

INCH-POUND

MIL-DTL-27072/89C
8 December 2000
SUPERSEDING
MIL-C-27072/89B
23 March 1993

DETAIL SPECIFICATION SHEET

CABLE, SPECIAL PURPOSE, ELECTRICAL, MULTICONDUCTOR
(3 CONDUCTORS) AND SINGLE SHIELDED

This specification is approved for use by all Departments
and Agencies of the Department of Defense.

The requirements for acquiring the product described herein shall consist of this specification sheet and MIL-DTL-27072C.

Inactive for new design. For new design use MIL-C-55021/2.

REQUIREMENTS:

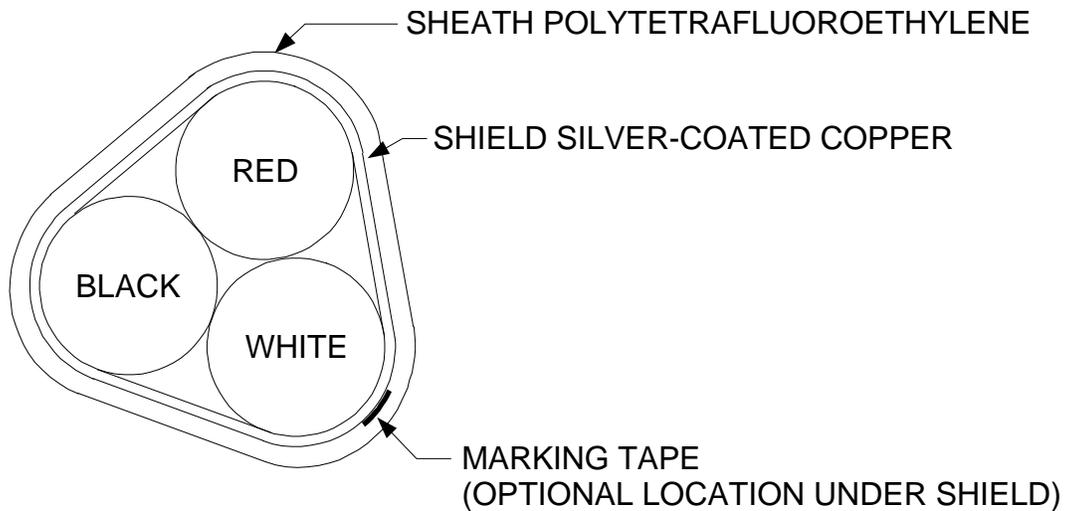


FIGURE 1. Cable configuration.

*The complete part number requires a color code designator (see table I).

MIL-DTL-27072/89C

Design and construction:	See figure 1
Number of conductors:	3
Temperature rating:	200°C
Components:	
Basic wire:	Either NEMA HP3 or M22759 (See table I.)
Conductor:	Silver-coated copper
Primary insulation:	Polytetrafluoroethylene
Colors:	White Black Red
Jacket over insulation:	Not applicable
Filler:	Not applicable
Cabling:	Not applicable
Binder tape material:	Not applicable
Marking tape:	Marking tape shall be placed under the sheath or shield
Shield:	
Material:	Silver-coated copper
Construction:	See table I
Braid angle:	Braid 20 to 40 degrees
Jacket undershield:	Not applicable
Sheath:	
Material:	Polytetrafluoroethylene
Wall thickness:	.011 ± .003 inch
Tensile strength:	In accordance with table V of MIL-DTL-27072
Ultimate elongation:	In accordance with table V of MIL-DTL-27072
Accelerated aging:	Not applicable
Color:	See table IV of MIL-DTL-27072

Surface resistance (sheath): When tested in accordance with Method 6041 of FED-STD-228, the initial surface resistance shall be not less than 5 megohms. The final surface resistance shall be within 50 percent of the initial surface resistance. (NOTE: The specimen for this inspection test shall not be subjected to any other electrical tests.)

Finished cable:	See table I
Cold bend:	Mandrel size in accordance with table XIII of MIL-DTL-27072
Dielectric withstanding voltage:	2,000 V rms
Conductor resistance:	In accordance with basic wire specification

Heat resistance: A specimen of finished cable shall be subjected to 250±5 °C in an air oven for 96 hours minimum. The specimen shall be removed from the oven and allowed to cool to room temperature. After 1 hour at room temperature, the insulation and jacket shall be checked for shrinkage of not more than .125 inch. The specimen shall then be wound 5 close turns around the mandrel of 10 times the cable diameter. In this position, the specimen shall be subjected to the dielectric strength test in MIL-DTL-27072. If the cable fails the dielectric strength test or shrinks more than .125 inch, the lot shall be rejected.

Table I. Construction data.

PIN M27072/89	Conductor			Nominal cable lay	Overall shield Parameters ^{1/}				
	AWG	Stranding AWG	Nominal dia. (inch)		d	C	N	P	D
TDDE*	28	7/36	.015	1.00	.005	18	4	18	.084
SDDE*	26	7/34	.0189	1.10	.005	18	5	17	.093
NDDE*	24	19/36	.0248	1.25	.005	18	5	16	.103
LDDE*	22	19/34	.0312	1.40	.005	16	5	15	.116
JDDE*	20	19/32	.0396	1.60	.005	16	6	13	.133
GDDE*	18	19/30	.0495	1.90	.005	16	8	12	.159
FDDE*	16	19/29	.057	2.20	.005	16	7	10	.187

PIN M27072/89	Finished cable dia.(inch)		Approx. weight per 1,000ft (lb)	Basic wire (reference) (either / or may be used)		(reference) Formerly basic wire M16878/4 or M16878/21
	Min.	Max.		M22759	NEMA HP3	
TDDE*	.101	.113	12.9	/11-28*	EWBCB*	BCB*
SDDE*	.110	.126	16.2	-	EXBDB* EWBDB*	BDB*
NDDE*	.119	.137	18.9	/11-24*	EWBEE*	BEE*
LDDE*	.133	.149	23.2	/11-22*	EWBFE*	BFE*
JDDE*	.150	.166	29.7	/11-20*	EWBGE*	BGE*
GDDE*	.171	.189	39.9	/11-18*	EWBHE	BHE*
FDDE*	.188	.212	48.6	/11-16*	EWBJE*	BJE*

^{1/} See MIL-DTL-27072, overall shielding (see 3.5.2 for determining braid coverage). Optional shields are acceptable provided the shields meet the requirements of MIL-DTL-27072.

Asterisks (*) shall be replaced by the appropriate color designator in accordance with MIL-STD-681, table I. If a stripe or a band is to be added, it shall be in accordance with 3.3.2 of MIL-DTL-27072.

CHANGES FROM PREVIOUS ISSUE: Marginal notations are not used in this revision to identify changes with respect to the previous issues due to the extensiveness of the changes.

CONCLUDING MATERIAL

Custodians:
 Army - CR
 Navy - SH
 Air Force - 11
 DLA - CC

Preparing activity:
 DLA - CC
 (Project 6145-2262-022)