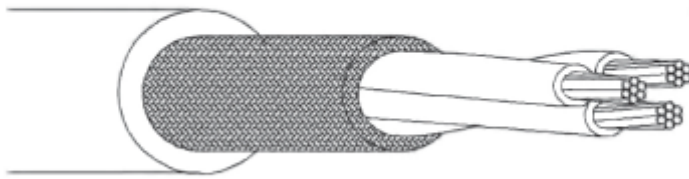


## M27500

### M27500 Cable (NEMA WC27500)



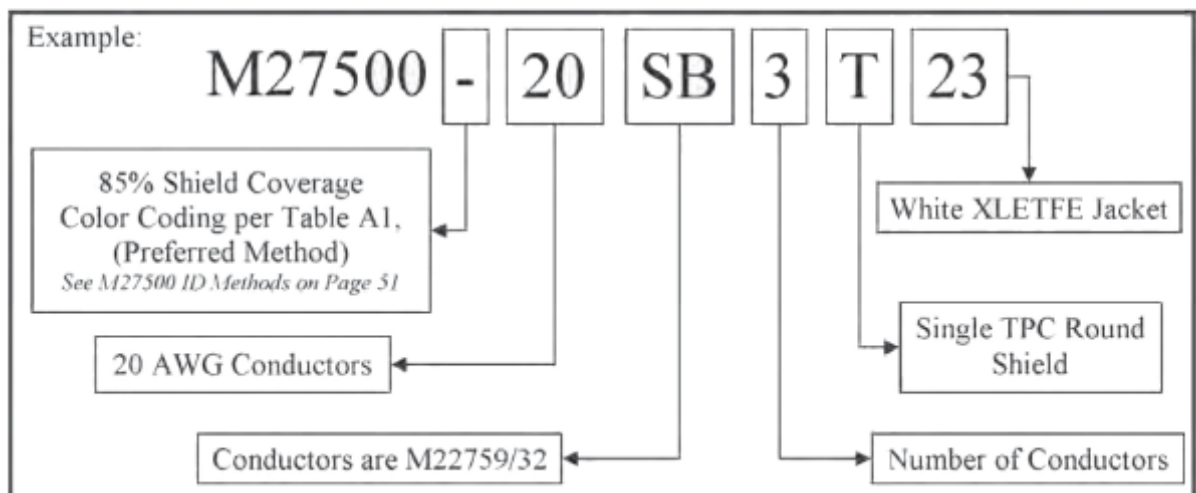
M27500 cable products are composed of mil-spec inner conductors, single or double shields and single or double jackets. This mil-spec cable is ideal for use in aircraft and ground support equipment due to its ability to operate in a broad range of temperatures. In addition to being a defense and aerospace cable, this high performance, mil-spec cable is used in a wide range of general purpose electrical applications.

#### How to build 27500 Cables:

- Step 1:** Choose correct color identification method and shield coverage. (See **Table A** on pg. 51)
- Step 2:** Choose conductor AWG.
- Step 3:** Choose inner conductor type, find the appropriate cable designator for that specific mil-spec wire. (See **Table B** on pg. 52) For example use the "SB" cable designator for M22759/32 wire.
- Step 4:** Determine number of conductors
- Step 5:** Use **Table C** on pg. 53 to determine Shield Type.
- Step 6:** Use **Table D** on pg. 53 to determine Jacket Type.
- Step 7:** Compose your part number like the example below using the designators from the previous steps.
- Step 8:** Contact WireMasters with your part number and place an order.

#### Cable Designation

Mil-spec Number	ID method for wire and shield coverage (Table A on pg. 51)	Conductor AWG	Base Wire Spec. (Table B on pg. 52)	No. of Conductors	Shield Type (Table C on pg. 53)	Jacket Material (Table D on pg. 53)
M27500	-	20	SB	3	T	23



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**M27500 Cable (NEMA WC27500) Identification Method for Wire and Shield Coverage**

**Table A: Color Identification Method for Wire and Shield Coverage**

Shield Coverage		MIL-DTL-27500 Terminology	Color Identification Method
85%	90%		
-	C	Preferred method Table A-1	Colored Stripes on White Wire-Stripe Color per Table A-1
A	D	Optional Method A Table A-1	Solid Color Wires-Colors per Table A-1
B	E	Optional Method B Table A-3	Band Marking (wire number) per table A-4 on Solid Colors (by AWG) per Table A-3
F	H	Preferred Method Table A-2	Colored Stripes on White Wire-Stripe Color per Table A-2
G	J	Optional Method A Table A-2	Solid Color Wires per Table A-2
K	M	Optional Method C Table A-3	Number Marking on Solid Color Wires (by AWG) per Table A-3
L	N	Optional Method D	Number Marking on White Wires
P	R	Optional Method B Table A-4	Band Marks per Table A-4 on Colored Stripes (by AWG) per Table A-3
S	T	Optional Method B Table A-4	Band Marks per Table A-4 on White Wires
U	V	--	For Color Codes Specified by the Procuring Activity

**Table A-1: Color Coding**

**Preferred Method-** Colors are stripes on white insulation (wire #1 has no stripe).

**Optional Method A-** Colors are solid insulation color. Wires 11-15 have a lighter base color stripe.

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 A-2: Color Coding**

**Preferred Method-** Colors are stripes on white insulation (wire #5 has no stripe), for wires 1-10. Wires 11-15 color pairs-first color indicates insulation, with a stripe of the second color.

**Optional Method A-** Colors are solid insulation color. Wires 11-15 color pairs-first color indicates insulation, with a stripe of the second color.

**Either Method A-** Color of the wire in a one-conductor cable is white.

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 A-3: Color Coding**

**Optional Method B-** wire insulation color is based on AWG, with color bands per Table D for wire number

**Optional Method C-** wire insulation color is based on AWG with printed numbers designating wire number.

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

**Table A-4: Band Configuration**

**Optional Method B-** band groups as shown below are printed on wire to indicate wire number.

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

## M27500 Cable (NEMA WC27500) Base Wire Specification

**Table B: Base Wire Specification**

By Symbol Sequence				By Specification Sequence			
A	SAE AS5086/1	NK	SAE AS81381/21	SAE AS22759/1	EA	SAE AS22759/85	WH
AA	SAE AS5086/5	NL	SAE AS81381/22	SAE AS22759/2	E	SAE AS22759/86	WJ
AB	SAE AS5086/6	P	SAE AS5086/4	SAE AS22759/3	RA	SAE AS22759/87	WK
AD	SAE AS5086/7	RA	SAE AS22759/3	SAE AS22759/4	RB	SAE AS22759/88	WL
B	SAE AS5086/2	RB	SAE AS22759/4	SAE AS22759/5	VA	SAE AS22759/89	WM
C	SAE AS5086/3	RC	SAE AS22759/11	SAE AS22759/6	WA	SAE AS22759/90	WN
CA	SAE AS22759/13	RE	SAE AS22759/12	SAE AS22759/7	SA	SAE AS22759/91	WP
CB	SAE AS22759/14	SA	SAE AS22759/7	SAE AS22759/8	TA	SAE AS22759/92	WR
CC	SAE AS22759/15	SB	SAE AS22759/32	SAE AS22759/9	LE	SAE AS25038/1	JA
E	SAE AS22759/2	SC	SAE AS22759/33	SAE AS22759/10	LH	SAE AS25038/3	JF
EA	SAE AS22759/1	SD	SAE AS22759/34	SAE AS22759/11	RC	SAE AS5086/1	A
F	SAE AS8777, MS 27110	SE	SAE AS22759/35	SAE AS22759/12	RE	SAE AS5086/2	B
H	SAE AS8777, MS 25471	SM	SAE AS22759/41	SAE AS22759/13	CA	SAE AS5086/3	C
JA	SAE AS25038/1	SN	SAE AS22759/42	SAE AS22759/14	CB	SAE AS5086/4	P
JB	SAE AS22759/28	SP	SAE AS22759/43	SAE AS22759/15	CC	SAE AS5086/5	AA
JC	SAE AS22759/29	SR	SAE AS22759/44	SAE AS22759/16	TE	SAE AS5086/6	AB
JD	SAE AS22759/30	SS	SAE AS22759/45	SAE AS22759/17	TF	SAE AS5086/7	AD
JE	SAE AS22759/31	ST	SAE AS22759/46	SAE AS22759/18	TG	SAE AS81044/5	MD
JF	SAE AS25038/3	TA	SAE AS22759/8	SAE AS22759/19	TH	SAE AS81044/6	ME
LE	SAE AS22759/9	TE	SAE AS22759/16	SAE AS22759/20	TK	SAE AS81044/7	MF
LH	SAE AS22759/10	TF	SAE AS22759/17	SAE AS22759/21	TL	SAE AS81044/8	MG
MD	SAE AS81044/5	TG	SAE AS22759/18	SAE AS22759/22	TM	SAE AS81044/9	MH
ME	SAE AS81044/6	TH	SAE AS22759/19	SAE AS22759/23	TN	SAE AS81044/10	MJ
MF	SAE AS81044/7	TK	SAE AS22759/20	SAE AS22759/28	JB	SAE AS81044/11	MK
MG	SAE AS81044/8	TL	SAE AS22759/21	SAE AS22759/29	JC	SAE AS81044/12	ML
MH	SAE AS81044/9	TM	SAE AS22759/22	SAE AS22759/30	JD	SAE AS81044/13	MM
MJ	SAE AS81044/10	TN	SAE AS22759/23	SAE AS22759/31	JE	SAE AS81381/7	MR
MK	SAE AS81044/11	VA	SAE AS22759/5	SAE AS22759/32	SB	SAE AS81381/8	MS
ML	SAE AS81044/12	WA	SAE AS22759/6	SAE AS22759/33	SC	SAE AS81381/9	MT
MM	SAE AS81044/13	WB	SAE AS22759/80	SAE AS22759/34	SD	SAE AS81381/10	MV
MR	SAE AS81381/7	WC	SAE AS22759/81	SAE AS22759/35	SE	SAE AS81381/11	MW
MS	SAE AS81381/8	WE	SAE AS22759/82	SAE AS22759/41	SM	SAE AS81381/12	MY
MT	SAE AS81381/9	WF	SAE AS22759/83	SAE AS22759/42	SN	SAE AS81381/13	NA
MV	SAE AS81381/10	WG	SAE AS22759/84	SAE AS22759/43	SP	SAE AS81381/14	NB
MW	SAE AS81381/11	WH	SAE AS22759/85	SAE AS22759/44	SR	SAE AS81381/17	NE
MY	SAE AS81381/12	WJ	SAE AS22759/86	SAE AS22759/45	SS	SAE AS81381/18	NF
NA	SAE AS81381/13	WK	SAE AS22759/87	SAE AS22759/46	ST	SAE AS81381/19	NG
NB	SAE AS81381/14	WL	SAE AS22759/88	SAE AS22759/80	WB	SAE AS81381/20	NH
NE	SAE AS81381/17	WM	SAE AS22759/89	SAE AS22759/81	WC	SAE AS81381/21	NK
NF	SAE AS81381/18	WN	SAE AS22759/90	SAE AS22759/82	WE	SAE AS81381/22	NL
NG	SAE AS81381/19	WP	SAE AS22759/91	SAE AS22759/83	WF	SAE AS8777, MS 25471	H
NH	SAE AS81381/20	WR	SAE AS22759/92	SAE AS22759/84	WG	SAE AS8777, MS 27110	F

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**M27500 Cable (NEMA WC27500) Jacket and Shield Types**
**Table C: Shield Type**

SINGLE SHIELD	DOUBLE SHIELD	SHIELD MATERIAL	MAXIMUM TEMP
U	--	No Shield	--
T	V	TPC Round	150°C
S	W	SPC Round	200°C
N	Y	NPC Round	260°C
F	Z	Stainless Steel	400°C
C	R	NPC 27% Round	400°C
M	K	SPC Alloy Round	200°C
P	L	NPC Alloy Round	260°C
G	A	SPC Flat	200°C
H	B	SP High Strength Copper Alloy Flat	200°C
*	#	NPC Flat	260°C
J	D	TPC Flat	150°C
E	X	NP High Strength Copper Alloy Flat	260°C
I	Q	Nickel-Chromium Alloy Flat	400°C

**Table D: Jacket Type**

SINGLE JACKET	DOUBLE JACKET	JACKET MATERIAL	MAXIMUM TEMP
00	00	No Jacket	----
01	51	Extruded White PVC	90°C
02	52	Extruded Clear Polyamide	105°C
03	53	White Polyamide Braid Over Polyester Tape	105°C
04	54	Polyester Braid over Polyester Tape	150°C
05	55	Extruded Clear FEP	200°C
06	56	Extruded or Taped White PTFE	260°C
07	57	White Glass Braid PTFE Over PTFE Tape	260°C
08	58	Cross linked White Extruded PVDF	150°C
09	59	Extruded White FEP	200°C
10	60	Extruded Clear PVDF	125°C
11	61	Polyimide over FEP wrapped Polyimide tape	200°C
12	62	Polyimide over FEP wrapped Polyimide tape	200°C
14	64	Extruded White ETFE	150°C
15	65	Extruded Clear ETFE	150°C
16	66	PTFE Tape Over Polyamide Braid	200°C
17	67	Extruded White ECTFE	150°C
18	68	Extruded Clear ECTFE	150°C
20	70	Extruded White PFA	260°C
21	71	Extruded Clear PFA	260°C
22	72	Polyimide over FEP wrapped Polyimide tape	200°C
23	73	Extruded, White, Modified XLETFE	200°C
24	74	White Polyimide PTFE Tape, FEP	260°C

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