

Cable Designation

This specification covers the requirements for electronic control cables used in aircraft and missile applications. These cables may be constructed from a variety of insulating materials having different characteristics. Nexans manufactures most of the combinations available in this specification. The cable can be obtained in configurations up to 15 conductors with just a shield,

or both single and double shields and jackets. Conductor colors are specified and the cable must be identified by methods described in the body of WC 27500-2012 Cables will be identified by a combination of digits and letters (not to exceed 16), in accordance with the following.

M27500 Specification number	- ID method of cable wire & shield coverage (Chart B)	22 Conductor size	SD Basic wire specification (Chart C)	3 Number of wires in cable (Chart D)	I Shield style & material (Chart E)	23 Jacket material (Chart F)
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Example: M27500-22SD3T23 = 22 AWG, 3 conductor, tin shielded 85%, white XLETPE jacket.

Chart B Identification method of cables wire and shield

85%*	90%**	NEMA WC 27500 statements and requirements
-	C	Preferred Identification method, Table 3-1. All wires are white with stripes for wire identification per colors in table 3-1.
F	H	Preferred Identification method, Table 3-2. All wires are colored white with stripes for wire identification per colors in Table 3-2.
A	D	Optional Identification method A, Table 3-1. All wires use solid colors.
G	J	Optional identification method A, Table 3-2. All wires use different solid colors.
B	E	Optional identification method B, Table 3-3. All wires are the same solid color to denote wire size and band marks are used to identify wires within the cable.
K	M	Optional identification method C, Table 3-3. The same solid color is used for all wires and numbers are printed on the wire insulation for identification.
L	N	Optional identification method D. All wires are white or natural and numbers are printed on the wire insulation for identification.
P	R	For optional identification method E. All wires are white with the same colored stripe to denote wire size and with band marks to identify wire inside the cable.
S	T	Optional identification method F. All wires are white with colored bands.
U	V	Color codes specified by procuring activity.

* When an unshielded cable, or a cable with a minimum shield coverage of 85 percent is required, specify the corresponding letter.

** When a cables with a minimum shield coverage of 90 percent is required, specify the corresponding letter.

Product selection guide for Nexans MIL wire and cable

Chart C Basic wire specification offering

Symbol sequence					
CA	AS22759/13	DM	AS22759/189	SP	AS22759/43
CB	AS22759/14	DN	AS22759/190	SR	AS22759/44
DB	AS22759/180	DP	AS22759/191	TE	AS22759/16
DC	AS22759/181	DR	AS22759/192	TG	AS22759/18
DE	AS22759/182	ML	AS81044/12	WC	AS22759/81
DF	AS22759/183	RE	AS22759/12	WE	AS22759/82
DG	AS22759/184	SB	AS22759/32	WG	AS22759/84
DH	AS22759/185	SC	AS22759/33	WK	AS22759/87
DJ	AS22759/186	SD	AS22759/34	WN	AS22759/90
DK	AS22759/187	SM	AS22759/41	WP	AS22759/91
DL	AS22759/188	SN	AS22759/42	WR	AS22759/92

Chart D Number of wires per cable

1 to 15 for shielded or shielded and jacketed cables.

2 to 15 for unshielded, unjacketed or unshielded jacketed cables.

Cables with 10 to 15 conductors will be limited to conductor size 12 AWG and smaller.

Chart E Shield style material

Symbol single Shield style	Symbol double shield style	Shield material	Maximum temperature limit for shield material
U		No shield	-
T	V	Tin-coated copper, round	150°C (302°F)
S	W	Silver-coated copper, round	200°C (392°F)
N	Y	Nickel-coated copper, round	260°C (500°F)
F	Z	Stainless steel, round	400°C (752°F)
C	R	Nickel-coated copper 27%, round	400°C (752°F)
M	K	Silver-coated high strength copper alloy, round	200°C (392°F)
P	L	Nickel-coated high strength copper alloy, round	260°C (500°F)
G	A	Silver-coated copper, flat	200°C (392°F)
H	B	Silver-coated high strength copper alloy, flat	200°C (392°F)
*	#	Nickel-coated copper, flat	260°C (500°F)
J	D	Tin-coated copper, flat	150°C (302°F)
E	X	Nickel-coated high strength copper alloy, flat	260°C (500°F)
I	Q	Nickel-chromium alloy, flat	400°C (752°F)
\$	+	Heavy silver coated copper, round	200°C (392°F)

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Chart F Jacket Materials

Single jacket symbol	Double jacket symbol	Jacket material	Temp. limit for jacket material
00	00	No jacket	-
01 ¹	51 ¹	Extruded white polyvinyl chloride (PVC)	90°C (194°F)
02 ²	52 ²	Extruded clear polyamide	105°C (221°F)
03	53	White polyamide braid impregnated with clear polyamide finisher over a polyester tape	105°C (221°F)
04	54	Polyester braid impregnated with high temperature finisher over polyester tape	150°C (302°F)
05	55	Extruded clear fluorinated ethylene propylene (FEP)	200°C (392°F)
06	56	Extruded or taped and heat sealed white polytetrafluoroethylene (PTFE)	260°C (500°F)
07	57	White polytetrafluoroethylene (PTFE) treated glass braid impregnated and coated with polytetrafluoroethylene finisher over presintered polytetrafluoroethylene tape	260°C (500°F)
08 ³	58 ³	Crosslinked white extruded polyvinylidene fluoride (PVDF)	150°C (302°F)
09	59	Extruded white fluorinated ethylene propylene (FEP)	200°C (392°F)
10 ³	60 ³	Extruded clear polyvinylidene fluoride (PVDF)	125°C (257°F)
11 ⁴	61 ⁴	Tape of natural polyimide combined with clear fluorinated ethylene propylene (FEP) wrapped and heat sealed with (FEP) outer surface	200°C (392°F)
12 ⁴	62 ⁴	Tape of natural polyimide combined with fluorinated ethylene propylene (FEP) wrapped and heat sealed with polyimide outer surface	200°C (392°F)
14	64	Extruded white ethylene-tetrafluoroethylene copolymer (ETFE)	150°C (302°F)
15	65	Extruded clear ethylene-tetrafluoroethylene copolymer (ETFE)	150°C (302°F)
16	66	Braid of aromatic polyamide with high temperature finisher over presintered polytetrafluoroethylene (PTFE) tape	200°C (392°F)
20	70	Extruded white perfluoroalkoxy (PFA)	260°C (500°F)
21	71	Extruded clear perfluoroalkoxy (PFA)	260°C (500°F)
23	73	White, crosslinked, extruded, modified, ethylene-tetrafluoroethylene copolymer (XLETFE)	200°C (392°F)
24	74	Tape layer of white polytetrafluoroethylene (PTFE) wrapped over a tape layer of natural polyimide combined with fluoropolymer heated and fused	260°C (500°F)
25	75	Smooth surface tape layer of white polytetrafluoroethylene (PTFE) wrapped over a tape layer of natural polyimide combined with fluoropolymer heated and fused	260°C (500°F)

1 - Polyvinyl chloride materials shall not be used for aerospace applications.

2 - Jacket material 02 is not to be used for cables having a diameter of 0.251 inch or greater.

3 - Jacket materials 08, 58, 10 & 60 are not to be used for cables having a diameter of 0.401 inch or greater.

4 - Not for Naval Air Systems Command usage.