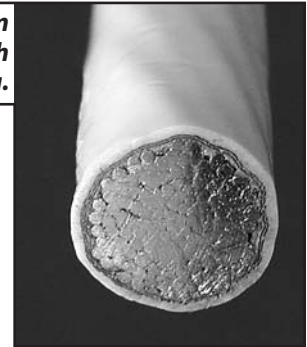
By eliminating the mechanical “weak points” of seams in conventional wrapped tapes, *Seamless Wrap*:

- Significantly improves abrasion resistance, particularly wire-to-wire;
- Eliminates delaminating of sintered tape layers;
- Has enhanced crack resistance for use in SWAMP and fire zone applications.

To order appropriate MIL DTL-22759 wires with *Seamless Wrap* insulation, see the chart below.



Seamless Wrap insulation cuts clean and smooth with no unraveling.



Clear, crisp laser marking enhanced by smooth outer surface.

MIL-DTL-22759 Wires With *Seamless Wrap* Insulation

SML H 22 - XXXX

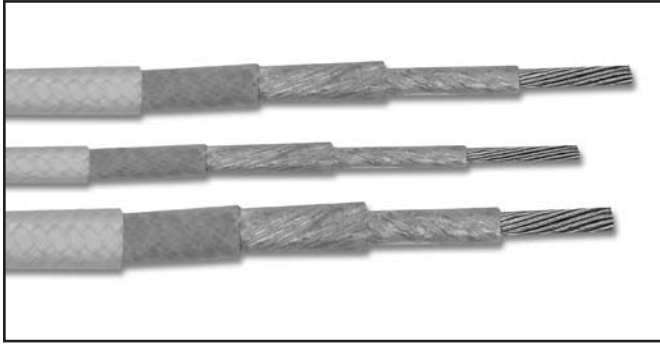
Seamless Wrap designator

M22759 type

M22759/	Letter	M22759/	Letter
80	A	87	H
81	B	88	J
82	C	89	K
83	D	90	L
84	E	91	M
85	F	92	N
86	G		

AWG size

**Color code
(see previous page)**

MIL-W-25038/1 (Thermazone I) wire—high-temperature, abrasion resistant**Construction Details**

Jacket: PTFE-coated fiberglass braid and finisher.

Insulation: Composite inorganic dielectric.

Conductor: 27% nickel-coated copper.

Colors: Color coded to MIL-STD-104.

Identification: Surface printed per MIL-W-25038.

MIL-W-25038/1 (Thermazone I) wires are designed for critical circuit applications where wires must operate in extremely harsh environments, under vibration, and with direct flame exposure.

This heavy-duty, non-asbestos construction offers excellent mechanical performance and abrasion resistance.

Performance:

Voltage rating: 600V.

Temperature rating: -55 to 260° C.

Dimensions, Resistance, and Weights—M25038/1 (Thermazone I)

M25038 P/N	AWG Size	Stranding	Conductor Diameter	Insulation Diameter		Weight	Maximum Resistance	Thermax P/N
				Minimum	Maximum			
M25038/1-12-*	12	19/25	.090 (2.29)	.165 (4.19)	.185 (4.70)	35.0 (52.1)	2.78 (9.12)	12-FWIK-1925
M25038/1-14-*	14	19/27	.072 (1.83)	.150 (3.81)	.170 (4.32)	25.0 (37.2)	4.32 (14.2)	14-FWIK-1927
M25038/1-16-*	16	19/29	.056 (1.42)	.127 (3.23)	.147 (3.73)	19.0 (28.3)	6.85 (22.5)	16-FWIK-1929
M25038/1-18-*	18	19/30	.050 (1.27)	.119 (3.02)	.135 (3.43)	15.0 (22.3)	9.14 (30.0)	18-FWIK-1930
M25038/1-20-*	20	19/32	.040 (1.02)	.109 (2.77)	.125 (3.18)	12.0 (17.9)	14.6 (47.9)	20-FWIK-1932
M25038/1-22-*	22	19/34	.031 (.79)	.100 (2.54)	.116 (2.95)	10.0 (14.9)	23.7 (77.7)	22-FWIK-1934

Dimensions in inches (mm).

Weights in pounds/1000 feet (Kg/1000 M) max.

Resistance in Ω /1,000 feet (Ω /Km), @20° C.

* Add color coding per MIL-STD-104 (see page 26).

All values are nominal unless otherwise indicated.

MIL-W-25038/3 (Thermazone IIIK, IIIG) wire—high-temperature, abrasion resistant

MIL-W-25038/3 (Thermazone IIIK) wires are designed for critical circuit applications where wires must operate in extremely harsh environments, under vibration, and with direct flame exposure.

This heavy-duty, non-asbestos construction offers excellent mechanical performance and abrasion resistance, and is compatible with MIL-C-38999 connectors.

These wires are ideal for use in such aerospace applications as engine compartments, fire-detection circuits, flight-critical circuits, and fly-by-wire systems.

Thermazone IIIG wires also meet or exceed the requirements of MIL-W-25038/3, but provide this performance at a lower cost through the use of an innovative insulation system (see construction details at right).

Performance:

Voltage rating: 600V.

Temperature rating: -55 to 260° C.

**Construction Details**

Jacket: Fused high-performance PTFE tape. (Also available with our unique **Seamless Wrap** PTFE tape; see page 2 for details.)

Insulation:

Thermazone IIIK: Outer: PTFE/polyimide tape fluid barrier.
Inner: Inorganic dielectric.

Thermazone IIIG: Outer: PTFE-coated fiberglass fluid barrier.
Inner: Inorganic dielectric.

Conductor: 12–18 AWG: 27% nickel-coated copper.
20–22 AWG: 27% nickel-coated high-strength copper alloy.

Colors: Color coded to MIL-STD-104.

Identification: Surface printed per MIL-W-25038.

Dimensions, Resistance, and Weights—M25038/3 (Thermazone IIIK)

M25038 P/N	AWG Size	Stranding	Conductor Diameter	Insulation Diameter		Weight	Maximum Resistance	Thermax P/N
				Minimum	Maximum			
M25038/3-12-*	12	19/25	.090 (2.29)	.100 (2.54)	.142 (3.61)	28.0 (41.7)	2.78 (9.12)	12-FWKK-1925
M25038/3-14-*	14	19/27	.072 (1.83)	.097 (2.46)	.123 (3.12)	19.5 (29.0)	4.32 (14.2)	14-FWKK-1927
M25038/3-16-*	16	19/29	.056 (1.42)	.068 (1.73)	.103 (2.62)	13.5 (20.1)	6.66 (22.5)	16-FWKK-1929
M25038/3-18-*	18	19/30	.050 (1.27)	.065 (1.65)	.097 (2.46)	10.5 (15.6)	8.50 (30.0)	18-FWKK-1930
M25038/3-20-*	20	19/32	.040 (1.02)	.048 (1.22)	.083 (2.11)	9.0 (13.4)	15.3 (47.9)	20-FWKK-1932
M25038/3-22-*	22	19/34	.031 (.79)	.040 (1.02)	.054 (1.37)	4.2 (6.2)	23.7 (77.7)	22-FWKK-1934

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

* Add color coding per MIL-STD-104 (see page 26). All values are nominal unless otherwise indicated.

Dimensions, Resistance, and Weights—M25038/3 (Thermazone IIIG)

M25038 P/N	AWG Size	Stranding	Conductor Diameter	Insulation Diameter		Weight	Maximum Resistance	Thermax P/N
				Minimum	Maximum			
M25038/3-12-*	12	19/25	.090 (2.29)	.100 (2.54)	.142 (3.61)	28.0 (41.7)	2.78 (9.12)	12-FWKG-1925
M25038/3-14-*	14	19/27	.072 (1.83)	.097 (2.46)	.123 (3.12)	19.5 (29.0)	4.32 (14.2)	14-FWKG-1927
M25038/3-16-*	16	19/29	.056 (1.42)	.068 (1.73)	.103 (2.62)	13.5 (20.1)	6.66 (22.5)	16-FWKG-1929
M25038/3-18-*	18	19/30	.050 (1.27)	.065 (1.65)	.097 (2.46)	10.5 (15.6)	8.50 (30.0)	18-FWKG-1930
M25038/3-20-*	20	19/32	.040 (1.02)	.048 (1.22)	.083 (2.11)	9.0 (13.4)	15.3 (47.9)	20-FWKG-1932
M25038/3-22H-*	22	19/34	.031 (.79)	.055 (1.40)	.075 (1.91)	6.0 (8.9)	23.7 (77.7)	22-FWKG-1934

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

* Add color coding per MIL-STD-104 (see page 26). All values are nominal unless otherwise indicated.

MIL-DTL-81381 wires have stranded conductors of copper or high-strength copper alloy, and insulation of FEP/polyimide tape with a polyimide coating (or polyamide braid) for enhanced abrasion resistance. All are rated at 600 volts.

Conductors are available with silver plating (40 μ" minimum), nickel plating (50μ" minimum), or tin plating (per ASTM B 33).

Although these wires were designed for aerospace use, they are ideal for commercial applications which can benefit from their high temperature rating and resistance to abrasions and solvents.

Construction characteristics—MIL-DTL-81381 wires

MIL-W-81381 Specification	Insulation Material (Wall Thickness)	Conductor Material	Temperature Rating	Page
M81381/7	FEP/polyimide/FEP tape with polyimide coating (.0065")	SPC	200	58
M81381/8	FEP/polyimide/FEP tape with polyimide coating (.0065")	NPC	200	58
M81381/9	FEP/polyimide/FEP tape with polyimide coating (.0065")	SPCA	200	59
M81381/10	FEP/polyimide/FEP tape with polyimide coating (.0065")	NPCA	200	59
M81381/11	FEP/polyimide/FEP tape with polyimide coating (10 AWG and smaller), or polyamide braid (8 AWG and larger) (.0085" or .0170")	SPC	200	60
M81381/12	FEP/polyimide/FEP tape with polyimide coating (10 AWG and smaller), or polyamide braid (8 AWG and larger) (.0084" or .0154")	NPC	200	60
M81381/13	FEP/polyimide/FEP tape with polyimide coating (.0095")	SPCA	200	61
M81381/14	FEP/polyimide/FEP tape with polyimide coating (.0095")	NPCA	200	61
M81381/17	FEP/polyimide/FEP tape with polyimide coating (.0050")	SPC	200	62
M81381/18	FEP/polyimide/FEP tape with polyimide coating (.0050")	NPC	200	62
M81381/19	FEP/polyimide/FEP tape with polyimide coating (.0050")	SPCA	200	63
M81381/20	FEP/polyimide/FEP tape with polyimide coating (.0050")	NPCA	200	63
M81381/21	FEP/polyimide/FEP tape with polyimide coating (.0065")	TPC	150	64
M81381/22	FEP/polyimide/FEP tape with polyimide coating (10 AWG and smaller), or polyamide braid (8 AWG and larger) (.0085" or .0170")	TPC	150	64

Temperatures are maximum in °C. All values are nominal unless otherwise indicated.

Materials abbreviations: **NPC:** Nickel-plated copper. **NPCA:** Nickel-plated high-strength copper alloy.

SPC: Silver-plated copper. **SPCA:** Silver-plated high-strength copper alloy. **TPC:** Tin-plated copper.

MIL-DTL-81381 part numbering and example

M81381/7 - **30** - **9** **2**

AWG size

Insulation color

Code	Color
0	Black
1	Brown
2	Red
3	Orange
4	Yellow
5	Green
6	Blue
7	Violet
8	Gray
9	White
N	Opaque dark yellow
C	Unpigmented

Stripe color

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

MIL-DTL-81381/7, /8 wire—light weight

MIL-DTL-81381/7 and /8 wires have two layers of FEP/polyimide/FEP tape insulation with a polyimide hard coat for increased cut-through and abrasion resistance.

Originally designed for aerospace use, these wires are ideal for other applications requiring excellent thermal stability, tight dimensional tolerances, and high reliability.

These wires are especially well-suited in applications where smoke emission, overload stability, and flammability are major concerns.

Performance:

Voltage rating: 600V.

Temperature rating: -55 to 200° C.



Construction Details

Insulation: Two layers of FEP/polyimide/FEP tape with modified aromatic polyimide coating.

Conductor: /7: Silver-plated copper;
/8: Nickel-plated copper.

Colors: Color coded to MIL-STD-104 (see page 57 for details).

Identification: to MIL-DTL-81381.

Dimensions, Resistance, and Weights—M81381/7 (silver-plated conductor)

M81381 P/N	AWG Size	Stranding	Conductor Diameter		Insulation Diameter		Weight	Maximum Resistance
			Minimum	Maximum	Minimum	Maximum		
M81381/7-10-*	10	37/26	.106 (2.69)	.110 (2.79)	.120 (3.05)	.124 (3.15)	30.3 (44.8)	1.19 (3.90)
M81381/7-12-*	12	37/28	.084 (2.13)	.087 (2.21)	.097 (2.46)	.101 (2.57)	19.4 (28.7)	1.90 (6.23)
M81381/7-14-*	14	19/27	.065 (1.65)	.068 (1.73)	.078 (1.98)	.082 (2.08)	12.7 (18.8)	2.88 (9.45)
M81381/7-16-*	16	19/29	.052 (1.32)	.054 (1.37)	.065 (1.65)	.068 (1.73)	8.3 (12.3)	4.52 (14.83)
M81381/7-18-*	18	19/30	.046 (1.17)	.048 (1.22)	.059 (1.50)	.062 (1.57)	6.5 (9.6)	5.79 (19.00)
M81381/7-20-*	20	19/32	.037 (.94)	.038 (.97)	.049 (1.24)	.052 (1.32)	4.3 (6.4)	9.19 (30.14)
M81381/7-22-*	22	19/34	.029 (.74)	.030 (.76)	.041 (1.04)	.044 (1.12)	2.8 (4.1)	15.1 (49.53)
M81381/7-24-*	24	19/36	.023 (.58)	.024 (.61)	.034 (.86)	.037 (.94)	1.9 (2.8)	24.3 (79.70)
M81381/7-26-*	26	19/38	.018 (.46)	.019 (.48)	.031 (.79)	.034 (.86)	1.3 (1.9)	38.4 (125.96)

Dimensions, Resistance, and Weights—M81381/8 (nickel-plated conductor)

M81381 P/N	AWG Size	Stranding	Conductor Diameter		Insulation Diameter		Weight	Maximum Resistance
			Minimum	Maximum	Minimum	Maximum		
M81381/8-10-*	10	37/26	.106 (2.69)	.112 (2.84)	.120 (3.05)	.124 (3.15)	31.7 (46.9)	1.24 (4.07)
M81381/8-12-*	12	37/28	.084 (2.13)	.089 (2.26)	.097 (2.46)	.101 (2.57)	20.2 (29.9)	1.98 (6.49)
M81381/8-14-*	14	19/27	.065 (1.65)	.069 (1.75)	.078 (1.98)	.082 (2.08)	13.2 (19.5)	3.00 (9.84)
M81381/8-16-*	16	19/29	.052 (1.32)	.055 (1.40)	.065 (1.65)	.068 (1.73)	8.5 (12.6)	4.76 (15.61)
M81381/8-18-*	18	19/30	.046 (1.17)	.049 (1.24)	.059 (1.50)	.062 (1.57)	6.8 (10.1)	6.10 (20.01)
M81381/8-20-*	20	19/32	.037 (.94)	.039 (.93)	.049 (1.24)	.052 (1.32)	4.5 (6.7)	9.77 (32.05)
M81381/8-22-*	22	19/34	.029 (.74)	.031 (.79)	.041 (1.04)	.044 (1.12)	3.0 (4.4)	16.0 (52.48)
M81381/8-24-*	24	19/36	.023 (.58)	.024 (.61)	.034 (.86)	.037 (.94)	2.0 (3.0)	25.9 (84.95)
M81381/8-26-*	26	19/38	.018 (.46)	.020 (.51)	.031 (.79)	.034 (.86)	1.4 (2.1)	42.2 (138.42)

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. * Add color coding per MIL-STD-104 (see page 57).

MIL-DTL-81381/9, /10 wire—light weight—high strength conductor



Construction Details

Insulation: Two layers of FEP/polyimide/FEP tape with modified aromatic polyimide coating.

Conductor: /9: Silver-plated high-strength copper alloy;
/10: Nickel-plated high-strength copper alloy.

Colors: Color coded to MIL-STD-104 (see page 57 for details).

Identification: to MIL-DTL-81381.

MIL-DTL-81381/9 and /10 wires have two layers of FEP/polyimide/FEP tape insulation with a polyimide hard coat for increased cut-through and abrasion resistance, and a high-strength copper alloy conductor for greater break strength.

Originally designed for aerospace use, these wires are ideal for other applications requiring excellent thermal stability, tight dimensional tolerances, and high reliability.

These wires are especially well-suited in applications where smoke emission, overload stability, and flammability are major concerns.

Performance:

Voltage rating: 600V.

Temperature rating: -55 to 200° C.

Dimensions, Resistance, and Weights—M81381/9 (silver-plated high-strength conductor)

M81381 P/N	AWG Size	Stranding	Conductor Diameter		Insulation Diameter		Weight	Maximum Resistance
			Minimum	Maximum	Minimum	Maximum		
M81381/9-20-*	20	19/32	.037 (.94)	.039 (.99)	.049 (1.24)	.052 (1.32)	4.4 (6.5)	10.7 (35.10)
M81381/9-22-*	22	19/34	.029 (.74)	.031 (.79)	.041 (1.04)	.044 (1.12)	2.9 (4.3)	17.5 (57.40)
M81381/9-24-*	24	19/36	.023 (.58)	.024 (.61)	.034 (.86)	.037 (.94)	1.9 (2.8)	28.4 (93.15)
M81381/9-26-*	26	19/38	.018 (.46)	.020 (.51)	.031 (.78)	.034 (.86)	1.3 (1.9)	44.8 (146.9)
M81381/9-28-*	28	7/36	.014 (.36)	.015 (.38)	.026 (.66)	.029 (.74)	.9 (1.3)	74.4 (244.0)
M81381/9-30-*	30	7/38	.011 (.28)	.012 (.30)	.023 (.58)	.026 (.66)	.6 (.9)	117.4 (385.0)

Dimensions, Resistance, and Weights—M81381/10 (nickel-plated high-strength conductor)

M81381 P/N	AWG Size	Stranding	Conductor Diameter		Insulation Diameter		Weight	Maximum Resistance
			Minimum	Maximum	Minimum	Maximum		
M81381/10-20-*	20	19/32	.037 (.94)	.040 (1.02)	.049 (1.24)	.052 (1.32)	4.6 (6.8)	11.4 (37.39)
M81381/10-22-*	22	19/34	.029 (.74)	.031 (.79)	.041 (1.04)	.044 (1.12)	3.0 (4.4)	18.6 (61.01)
M81381/10-24-*	24	19/36	.023 (.58)	.025 (.64)	.034 (.86)	.037 (.94)	2.0 (3.0)	30.1 (98.73)
M81381/10-26-*	26	19/38	.018 (.46)	.020 (.51)	.031 (.78)	.034 (.86)	1.4 (2.1)	49.4 (162.03)
M81381/10-28-*	28	7/36	.014 (.36)	.016 (.41)	.026 (.66)	.030 (.76)	1.0 (1.5)	79.0 (259.12)
M81381/10-30-*	30	7/38	.011 (.28)	.013 (.33)	.023 (.58)	.027 (.69)	.7 (1.0)	129.6 (425.09)

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. * Add color coding per MIL-STD-104 (see page 57).

MIL-DTL-81381/11, /12 wire—medium weight

MIL-DTL-81381/11 and /12 wires have two layers of FEP/polyimide tape insulation with a polyimide hard coat (10 AWG and smaller) or polyamide braid (8 AWG and larger) for increased cut-through and abrasion resistance.

Originally designed for aerospace use, these wires are ideal for other applications requiring excellent thermal stability, tight dimensional tolerances, and high reliability.

These wires are especially well-suited in applications where smoke emission, overload stability, and flammability are major concerns.

Performance:

Voltage rating: 600V.

Temperature rating: -55 to 200° C.

**Construction Details**

Insulation: First layer: Polyimide/FEP tape;
Second layer: FEP/polyimide/FEP tape;
Third (outer) layer: modified aromatic polyimide coating (10 AWG and smaller);
Aromatic polyamide braid with clear finisher (8 AWG and larger).

Conductor: /11: Silver-plated copper;
/12: Nickel-plated copper.

Colors: Color coded to MIL-STD-104 (see page 57 for details).

Identification: to MIL-DTL-81381.

Dimensions, Resistance, and Weights—M81381/11 (silver-plated conductor)

M81381 P/N	AWG Size	Stranding	Conductor Diameter		Insulation Diameter		Weight	Maximum Resistance	
			Minimum	Maximum	Minimum	Maximum			
M81381/11-2-*	2	665/30	.320 (8.13)	.340 (8.64)	.350 (8.89)	.378 (9.60)	235 (347.8)	.170	(.56)
M81381/11-4-*	4	133/25	.250 (6.35)	.263 (6.68)	.280 (7.11)	.306 (7.77)	148 (219.0)	.264	(.87)
M81381/11-6-*	6	133/27	.198 (5.03)	.208 (5.28)	.228 (5.79)	.251 (6.38)	95.1 (140.7)	.418	(1.37)
M81381/11-8-*	8	133/29	.158 (4.01)	.166 (4.22)	.188 (4.78)	.206 (5.23)	61.8 (91.5)	.658	(2.16)
M81381/11-10-*	10	37/26	.106 (2.69)	.110 (2.79)	.122 (3.10)	.127 (3.23)	31.1 (46.0)	1.19	(3.90)
M81381/11-12-*	12	37/28	.084 (2.13)	.087 (2.21)	.100 (2.54)	.105 (2.67)	20.2 (29.9)	1.90	(6.23)
M81381/11-14-*	14	19/27	.065 (1.65)	.068 (1.73)	.081 (2.06)	.086 (2.18)	13.2 (19.5)	2.88	(9.45)
M81381/11-16-*	16	19/29	.052 (1.32)	.054 (1.37)	.068 (1.73)	.073 (1.85)	8.7 (12.9)	4.52	(14.83)
M81381/11-18-*	18	19/30	.046 (1.17)	.048 (1.22)	.063 (1.60)	.067 (1.70)	7.0 (10.4)	5.79	(19.00)
M81381/11-20-*	20	19/32	.037 (.94)	.038 (.97)	.053 (1.35)	.057 (1.45)	4.6 (6.8)	9.19	(30.14)
M81381/11-22-*	22	19/34	.029 (.74)	.030 (.76)	.045 (1.14)	.049 (1.24)	3.0 (4.4)	15.1	(49.53)
M81381/11-24-*	24	19/36	.023 (.58)	.024 (.61)	.040 (1.01)	.044 (1.12)	2.1 (3.1)	24.3	(79.70)

Dimensions, Resistance, and Weights—M81381/12 (nickel-plated conductor)

M81381 P/N	AWG Size	Stranding	Conductor Diameter		Insulation Diameter		Weight	Maximum Resistance	
			Minimum	Maximum	Minimum	Maximum			
M81381/12-2-*	2	665/30	.320 (8.13)	.340 (8.64)	.350 (8.89)	.378 (9.60)	235 (347.8)	.177	(.58)
M81381/12-4-*	4	133/25	.250 (6.35)	.268 (6.81)	.280 (7.11)	.306 (7.77)	148 (219.0)	.275	(.90)
M81381/12-6-*	6	133/27	.198 (5.03)	.212 (5.38)	.228 (5.79)	.251 (6.38)	95.1 (140.7)	.436	(1.43)
M81381/12-8-*	8	133/29	.158 (4.01)	.169 (4.29)	.188 (4.78)	.206 (5.23)	61.8 (91.5)	.694	(2.28)
M81381/12-10-*	10	37/26	.106 (2.69)	.112 (2.84)	.122 (3.10)	.129 (3.28)	32.4 (19.5)	1.24	(4.07)
M81381/12-12-*	12	37/28	.084 (2.13)	.089 (2.26)	.100 (2.54)	.107 (2.72)	20.9 (30.9)	1.98	(6.49)
M81381/12-14-*	14	19/27	.065 (1.65)	.069 (1.75)	.081 (2.06)	.087 (2.21)	13.8 (20.4)	3.00	(9.84)
M81381/12-16-*	16	19/29	.052 (1.32)	.055 (1.40)	.068 (1.73)	.074 (1.88)	9.0 (13.3)	4.76	(15.61)
M81381/12-18-*	18	19/30	.046 (1.17)	.049 (1.24)	.063 (1.60)	.068 (1.73)	7.2 (10.7)	6.10	(20.01)
M81381/12-20-*	20	19/32	.037 (.94)	.039 (.99)	.053 (1.35)	.058 (1.47)	4.8 (7.1)	9.77	(32.05)
M81381/12-22-*	22	19/34	.029 (.74)	.031 (.79)	.045 (1.14)	.050 (1.27)	3.2 (4.7)	16.0	(52.48)
M81381/12-24-*	24	19/36	.023 (.58)	.024 (.61)	.040 (1.01)	.045 (1.14)	2.2 (3.3)	25.9	(84.95)

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. * Add color coding per MIL-STD-104 (see page 57).

MIL-DTL-81381/13, /14 wire—medium weight—high strength conductor



Construction Details

Insulation: (26 AWG and larger):

First layer: Polyimide/FEP tape;
Second layer: FEP/polyimide/FEP tape;
Third (outer) layer: modified aromatic polyimide coating.

(28 AWG):

Three layers of FEP/polyimide/FEP tape with modified aromatic polyimide coating.

Conductor: /13: Silver-plated high-strength copper alloy;
/14: Nickel-plated high-strength copper alloy.

Colors: Color coded to MIL-STD-104 (see page 57 for details).

Identification: to MIL-DTL-81381.

MIL-DTL-81381/13 and /14 wires have two layers of FEP/polyimide/FEP tape insulation (three layers for 28 AWG) with a polyimide hard coat for increased cut-through and abrasion resistance, and a high-strength copper alloy conductor for greater break strength.

Originally designed for aerospace use, these wires are ideal for other applications requiring excellent thermal stability, tight dimensional tolerances, and high reliability.

These wires are especially well-suited in applications where smoke emission, overload stability, and flammability are major concerns.

Performance:

Voltage rating: 600V.

Temperature rating: -55 to 200° C.

Dimensions, Resistance, and Weights—M81381/13 (silver-plated high-strength conductor)

M81381 P/N	AWG Size	Stranding	Conductor Diameter		Insulation Diameter		Weight	Maximum Resistance
			Minimum	Maximum	Minimum	Maximum		
M81381/13-20-*	20	19/32	.037 (.94)	.039 (.99)	.055 (1.40)	.059 (1.50)	4.8 (7.1)	10.7 (35.10)
M81381/13-22-*	22	19/34	.029 (.74)	.031 (.79)	.047 (1.19)	.051 (1.30)	3.1 (4.6)	17.5 (57.40)
M81381/13-24-*	24	19/36	.023 (.58)	.024 (.61)	.041 (1.04)	.045 (1.14)	2.2 (3.3)	28.4 (93.15)
M81381/13-26-*	26	19/38	.018 (.46)	.020 (.51)	.036 (.91)	.040 (1.02)	1.5 (2.2)	44.8 (146.94)
M81381/13-28-*	28	7/36	.014 (.36)	.015 (.38)	.031 (.79)	.035 (.89)	1.2 (1.8)	74.4 (244.03)

Dimensions, Resistance, and Weights—M81381/14 (nickel-plated high-strength conductor)

M81381 P/N	AWG Size	Stranding	Conductor Diameter		Insulation Diameter		Weight	Maximum Resistance
			Minimum	Maximum	Minimum	Maximum		
M81381/14-20-*	20	19/32	.037 (.94)	.040 (1.02)	.055 (1.40)	.060 (1.52)	5.0 (7.4)	11.4 (37.39)
M81381/14-22-*	22	19/34	.029 (.74)	.031 (.79)	.047 (1.19)	.051 (1.30)	3.3 (4.9)	18.6 (61.01)
M81381/14-24-*	24	19/36	.023 (.58)	.025 (.64)	.041 (1.04)	.045 (1.14)	2.3 (3.4)	30.1 (98.73)
M81381/14-26-*	26	19/38	.018 (.46)	.020 (.51)	.036 (.91)	.040 (1.02)	1.6 (2.4)	49.4 (162.03)
M81381/14-28-*	28	7/36	.014 (.36)	.016 (.41)	.031 (.79)	.035 (.89)	1.2 (1.8)	79.0 (259.12)

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. * Add color coding per MIL-STD-104 (see page 57).

MIL-DTL-81381/17, /18 wire—light weight

MIL-DTL-81381/17 and /18 wires have one layer of FEP/ polyimide/FEP tape insulation with a polyimide hard coat for increased cut-through and abrasion resistance.

Originally designed for aerospace use, these wires are ideal for other applications requiring excellent thermal stability, tight dimensional tolerances, and high reliability.

These wires are especially well-suited in applications where smoke emission, overload stability, and flammability are major concerns.

Performance:

Voltage rating: 600V.

Temperature rating: -55 to 200° C.

**Construction Details**

Insulation: FEP/polyimide/FEP tape with modified aromatic polyimide coating.

Conductor: /17: Silver-plated copper;
/18: Nickel-plated copper.

Colors: Color coded to MIL-STD-104 (see page 57 for details).

Identification: to MIL-DTL-81381.

Dimensions, Resistance, and Weights—M81381/17 (silver-plated conductor)

M81381 P/N	AWG Size	Stranding	Conductor Diameter		Insulation Diameter		Weight	Maximum Resistance	
			Minimum	Maximum	Minimum	Maximum			
M81381/17-12-*	12	37/28	.084 (2.13)	.087 (2.21)	.094 (2.39)	.098 (2.49)	19.2 (28.4)	1.90 (6.23)	
M81381/17-14-*	14	19/27	.065 (1.65)	.068 (1.73)	.075 (1.91)	.078 (1.98)	12.5 (18.5)	2.88 (9.45)	
M81381/17-16-*	16	19/29	.052 (1.32)	.054 (1.37)	.062 (1.57)	.065 (1.65)	8.0 (11.8)	4.52 (14.83)	
M81381/17-18-*	18	19/30	.046 (1.17)	.048 (1.22)	.055 (1.40)	.058 (1.47)	6.4 (9.5)	5.79 (19.00)	
M81381/17-20-*	20	19/32	.037 (.94)	.038 (.97)	.046 (1.17)	.049 (1.24)	4.2 (6.2)	9.19 (30.14)	
M81381/17-22-*	22	19/34	.029 (.74)	.030 (.76)	.038 (.97)	.041 (1.04)	2.7 (4.0)	15.1 (49.53)	
M81381/17-24-*	24	19/36	.023 (.58)	.024 (.61)	.032 (.81)	.035 (.89)	1.8 (2.7)	24.3 (79.70)	
M81381/17-26-*	26	19/38	.018 (.46)	.019 (.48)	.028 (.71)	.030 (.76)	1.2 (1.8)	38.4 (125.95)	

Dimensions, Resistance, and Weights—M81381/18 (nickel-plated conductor)

M81381 P/N	AWG Size	Stranding	Conductor Diameter		Insulation Diameter		Weight	Maximum Resistance	
			Minimum	Maximum	Minimum	Maximum			
M81381/18-12-*	12	37/28	.084 (2.13)	.089 (2.26)	.094 (2.39)	.099 (2.51)	19.9 (29.5)	1.98 (6.49)	
M81381/18-14-*	14	19/27	.065 (1.65)	.069 (1.75)	.075 (1.91)	.080 (2.03)	13.0 (19.2)	3.00 (9.84)	
M81381/18-16-*	16	19/29	.052 (1.32)	.055 (1.40)	.062 (1.57)	.066 (1.68)	8.3 (12.3)	4.76 (15.61)	
M81381/18-18-*	18	19/30	.046 (1.17)	.049 (1.24)	.055 (1.40)	.059 (1.50)	6.6 (9.8)	6.10 (20.01)	
M81381/18-20-*	20	19/32	.037 (.94)	.039 (.99)	.046 (1.17)	.050 (1.27)	4.4 (6.5)	9.77 (32.05)	
M81381/18-22-*	22	19/34	.029 (.74)	.031 (.79)	.038 (.97)	.041 (1.04)	2.9 (4.3)	16.0 (52.48)	
M81381/18-24-*	24	19/36	.023 (.58)	.024 (.61)	.032 (.81)	.035 (.89)	1.9 (2.8)	25.9 (84.95)	
M81381/18-26-*	26	19/38	.018 (.46)	.020 (.51)	.028 (.71)	.030 (.76)	1.3 (1.9)	42.2 (138.42)	

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. * Add color coding per MIL-STD-104 (see page 57).

MIL-DTL-81381/19, /20 wire—light weight—high strength conductor**Construction Details**

Insulation: FEP/polyimide/FEP tape with modified aromatic polyimide coating.

Conductor: /19: Silver-plated high-strength copper alloy;
/20: Nickel-plated high-strength copper alloy.

Colors: Color coded to MIL-STD-104 (see page 57 for details).

Identification: to MIL-DTL-81381.

MIL-DTL-81381/19 and /20 wires have one layer of FEP/ polyimide/FEP tape insulation with a polyimide hard coat for increased cut-through and abrasion resistance, and a high-strength copper alloy conductor for greater break strength.

Originally designed for aerospace use, these wires are ideal for other applications requiring excellent thermal stability, tight dimensional tolerances, and high reliability.

These wires are especially well-suited in applications where smoke emission, overload stability, and flammability are major concerns.

Performance:

Voltage rating: 600V.

Temperature rating: -55 to 200° C.

Dimensions, Resistance, and Weights—M81381/19 (silver-plated high-strength conductor)

M81381 P/N	AWG Size	Stranding	Conductor Diameter		Insulation Diameter		Weight	Maximum Resistance
			Minimum	Maximum	Minimum	Maximum		
M81381/19-20-*	20	19/32	.037 (.94)	.039 (.99)	.047 (1.19)	.050 (1.27)	4.3 (6.4)	10.7 (35.10)
M81381/19-22-*	22	19/34	.029 (.74)	.031 (.79)	.038 (.97)	.041 (1.04)	2.8 (4.1)	17.5 (57.40)
M81381/19-24-*	24	19/36	.023 (.58)	.024 (.61)	.032 (.81)	.035 (.89)	1.8 (2.7)	28.4 (93.15)
M81381/19-26-*	26	19/38	.018 (.46)	.020 (.51)	.028 (.71)	.030 (.76)	1.2 (1.8)	44.8 (146.94)
M81381/19-28-*	28	7/36	.014 (.36)	.015 (.38)	.024 (.61)	.027 (.69)	.8 (1.2)	74.4 (244.03)
M81381/19-30-*	30	7/38	.011 (.28)	.012 (.30)	.021 (.53)	.024 (.61)	.6 (.8)	117.4 (385.07)

Dimensions, Resistance, and Weights—M81381/20 (nickel-plated high-strength conductor)

M81381 P/N	AWG Size	Stranding	Conductor Diameter		Insulation Diameter		Weight	Maximum Resistance
			Minimum	Maximum	Minimum	Maximum		
M81381/20-20-*	20	19/32	.037 (.94)	.040 (1.02)	.047 (1.19)	.050 (1.27)	4.5 (6.7)	11.4 (37.39)
M81381/20-22-*	22	19/34	.029 (.74)	.031 (.79)	.039 (.99)	.042 (1.07)	2.9 (4.3)	18.6 (61.01)
M81381/20-24-*	24	19/36	.023 (.58)	.025 (.64)	.032 (.81)	.035 (.89)	2.0 (3.0)	30.1 (98.73)
M81381/20-26-*	26	19/38	.018 (.46)	.020 (.51)	.028 (.71)	.030 (.76)	1.3 (1.9)	49.4 (162.03)
M81381/20-28-*	28	7/36	.014 (.36)	.016 (.41)	.024 (.61)	.027 (.69)	.9 (1.3)	79.0 (259.12)
M81381/20-30-*	30	7/38	.011 (.28)	.013 (.33)	.021 (.53)	.024 (.61)	.7 (1.0)	126.6 (415.25)

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. * Add color coding per MIL-STD-104 (see page 57).

MIL-DTL-81381/21, /22 wire—tin-plated conductor

MIL-DTL-81381/21 and /22 wires have two layers of polyimide/FEP tape insulation with a polyimide hard coat (or polyamide braid for AWG 8 and larger sizes of M81381/22 types) for increased cut-through and abrasion resistance.

Originally designed for aerospace use, these wires are ideal for other applications requiring excellent thermal stability, tight dimensional tolerances, and high reliability.

These wires are especially well-suited in applications where smoke emission, overload stability, and flammability are major concerns.

Performance:

Voltage rating: 600V.

Temperature rating: -55 to 150° C.



Construction Details

Insulation: (M81381/21): Two layers of FEP/polyimide/FEP tape with modified aromatic polyimide coating.

(M81381/22): First layer: Polyimide/FEP tape;

Second layer: FEP/polyimide/FEP tape;

Third (outer) layer: modified aromatic polyimide coating (10 AWG and smaller); Aromatic polyamide braid with clear finisher (8 AWG and larger).

Conductor: Tin-plated copper.

Colors: Color coded to MIL-STD-104 (see page 57 for details).

Identification: to MIL-DTL-81381.

Dimensions, Resistance, and Weights—M81381/21 (tin-plated conductor)

M81381 P/N	AWG Size	Stranding	Conductor Diameter		Insulation Diameter		Weight	Maximum Resistance	
			Minimum	Maximum	Minimum	Maximum			
M81381/21-10-*	10	37/26	.106 (2.69)	.114 (2.90)	.120 (3.05)	.125 (3.18)	32.4 (48.0)	1.26 (4.13)	
M81381/21-12-*	12	37/28	.084 (2.13)	.090 (2.29)	.097 (2.46)	.102 (2.59)	20.7 (30.6)	2.02 (6.63)	
M81381/21-14-*	14	19/27	.065 (1.65)	.073 (1.85)	.077 (1.96)	.083 (2.11)	12.8 (19.0)	3.06 (10.04)	
M81381/21-16-*	16	19/29	.052 (1.32)	.058 (1.47)	.064 (1.63)	.069 (1.75)	8.4 (12.4)	4.81 (15.78)	
M81381/21-18-*	18	19/30	.046 (1.17)	.051 (1.30)	.058 (1.47)	.063 (1.60)	6.6 (9.8)	6.23 (20.43)	
M81381/21-20-*	20	19/32	.037 (.94)	.041 (1.04)	.048 (1.22)	.053 (1.35)	4.4 (6.5)	9.88 (32.41)	
M81381/21-22-*	22	19/34	.029 (.74)	.033 (.84)	.041 (1.04)	.045 (1.14)	3.0 (4.4)	16.2 (53.14)	
M81381/21-24-*	24	19/36	.023 (.58)	.026 (.66)	.034 (.86)	.038 (.97)	2.0 (3.0)	26.2 (85.94)	
M81381/21-26-*	26	19/38	.018 (.46)	.021 (.53)	.030 (.76)	.034 (.86)	1.3 (1.9)	41.3 (135.46)	

Dimensions, Resistance, and Weights—M81381/22 (tin-plated conductor)

M81381 P/N	AWG Size	Stranding	Conductor Diameter		Insulation Diameter		Weight	Maximum Resistance	
			Minimum	Maximum	Minimum	Maximum			
M81381/22-02-*	00	1330/30	.440 (11.18)	.475 (12.07)	.478 (12.14)	.518 (13.16)	470 (695.6)	.091 (.30)	
M81381/22-01-*	0	1045/30	.395 (10.03)	.425 (10.80)	.425 (10.80)	.461 (11.71)	374 (553.5)	.116 (.38)	
M81381/22-2-*	2	665/30	.320 (8.13)	.340 (8.64)	.350 (8.89)	.378 (9.60)	235 (347.8)	.183 (.60)	
M81381/22-4-*	4	133/25	.250 (6.35)	.274 (6.96)	.280 (7.11)	.306 (7.77)	148 (219.0)	.280 (.92)	
M81381/22-6-*	6	133/27	.198 (5.03)	.217 (5.51)	.228 (5.79)	.251 (6.38)	95.1 (140.7)	.445 (1.46)	
M81381/22-8-*	8	133/29	.158 (4.01)	.173 (4.39)	.188 (4.78)	.206 (5.23)	61.8 (91.5)	.701 (2.30)	
M81381/22-10-*	10	37/26	.106 (2.69)	.114 (2.90)	.122 (3.10)	.130 (3.30)	31.5 (46.6)	1.26 (4.13)	
M81381/22-12-*	12	37/28	.084 (2.13)	.090 (2.29)	.100 (2.54)	.107 (2.72)	20.4 (30.2)	2.02 (6.63)	
M81381/22-14-*	14	19/27	.065 (1.65)	.073 (1.85)	.081 (2.06)	.089 (2.26)	13.3 (19.7)	3.06 (10.04)	
M81381/22-16-*	16	19/29	.052 (1.32)	.058 (1.47)	.068 (1.73)	.074 (1.88)	8.7 (12.9)	4.81 (15.78)	
M81381/22-18-*	18	19/30	.046 (1.17)	.051 (1.30)	.063 (1.60)	.068 (1.73)	7.0 (10.4)	6.23 (20.43)	
M81381/22-20-*	20	19/32	.037 (.94)	.041 (1.04)	.053 (1.35)	.058 (1.47)	4.7 (7.0)	9.88 (32.41)	
M81381/22-22-*	22	19/34	.029 (.74)	.033 (.84)	.045 (1.14)	.049 (1.24)	3.2 (4.7)	16.2 (53.14)	
M81381/22-24-*	24	19/36	.023 (.58)	.026 (.66)	.040 (1.02)	.044 (1.12)	2.2 (3.3)	26.2 (85.94)	

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. * Add color coding per MIL-STD-104 (see page 57).

MIL-DTL-27500 Cables—general information

MIL-DTL-27500 (NEMA WC27500) cables incorporate from one to fifteen M22759, MIL-W-25038, or MIL-DTL-81381 wires, plus a single or double shield and a single or double jacket.

Although these cables are designed primarily for use in aircraft and ground support equipment, their high performance and versatility makes them ideal in a wide variety of general-purpose electrical and electronic applications.

The MIL-DTL-27500 part numbering system provides for many combinations of cable construction characteristics (see charts beginning on next page). The following product pages provide detailed construction and performance information for some of the most popular varieties of one- to four-conductor cables.

Many of these cables are available with component wires and/or jackets with our unique **Seamless Wrap** PTFE tape, as noted the product pages. Additionally, cables with -24 jacket styles and M22759/80 through /92 component wires can be ordered with **Seamless Wrap** for both the component wire insulation and the outer jacket layer. See page 87 for more details, part numbers, and ordering information.

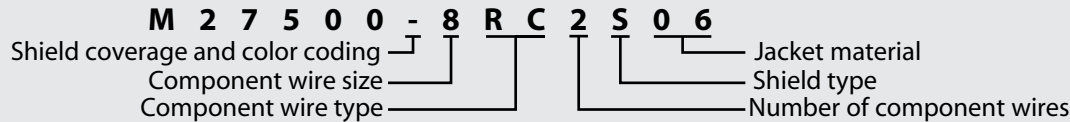
Component Wire	M27500 type	Page	Component Wire	M27500 type	Page
M22759/7	SA	68	M22759/92	WR*	76
M22759/8	TA	68	M25038/1	JA	77
M22759/11	RC	69	M25038/3	JF	78
M22759/12	RE	69	M81381/7	MR	79
M22759/16	TE	70	M81381/8	MS	79
M22759/17	TF	70	M81381/9	MT	80
M22759/18	TG	71	M81381/10	MV	80
M22759/19	TH	71	M81381/11	MW	81
M22759/80	WB*	72	M81381/12	MY	81
M22759/81	WC*	73	M81381/13	NA	82
M22759/82	WE*	73	M81381/14	NB	82
M22759/86	WJ*	74	M81381/17	NE	83
M22759/87	WK*	74	M81381/18	NF	83
M22759/88	WL*	74	M81381/19	NG	84
M22759/89	WM*	75	M81381/20	NH	84
M22759/90	WN*	75	M81381/21	NK	85
M22759/91	WP*	76	M81381/22	NL	86

*Available with **Seamless Wrap** PTFE tape insulation and jacket.

See following pages for numbering system, material codes, and color coding charts.

MIL-DTL-27500 Cables—part numbering

MIL-DTL-27500 Part Numbering



MIL-DTL-27500 Component Wire Codes

We can supply M27500 cables with component wires other than those listed; please call with your requirements.

Wire Type	Code	Wire Type	Code	Wire Type	Code	Wire Type	Code	Wire Type	Code	Wire Type	Code
M22759/5	VA	M22759/16	TE	M22759/28	JB	M22759/85	WH	M25038/1	JA	M81381/13	NA
M22759/6	WA	M22759/17	TF	M22759/29	JC	M22759/86	WJ	M25038/3	JF	M81381/14	NB
M22759/7	SA	M22759/18	TG	M22759/30	JD	M22759/87	WK	M81381/7	MR	M81381/17	NE
M22759/8	TA	M22759/19	TH	M22759/31	JE	M22759/88	WL	M81381/8	MS	M81381/18	NF
M22759/9	LE	M22759/20	TK	M22759/80	WB	M22759/89	WM	M81381/9	MT	M81381/19	NG
M22759/10	LH	M22759/21	TL	M22759/81	WC	M22759/90	WN	M81381/10	MV	M81381/20	NH
M22759/11	RC	M22759/22	TM	M22759/82	WE	M22759/91	WP	M81381/11	MW	M81381/21	NK
M22759/12	RE	M22759/23	TN	M22759/84	WG	M22759/92	WR	M81381/12	MY	M81381/22	NL

MIL-DTL-27500 Shield Material Codes

When both double shield and double jacket are specified, the inner jacket is between the two layers of shield.

Shield Material , Wire shape	Temperature limit, °C	Single shield	Double shield
No shield	—	U	U
Nickel-plated copper, round	260	N	Y
Silver-plated copper, round	200	S	W
Tin-plated copper, round	150	T	V
Heavy nickel-plated copper, round	400	C	R
Stainless steel, round	400	F	Z
Nickel-plated high-strength copper alloy, round	260	P	L
Silver-plated high-strength copper alloy, round	200	M	K
Nickel-plated copper, flat	260	*	#
Silver-plated copper, flat	200	G	A
Tin-plated copper, flat	150	J	D
Nickel-plated high-strength copper alloy, flat	260	E	X
Silver-plated high-strength copper alloy, flat	200	H	B

MIL-DTL-27500 Jacket Material Codes

Temperature limits are for information only; other cable components may determine the temperature limit for the finished cable.

Jacket material and color	Temp. limit, °C	Single jacket	Double jacket
No jacket	—	00	00
ETFE, extruded, clear	150	15	65
ETFE, extruded, white	150	14	64
FEP, extruded, clear	200	05	55
FEP, extruded, white	200	09	59
Nylon, extruded, clear	105	02	52
PFA, extruded, clear	260	21	71
PFA, extruded, white	260	20	70
Natural polyimide / clear FEP tape, wrapped and heat sealed, with FEP outer surface	200	11	61
Natural polyimide / FEP tape, wrapped and heat sealed, with polyimide outer surface	200	12	62
PTFE, taped, white*	260	06	56
PTFE tape, white, wrapped over a tape layer of natural polyimide combined with FEP and heat sealed*	260	24	74
PTFE-coated glass braid impregnated with PTFE finisher over PTFE tape, natural	260	07	57
PVC, extruded, white	90	01	51

*These cables can be provided with **Seamless Wrap** PTFE tape jackets (see page 87 for details).

See next page for color coding information.

MIL-DTL-27500 Cables—color coding

MIL-DTL-27500 Color Coding

Color coding for MIL-DTL-27500 cables is specified in conjunction with desired shield coverage:

Color Code for Shield Coverage of:		MIL-DTL-27500 terminology	Component wire identification method
85%	90%		
"_"	C	Preferred method, Table III A	White wires with colored stripes—stripe color per Table III A.
F	H	Preferred method, Table III B	White wires with colored stripes—stripe color per Table III B.
A	D	Optional method A, Table III A	Solid color wires—colors per Table III A.
G	J	Optional method A, Table III B	Solid color wires—colors per Table III B.
B	E	Optional method B, Table III C	Wires are all the same color (based on AWG size), per Table III C. Bands of a contrasting color are printed on each wire to denote wire number (circuit ID) per Table III D.
K	M	Optional method C	Wires are all the same color (based on AWG size), per Table III C. Numbers in a contrasting color are printed on each wire to denote wire number (circuit ID).
L	N	Optional method D	White wires with numbers in a contrasting color printed on each wire to denote wire number (circuit ID).

Table III A Color Coding

- For **"preferred method"** color coding, colors are stripes on white insulation (wire #1 has no stripe). Wires 11–15 have double stripes as indicated.
- For **"optional method A"** color coding, colors are solid insulation color. Wires 11–15 have a stripe in a lighter shade of the base color.

Wire Number														
1	2	3	4	5	6	7	8	9	10	11	12	13	14	15
White	Blue	Orange	Green	Red	Black	Yellow	Violet	Gray	Brown	Blue/Blue	Orange/Orange	Green/Green	Red/Red	Black/Black

Table III B Color Coding

- For **"preferred method"** color coding, colors are stripes on white insulation (wire #5 has no stripe), for wires 1–10. For wires 11–15, color pairs indicate insulation of the first color, with a stripe of the second color.
- For **"optional method A"** color coding, colors are solid insulation color, for wires 1–10. For wires 11–15, color pairs indicate insulation of the first color, with a stripe of the second color.
- For **either method** the color of the wire in a one-conductor cable is white.

Wire Number														
1	2	3	4	5	6	7	8	9	10	11	12	13	14	15
Red	Blue	Yellow	Green	White	Black	Brown	Orange	Violet	Gray	Red/White	Blue/White	Yellow/White	Green/White	Black/White

Table III C Color Coding

- For **"optional method B"** color coding, wire insulation color is based on AWG size, with color bands per Table III D to indicate wire number (circuit ID).
- For **"optional method C"** color coding, wire insulation color is based on AWG size, with numbers printed on each wire to indicate wire number (circuit ID).

AWG size	Color	AWG size	Color
26	Black	10	Brown
24	Blue	8	Red
22	Green	6	Blue
20	Red	4	Yellow
18	White	2	Red
16	Blue	1	White
14	Green	0	Blue
12	Yellow	00	Green

Table III D Color Band Configuration

- For **"optional method B"** color coding, band groups as shown below are printed on wires to indicate wire number (circuit ID).

Wire number	Band configuration
1	None
2	2 narrow 
3	3 narrow 
4	4 narrow 
5	5 narrow 
6	6 narrow 
7	7 narrow 
8	1 wide, 1 narrow 
9	1 wide, 2 narrow 
10	1 wide, 3 narrow 
11	1 wide, 4 narrow 
12	1 wide, 5 narrow 
13	2 wide, 1 narrow 
14	2 wide, 2 narrow 
15	2 wide, 3 narrow 

M27500 Cables—types SA and TA (M22759/7, /8 components)

M27500 SA and TA cables are shielded and jacketed cables with PTFE tape or extruded PFA jackets, incorporating MIL-W-22759/7 or /8 wires. These component wires are insulated with light-weight mineral-filled PTFE, and have silver-plated or nickel-plated copper conductors.

Versions with PTFE tape jackets are available with our unique **Seamless Wrap** PTFE tape (see page 87 for details).

Performance:

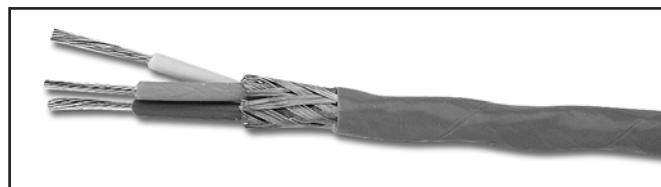
Voltage rating: 600V.

Temperature ratings:

Cables with /7 component wires: -55 to 200° C.

Cables with /8 component wires: -55 to 260° C.

See page 38 for component wire dimensions.



Construction Details

Component wire conductor:

/7 component wires: Silver-plated copper;

/8 component wires: Nickel-plated copper.

Component wire insulation:

Extruded PTFE with abrasion-resistant mineral fillers.

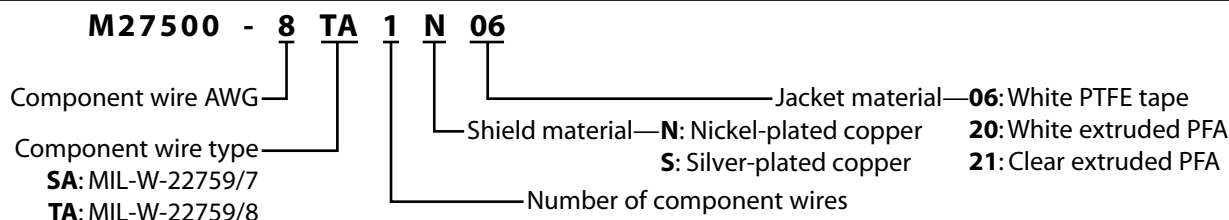
Shield: Nickel- or silver-plated copper braid, 85% coverage.

Jacket: Extruded PFA or PTFE tape.

Colors: Color coded to M27500 (see page 67).

Certifications also available to NEMA WC27500.

Part Numbers:



Dimensions and Weight—1 Conductor Cables

Component Wire AWG (Stranding)	Shield Diameter	Jacket Diameter	Weight
8 (133/29)	.240 (6.10)	.264 (6.71)	95.9 (143)
10 (37/26)	.178 (4.52)	.202 (5.13)	56.2 (83.6)
12 (19/25)	.154 (3.91)	.178 (4.52)	41.9 (62.4)
14 (19/27)	.135 (3.43)	.159 (4.04)	30.0 (44.6)
16 (19/29)	.122 (3.10)	.146 (3.71)	23.7 (35.3)
18 (19/30)	.112 (2.84)	.134 (3.40)	20.6 (30.7)
20 (19/32)	.102 (2.59)	.126 (3.20)	16.6 (24.7)
22 (19/34)	.093 (2.36)	.117 (2.97)	13.9 (20.7)
24 (19/36)	.082 (2.08)	.106 (2.69)	11.1 (16.5)

Dimensions and Weight—3 Conductor Cables*

Component Wire AWG (Stranding)	Shield Diameter	Jacket Diameter	Weight
8 (133/29)	.501 (12.7)	.537 (13.6)	283 (421)
10 (37/26)	.368 (9.34)	.404 (10.3)	162 (241)
12 (19/25)	.308 (7.83)	.344 (8.74)	114 (169)
14 (19/27)	.267 (6.79)	.291 (7.40)	81.6 (121)
16 (19/29)	.239 (6.08)	.263 (6.69)	62.5 (93.0)
18 (19/30)	.218 (5.53)	.242 (6.14)	52.8 (78.6)
20 (19/32)	.196 (4.99)	.220 (5.60)	42.2 (62.8)
22 (19/34)	.177 (4.49)	.201 (5.10)	33.8 (50.3)
24 (19/36)	.153 (3.89)	.177 (4.50)	26.6 (39.6)

Dimensions in inches (mm). Weights in pounds/1000 feet (Kg/1000 M). All values are nominal, for style 06 (PTFE tape jacket) cables.

*Using factors from a circumscribed circle per M27500.

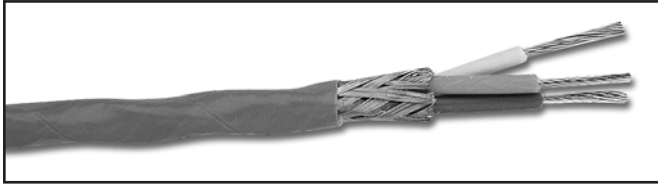
Dimensions and Weight—2 Conductor Cables

Component Wire AWG (Stranding)	Shield Diameter	Jacket Diameter	Weight
8 (133/29)	.468 (11.9)	.504 (12.8)	199 (296)
10 (37/26)	.344 (8.74)	.380 (9.65)	112 (166)
12 (19/25)	.288 (7.32)	.312 (7.92)	79.4 (118)
14 (19/27)	.250 (6.35)	.274 (6.96)	58.6 (87.2)
16 (19/29)	.224 (5.69)	.248 (6.30)	46.1 (68.6)
18 (19/30)	.204 (5.18)	.228 (5.79)	39.0 (58.0)
20 (19/32)	.184 (4.67)	.208 (5.28)	31.5 (46.9)
22 (19/34)	.166 (4.22)	.190 (4.83)	25.7 (38.2)
24 (19/36)	.144 (3.66)	.168 (4.27)	20.5 (30.6)

Dimensions and Weight—4 Conductor Cables

Component Wire AWG (Stranding)	Shield Diameter	Jacket Diameter	Weight
8 (133/29)	.558 (14.2)	.594 (15.1)	378 (562)
10 (37/26)	.409 (10.4)	.445 (11.3)	208 (309)
12 (19/25)	.351 (8.91)	.387 (9.83)	153 (227)
14 (19/27)	.297 (7.55)	.333 (8.46)	106 (157)
16 (19/29)	.266 (6.75)	.290 (7.36)	79.2 (117)
18 (19/30)	.242 (6.14)	.266 (6.75)	66.2 (98.5)
20 (19/32)	.218 (5.53)	.242 (6.14)	52.4 (78.0)
22 (19/34)	.196 (4.98)	.220 (5.59)	41.6 (61.9)
24 (19/36)	.169 (4.30)	.193 (4.91)	32.4 (48.2)

M27500 Cables—types RC and RE (M22759/11, /12 components)



Construction Details

Component wire conductor:

/11 component wires: Silver-plated copper;

/12 component wires: Nickel-plated copper.

Component wire insulation: Extruded PTFE.

Shield: Nickel- or silver-plated copper braid, 85% coverage.

Jacket: Extruded FEP or PTFE tape.

Colors: Color coded to M27500 (see page 67).

Certifications also available to NEMA WC27500.

M27500 RC and RE cables are shielded and jacketed cables with PTFE tape or extruded FEP jackets, incorporating MIL-W-22759/11 or /12 wires.

These component wires have extruded PTFE insulation and silver- or nickel-plated copper conductors.

PTFE tape jackets are available with our unique **Seamless Wrap** PTFE tape (see page 87 for details).

Performance:

Voltage rating: 600V.

Temperature ratings:

Cables with /11 component wires and either jacket: -55 to 200° C.

Cables with /12 component wires and PTFE jacket: -55 to 260° C.

Cables with /12 component wires and FEP jacket: -55 to 200° C.

See page 40 for component wire dimensions.

Part Numbers:

M27500 - 8 RC 1 S 06

Component wire AWG

Component wire type

RC: MIL-W-22759/11

RE: MIL-W-22759/12

Shield material

N: Nickel-plated copper

S: Silver-plated copper

Number of component wires

Jacket material—**05:** Clear extruded FEP

06: White PTFE tape

09: White extruded FEP

Dimensions and Weight—1 Conductor Cables

Component Wire AWG (Stranding)	Shield Diameter	Jacket Diameter	Weight
8 (133/29)	.222 (5.64)	.246 (6.25)	83.3 (124)
10 (37/26)	.155 (3.94)	.179 (4.55)	47.8 (71.1)
12 (19/25)	.127 (3.23)	.149 (3.78)	32.2 (47.9)
14 (19/27)	.106 (2.69)	.128 (3.25)	22.6 (33.6)
16 (19/29)	.091 (2.31)	.113 (2.87)	16.5 (24.6)
18 (19/30)	.084 (2.13)	.106 (2.69)	14.5 (21.6)
20 (19/32)	.074 (1.88)	.096 (2.44)	11.0 (16.4)
22 (19/34)	.065 (1.65)	.087 (2.21)	8.90 (13.2)
24 (19/36)	.059 (1.50)	.081 (2.06)	7.01 (10.4)
26 (19/38)	.054 (1.37)	.076 (1.93)	6.20 (9.23)
28 (7/36)	.049 (1.24)	.071 (1.80)	5.50 (8.19)

Dimensions and Weight—2 Conductor Cables

Component Wire AWG (Stranding)	Shield Diameter	Jacket Diameter	Weight
8 (133/29)	.432 (11.0)	.468 (11.9)	170 (253)
10 (37/26)	.298 (7.57)	.335 (8.51)	95.4 (142)
12 (19/25)	.238 (6.05)	.262 (6.65)	64.6 (96.1)
14 (19/27)	.196 (4.98)	.220 (5.59)	44.9 (66.8)
16 (19/29)	.166 (4.22)	.190 (4.83)	32.1 (47.8)
18 (19/30)	.152 (3.86)	.176 (4.47)	27.2 (40.5)
20 (19/32)	.132 (3.35)	.156 (3.96)	19.4 (28.9)
22 (19/34)	.114 (2.90)	.136 (3.45)	14.6 (21.7)
24 (19/36)	.102 (2.59)	.124 (3.15)	12.2 (18.2)
26 (19/38)	.092 (2.34)	.114 (2.90)	9.93 (14.8)
28 (7/36)	.082 (2.08)	.104 (2.64)	8.39 (12.5)

Dimensions and Weight—3 Conductor Cables*

Component Wire AWG (Stranding)	Shield Diameter	Jacket Diameter	Weight
8 (133/29)	.462 (11.7)	.498 (12.7)	248 (369)
10 (37/26)	.319 (8.10)	.356 (9.04)	138 (205)
12 (19/25)	.255 (6.47)	.280 (7.10)	90.9 (135)
14 (19/27)	.210 (5.32)	.234 (5.93)	61.7 (91.8)
16 (19/29)	.177 (4.50)	.201 (5.11)	43.7 (65.0)
18 (19/30)	.162 (4.12)	.186 (4.73)	37.0 (55.1)
20 (19/32)	.141 (3.57)	.163 (4.14)	26.2 (39.0)
22 (19/34)	.121 (3.08)	.143 (3.63)	19.3 (28.7)
24 (19/36)	.108 (2.75)	.132 (3.36)	15.5 (23.1)
26 (19/38)	.098 (2.48)	.122 (3.09)	12.9 (19.2)
28 (7/36)	.087 (2.21)	.109 (2.77)	10.2 (15.2)

Dimensions and Weight—4 Conductor Cables

Component Wire AWG (Stranding)	Shield Diameter	Jacket Diameter	Weight
8 (133/29)	.515 (13.1)	.551 (14.0)	340 (506)
10 (37/26)	.355 (9.02)	.391 (9.93)	179 (266)
12 (19/25)	.288 (7.30)	.324 (8.22)	120 (179)
14 (19/27)	.233 (5.92)	.257 (6.53)	78.6 (117)
16 (19/29)	.197 (5.00)	.221 (5.61)	52.6 (78.3)
18 (19/30)	.180 (4.57)	.204 (5.18)	46.5 (69.2)
20 (19/32)	.156 (3.96)	.184 (4.67)	34.4 (51.2)
22 (19/34)	.134 (3.41)	.156 (3.96)	23.9 (35.6)
24 (19/36)	.120 (3.04)	.142 (3.61)	19.0 (28.3)
26 (19/38)	.108 (2.73)	.130 (3.30)	15.4 (22.9)
28 (7/36)	.096 (2.43)	.118 (3.00)	12.3 (18.3)

Dimensions in inches (mm). Weights in pounds/1000 feet (Kg/1000 M). All values are nominal. *Using factors from a circumscribed circle per M27500.

M27500 Cables—types TE and TF (M22759/16, /17 components)

M27500 TE and TF cables are shielded and jacketed cables with extruded ETFE (Ethylene Tetrafluoroethylene) jackets, incorporating MIL-W-22759/16 or /17 wires.

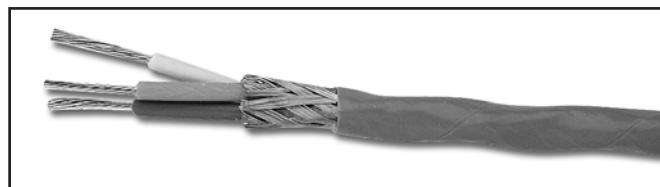
These component wires are insulated with extruded ETFE, and have either tin-plated copper or silver-plated high-strength copper alloy conductors.

Performance:

Voltage rating: 600V.

Temperature rating: -55 to 150° C.

See page 41 for component wire dimensions.



Construction Details

Component wire conductor:

/16 component wires: Tin-plated copper;

/17 component wires: Silver-plated high-strength copper alloy.

Component wire insulation: Extruded ETFE.

Shield: Tin-plated copper braid, 85% coverage.

Jacket: Extruded ETFE.

Colors: Color coded to M27500 (see page 67).

Certifications also available to NEMA WC27500.

Part Numbers:

M27500 - 8 TE 1 T 14

Component wire AWG—**8**
 Component wire type—**TE**: MIL-W-22759/16
TF: MIL-W-22759/17
 Shield material—**T**: Tin-plated copper
 Jacket material—**14**: Extruded white ETFE
15: Extruded clear ETFE
 Number of component wires—**1**

Dimensions and Weight—1 Conductor Cables

Component Wire AWG (Stranding)	Shield Diameter	Jacket Diameter	Weight
8 (133/29)	.217 (5.51)	.245 (6.22)	77.8 (116)
10 (37/26)	.155 (3.94)	.178 (4.52)	44.6 (66.4)
12 (37/28)	.130 (3.30)	.152 (3.86)	30.4 (45.2)
14 (19/27)	.109 (2.77)	.131 (3.33)	21.8 (32.4)
16 (19/29)	.095 (2.41)	.116 (2.95)	15.9 (23.7)
18 (19/30)	.087 (2.21)	.107 (2.72)	13.6 (20.2)
20 (19/32)	.076 (1.93)	.096 (2.44)	10.0 (14.9)
22 (19/34)	.068 (1.73)	.088 (2.20)	8.25 (12.3)
24 (19/36)	.061 (1.55)	.081 (2.06)	7.08 (10.5)

Dimensions and Weight—2 Conductor Cables

Component Wire AWG (Stranding)	Shield Diameter	Jacket Diameter	Weight
8 (133/29)	.426 (10.8)	.462 (11.7)	159 (296)
10 (37/26)	.298 (7.57)	.334 (8.48)	92.1 (166)
12 (37/28)	.244 (6.20)	.268 (6.81)	60.3 (118)
14 (19/27)	.202 (5.13)	.226 (5.74)	42.6 (87.2)
16 (19/29)	.174 (4.42)	.198 (5.03)	31.1 (68.6)
18 (19/30)	.158 (4.01)	.182 (4.62)	26.1 (58.0)
20 (19/32)	.136 (3.45)	.156 (3.96)	18.9 (46.9)
22 (19/34)	.120 (3.05)	.140 (3.56)	14.6 (38.2)
24 (19/36)	.106 (2.69)	.126 (3.20)	11.4 (30.6)

Dimensions and Weight—3 Conductor Cables*

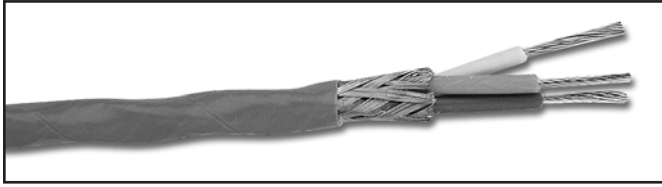
Component Wire AWG (Stranding)	Shield Diameter	Jacket Diameter	Weight
8 (133/29)	.456 (11.6)	.492 (12.5)	230 (342)
10 (37/26)	.319 (8.10)	.354 (8.99)	133 (198)
12 (37/28)	.261 (6.63)	.290 (7.37)	85.5 (127)
14 (19/27)	.216 (5.49)	.244 (6.20)	59.6 (88.7)
16 (19/29)	.186 (4.72)	.214 (5.44)	42.7 (63.5)
18 (19/30)	.169 (4.28)	.197 (5.00)	35.6 (53.0)
20 (19/32)	.145 (3.68)	.167 (4.24)	24.8 (36.9)
22 (19/34)	.128 (3.25)	.150 (3.81)	19.3 (28.7)
24 (19/36)	.113 (2.86)	.135 (3.43)	14.9 (22.2)

Dimensions and Weight—4 Conductor Cables

Component Wire AWG (Stranding)	Shield Diameter	Jacket Diameter	Weight
8 (133/29)	.508 (12.9)	.544 (13.8)	308 (458)
10 (37/26)	.355 (9.02)	.392 (9.96)	172 (256)
12 (37/28)	.295 (7.49)	.331 (8.40)	114 (170)
14 (19/27)	.240 (6.10)	.264 (6.71)	76.1 (113)
16 (19/29)	.206 (5.24)	.230 (5.85)	54.2 (80.7)
18 (19/30)	.187 (4.75)	.211 (5.36)	45.0 (67.0)
20 (19/32)	.161 (4.08)	.185 (4.69)	32.4 (48.2)
22 (19/34)	.141 (3.59)	.165 (4.20)	24.5 (36.5)
24 (19/36)	.124 (3.16)	.148 (3.77)	19.4 (28.9)

Dimensions in inches (mm). Weights in pounds/1000 feet (Kg/1000 M). All values are nominal. *Using factors from a circumscribed circle per M27500.

M27500 Cables—types TG and TH (M22759/18, /19 components)



Construction Details

Component wire conductor:

/18 component wires: Tin-plated copper;

/19 component wires: Silver-plated high-strength copper alloy.

Component wire insulation: Thin-wall extruded ETFE.

Shield: Tin-plated copper braid, 85% coverage.

Jacket: Extruded ETFE.

Colors: Color coded to M27500 (see page 67).

Certifications also available to NEMA WC27500.

M27500 TG and TH cables are shielded and jacketed cables with extruded ETFE (Ethylene Tetrafluoroethylene) jackets, incorporating MIL-W-22759/18 or /19 wires.

These component wires are insulated with thin-wall extruded ETFE for weight and space savings, and have either tin-plated copper or silver-plated high-strength copper alloy conductors.

Performance:

Voltage rating: 600V.

Temperature rating: -55 to 150° C.

See page 42 for component wire dimensions.

Part Numbers:

M27500 - 10 TG 1 T 14

Component wire AWG — 10
 Component wire type — TG: MIL-W-22759/18
 TH: MIL-W-22759/19
 Shield material — T: Tin-plated copper
 Jacket material — 14: Extruded white ETFE
 15: Extruded clear ETFE
 Number of component wires — 1

Dimensions and Weight—1 Conductor Cables

Component Wire AWG (Stranding)	Shield Diameter	Jacket Diameter	Weight
10 (37/26)	.150 (3.81)	.172 (4.37)	43.5 (64.7)
12 (37/28)	.123 (3.12)	.143 (3.63)	29.8 (44.3)
14 (19/27)	.101 (2.57)	.121 (3.07)	20.8 (31.0)
16 (19/29)	.086 (2.18)	.106 (2.69)	14.9 (22.2)
18 (19/30)	.077 (1.96)	.097 (2.46)	11.9 (17.7)
20 (19/32)	.067 (1.70)	.087 (2.21)	9.21 (13.7)
22 (19/34)	.059 (1.50)	.079 (2.01)	6.76 (10.1)
24 (19/36)	.052 (1.32)	.072 (1.83)	5.66 (8.42)
26 (19/38)	.048 (1.22)	.068 (1.73)	5.21 (7.75)

Dimensions and Weight—2 Conductor Cables

Component Wire AWG (Stranding)	Shield Diameter	Jacket Diameter	Weight
10 (37/26)	.288 (7.32)	.313 (7.95)	91.3 (136)
12 (37/28)	.230 (5.84)	.255 (6.48)	58.8 (87.5)
14 (19/27)	.186 (4.72)	.211 (5.36)	39.8 (59.2)
16 (19/29)	.156 (3.96)	.181 (4.60)	28.2 (42.0)
18 (19/30)	.138 (3.51)	.160 (4.06)	23.1 (34.4)
20 (19/32)	.118 (3.00)	.140 (3.56)	17.5 (26.0)
22 (19/34)	.102 (2.59)	.124 (3.15)	12.4 (18.5)
24 (19/36)	.088 (2.24)	.110 (2.79)	9.29 (13.8)
26 (19/38)	.080 (2.03)	.102 (2.59)	8.05 (12.0)

Dimensions and Weight—3 Conductor Cables*

Component Wire AWG (Stranding)	Shield Diameter	Jacket Diameter	Weight
10 (37/26)	.308 (7.83)	.345 (8.76)	129 (192)
12 (37/28)	.246 (6.25)	.275 (6.99)	83.1 (124)
14 (19/27)	.199 (5.05)	.227 (5.77)	55.7 (82.9)
16 (19/29)	.167 (4.25)	.195 (4.95)	39.4 (58.6)
18 (19/30)	.147 (3.74)	.169 (4.29)	30.9 (46.0)
20 (19/32)	.126 (3.19)	.148 (3.76)	22.2 (33.0)
22 (19/34)	.108 (2.75)	.130 (3.30)	16.5 (24.6)
24 (19/36)	.093 (2.37)	.115 (2.92)	12.3 (18.3)
26 (19/38)	.085 (2.15)	.107 (2.72)	9.84 (14.6)

Dimensions and Weight—4 Conductor Cables

Component Wire AWG (Stranding)	Shield Diameter	Jacket Diameter	Weight
10 (37/26)	.343 (8.71)	.382 (9.70)	169 (252)
12 (37/28)	.278 (7.06)	.304 (7.72)	111 (165)
14 (19/27)	.221 (5.61)	.246 (6.24)	71.6 (107)
16 (19/29)	.185 (4.69)	.213 (5.41)	49.3 (73.4)
18 (19/30)	.163 (4.14)	.191 (4.85)	39.9 (59.4)
20 (19/32)	.139 (3.53)	.161 (4.09)	27.2 (40.5)
22 (19/34)	.120 (3.04)	.142 (3.61)	19.8 (29.5)
24 (19/36)	.103 (2.61)	.125 (3.18)	15.3 (22.8)
26 (19/38)	.093 (2.37)	.115 (2.92)	12.1 (18.0)

Dimensions in inches (mm). Weights in pounds/1000 feet (Kg/1000 M). All values are nominal. *Using factors from a circumscribed circle per M27500.

M27500 Cables—type WB (M22759/80 components)

M27500 WB cables are shielded and jacketed cables with a jacket of FEP/polyimide tape covered by a PTFE tape outer layer, incorporating MIL-DTL-22759/80 wires.

These component wires have a light-weight composite insulation of PTFE/polyimide/PTFE tape, covered with PTFE tape, and tin-plated copper conductors.

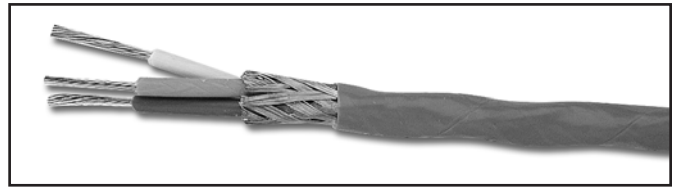
These cables can be supplied with **Seamless Wrap** PTFE tape component wire insulation and jacket (see page 87 for details and part numbers).

Performance:

Voltage rating: 600V.

Temperature rating: -55 to 150° C.

See page 47 for component wire dimensions.



Construction Details

Component wire conductor: Tin-plated copper.

Component wire insulation:

Inner layer: PTFE/polyimide/PTFE tape;

Outer layer: PTFE tape.

Shield: Tin-plated copper braid, 85% coverage.

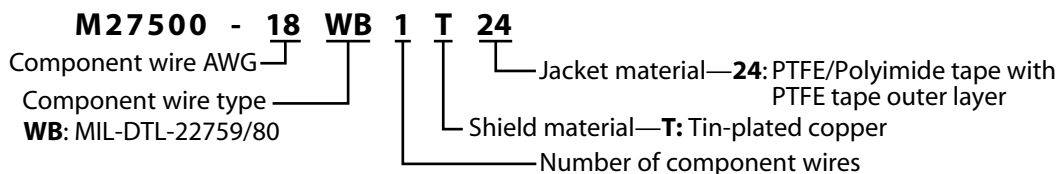
Jacket: Inner layer: FEP/polyimide tape;

Outer layer: PTFE tape.

Colors: Color coded to M27500 (see page 67).

Certifications also available to NEMA WC27500.

Part Numbers:



Dimensions and Weight—1 Conductor Cables

Component Wire AWG (Stranding)	Shield Diameter	Jacket Diameter	Weight
10 (37/26)	.137 (3.48)	.146 (3.70)	48.4 (57.1)
12 (37/28)	.114 (2.90)	.123 (3.12)	26.32 (39.0)
14 (19/27)	.094 (2.39)	.103 (2.61)	18.0 (26.8)
16 (19/29)	.081 (2.06)	.090 (2.28)	13.0 (19.4)
18 (19/30)	.074 (1.88)	.083 (2.10)	11.1 (16.5)
20 (19/32)	.066 (1.68)	.075 (1.90)	8.17 (12.2)
22 (19/34)	.058 (1.47)	.067 (1.69)	6.17 (9.18)
24 (19/36)	.052 (1.32)	.061 (1.54)	5.07 (7.54)
26 (19/38)	.048 (1.22)	.057 (1.44)	4.62 (6.88)

Dimensions and Weight—2 Conductor Cables

Component Wire AWG (Stranding)	Shield Diameter	Jacket Diameter	Weight
10 (37/26)	.262 (6.65)	.271 (6.87)	74.7 (111)
12 (37/28)	.212 (5.38)	.221 (5.60)	50.2 (74.7)
14 (19/27)	.172 (4.37)	.181 (4.59)	34.2 (50.9)
16 (19/29)	.146 (3.71)	.155 (3.93)	24.3 (36.1)
18 (19/30)	.132 (3.35)	.141 (3.57)	20.3 (30.1)
20 (19/32)	.116 (2.95)	.125 (3.17)	14.8 (22.1)
22 (19/34)	.100 (2.54)	.109 (2.76)	10.8 (16.1)
24 (19/36)	.088 (2.24)	.097 (2.45)	8.24 (12.3)
26 (19/38)	.080 (2.03)	.089 (2.25)	6.67 (9.93)

Dimensions and Weight—3 Conductor Cables*

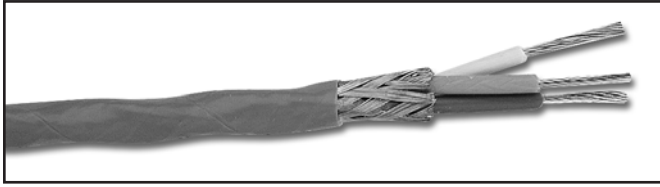
Component Wire AWG (Stranding)	Shield Diameter	Jacket Diameter	Weight
10 (37/26)	.280 (7.12)	.289 (7.34)	110 (164)
12 (37/28)	.227 (5.76)	.235 (5.98)	71.4 (106)
14 (19/27)	.184 (4.67)	.192 (4.89)	47.9 (71.3)
16 (19/29)	.156 (3.96)	.164 (4.18)	33.9 (50.4)
18 (19/30)	.141 (3.57)	.149 (3.79)	27.9 (41.6)
20 (19/32)	.124 (3.14)	.132 (3.36)	20.1 (30.0)
22 (19/34)	.106 (2.70)	.115 (2.92)	14.5 (21.5)
24 (19/36)	.093 (2.37)	.102 (2.59)	10.5 (15.6)
26 (19/38)	.085 (2.15)	.093 (2.37)	8.76 (13.0)

Dimensions and Weight—4 Conductor Cables

Component Wire AWG (Stranding)	Shield Diameter	Jacket Diameter	Weight
10 (37/26)	.312 (7.9)	.324 (8.23)	143 (213)
12 (37/28)	.256 (6.5)	.265 (6.73)	93.1 (138)
14 (19/27)	.204 (5.2)	.213 (5.40)	61.8 (92.0)
16 (19/29)	.173 (4.4)	.181 (4.60)	43.4 (64.6)
18 (19/30)	.156 (4.0)	.164 (4.18)	35.5 (52.9)
20 (19/32)	.137 (3.5)	.145 (3.69)	25.6 (38.0)
22 (19/34)	.117 (3.0)	.126 (3.20)	18.1 (27.0)
24 (19/36)	.103 (2.6)	.111 (2.83)	13.1 (19.4)
26 (19/38)	.093 (2.4)	.102 (2.58)	10.6 (15.7)

Dimensions in inches (mm). Weights in pounds/1000 feet (Kg/1000 M). All values are nominal. *Using factors from a circumscribed circle per M27500.

M27500 Cables—types WC and WE (M22759/81, /82 components)



Construction Details

Component wire conductor:

/81 component wires: Silver-plated high-strength copper alloy;

/82 component wires: Nickel-plated high-strength copper alloy.

Component wire insulation:

Inner layer: PTFE/polyimide/PTFE tape;

Outer layer: PTFE tape.

Shield: Nickel-plated copper braid, 85% coverage.

Jacket: Inner layer: FEP/polyimide tape;

Outer layer: PTFE tape.

Colors: Color coded to M27500 (see page 67).

Certifications also available to NEMA WC27500.

M27500 WC and WE cables are shielded and jacketed cables with a jacket of FEP/polyimide tape covered by a PTFE tape outer layer, incorporating MIL-DTL-22759/81 or /82 wires.

These component wires have a light-weight composite insulation of PTFE/polyimide/PTFE tape, covered with PTFE tape, and silver- or nickel-plated high-strength copper alloy conductors.

These cables can be supplied with **Seamless Wrap** PTFE tape component wire insulation and jacket (see page 87 for details and part numbers).

Performance:

Voltage rating: 600V.

Temperature rating: -55 to 200° C.

See page 47 for component wire dimensions.

Part Numbers:

M27500 - 22 WE 1 N 24

Component wire AWG—**22**
 Component wire type—**WE**: MIL-DTL-22759/81
WC: MIL-DTL-22759/82
Shield material—N: Nickel-plated copper
Jacket material—24: PTFE/Polyimide tape with PTFE tape outer layer
Number of component wires—**1**

Dimensions and Weight—1 Conductor Cables

Component Wire AWG (Stranding)	Shield Diameter	Jacket Diameter	Weight
20 (19/32)	.066 (1.68)	.075 (1.90)	8.17 (12.2)
22 (19/34)	.058 (1.47)	.067 (1.69)	6.17 (9.18)
24 (19/36)	.052 (1.32)	.061 (1.54)	5.07 (7.54)
26 (19/38)	.048 (1.22)	.057 (1.44)	4.62 (6.88)

Dimensions and Weight—2 Conductor Cables

Component Wire AWG (Stranding)	Shield Diameter	Jacket Diameter	Weight
20 (19/32)	.116 (2.95)	.125 (3.17)	14.8 (22.1)
22 (19/34)	.100 (2.54)	.109 (2.76)	10.8 (16.1)
24 (19/36)	.088 (2.24)	.097 (2.45)	8.24 (12.3)
26 (19/38)	.080 (2.03)	.089 (2.25)	6.67 (9.93)

Dimensions and Weight—3 Conductor Cables*

Component Wire AWG (Stranding)	Shield Diameter	Jacket Diameter	Weight
20 (19/32)	.124 (3.14)	.132 (3.36)	20.1 (30.0)
22 (19/34)	.106 (2.70)	.115 (2.92)	14.5 (21.5)
24 (19/36)	.093 (2.37)	.102 (2.59)	10.5 (15.6)
26 (19/38)	.085 (2.15)	.093 (2.37)	8.76 (13.0)

Dimensions and Weight—4 Conductor Cables

Component Wire AWG (Stranding)	Shield Diameter	Jacket Diameter	Weight
20 (19/32)	.137 (3.5)	.145 (3.69)	25.6 (38.0)
22 (19/34)	.117 (3.0)	.126 (3.20)	18.1 (27.0)
24 (19/36)	.103 (2.6)	.111 (2.83)	13.1 (19.4)
26 (19/38)	.093 (2.4)	.102 (2.58)	10.6 (15.7)

Dimensions in inches (mm). Weights in pounds/1000 feet (Kg/1000 M). All values are nominal. *Using factors from a circumscribed circle per M27500.

M27500 Cables—types WJ, WK, and WL (M22759/86, /87, /88 components)

M27500 WJ, WK, and WL cables are shielded and jacketed cables with a jacket of FEP/polyimide tape covered by a PTFE tape outer layer, incorporating MIL-DTL-22759/86, /87, or /88 wires. These component wires have a light-weight composite insulation of PTFE/polyimide/PTFE tape, covered with PTFE tape, and silver, nickel, or tin-plated copper conductors.

These cables can be supplied with **Seamless Wrap** PTFE tape component wire insulation and jacket (see page 87 for details and part numbers).

Performance:

Voltage rating: 600V.

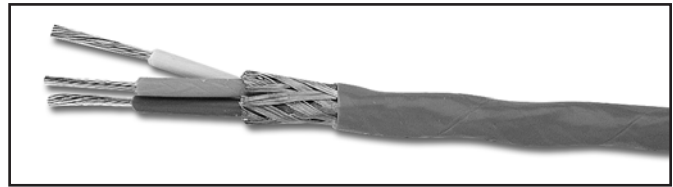
Temperature rating:

Cables with /86 component wires: -55 to 200° C.

Cables with /87 component wires: -55 to 260° C.

Cables with /88 component wires: -55 to 150° C.

See pages 45–47 for component wire dimensions.



Construction Details

Component wire conductor:

/86 component wires: Silver-plated copper;

/87 component wires: Nickel-plated copper;

/88 component wires: Tin-plated copper.

Component wire insulation:

Inner layer: PTFE/polyimide/PTFE tape;

Outer layer: PTFE tape.

Shield: Nickel- or silver-plated copper braid, 85% coverage.

Jacket: Inner layer: FEP/polyimide tape;

Outer layer: PTFE tape.

Colors: Color coded to M27500 (see page 67).

Certifications also available to NEMA WC27500.

Part Numbers:

M27500 - 18 WK 1 N 24

Component wire AWG—18
Component wire type—WK
WJ: MIL-DTL-22759/86
WK: MIL-DTL-22759/87
WL: MIL-DTL-22759/88

Jacket material—24: PTFE/Polyimide tape with PTFE tape outer layer
Shield material—N: Nickel-plated copper
S: Silver-plated copper
Number of component wires—1

Dimensions and Weight—1 Conductor Cables

Component Wire AWG (Stranding)	Shield Diameter	Jacket Diameter	Weight
10 (37/26)	.137 (3.48)	.146 (3.70)	48.4 (57.1)
12 (37/28)	.114 (2.90)	.123 (3.12)	26.32 (39.0)
14 (19/27)	.094 (2.39)	.103 (2.61)	18.0 (26.8)
16 (19/29)	.081 (2.06)	.090 (2.28)	13.0 (19.4)
18 (19/30)	.074 (1.88)	.083 (2.10)	11.1 (16.5)
20 (19/32)	.066 (1.68)	.075 (1.90)	8.17 (12.2)
22 (19/34)	.058 (1.47)	.067 (1.69)	6.17 (9.18)
24 (19/36)	.052 (1.32)	.061 (1.54)	5.07 (7.54)
26 (19/38)	.048 (1.22)	.057 (1.44)	4.62 (6.88)

Dimensions and Weight—3 Conductor Cables*

Component Wire AWG (Stranding)	Shield Diameter	Jacket Diameter	Weight
10 (37/26)	.280 (7.12)	.289 (7.34)	110 (164)
12 (37/28)	.227 (5.76)	.235 (5.98)	71.4 (106)
14 (19/27)	.184 (4.67)	.192 (4.89)	47.9 (71.3)
16 (19/29)	.156 (3.96)	.164 (4.18)	33.9 (50.4)
18 (19/30)	.141 (3.57)	.149 (3.79)	27.9 (41.6)
20 (19/32)	.124 (3.14)	.132 (3.36)	20.1 (30.0)
22 (19/34)	.106 (2.70)	.115 (2.92)	14.5 (21.5)
24 (19/36)	.093 (2.37)	.102 (2.59)	10.5 (15.6)
26 (19/38)	.085 (2.15)	.093 (2.37)	8.76 (13.0)

Dimensions and Weight—2 Conductor Cables

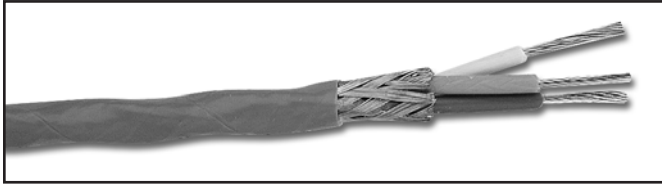
Component Wire AWG (Stranding)	Shield Diameter	Jacket Diameter	Weight
10 (37/26)	.262 (6.65)	.271 (6.87)	74.7 (111)
12 (37/28)	.212 (5.38)	.221 (5.60)	50.2 (74.7)
14 (19/27)	.172 (4.37)	.181 (4.59)	34.2 (50.9)
16 (19/29)	.146 (3.71)	.155 (3.93)	24.3 (36.1)
18 (19/30)	.132 (3.35)	.141 (3.57)	20.3 (30.1)
20 (19/32)	.116 (2.95)	.125 (3.17)	14.8 (22.1)
22 (19/34)	.100 (2.54)	.109 (2.76)	10.8 (16.1)
24 (19/36)	.088 (2.24)	.097 (2.45)	8.24 (12.3)
26 (19/38)	.080 (2.03)	.089 (2.25)	6.67 (9.93)

Dimensions and Weight—4 Conductor Cables

Component Wire AWG (Stranding)	Shield Diameter	Jacket Diameter	Weight
10 (37/26)	.312 (7.9)	.324 (8.23)	143 (213)
12 (37/28)	.256 (6.5)	.265 (6.73)	93.1 (138)
14 (19/27)	.204 (5.2)	.213 (5.40)	61.8 (92.0)
16 (19/29)	.173 (4.4)	.181 (4.60)	43.4 (64.6)
18 (19/30)	.156 (4.0)	.164 (4.18)	35.5 (52.9)
20 (19/32)	.137 (3.5)	.145 (3.69)	25.6 (38.0)
22 (19/34)	.117 (3.0)	.126 (3.20)	18.1 (27.0)
24 (19/36)	.103 (2.6)	.111 (2.83)	13.1 (19.4)
26 (19/38)	.093 (2.4)	.102 (2.58)	10.6 (15.7)

Dimensions in inches (mm). Weights in pounds/1000 feet (Kg/1000 M). All values are nominal. *Using factors from a circumscribed circle per M27500.

M27500 Cables—types WM and WN (M22759/89, /90 components)



Construction Details

Component wire conductor:

/89 component wires: Silver-plated high-strength copper alloy;

/90 component wires: Nickel-plated high-strength copper alloy.

Note: AWG 26 wires with either plating have ultra-high-strength copper alloy conductors.

Component wire insulation:

Inner layer: PTFE/polyimide/PTFE tape;

Outer layer: PTFE tape.

Shield: Nickel- or silver-plated copper braid, 85% coverage.

Jacket: Inner layer: FEP/polyimide tape;
Outer layer: PTFE tape.

Colors: Color coded to M27500 (see page 67).

Certifications also available to NEMA WC27500.

M27500 WM and WN cables are shielded and jacketed cables with a jacket of FEP/polyimide tape covered by a PTFE tape outer layer, incorporating MIL-DTL-22759/89 or /90 wires.

These component wires have a light-weight composite insulation of PTFE/polyimide/PTFE tape, covered with PTFE tape, and silver- or nickel-plated high-strength copper alloy conductors.

These cables can be supplied with **Seamless Wrap** PTFE tape component wire insulation and jacket (see page 87 for details and part numbers).

Performance:

Voltage rating: 600V.

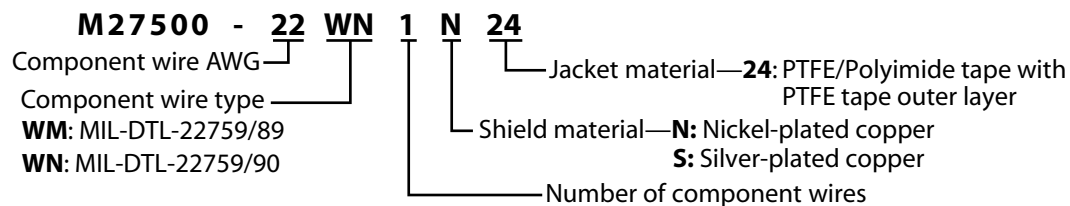
Temperature rating:

Cables with /89 component wires: -55 to 200° C.

Cables with /90 component wires: -55 to 260° C.

See page 52 for component wire dimensions.

Part Numbers:



Dimensions and Weight—1 Conductor Cables

Component Wire AWG (Stranding)	Shield Diameter	Jacket Diameter	Weight
20 (19/32)	.066 (1.68)	.075 (1.90)	8.17 (12.2)
22 (19/34)	.058 (1.47)	.067 (1.69)	6.17 (9.18)
24 (19/36)	.052 (1.32)	.061 (1.54)	5.07 (7.54)
26 (19/38)	.048 (1.22)	.057 (1.44)	4.62 (6.88)

Dimensions and Weight—2 Conductor Cables

Component Wire AWG (Stranding)	Shield Diameter	Jacket Diameter	Weight
20 (19/32)	.116 (2.95)	.125 (3.17)	14.8 (22.1)
22 (19/34)	.100 (2.54)	.109 (2.76)	10.8 (16.1)
24 (19/36)	.088 (2.24)	.097 (2.45)	8.24 (12.3)
26 (19/38)	.080 (2.03)	.089 (2.25)	6.67 (9.93)

Dimensions and Weight—3 Conductor Cables*

Component Wire AWG (Stranding)	Shield Diameter	Jacket Diameter	Weight
20 (19/32)	.124 (3.14)	.132 (3.36)	20.1 (30.0)
22 (19/34)	.106 (2.70)	.115 (2.92)	14.5 (21.5)
24 (19/36)	.093 (2.37)	.102 (2.59)	10.5 (15.6)
26 (19/38)	.085 (2.15)	.093 (2.37)	8.76 (13.0)

Dimensions and Weight—4 Conductor Cables

Component Wire AWG (Stranding)	Shield Diameter	Jacket Diameter	Weight
20 (19/32)	.137 (3.5)	.145 (3.69)	25.6 (38.0)
22 (19/34)	.117 (3.0)	.126 (3.20)	18.1 (27.0)
24 (19/36)	.103 (2.6)	.111 (2.83)	13.1 (19.4)
26 (19/38)	.093 (2.4)	.102 (2.58)	10.6 (15.7)

Dimensions in inches (mm). Weights in pounds/1000 feet (Kg/1000 M). All values are nominal. *Using factors from a circumscribed circle per M27500.

M27500 Cables—types WP and WR (M22759/91, /92 components)

M27500 WP and WR cables are shielded and jacketed cables with a jacket of FEP/polyimide tape covered by a PTFE tape outer layer, incorporating MIL-DTL-22759/91 or /92 wires.

These component wires have a light-weight composite insulation of PTFE/polyimide/PTFE tape, covered with PTFE tape, and silver- or nickel-plated copper conductors.

These cables can be supplied with **Seamless Wrap** PTFE tape component wire insulation and jacket (see page 87 for details and part numbers).

Performance:

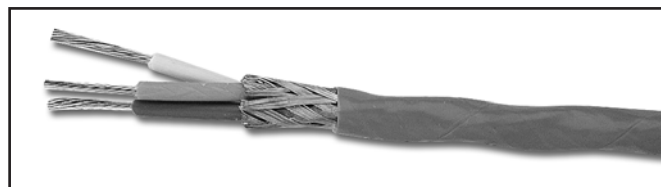
Voltage rating: 600V.

Temperature rating:

Cables with /91 component wires: -55 to 200° C.

Cables with /92 component wires: -55 to 260° C.

See page 53 for component wire dimensions.



Construction Details

Component wire conductor:

/91 component wires: Silver-plated copper;

/92 component wires: Nickel-plated copper.

Component wire insulation:

Inner layer: PTFE/polyimide/PTFE tape;

Outer layer: PTFE tape.

Shield: Nickel- or silver-plated copper braid, 85% coverage.

Jacket: Inner layer: FEP/polyimide tape;

Outer layer: PTFE tape.

Colors: Color coded to M27500 (see page 67).

Certifications also available to NEMA WC27500.

Part Numbers:

M27500 - 18 WR 1 N 24

Component wire AWG — **18**
 Component wire type — **WR**
WP: MIL-DTL-22759/91
WR: MIL-DTL-22759/92

Jacket material — **24:** PTFE/Polyimide tape with PTFE tape outer layer
 Shield material — **N:** Nickel-plated copper
S: Silver-plated copper
 Number of component wires — **1**

Dimensions and Weight—1 Conductor Cables

Component Wire AWG (Stranding)	Shield Diameter	Jacket Diameter	Weight
10 (37/26)	.137 (3.48)	.146 (3.70)	48.4 (57.1)
12 (37/28)	.114 (2.90)	.123 (3.12)	26.32 (39.0)
14 (19/27)	.094 (2.39)	.103 (2.61)	18.0 (26.8)
16 (19/29)	.081 (2.06)	.090 (2.28)	13.0 (19.4)
18 (19/30)	.074 (1.88)	.083 (2.10)	11.1 (16.5)
20 (19/32)	.066 (1.68)	.075 (1.90)	8.17 (12.2)
22 (19/34)	.058 (1.47)	.067 (1.69)	6.17 (9.18)
24 (19/36)	.052 (1.32)	.061 (1.54)	5.07 (7.54)
26 (19/38)	.048 (1.22)	.057 (1.44)	4.62 (6.88)

Dimensions and Weight—3 Conductor Cables*

Component Wire AWG (Stranding)	Shield Diameter	Jacket Diameter	Weight
10 (37/26)	.280 (7.12)	.289 (7.34)	110 (164)
12 (37/28)	.227 (5.76)	.235 (5.98)	71.4 (106)
14 (19/27)	.184 (4.67)	.192 (4.89)	47.9 (71.3)
16 (19/29)	.156 (3.96)	.164 (4.18)	33.9 (50.4)
18 (19/30)	.141 (3.57)	.149 (3.79)	27.9 (41.6)
20 (19/32)	.124 (3.14)	.132 (3.36)	20.1 (30.0)
22 (19/34)	.106 (2.70)	.115 (2.92)	14.5 (21.5)
24 (19/36)	.093 (2.37)	.102 (2.59)	10.5 (15.6)
26 (19/38)	.085 (2.15)	.093 (2.37)	8.76 (13.0)

Dimensions and Weight—2 Conductor Cables

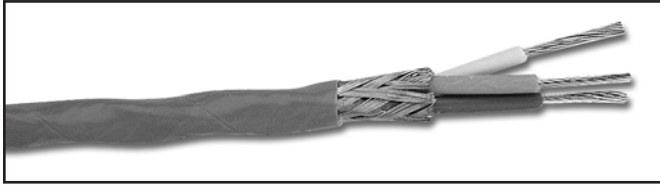
Component Wire AWG (Stranding)	Shield Diameter	Jacket Diameter	Weight
10 (37/26)	.262 (6.65)	.271 (6.87)	74.7 (111)
12 (37/28)	.212 (5.38)	.221 (5.60)	50.2 (74.7)
14 (19/27)	.172 (4.37)	.181 (4.59)	34.2 (50.9)
16 (19/29)	.146 (3.71)	.155 (3.93)	24.3 (36.1)
18 (19/30)	.132 (3.35)	.141 (3.57)	20.3 (30.1)
20 (19/32)	.116 (2.95)	.125 (3.17)	14.8 (22.1)
22 (19/34)	.100 (2.54)	.109 (2.76)	10.8 (16.1)
24 (19/36)	.088 (2.24)	.097 (2.45)	8.24 (12.3)
26 (19/38)	.080 (2.03)	.089 (2.25)	6.67 (9.93)

Dimensions and Weight—4 Conductor Cables

Component Wire AWG (Stranding)	Shield Diameter	Jacket Diameter	Weight
10 (37/26)	.312 (7.9)	.324 (8.23)	143 (213)
12 (37/28)	.256 (6.5)	.265 (6.73)	93.1 (138)
14 (19/27)	.204 (5.2)	.213 (5.40)	61.8 (92.0)
16 (19/29)	.173 (4.4)	.181 (4.60)	43.4 (64.6)
18 (19/30)	.156 (4.0)	.164 (4.18)	35.5 (52.9)
20 (19/32)	.137 (3.5)	.145 (3.69)	25.6 (38.0)
22 (19/34)	.117 (3.0)	.126 (3.20)	18.1 (27.0)
24 (19/36)	.103 (2.6)	.111 (2.83)	13.1 (19.4)
26 (19/38)	.093 (2.4)	.102 (2.58)	10.6 (15.7)

Dimensions in inches (mm). Weights in pounds/1000 feet (Kg/1000 M). All values are nominal. *Using factors from a circumscribed circle per M27500.

M27500 Cables—type JA (M25038/1 components)



Construction Details

Component wire conductor: 27% nickel-coated copper.

Component wire insulation:

Inner: Inorganic dielectric.

Outer: PTFE tape fluid barrier. (Also available with our unique **Seamless Wrap** PTFE tape; see page 2 for details.)

Shield: Nickel-plated copper braid, 85% coverage; other materials available.

Jacket: PTFE tape.

Colors: Color coded to M27500 (see page 67).

Certifications also available to NEMA WC27500.

M27500 JA cables are shielded and jacketed cables with PTFE (polytetrafluoroethylene) tape jackets, incorporating MIL-W-25038/1 wires.

These high-temperature component wires are insulated with an inorganic dielectric, a PTFE-coated fiberglass fluid barrier, and have a fused high-performance PTFE tape jacket.

These cables are available with our unique **Seamless Wrap** PTFE tape jacket (see page 2 for details).

Performance:

Voltage rating: 600V.

Temperature rating: -55 to 260° C.

See page 55 for component wire dimensions.

Part Numbers:

M27500 - 18 JA 1 N 06

Component wire AWG — 18
Component wire type — JA: MIL-W-25038/1
Shield material — N: Nickel-plated copper (50 μ")
Jacket material — 06: White PTFE tape
Number of component wires — 1

Dimensions and Weight—1 Conductor Cables

Component Wire AWG (Stranding)	Shield Diameter	Jacket Diameter	Weight
12 (19/25)	.197 (5.00)	.219 (5.56)	50.9 (75.8)
14 (19/27)	.180 (4.57)	.202 (5.13)	40.0 (59.5)
16 (19/29)	.159 (4.04)	.181 (4.60)	32.1 (47.7)
18 (19/30)	.149 (3.78)	.171 (4.34)	27.3 (40.7)
20 (19/32)	.136 (3.45)	.158 (4.01)	23.9 (35.6)
22 (19/34)	.126 (3.20)	.148 (3.76)	20.7 (30.8)

Dimensions and Weight—2 Conductor Cables

Component Wire AWG (Stranding)	Shield Diameter	Jacket Diameter	Weight
12 (19/25)	.371 (9.42)	.399 (10.1)	100 (149)
14 (19/27)	.337 (8.56)	.365 (9.27)	77.9 (116)
16 (19/29)	.295 (7.49)	.318 (8.08)	60.0 (89.3)
18 (19/30)	.275 (6.99)	.298 (7.57)	50.5 (75.1)
20 (19/32)	.249 (6.32)	.272 (6.91)	43.2 (64.3)
22 (19/34)	.229 (5.82)	.252 (6.40)	35.9 (53.4)

Dimensions and Weight—3 Conductor Cables*

Component Wire AWG (Stranding)	Shield Diameter	Jacket Diameter	Weight
12 (19/25)	.402 (10.2)	.430 (10.9)	146 (217)
14 (19/27)	.361 (9.16)	.389 (9.87)	108 (161)
16 (19/29)	.315 (8.01)	.343 (8.72)	85.4 (127)
18 (19/30)	.294 (7.47)	.317 (8.05)	69.1 (103)
20 (19/32)	.266 (6.76)	.289 (7.34)	59.0 (87.8)
22 (19/34)	.244 (6.21)	.267 (6.79)	48.2 (71.8)

Dimensions and Weight—4 Conductor Cables

Component Wire AWG (Stranding)	Shield Diameter	Jacket Diameter	Weight
12 (19/25)	.447 (11.4)	.475 (12.1)	186 (277)
14 (19/27)	.406 (10.3)	.434 (11.0)	142 (211)
16 (19/29)	.351 (8.91)	.379 (9.62)	107 (159)
18 (19/30)	.327 (8.30)	.355 (9.01)	89.4 (133)
20 (19/32)	.295 (7.50)	.318 (8.09)	74.4 (111)
22 (19/34)	.271 (6.89)	.294 (7.47)	59.4 (88.4)

Dimensions in inches (mm). Weights in pounds/1000 feet (Kg/1000 M). All values are nominal. *Using factors from a circumscribed circle per M27500.

M27500 Cables—type JF (M25038/3 components)

M27500 JF cables are shielded and jacketed cables with PTFE (polytetrafluoroethylene) tape jackets, incorporating MIL-W-25038/3 wires.

These high-temperature component wires are insulated with an inorganic dielectric, a PTFE/polyimide tape fluid barrier, and have a fused high-performance PTFE tape jacket.

A non-polyimide version is also available.

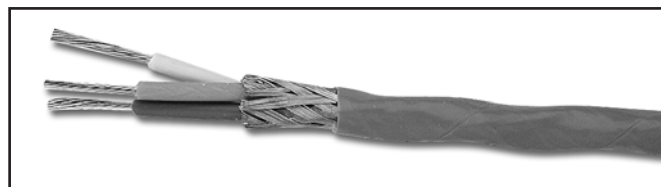
These cables are available with our unique **Seamless Wrap** PTFE tape jacket (see page 2 for details).

Performance:

Voltage rating: 600V.

Temperature rating: -55 to 260° C.

See page 56 for component wire dimensions.



Construction Details

Component wire conductor:

12–18 AWG: 27% nickel-coated copper.

20–22 AWG: 27% nickel-coated high-strength copper alloy.

Component wire insulation:

Inner: Inorganic dielectric.

Outer: PTFE/polyimide tape fluid barrier.

Component wire jacket:

Fused high-performance PTFE tape.

Shield: Nickel-plated copper braid, 85% coverage; other materials available.

Jacket: PTFE tape.

Colors: Color coded to M27500 (see page 67).

Certifications also available to NEMA WC27500.

Part Numbers:

M27500 - 18 JF 1 N 06

Component wire AWG—**18**
 Component wire type—**JF**: MIL-W-25038/3
 Shield material—**N**: Nickel-plated copper (50 μ")
 Jacket material—**06**: White PTFE tape
 Number of component wires—**1**

Dimensions and Weight—1 Conductor Cables

Component Wire AWG (Stranding)	Shield Diameter	Jacket Diameter	Weight
12 (19/25)	.157 (3.99)	.179 (4.55)	40.2 (59.8)
14 (19/27)	.139 (3.53)	.161 (4.09)	30.1 (44.8)
16 (19/29)	.121 (3.07)	.143 (3.63)	24.5 (36.5)
18 (19/30)	.109 (2.77)	.131 (3.33)	18.3 (27.2)
20 (19/32)	.099 (2.51)	.121 (3.07)	15.3 (22.8)
22 (19/34)	.071 (1.80)	.093 (2.36)	10.6 (15.7)

Dimensions and Weight—2 Conductor Cables

Component Wire AWG (Stranding)	Shield Diameter	Jacket Diameter	Weight
12 (19/25)	.291 (7.39)	.314 (8.00)	76.3 (114)
14 (19/27)	.255 (6.48)	.278 (7.06)	56.2 (83.6)
16 (19/29)	.219 (5.56)	.242 (6.15)	42.9 (63.9)
18 (19/30)	.195 (4.95)	.218 (5.54)	34.3 (51.0)
20 (19/32)	.175 (4.45)	.198 (5.03)	27.3 (40.6)
22 (19/34)	.129 (3.28)	.152 (3.86)	19.5 (29.0)

Dimensions and Weight—3 Conductor Cables*

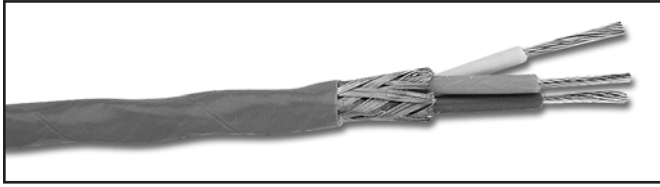
Component Wire AWG (Stranding)	Shield Diameter	Jacket Diameter	Weight
12 (19/25)	.311 (7.90)	.339 (8.61)	110 (164)
14 (19/27)	.272 (6.92)	.295 (7.50)	77.9 (116)
16 (19/29)	.234 (5.94)	.257 (6.52)	56.9 (84.7)
18 (19/30)	.208 (5.28)	.231 (5.86)	46.4 (69.1)
20 (19/32)	.186 (4.73)	.209 (5.32)	36.6 (54.4)
22 (19/34)	.137 (3.48)	.160 (4.06)	26.2 (38.9)

Dimensions and Weight—4 Conductor Cables

Component Wire AWG (Stranding)	Shield Diameter	Jacket Diameter	Weight
12 (19/25)	.346 (8.79)	.374 (9.50)	140 (208)
14 (19/27)	.303 (7.69)	.331 (8.40)	101 (151)
16 (19/29)	.259 (6.58)	.282 (7.17)	71.5 (106)
18 (19/30)	.230 (5.85)	.253 (6.43)	58.2 (86.6)
20 (19/32)	.206 (5.24)	.229 (5.82)	45.2 (67.2)
22 (19/34)	.151 (3.83)	.174 (4.41)	32.1 (47.8)

Dimensions in inches (mm). Weights in pounds/1000 feet (Kg/1000 M). All values are nominal. *Using factors from a circumscribed circle per M27500.

M27500 Cables—types MR and MS (M81381/7, /8 components)



Construction Details

Component wire conductor:

/7 component wires: Silver-plated copper;
/8 component wires: Nickel-plated copper.

Component wire insulation:

Two layers of FEP/polyimide/FEP tape with modified aromatic polyimide coating.

Shield: Nickel- or silver-plated copper braid, 85% coverage.

Jacket: Natural polyimide/FEP tape, wrapped and heat sealed, with polyimide outer surface.

Colors: Color coded to M27500 (see page 67).

Certifications also available to NEMA WC27500.

M27500 MR and MS cables are shielded and jacketed cables with a jacket of FEP/polyimide tape, incorporating MIL-DTL-81381/7 or /8 wires.

These component wires have a light-weight insulation of two layers of FEP/polyimide/FEP tape with a polyimide hard coat for increased cut-through and abrasion resistance, and silver- or nickel-plated copper conductors.

Performance:

Voltage rating: 600V.

Temperature rating: -55 to 200° C.

See page 58 for component wire dimensions.

Part Numbers:

M27500 - 22 MS 1 N 12

Component wire AWG—**22**
Component wire type—**MS**
MR: MIL-DTL-81381/7
MS: MIL-DTL-81381/8

Jacket material—**12:** FEP/Polyimide Tape
Shield material—**N:** Nickel-plated copper
S: Silver-plated copper
Number of component wires—**1**

Dimensions and Weight—1 Conductor Cables

Component Wire AWG (Stranding)	Shield Diameter	Jacket Diameter	Weight
10 (37/26)	.138 (3.51)	.147 (3.72)	37.9 (56.46)
12 (37/28)	.115 (2.92)	.124 (3.14)	25.7 (38.19)
14 (19/27)	.096 (2.44)	.105 (2.66)	17.7 (26.40)
16 (19/29)	.083 (2.11)	.092 (2.33)	12.5 (18.62)
18 (19/30)	.077 (1.96)	.086 (2.18)	10.6 (15.71)
20 (19/32)	.067 (1.70)	.076 (1.92)	8.23 (12.25)
22 (19/34)	.059 (1.50)	.068 (1.72)	5.82 (8.65)
24 (19/36)	.052 (1.32)	.061 (1.54)	4.84 (7.20)
26 (19/38)	.049 (1.24)	.058 (1.46)	4.31 (6.41)

Dimensions and Weight—2 Conductor Cables

Component Wire AWG (Stranding)	Shield Diameter	Jacket Diameter	Weight
10 (37/26)	.260 (6.60)	.269 (6.82)	74.2 (110)
12 (37/28)	.214 (5.44)	.223 (5.66)	50.2 (74.8)
14 (19/27)	.176 (4.47)	.185 (4.69)	34.0 (50.6)
16 (19/29)	.150 (3.81)	.159 (4.03)	23.7 (35.3)
18 (19/30)	.138 (3.51)	.147 (3.72)	19.7 (29.4)
20 (19/32)	.118 (3.00)	.127 (3.22)	14.3 (21.3)
22 (19/34)	.102 (2.59)	.111 (2.81)	10.8 (16.1)
24 (19/36)	.088 (2.24)	.097 (2.45)	7.96 (11.8)
26 (19/38)	.082 (2.08)	.091 (2.30)	6.85 (10.2)

Dimensions and Weight—3 Conductor Cables*

Component Wire AWG (Stranding)	Shield Diameter	Jacket Diameter	Weight
10 (37/26)	.282 (7.17)	.291 (7.39)	110 (164)
12 (37/28)	.229 (5.81)	.237 (6.03)	71.4 (106)
14 (19/27)	.188 (4.78)	.197 (4.99)	48.0 (71.5)
16 (19/29)	.160 (4.07)	.169 (4.28)	33.0 (49.1)
18 (19/30)	.147 (3.74)	.156 (3.96)	27.3 (40.6)
20 (19/32)	.126 (3.19)	.134 (3.41)	19.5 (29.0)
22 (19/34)	.108 (2.75)	.117 (2.97)	13.9 (20.7)
24 (19/36)	.093 (2.37)	.102 (2.59)	10.7 (15.9)
26 (19/38)	.087 (2.21)	.096 (2.43)	8.41 (12.5)

Dimensions and Weight—4 Conductor Cables

Component Wire AWG (Stranding)	Shield Diameter	Jacket Diameter	Weight
10 (37/26)	.314 (7.98)	.327 (8.29)	145 (216)
12 (37/28)	.259 (6.58)	.267 (6.79)	95.8 (143)
14 (19/27)	.209 (5.31)	.217 (5.52)	62.2 (92.6)
16 (19/29)	.177 (4.50)	.186 (4.73)	42.3 (63.0)
18 (19/30)	.163 (4.14)	.172 (4.36)	35.0 (52.1)
20 (19/32)	.139 (3.53)	.148 (3.75)	24.7 (36.8)
22 (19/34)	.120 (3.05)	.128 (3.26)	18.1 (27.0)
24 (19/36)	.103 (2.62)	.111 (2.83)	12.8 (19.0)
26 (19/38)	.096 (2.44)	.104 (2.65)	10.5 (15.7)

M27500 Cables—types MT and MV (M81381/9, /10 components)

M27500 MT and MV cables are shielded and jacketed cables with a jacket of FEP/polyimide tape, incorporating MIL-DTL-81381/9 or /10 wires.

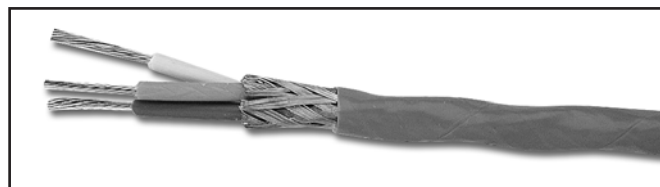
These component wires have a light-weight insulation of two layers of FEP/polyimide/FEP tape with a polyimide hard coat for increased cut-through and abrasion resistance, and silver- or nickel-plated high-strength copper alloy conductors.

Performance:

Voltage rating: 600V.

Temperature rating: -55 to 200° C.

See page 59 for component wire dimensions.



Construction Details

Component wire conductor:

/9 component wires: Silver-plated high-strength copper alloy;

/10 component wires: Nickel-plated high-strength copper alloy.

Component wire insulation:

Two layers of FEP/polyimide/FEP tape with modified aromatic polyimide coating.

Shield: Nickel-plated copper braid, 85% coverage.

Jacket: Natural polyimide/FEP tape, wrapped and heat sealed, with polyimide outer surface.

Colors: Color coded to M27500 (see page 67).

Certifications also available to NEMA WC27500.

Part Numbers:

M27500 - 22 MV 1 N 12

Component wire AWG—**22**
 Component wire type—**MV**
MT: MIL-DTL-81381/9
MV: MIL-DTL-81381/10

Jacket material—**12:** FEP/Polyimide Tape
 Shield material—**N:** Nickel-plated copper
 Number of component wires—**1**

Dimensions and Weight—1 Conductor Cables

Component Wire AWG (Stranding)	Shield Diameter	Jacket Diameter	Weight
20 (19/32)	.067 (1.70)	.076 (1.92)	8.23 (12.25)
22 (19/34)	.059 (1.50)	.068 (1.72)	5.82 (8.65)
24 (19/36)	.052 (1.32)	.061 (1.54)	4.84 (7.20)
26 (19/38)	.049 (1.24)	.058 (1.46)	4.31 (6.41)

Dimensions and Weight—2 Conductor Cables

Component Wire AWG (Stranding)	Shield Diameter	Jacket Diameter	Weight
20 (19/32)	.118 (3.00)	.127 (3.22)	14.3 (21.3)
22 (19/34)	.102 (2.59)	.111 (2.81)	10.8 (16.1)
24 (19/36)	.088 (2.24)	.097 (2.45)	7.96 (11.8)
26 (19/38)	.082 (2.08)	.091 (2.30)	6.85 (10.2)

Dimensions and Weight—3 Conductor Cables*

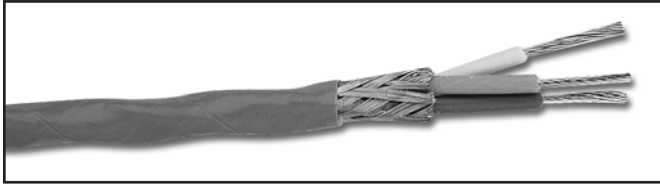
Component Wire AWG (Stranding)	Shield Diameter	Jacket Diameter	Weight
20 (19/32)	.126 (3.19)	.134 (3.41)	19.5 (29.0)
22 (19/34)	.108 (2.75)	.117 (2.97)	13.9 (20.7)
24 (19/36)	.093 (2.37)	.102 (2.59)	10.7 (15.9)
26 (19/38)	.087 (2.21)	.096 (2.43)	8.41 (12.5)

Dimensions and Weight—4 Conductor Cables

Component Wire AWG (Stranding)	Shield Diameter	Jacket Diameter	Weight
20 (19/32)	.139 (3.53)	.148 (3.75)	24.7 (36.8)
22 (19/34)	.120 (3.05)	.128 (3.26)	18.1 (27.0)
24 (19/36)	.103 (2.62)	.111 (2.83)	12.8 (19.0)
26 (19/38)	.096 (2.44)	.104 (2.65)	10.5 (15.7)

Dimensions in inches (mm). Weights in pounds/1000 feet (Kg/1000 M). All values are nominal. *Using factors from a circumscribed circle per M27500.

M27500 Cables—types MW and MY (M81381/11, /12 components)



Construction Details

Component wire conductor:

/11 component wires: Silver-plated copper;

/12 component wires: Nickel-plated copper.

Component wire insulation:

Polyimide/FEP tape (inner layer);

FEP/polyimide/FEP tape (second layer);

Modified aromatic polyimide coating (outer layer).

Shield: Nickel-plated copper braid, 85% coverage.

Jacket: Natural polyimide/FEP tape, wrapped and heat sealed, with polyimide outer surface.

Colors: Color coded to M27500 (see page 67).

Certifications also available to NEMA WC27500.

M27500 MW and MY cables are shielded and jacketed cables with a jacket of FEP/polyimide tape, incorporating MIL-DTL-81381/11 or /12 wires.

These component wires have a medium-weight insulation of three layers: polyimide/FEP tape, FEP/polyimide/FEP tape, and an outer coating of modified aromatic polyimide.

The component wires have silver- or nickel-plated copper conductors.

Performance:

Voltage rating: 600V.

Temperature rating: -55 to 200° C.

See page 60 for component wire dimensions.

Part Numbers:

M27500 - 18 MY 1 N 12

Component wire AWG—18
Component wire type—MY
MW: MIL-DTL-81381/11
MY: MIL-DTL-81381/12

Jacket material—12: FEP/Polyimide Tape
Shield material—N: Nickel-plated copper
Number of component wires—1

Dimensions and Weight—1 Conductor Cables

Component Wire AWG (Stranding)	Shield Diameter	Jacket Diameter	Weight
10 (37/26)	.141 (3.58)	.150 (3.80)	39.4 (58.7)
12 (37/28)	.119 (3.02)	.128 (3.24)	26.7 (39.8)
14 (19/27)	.100 (2.54)	.109 (2.76)	18.8 (27.9)
16 (19/29)	.087 (2.21)	.096 (2.43)	13.6 (20.3)
18 (19/30)	.081 (2.06)	.090 (2.28)	11.4 (17.0)
20 (19/32)	.071 (1.80)	.080 (2.02)	8.52 (12.7)
22 (19/34)	.063 (1.60)	.072 (1.82)	6.37 (9.47)
24 (19/36)	.058 (1.47)	.067 (1.69)	5.16 (7.67)

Dimensions and Weight—2 Conductor Cables

Component Wire AWG (Stranding)	Shield Diameter	Jacket Diameter	Weight
10 (37/26)	.266 (6.76)	.275 (6.98)	77.4 (115)
12 (37/28)	.222 (5.64)	.231 (5.86)	52.1 (77.5)
14 (19/27)	.184 (4.67)	.193 (4.89)	36.1 (53.8)
16 (19/29)	.158 (4.01)	.167 (4.23)	25.8 (38.4)
18 (19/30)	.146 (3.71)	.155 (3.93)	21.5 (32.1)
20 (19/32)	.126 (3.20)	.135 (3.42)	15.5 (23.0)
22 (19/34)	.110 (2.79)	.119 (3.01)	11.4 (17.0)
24 (19/36)	.100 (2.54)	.109 (2.76)	9.34 (13.9)

Dimensions and Weight—3 Conductor Cables*

Component Wire AWG (Stranding)	Shield Diameter	Jacket Diameter	Weight
10 (37/26)	.289 (7.33)	.297 (7.55)	115 (171)
12 (37/28)	.237 (6.03)	.246 (6.25)	74.1 (110)
14 (19/27)	.197 (4.99)	.205 (5.21)	51.5 (76.6)
16 (19/29)	.169 (4.28)	.177 (4.50)	35.2 (52.3)
18 (19/30)	.156 (3.96)	.164 (4.18)	29.7 (44.1)
20 (19/32)	.134 (3.41)	.143 (3.63)	21.0 (31.3)
22 (19/34)	.117 (2.97)	.126 (3.19)	15.5 (23.0)
24 (19/36)	.106 (2.70)	.116 (2.92)	11.8 (17.5)

Dimensions and Weight—4 Conductor Cables

Component Wire AWG (Stranding)	Shield Diameter	Jacket Diameter	Weight
10 (37/26)	.321 (8.15)	.334 (8.48)	151 (225)
12 (37/28)	.268 (6.80)	.277 (7.03)	99.6 (148)
14 (19/27)	.218 (5.54)	.227 (5.77)	66.1 (98.3)
16 (19/29)	.187 (4.75)	.196 (4.97)	45.2 (67.3)
18 (19/30)	.173 (4.39)	.181 (4.60)	37.8 (56.2)
20 (19/32)	.149 (3.78)	.157 (3.99)	26.7 (39.7)
22 (19/34)	.129 (3.28)	.138 (3.50)	19.4 (28.9)
24 (19/36)	.117 (2.91)	.126 (3.20)	14.7 (21.9)

Dimensions in inches (mm). Weights in pounds/1000 feet (Kg/1000 M). All values are nominal. *Using factors from a circumscribed circle per M27500.

M27500 Cables—types NA and NB (M81381/13, /14 components)

M27500 NA and NB cables are shielded and jacketed cables with a jacket of FEP/polyimide tape, incorporating MIL-DTL-81381/13 or /14 wires.

These component wires have a medium-weight insulation of two layers of FEP/polyimide/FEP tape with a polyimide hard coat for increased cut-through and abrasion resistance.

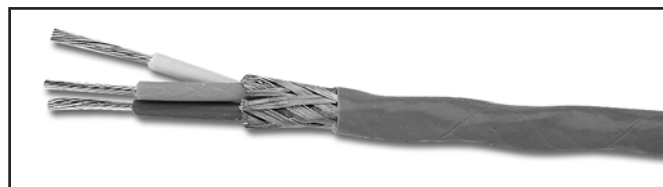
The component wires have silver- or nickel-plated high-strength copper alloy conductors.

Performance:

Voltage rating: 600V.

Temperature rating: -55 to 200° C.

See page 61 for component wire dimensions.



Construction Details

Component wire conductor:

/13 component wires: Silver-plated high-strength copper alloy;

/14 component wires: Nickel-plated high-strength copper alloy.

Component wire insulation:

Two layers of FEP/polyimide/FEP tape with modified aromatic polyimide coating.

Shield: Nickel- or silver-plated copper braid, 85% coverage.

Jacket: Natural polyimide/FEP tape, wrapped and heat sealed, with polyimide outer surface.

Colors: Color coded to M27500 (see page 67).

Certifications also available to NEMA WC27500.

Part Numbers:

M27500 - 22 NB 1 N 12

Component wire AWG—**22**
 Component wire type—**NB**: MIL-DTL-81381/13
NA: MIL-DTL-81381/14
1—Number of component wires
N—Shield material—**N**: Nickel-plated copper
S: Silver-plated copper
12—Jacket material—**12**: FEP/Polyimide Tape

Dimensions and Weight—1 Conductor Cables

Component Wire AWG (Stranding)	Shield Diameter	Jacket Diameter	Weight
20 (19/32)	.071 (1.80)	.080 (2.02)	8.52 (12.7)
22 (19/34)	.063 (1.60)	.072 (1.82)	6.37 (9.47)
24 (19/36)	.058 (1.47)	.067 (1.69)	5.16 (7.67)

Dimensions and Weight—2 Conductor Cables

Component Wire AWG (Stranding)	Shield Diameter	Jacket Diameter	Weight
20 (19/32)	.126 (3.20)	.135 (3.42)	15.5 (23.0)
22 (19/34)	.110 (2.79)	.119 (3.01)	11.4 (17.0)
24 (19/36)	.100 (2.54)	.109 (2.76)	9.34 (13.9)

Dimensions and Weight—3 Conductor Cables*

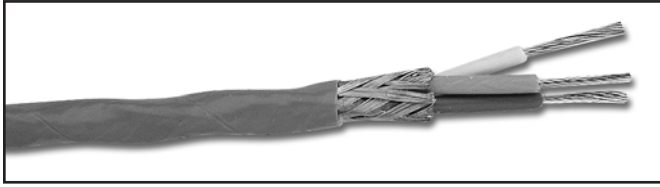
Component Wire AWG (Stranding)	Shield Diameter	Jacket Diameter	Weight
20 (19/32)	.134 (3.41)	.143 (3.63)	21.0 (31.3)
22 (19/34)	.117 (2.97)	.126 (3.19)	15.5 (23.0)
24 (19/36)	.106 (2.70)	.116 (2.92)	11.8 (17.5)

Dimensions and Weight—4 Conductor Cables

Component Wire AWG (Stranding)	Shield Diameter	Jacket Diameter	Weight
20 (19/32)	.149 (3.78)	.157 (3.99)	26.7 (39.7)
22 (19/34)	.129 (3.28)	.138 (3.50)	19.4 (28.9)
24 (19/36)	.117 (2.91)	.126 (3.20)	14.7 (21.9)

Dimensions in inches (mm). Weights in pounds/1000 feet (Kg/1000 M). All values are nominal. *Using factors from a circumscribed circle per M27500.

M27500 Cables—types NE and NF (M81381/17, /18 components)



Construction Details

Component wire conductor:

/17 component wires: Silver-plated copper;
/18 component wires: Nickel-plated copper.

Component wire insulation:

FEP/polyimide/FEP tape with modified aromatic polyimide coating.

Shield: Nickel- or silver-plated copper braid, 85% coverage.

Jacket: Natural polyimide/FEP tape, wrapped and heat sealed, with polyimide outer surface.

Colors: Color coded to M27500 (see page 67).

Certifications also available to NEMA WC27500.

M27500 NE and NF cables are shielded and jacketed cables with a jacket of FEP/polyimide tape, incorporating MIL-DTL-81381/17 or /18 wires.

These component wires have a light-weight insulation of FEP/polyimide/FEP tape with an outer coating of modified aromatic polyimide.

The component wires have silver- or nickel-plated copper conductors.

Performance:

Voltage rating: 600V.

Temperature rating: -55 to 200° C.

See page 62 for component wire dimensions.

Part Numbers:

M27500 - 18 NF 1 N 12

Component wire AWG—**18**
Component wire type—**NF**
NE: MIL-DTL-81381/17
NF: MIL-DTL-81381/18

Jacket material—**12:** FEP/Polyimide Tape
Shield material—**N:** Nickel-plated copper
S: Silver-plated copper
Number of component wires—**1**

Dimensions and Weight—1 Conductor Cables

Component Wire AWG (Stranding)	Shield Diameter	Jacket Diameter	Weight
12 (37/28)	.112 (2.84)	.121 (3.06)	25.1 (37.3)
14 (19/27)	.093 (2.36)	.102 (2.58)	17.4 (26.0)
16 (19/29)	.080 (2.03)	.089 (2.25)	12.1 (18.0)
18 (19/30)	.073 (1.85)	.082 (2.07)	10.4 (15.5)
20 (19/32)	.064 (1.63)	.073 (1.85)	7.53 (11.2)
22 (19/34)	.056 (1.42)	.065 (1.64)	5.71 (8.49)
24 (19/36)	.050 (1.27)	.059 (1.49)	4.79 (7.12)
26 (19/38)	.045 (1.14)	.054 (1.36)	4.14 (6.16)

Dimensions and Weight—2 Conductor Cables

Component Wire AWG (Stranding)	Shield Diameter	Jacket Diameter	Weight
12 (37/28)	.208 (5.28)	.217 (5.50)	48.6 (72.4)
14 (19/27)	.170 (4.32)	.179 (4.54)	33.7 (50.2)
16 (19/29)	.144 (3.66)	.153 (3.88)	22.9 (34.1)
18 (19/30)	.130 (3.30)	.139 (3.52)	19.4 (28.9)
20 (19/32)	.112 (2.84)	.121 (3.06)	13.8 (20.6)
22 (19/34)	.096 (2.44)	.105 (2.66)	9.93 (14.8)
24 (19/36)	.084 (2.13)	.093 (2.35)	7.84 (11.7)
26 (19/38)	.074 (1.88)	.083 (2.10)	5.90 (8.78)

Dimensions and Weight—3 Conductor Cables*

Component Wire AWG (Stranding)	Shield Diameter	Jacket Diameter	Weight
12 (37/28)	.222 (5.65)	.231 (5.87)	69.5 (103)
14 (19/27)	.182 (4.61)	.190 (4.83)	47.3 (70.4)
16 (19/29)	.154 (3.90)	.162 (4.12)	31.8 (47.4)
18 (19/30)	.139 (3.52)	.147 (3.74)	26.9 (40.0)
20 (19/32)	.119 (3.03)	.128 (3.25)	19.0 (28.2)
22 (19/34)	.102 (2.59)	.111 (2.81)	13.4 (19.9)
24 (19/36)	.089 (2.26)	.098 (2.48)	9.96 (14.8)
26 (19/38)	.078 (1.99)	.087 (2.21)	7.80 (11.6)

Dimensions and Weight—4 Conductor Cables

Component Wire AWG (Stranding)	Shield Diameter	Jacket Diameter	Weight
12 (37/28)	.251 (6.38)	.260 (6.60)	93.7 (139)
14 (19/27)	.202 (5.12)	.210 (5.34)	61.5 (91.5)
16 (19/29)	.170 (4.32)	.179 (4.54)	41.0 (61.0)
18 (19/30)	.153 (3.90)	.162 (4.12)	34.5 (51.3)
20 (19/32)	.132 (3.34)	.140 (3.56)	24.1 (35.9)
22 (19/34)	.112 (2.85)	.121 (3.07)	16.9 (25.2)
24 (19/36)	.098 (2.49)	.107 (2.71)	12.5 (18.7)
26 (19/38)	.086 (2.18)	.095 (2.40)	9.92 (14.8)

Dimensions in inches (mm). Weights in pounds/1000 feet (Kg/1000 M). All values are nominal. *Using factors from a circumscribed circle per M27500.

M27500 Cables—types NG and NH (M81381/19, /20 components)

M27500 NG and NH cables are shielded and jacketed cables with a jacket of FEP/polyimide tape, incorporating MIL-DTL-81381/19 or /20 wires.

These component wires have a light-weight insulation of FEP/polyimide/FEP tape with an outer coating of modified aromatic polyimide.

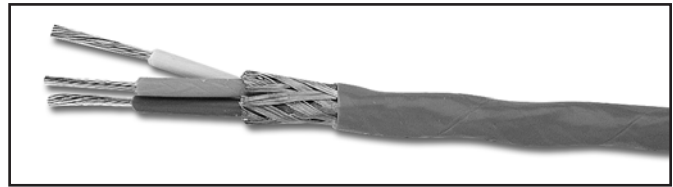
The component wires have silver- or nickel-plated high-strength copper alloy conductors.

Performance:

Voltage rating: 600V.

Temperature rating: -55 to 200° C.

See page 63 for component wire dimensions.



Construction Details

Component wire conductor:

/19 component wires: Silver-plated high-strength copper alloy;

/20 component wires: Nickel-plated high-strength copper alloy.

Component wire insulation:

FEP/polyimide/FEP tape with modified aromatic polyimide coating.

Shield: Nickel- or silver-plated copper braid, 85% coverage.

Jacket: Natural polyimide/FEP tape, wrapped and heat sealed, with polyimide outer surface.

Colors: Color coded to M27500 (see page 67).

Certifications also available to NEMA WC27500.

Part Numbers:

M27500 - 22 NH 1 N 12

Component wire AWG—**22**
 Component wire type—**NH**
NG: MIL-DTL-81381/19
NH: MIL-DTL-81381/20

Jacket material—**12:** FEP/Polyimide Tape
 Shield material—**N:** Nickel-plated copper
S: Silver-plated copper
 Number of component wires—**1**

Dimensions and Weight—1 Conductor Cables

Component Wire AWG (Stranding)	Shield Diameter	Jacket Diameter	Weight
20 (19/32)	.064 (1.63)	.073 (1.85)	7.53 (11.2)
22 (19/34)	.056 (1.42)	.065 (1.64)	5.71 (8.49)
24 (19/36)	.050 (1.27)	.059 (1.49)	4.79 (7.12)
26 (19/38)	.045 (1.14)	.054 (1.36)	4.14 (6.16)

Dimensions and Weight—2 Conductor Cables

Component Wire AWG (Stranding)	Shield Diameter	Jacket Diameter	Weight
20 (19/32)	.112 (2.84)	.121 (3.06)	13.8 (20.6)
22 (19/34)	.096 (2.44)	.105 (2.66)	9.93 (14.8)
24 (19/36)	.084 (2.13)	.093 (2.35)	7.84 (11.7)
26 (19/38)	.074 (1.88)	.083 (2.10)	5.90 (8.78)

Dimensions and Weight—3 Conductor Cables*

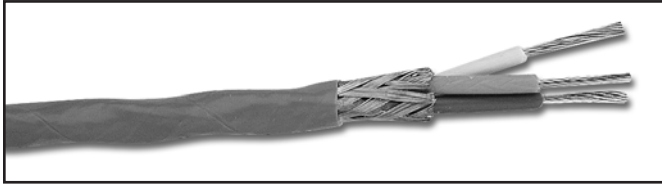
Component Wire AWG (Stranding)	Shield Diameter	Jacket Diameter	Weight
20 (19/32)	.119 (3.03)	.128 (3.25)	19.0 (28.2)
22 (19/34)	.102 (2.59)	.111 (2.81)	13.4 (19.9)
24 (19/36)	.089 (2.26)	.098 (2.48)	9.96 (14.8)
26 (19/38)	.078 (1.99)	.087 (2.21)	7.80 (11.6)

Dimensions and Weight—4 Conductor Cables

Component Wire AWG (Stranding)	Shield Diameter	Jacket Diameter	Weight
20 (19/32)	.132 (3.34)	.140 (3.56)	24.1 (35.9)
22 (19/34)	.112 (2.85)	.121 (3.07)	16.9 (25.2)
24 (19/36)	.098 (2.49)	.107 (2.71)	12.5 (18.7)
26 (19/38)	.086 (2.18)	.095 (2.40)	9.92 (14.8)

Dimensions in inches (mm). Weights in pounds/1000 feet (Kg/1000 M). All values are nominal. *Using factors from a circumscribed circle per M27500.

M27500 Cables—type NK (M81381/21 components)



Construction Details

Component wire conductor: Tin-plated copper.

Component wire insulation:

Two layers of FEP/polyimide/FEP tape with modified aromatic polyimide coating.

Shield: Tin-plated copper braid, 85% coverage.

Jacket: Natural polyimide/FEP tape, wrapped and heat sealed, with polyimide outer surface.

Colors: Color coded to M27500 (see page 67).

Certifications also available to NEMA WC27500.

M27500 NK cables are shielded and jacketed cables with a jacket of FEP/polyimide tape, incorporating MIL-DTL-81381/21 wires.

These component wires have an insulation of two layers of FEP/polyimide/FEP tape with a polyimide hard coat for increased cut-through and abrasion resistance.

The component wires have tin-plated copper conductors.

Performance:

Voltage rating: 600V.

Temperature rating: -55 to 150° C.

See page 64 for component wire dimensions.

Part Numbers:

M27500 - 18 NK 1 T 12

Component wire AWG—**18**
 Component wire type—**NK**: MIL-DTL-81381/21
 Shield material—**T**: Tin-plated copper
 Jacket material—**12**: FEP/Polyimide Tape
 Number of component wires—**1**

Dimensions and Weight—1 Conductor Cables

Component Wire AWG (Stranding)	Shield Diameter	Jacket Diameter	Weight
10 (37/26)	.138 (3.51)	.147 (3.72)	37.9 (56.46)
12 (37/28)	.115 (2.92)	.124 (3.14)	25.7 (38.19)
14 (19/27)	.096 (2.44)	.105 (2.66)	17.7 (26.40)
16 (19/29)	.083 (2.11)	.092 (2.33)	12.5 (18.62)
18 (19/30)	.077 (1.96)	.086 (2.18)	10.6 (15.71)
20 (19/32)	.067 (1.70)	.076 (1.92)	8.23 (12.25)
22 (19/34)	.059 (1.50)	.068 (1.72)	5.82 (8.65)
24 (19/36)	.052 (1.32)	.061 (1.54)	4.84 (7.20)
26 (19/38)	.049 (1.24)	.058 (1.46)	4.31 (6.41)

Dimensions and Weight—2 Conductor Cables

Component Wire AWG (Stranding)	Shield Diameter	Jacket Diameter	Weight
10 (37/26)	.260 (6.60)	.269 (6.82)	74.2 (110)
12 (37/28)	.214 (5.44)	.223 (5.66)	50.2 (74.8)
14 (19/27)	.176 (4.47)	.185 (4.69)	34.0 (50.6)
16 (19/29)	.150 (3.81)	.159 (4.03)	23.7 (35.3)
18 (19/30)	.138 (3.51)	.147 (3.72)	19.7 (29.4)
20 (19/32)	.118 (3.00)	.127 (3.22)	14.3 (21.3)
22 (19/34)	.102 (2.59)	.111 (2.81)	10.8 (16.1)
24 (19/36)	.088 (2.24)	.097 (2.45)	7.96 (11.8)
26 (19/38)	.082 (2.08)	.091 (2.30)	6.85 (10.2)

Dimensions and Weight—3 Conductor Cables*

Component Wire AWG (Stranding)	Shield Diameter	Jacket Diameter	Weight
10 (37/26)	.282 (7.17)	.291 (7.39)	110 (164)
12 (37/28)	.229 (5.81)	.237 (6.03)	71.4 (106)
14 (19/27)	.188 (4.78)	.197 (4.99)	48.0 (71.5)
16 (19/29)	.160 (4.07)	.169 (4.28)	33.0 (49.1)
18 (19/30)	.147 (3.74)	.156 (3.96)	27.3 (40.6)
20 (19/32)	.126 (3.19)	.134 (3.41)	19.5 (29.0)
22 (19/34)	.108 (2.75)	.117 (2.97)	13.9 (20.7)
24 (19/36)	.093 (2.37)	.102 (2.59)	10.7 (15.9)
26 (19/38)	.087 (2.21)	.096 (2.43)	8.41 (12.5)

Dimensions and Weight—4 Conductor Cables

Component Wire AWG (Stranding)	Shield Diameter	Jacket Diameter	Weight
10 (37/26)	.314 (7.98)	.327 (8.29)	145 (216)
12 (37/28)	.259 (6.58)	.267 (6.79)	95.8 (143)
14 (19/27)	.209 (5.31)	.217 (5.52)	62.2 (92.6)
16 (19/29)	.177 (4.50)	.186 (4.73)	42.3 (63.0)
18 (19/30)	.163 (4.14)	.172 (4.36)	35.0 (52.1)
20 (19/32)	.139 (3.53)	.148 (3.75)	24.7 (36.8)
22 (19/34)	.120 (3.05)	.128 (3.26)	18.1 (27.0)
24 (19/36)	.103 (2.62)	.111 (2.83)	12.8 (19.0)
26 (19/38)	.096 (2.44)	.104 (2.65)	10.5 (15.7)

Dimensions in inches (mm). Weights in pounds/1000 feet (Kg/1000 M). All values are nominal. *Using factors from a circumscribed circle per M27500.

M27500 Cables—type NL (M81381/22 components)

M27500 NL cables are shielded and jacketed cables with a jacket of FEP/polyimide tape, incorporating MIL-DTL-81381/22 wires.

These component wires have an insulation of two layers of FEP/polyimide/FEP tape with a polyimide hard coat for increased cut-through and abrasion resistance.

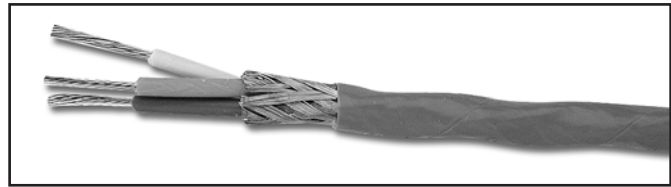
The component wires have tin-plated copper conductors.

Performance:

Voltage rating: 600V.

Temperature rating: -55 to 150° C.

See page 64 for component wire dimensions.



Construction Details

Component wire conductor: Tin-plated copper.

Component wire insulation:

Two layers of FEP/polyimide/FEP tape with modified aromatic polyimide coating.

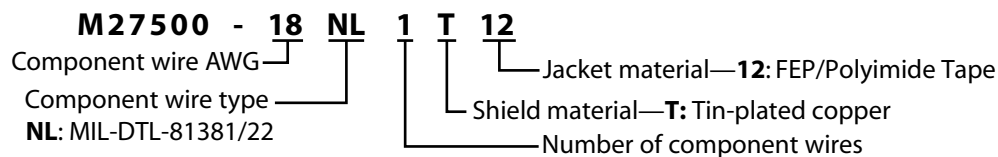
Shield: Tin-plated copper braid, 85% coverage.

Jacket: Natural polyimide/FEP tape, wrapped and heat sealed, with polyimide outer surface.

Colors: Color coded to M27500 (see page 67).

Certifications also available to NEMA WC27500.

Part Numbers:



Dimensions and Weight—1 Conductor Cables

Component Wire AWG (Stranding)	Shield Diameter	Jacket Diameter	Weight
10 (37/26)	.141 (3.58)	.150 (3.80)	39.4 (58.7)
12 (37/28)	.119 (3.02)	.128 (3.24)	26.7 (39.8)
14 (19/27)	.100 (2.54)	.109 (2.76)	18.8 (27.9)
16 (19/29)	.087 (2.21)	.096 (2.43)	13.6 (20.3)
18 (19/30)	.081 (2.06)	.090 (2.28)	11.4 (17.0)
20 (19/32)	.071 (1.80)	.080 (2.02)	8.52 (12.7)
22 (19/34)	.063 (1.60)	.072 (1.82)	6.37 (9.47)
24 (19/36)	.058 (1.47)	.067 (1.69)	5.16 (7.67)

Dimensions and Weight—2 Conductor Cables

Component Wire AWG (Stranding)	Shield Diameter	Jacket Diameter	Weight
10 (37/26)	.266 (6.76)	.275 (6.98)	77.4 (115)
12 (37/28)	.222 (5.64)	.231 (5.86)	52.1 (77.5)
14 (19/27)	.184 (4.67)	.193 (4.89)	36.1 (53.8)
16 (19/29)	.158 (4.01)	.167 (4.23)	25.8 (38.4)
18 (19/30)	.146 (3.71)	.155 (3.93)	21.5 (32.1)
20 (19/32)	.126 (3.20)	.135 (3.42)	15.5 (23.0)
22 (19/34)	.110 (2.79)	.119 (3.01)	11.4 (17.0)
24 (19/36)	.100 (2.54)	.109 (2.76)	9.34 (13.9)

Dimensions and Weight—3 Conductor Cables*

Component Wire AWG (Stranding)	Shield Diameter	Jacket Diameter	Weight
10 (37/26)	.289 (7.33)	.297 (7.55)	115 (171)
12 (37/28)	.237 (6.03)	.246 (6.25)	74.1 (110)
14 (19/27)	.197 (4.99)	.205 (5.21)	51.5 (76.6)
16 (19/29)	.169 (4.28)	.177 (4.50)	35.2 (52.3)
18 (19/30)	.156 (3.96)	.164 (4.18)	29.7 (44.1)
20 (19/32)	.134 (3.41)	.143 (3.63)	21.0 (31.3)
22 (19/34)	.117 (2.97)	.126 (3.19)	15.5 (23.0)
24 (19/36)	.106 (2.70)	.116 (2.92)	11.8 (17.5)

Dimensions and Weight—4 Conductor Cables

Component Wire AWG (Stranding)	Shield Diameter	Jacket Diameter	Weight
10 (37/26)	.321 (8.15)	.334 (8.48)	151 (225)
12 (37/28)	.268 (6.80)	.277 (7.03)	99.6 (148)
14 (19/27)	.218 (5.54)	.227 (5.77)	66.1 (98.3)
16 (19/29)	.187 (4.75)	.196 (4.97)	45.2 (67.3)
18 (19/30)	.173 (4.39)	.181 (4.60)	37.8 (56.2)
20 (19/32)	.149 (3.78)	.157 (3.99)	26.7 (39.7)
22 (19/34)	.129 (3.28)	.138 (3.50)	19.4 (28.9)
24 (19/36)	.117 (2.91)	.126 (3.20)	14.7 (21.9)

Dimensions in inches (mm). Weights in pounds/1000 feet (Kg/1000 M). All values are nominal. *Using factors from a circumscribed circle per M27500.

M27500 Cables—Seamless Wrap PTFE tape options

Many Thermax M27500 cables can be ordered with component wires featuring **Seamless Wrap** PTFE tape insulation, as noted on the following product pages.

Cables with type 24 (single) and 74 (double) jackets and M22759/80 through /92 component wires can be ordered with **Seamless Wrap** component wire insulation and jacket outer layer (see chart below for part numbers).

Thermax **Seamless Wrap** PTFE wire insulation and cable jacket offers all the advantages of a tape wrap with the smooth appearance and installation characteristics of an extrusion.

Seamless Wrap features an outer surface that:

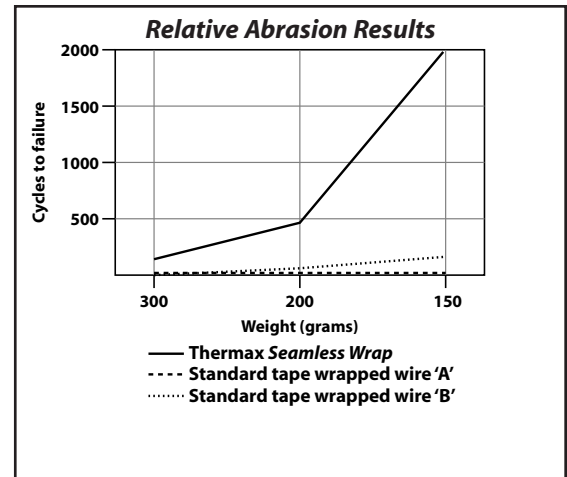
- Looks and feels like an extruded jacket;
- Reduces the possibility of damage during installation or re-routing (no seams to snag);
- Yields a more consistent final O.D. for cleaner stripping, marking, and stripping;
- Accepts clear, permanent laser marking.

Because of its uniform cross section, **Seamless Wrap** is superior to conventional wrapped tape in:

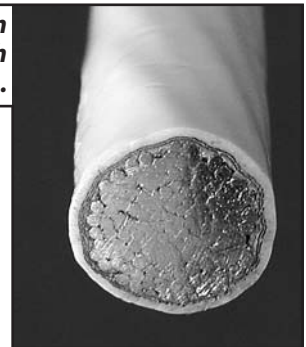
- Consistent wall thickness;
- Increased dielectric strength;
- Enhanced wet and dry arc propagation resistance.

By eliminating the mechanical “weak points” of seams in conventional wrapped tapes, **Seamless Wrap**:

- Significantly improves abrasion resistance, particularly wire-to-wire;
- Eliminates delaminating of sintered tape layers;
- Has enhanced crack resistance for use in SWAMP and fire zone applications.

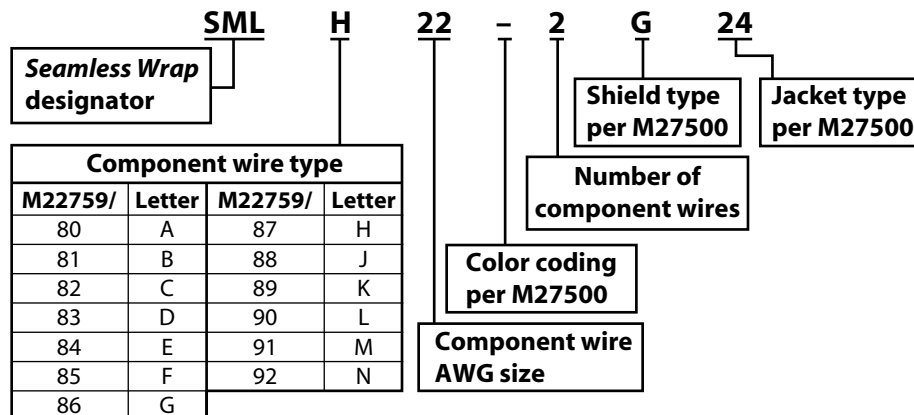


Seamless Wrap insulation cuts clean and smooth with no unraveling.



Clear, crisp laser marking enhanced by smooth outer surface.

M27500 Cables With Seamless Wrap Jacket and Component Wire Insulation



MIL-W-81822 wire

MIL-W-81822 (SAE AS81822) wires have solid conductors for wire-wrap termination, with extruded insulation of PTFE, PTFE with polyimide hardcoat, or ETFE. Each insulation type is available with a choice of three silver-plated conductor materials (see below). All are rated at 300 volts.

Some sizes are available in thin-wall versions—these are noted in the tables on the following pages as MIL-W-81822 numbers with “V” following the AWG size.

Construction characteristics—MIL-W-81822 wires

MIL-W-81822 Specification	Insulation Material	Conductor Material	Temperature Rating	Page
MIL-W-81822/4	Extruded PTFE with polyimide “H” dip coating	Type A: Annealed solid ETP silver-plated copper Type B: Annealed solid OFHC silver-plated copper	200	89
MIL-W-81822/6	Extruded PTFE	Type C: Solid silver-plated high-strength copper alloy (Alloy 135)	200	90
MIL-W-81822/13	Extruded ETFE		150	91

Temperature in °C.

MIL-W-81822 part numbering and example

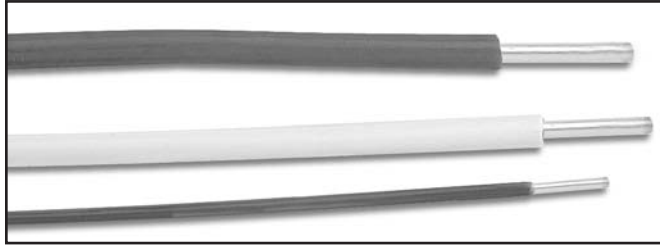
M81822/6 - A 30 - 9

Conductor material	
Letter	Material
A	Annealed solid ETP silver-plated copper
B	Annealed solid OFHC silver-plated copper
C	Solid silver-plated high-strength copper alloy (Alloy 135)

AWG size

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-81822/4 wire—PTFE/polyimide insulation



Construction Details

Insulation: Thin-wall extruded PTFE with polyimide top coat.

Conductor: Type A: Silver-plated ETP copper;
Type B: Silver-plated OFHC copper;
Type C: Silver-plated high strength copper alloy.

Colors: Color coded to MIL-STD-104.

MIL-W-81822/4 wires have thin wall extruded PTFE insulation with a polyimide top coat for increased cut-through and abrasion resistance.

All have solid conductors for wire-wrap applications such as backpanel wiring, with a choice of three conductor materials.

Performance:

Voltage rating: 300V.

Temperature rating: -55 to 200° C.

Dimensions, Resistance, and Weights—type A conductor (silver-plated ETP copper)

M81822 P/N	AWG Size	Conductor Diameter	Insulation Diameter		Weight	Maximum Resistance	Thermax P/N
			Minimum	Maximum			
M81822/4-A20-*	20	.0320 (.813)	.0440 (1.12)	.0480 (1.22)	4.19 (6.24)	10.4 (34.1)	20-MTH-120
M81822/4-A22-*	22	.0253 (.643)	.0370 (.940)	.0410 (1.04)	2.80 (4.17)	16.8 (55.1)	22-MTH-122
M81822/4-A24-*	24	.0201 (.511)	.0325 (.826)	.0355 (.902)	1.91 (2.84)	26.5 (86.9)	24-MTH-124
M81822/4-A26-*	26	.0159 (.404)	.0280 (.711)	.0310 (.787)	1.32 (1.96)	42.7 (140)	26-MTH-126
M81822/4-A28-*	28	.0126 (.320)	.0250 (.635)	.0280 (.711)	.960 (1.43)	68.0 (223)	28-MTH-128
M81822/4-A30-*	30	.0100 (.254)	.0185 (.470)	.0205 (.521)	.550 (.817)	108 (355)	30-MMTH-130

Dimensions in inches (mm). Weight is maximum 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 88).

Dimensions, Resistance, and Weights—type B conductor (silver-plated OFHC copper)

M81822 P/N	AWG Size	Conductor Diameter	Insulation Diameter		Weight	Maximum Resistance	Thermax P/N
			Minimum	Maximum			
M81822/4-B20-*	20	.0320 (.813)	.0440 (1.12)	.0480 (1.22)	4.19 (6.24)	10.4 (34.1)	20-MTOH-120
M81822/4-B22-*	22	.0253 (.643)	.0370 (.940)	.0410 (1.04)	2.80 (4.17)	16.8 (55.1)	22-MTOH-122
M81822/4-B24-*	24	.0201 (.511)	.0325 (.826)	.0355 (.902)	1.91 (2.84)	26.5 (86.9)	24-MTOH-124
M81822/4-B26-*	26	.0159 (.404)	.0280 (.711)	.0310 (.787)	1.32 (1.96)	42.7 (140)	26-MTOH-126
M81822/4-B28-*	28	.0126 (.320)	.0250 (.635)	.0280 (.711)	.960 (1.43)	68.0 (223)	28-MTOH-128
M81822/4-B30-*	30	.0100 (.254)	.0185 (.470)	.0205 (.521)	.550 (.817)	108 (355)	30-MMTOH-130

Dimensions in inches (mm). Weight is maximum 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 88).

Dimensions, Resistance, and Weights—type C conductor (silver-plated high-strength copper alloy)

M81822 P/N	AWG Size	Conductor Diameter	Insulation Diameter		Weight	Maximum Resistance	Thermax P/N
			Minimum	Maximum			
M81822/4-B20-*	20	.0320 (.813)	.0440 (1.12)	.0480 (1.22)	4.19 (6.24)	12.2 (40.0)	20-MTTFH-120
M81822/4-B22-*	22	.0253 (.643)	.0370 (.940)	.0410 (1.04)	2.80 (4.17)	19.7 (64.6)	22-MTTFH-122
M81822/4-B24-*	24	.0201 (.511)	.0325 (.826)	.0355 (.902)	1.91 (2.84)	31.0 (102)	24-MTTFH-124
M81822/4-B26-*	26	.0159 (.404)	.0280 (.711)	.0310 (.787)	1.32 (1.96)	50.4 (165)	26-MTTFH-126
M81822/4-B28-*	28	.0126 (.320)	.0250 (.635)	.0280 (.711)	.960 (1.43)	79.4 (260)	28-MTTFH-128
M81822/4-B30-*	30	.0100 (.254)	.0185 (.470)	.0205 (.521)	.550 (.817)	126 (415)	30-MMTTFH-130

Dimensions in inches (mm). Weight is maximum 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 88).

MIL-W-81822/6 wire—extruded PTFE insulation

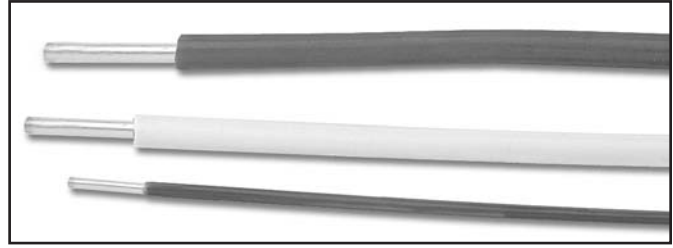
MIL-W-81822/6 wires have extruded PTFE insulation for high-temperature applications.

All have solid conductors for wire-wrap applications such as backpanel wiring, with a choice of three conductor materials.

Performance:

Voltage rating: 300V.

Temperature rating: -55 to 200° C.

**Construction Details**

Insulation: Thin-wall extruded PTFE .

Conductor: Type A: Silver-plated ETP copper;
Type B: Silver-plated OFHC copper;
Type C: Silver-plated high strength copper alloy.

Colors: Color coded to MIL-STD-104.

Dimensions, Resistance, and Weights—type A conductor (silver-plated ETP copper)

M81822 P/N	AWG Size	Conductor Diameter	Insulation Diameter		Weight	Maximum Resistance	Thermax P/N
			Minimum	Maximum			
M81822/6-A20-*	20	.0320 (.813)	.0540 (1.37)	.0580 (1.47)	5.00 (7.44)	10.4 (34.1)	20-TE-120
M81822/6-A22-*	22	.0253 (.643)	.0460 (1.17)	.0500 (1.27)	3.43 (5.10)	16.8 (55.1)	22-TE-122
M81822/6-A24-*	24	.0201 (.511)	.0400 (1.02)	.0440 (1.12)	2.43 (3.62)	26.5 (86.9)	24-TE-124
M81822/6-A26-*	26	.0159 (.404)	.0290 (.737)	.0330 (.838)	1.43 (2.13)	42.7 (140)	26-MT-126
M81822/6-A28-*	28	.0126 (.320)	.0240 (.610)	.0280 (.711)	.970 (1.44)	68.0 (223)	28-MT-128
M81822/6-A30-*	30	.0100 (.254)	.0210 (.533)	.0240 (.610)	.670 (1.00)	108 (355)	30-MT-130

Dimensions in inches (mm). Weight is maximum 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 88).

Dimensions, Resistance, and Weights—type B conductor (silver-plated OFHC copper)

M81822 P/N	AWG Size	Conductor Diameter	Insulation Diameter		Weight	Maximum Resistance	Thermax P/N
			Minimum	Maximum			
M81822/6-B20-*	20	.0320 (.813)	.0540 (1.37)	.0580 (1.47)	5.00 (7.44)	10.4 (34.1)	20-TEO-120
M81822/6-B22-*	22	.0253 (.643)	.0460 (1.17)	.0500 (1.27)	3.43 (5.10)	16.8 (55.1)	22-TEO-122
M81822/6-B24-*	24	.0201 (.511)	.0400 (1.02)	.0440 (1.12)	2.43 (3.62)	26.5 (86.9)	24-TEO-124
M81822/6-B26-*	26	.0159 (.404)	.0290 (.737)	.0330 (.838)	1.43 (2.13)	42.7 (140)	26-MTO-126
M81822/6-B28-*	28	.0126 (.320)	.0240 (.610)	.0280 (.711)	.970 (1.44)	68.0 (223)	28-MTO-128
M81822/6-B30-*	30	.0100 (.254)	.0210 (.533)	.0240 (.610)	.670 (1.00)	108 (355)	30-MTO-130

Dimensions in inches (mm). Weight is maximum 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 88).

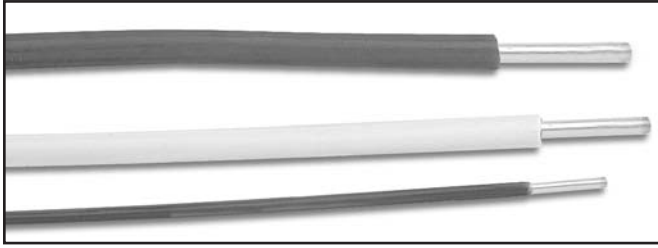
Dimensions, Resistance, and Weights—type C conductor (silver-plated high-strength copper alloy)

M81822 P/N	AWG Size	Conductor Diameter	Insulation Diameter		Weight	Maximum Resistance	Thermax P/N
			Minimum	Maximum			
M81822/6-C20-*	20	.0320 (.813)	.0540 (1.37)	.0580 (1.47)	5.00 (7.44)	12.2 (40.0)	20-TETF-120
M81822/6-C22-*	22	.0253 (.643)	.0460 (1.17)	.0500 (1.27)	3.43 (5.10)	19.7 (64.6)	22-TETF-122
M81822/6-C24-*	24	.0201 (.511)	.0400 (1.02)	.0440 (1.12)	2.43 (3.62)	31.0 (102)	24-TETF-124
M81822/6-C26-*	26	.0159 (.404)	.0290 (.737)	.0330 (.838)	1.43 (2.13)	50.4 (165)	26-MTTF-126
M81822/6-C28-*	28	.0126 (.320)	.0240 (.610)	.0280 (.711)	.970 (1.44)	79.4 (260)	28-MTTF-128
M81822/6-C30-*	30	.0100 (.254)	.0210 (.533)	.0240 (.610)	.670 (1.00)	126 (415)	30-MTTF-130

Dimensions in inches (mm). Weight is maximum 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 88).

MIL-W-81822/13 wire—extruded ETFE insulation



Construction Details

Insulation: Extruded ETFE. Types noted as “V” in the charts below have ultra thin-wall insulation.

Conductor: Type A: Silver-plated ETP copper;
Type B: Silver-plated OFHC copper;
Type C: Silver-plated high strength copper alloy.

Colors: Color coded to MIL-STD-104.

MIL-W-81822/13 wires have extruded ETFE insulation for aerospace and other applications requiring light weight, tight jacket diameter tolerances, and enhanced mechanical toughness.

ETFE insulation also provides exceptional resistance to radiation and chemicals.

All have solid conductors for wire-wrap applications such as backpanel wiring, with a choice of three conductor materials.

Performance:

Voltage rating: 300V.

Temperature rating: -55 to 150° C.

Dimensions, Resistance, and Weights—type A conductor (silver-plated ETP copper)

M81822 P/N	AWG Size	Conductor Diameter	Insulation Diameter		Weight	Maximum Resistance	Thermax P/N
			Minimum	Maximum			
M81822/13-A20-*	20	.0320 (.813)	.0440 (1.12)	.0480 (1.22)	4.03 (6.00)	10.4 (34.2)	20-MCF-120
M81822/13-A22-*	22	.0253 (.643)	.0370 (.940)	.0410 (1.04)	2.66 (3.96)	16.8 (55.1)	22-MCF-122
M81822/13-A24-*	24	.0201 (.511)	.0325 (.826)	.0355 (.902)	1.80 (2.68)	26.5 (86.9)	24-MCF-124
M81822/13-A24V-*	24	.0201 (.511)	.0285 (.724)	.0315 (.800)	1.64 (2.44)	26.5 (86.9)	24V-MCF-124
M81822/13-A26-*	26	.0159 (.404)	.0280 (.711)	.0310 (.787)	1.22 (1.82)	42.7 (140)	26-MCF-126
M81822/13-A26V-*	26	.0159 (.404)	.0245 (.622)	.0275 (.699)	1.11 (1.65)	42.7 (140)	26V-MCF-126
M81822/13-A28-*	28	.0126 (.320)	.0250 (.635)	.0280 (.711)	.880 (1.31)	68.0 (223)	28-MCF-128
M81822/13-A28V-*	28	.0126 (.320)	.0215 (.546)	.0245 (.622)	.770 (1.15)	68.0 (223)	28V-MCF-128
M81822/13-A30-*	30	.0100 (.254)	.0185 (.470)	.0205 (.521)	.510 (.760)	108 (354)	30-MCF-130

Dimensions, Resistance, and Weights—type B conductor (silver-plated OFHC copper)

M81822 P/N	AWG Size	Conductor Diameter	Insulation Diameter		Weight	Maximum Resistance	Thermax P/N
			Minimum	Maximum			
M81822/13-B20-*	20	.0320 (.813)	.0440 (1.12)	.0480 (1.22)	4.03 (6.00)	10.4 (34.1)	20-MCFO-120
M81822/13-B22-*	22	.0253 (.643)	.0370 (.940)	.0410 (1.04)	2.66 (3.96)	16.8 (55.1)	22-MCFO-122
M81822/13-B24-*	24	.0201 (.511)	.0325 (.826)	.0355 (.902)	1.80 (2.68)	26.5 (86.9)	24-MCFO-124
M81822/13-B24V-*	24	.0201 (.511)	.0285 (.724)	.0315 (.800)	1.64 (2.44)	26.5 (86.9)	24V-MCFO-124
M81822/13-B26-*	26	.0159 (.404)	.0280 (.711)	.0310 (.787)	1.22 (1.82)	42.7 (140)	26-MCFO-126
M81822/13-B26V-*	26	.0159 (.404)	.0245 (.622)	.0275 (.699)	1.11 (1.65)	42.7 (140)	26V-MCFO-126
M81822/13-B28-*	28	.0126 (.320)	.0250 (.635)	.0280 (.711)	.880 (1.31)	68.0 (223)	28-MCFO-128
M81822/13-B28V-*	28	.0126 (.320)	.0215 (.546)	.0245 (.622)	.770 (1.15)	68.0 (223)	28V-MCFO-128
M81822/13-B30-*	30	.0100 (.254)	.0185 (.470)	.0205 (.521)	.510 (.760)	108 (354)	30-MCFO-130

Dimensions, Resistance, and Weights—type C conductor (silver-plated high-strength copper alloy)

M81822 P/N	AWG Size	Conductor Diameter	Insulation Diameter		Weight	Maximum Resistance	Thermax P/N
			Minimum	Maximum			
M81822/13-C20-*	20	.0320 (.813)	.0440 (1.12)	.0480 (1.22)	4.03 (6.00)	12.2 (40.0)	20-MCFTF-120
M81822/13-C22-*	22	.0253 (.643)	.0370 (.940)	.0410 (1.04)	2.66 (3.96)	19.7 (64.6)	22-MCFTF-122
M81822/13-C24-*	24	.0201 (.511)	.0325 (.826)	.0355 (.902)	1.80 (2.68)	31.0 (102)	24-MCFTF-124
M81822/13-C24V-*	24	.0201 (.511)	.0285 (.724)	.0315 (.800)	1.64 (2.44)	31.0 (102)	24V-MCFTF-124
M81822/13-C26-*	26	.0159 (.404)	.0280 (.711)	.0310 (.787)	1.22 (1.82)	50.4 (165)	26-MCFTF-126
M81822/13-C26V-*	26	.0159 (.404)	.0245 (.622)	.0275 (.699)	1.11 (1.65)	50.4 (165)	26V-MCFTF-126
M81822/13-C28-*	28	.0126 (.320)	.0250 (.635)	.0280 (.711)	.880 (1.31)	79.4 (260)	28-MCFTF-128
M81822/13-C28V-*	28	.0126 (.320)	.0215 (.546)	.0245 (.622)	.770 (1.15)	79.4 (260)	28V-MCFTF-128
M81822/13-C30-*	30	.0100 (.254)	.0185 (.470)	.0205 (.521)	.510 (.760)	126 (413)	30-MCFTF-130

Dimensions in inches (mm). Weight is maximum 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 88).