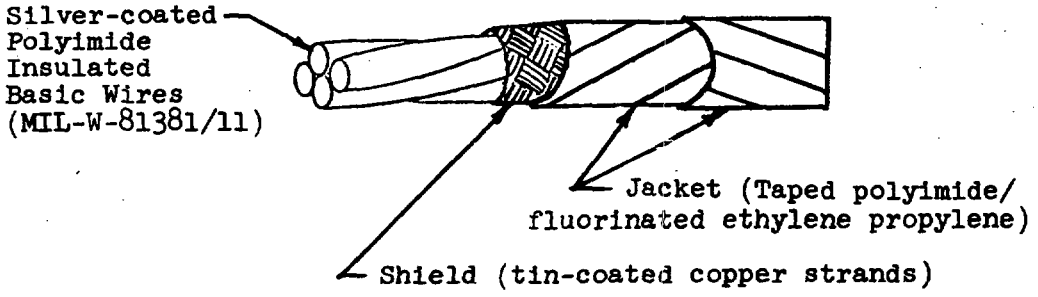
MILITARY SPECIFICATION SHEET

CABLE, ELECTRIC, AEROSPACE VEHICLE, MIL-W-81381/11 BASIC WIRES, COPPER SHIELD, POLYIMIDE TAPE JACKET, 600-VOLT, 150°C

This specification has been approved by the Naval Air Systems Command, Department of the Navy.

The complete requirements for procuring the cable described herein shall consist of this document and the issues in effect of Specification MIL-C-7078 and Specification Sheet MIL-W-81381/11.



SHIELDED JACKETED CABLE

REQUIREMENTS:
CONSTRUCTION DETAILS: See above Figure and Table 1
VOLTAGE RATING: 600 Volts (rms)
TEMPERATURE RATING: 150°C max. conductor temperature
WET DIELECTRIC TEST AFTER COLD BEND:
Required: Test voltage, 1000 volts (rms)
THERMAL SHOCK TEST: Required. Test temperature 230 ± 3°C*
HEAT RESISTANCE: Required. Test temperature 230 ± 3°C*
Supplementary wet dielectric test not required.
JACKET FLAWS (SPARK TEST): 1500 volts (rms)
DRY DIELECTRIC: 2500 volts (rms)
RESISTANCE: The increase in resistance of the cabled basic wires due to lay of the cable shall not be greater than 3% of the maximum value specified for that wire by the basic wire specification.
PART NUMBER: Part numbers in this specification sheet are coded as in the following example:

M7078/8	-	24	-	1
specification sheet number		size number of basic wire		quantity of conductors (basic wires) in cable

BLOCKING: Blocking of the shield on the finished wire shall constitute failure.
*Note: The specified temperature exceeds the service temperature of tin-coated copper and is used for accelerated aging of the insulation only. Discoloration or blocking of the tin-coated strands shall not constitute failure.

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TABLE 1

	Cable part no.	Gage of shield strands (AWG)	Thickness of taped jacket (in.)(min.)	diameter of shielded jacketed cable (in.)(max.)	Weight of shielded jacketed cable (lb./1000 ft.) (nom.) 1/	(max.)
	M7078/8 -24-1	38	.0035	.071	5.2	5.3
	M7078/8 -24-2	38	.0035	.118	8.8	9.0
	M7078/8 -24-3	38	.0035	.125	11.5	11.8
	M7078/8 -24-4	38	.0035	.135	15.0	15.4
	M7078/8 -24-5	38	.0035	.147	17.8	18.2
2/	M7078/8 -24-6	38	.0035	.159	20.6	21.1
	M7078/8 -24-7	38	.0035	.159	22.7	23.3
	M7078/8 -22-1	38	.0035	.077	6.5	6.6
	M7078/8 -22-2	38	.0035	.130	11.4	11.6
	M7078/8 -22-3	38	.0035	.138	15.1	15.5
	M7078/8 -22-4	38	.0035	.150	19.9	20.3
	M7078/8 -22-5	38	.0035	.163	23.7	24.2
2/	M7078/8 -22-6	38	.0035	.177	27.5	28.3
	M7078/8 -22-7	38	.0035	.177	30.6	31.5
	M7078/8 -20-1	38	.0035	.085	8.6	8.7
	M7078/8 -20-2	38	.0035	.146	15.4	15.7
	M7078/8 -20-3	38	.0035	.155	20.7	21.2
	M7078/8 -20-4	38	.0035	.169	27.3	28.0
	M7078/8 -20-5	38	.0035	.185	32.9	33.6
2/	M7078/8 -20-6	38	.0035	.201	38.6	39.4
	M7078/8 -20-7	38	.0035	.201	43.2	44.2
	M7078/8 -18-1	38	.0035	.095	11.4	11.6
	M7078/8 -18-2	38	.0035	.166	20.9	21.3
	M7078/8 -18-3	38	.0035	.177	28.8	29.3
	M7078/8 -18-4	38	.0035	.193	38.0	38.7
	M7078/8 -18-5	38	.0035	.212	46.0	46.9
2/	M7078/8 -18-6	38	.0035	.231	54.1	55.2
	M7078/8 -18-7	38	.0035	.231	61.1	62.3

TABLE 1 (CONTINUED)

Cable part no.	Gage of shield strands (AWG)	Thickness of taped jacket (in.)(min.)	diameter of shielded jacketed cable (in.) (max.)	Weight of shielded jacketed cable (lb./1000 ft.) (nom.) 1/	(max.)
M7078/8 -16-1	38	.0035	.101	13.5	13.7
M7078/8 -16-2	38	.0035	.178	25.0	25.5
M7078/8 -16-3	38	.0035	.189	34.7	35.3
M7078/8 -16-4	38	.0035	.208	45.9	46.7
M7078/8 -16-5	38	.0035	.228	55.7	56.7
2/ M7078/8 -16-6	38	.0035	.249	65.8	67.0
M7078/8 -16-7	38	.0035	.249	74.5	75.9
M7078/8 -14-1	36	.0035	.119	20.3	20.6
M7078/8 -14-2	36	.0035	.210	37.7	38.3
M7078/8 -14-3	36	.0035	.224	52.5	53.3
M7078/8 -14-4	36	.0035	.246	69.4	70.4
M7078/8 -14-5	36	.0035	.270	84.4	85.7
2/ M7078/8 -14-6	36	.0035	.299	101.0	102.0
M7078/8 -14-7	36	.0035	.299	114.0	116.0
M7078/8 -12-1	36	.0035	.138	28.8	29.5
M7078/8 -12-2	36	.0035	.248	54.4	55.6
M7078/8 -12-3	36	.0035	.265	76.8	78.5
M7078/8 -12-4	36	.007	.300	103.0	105.0
M7078/8 -12-5	36	.007	.329	126.0	129.0
2/ M7078/8 -12-6	36	.007	.360	149.0	152.0
M7078/8 -12-7	36	.007	.360	169.0	173.0
M7078/8 -10-1	36	.0035	.161	41.2	41.9
M7078/8 -10-2	36	.0035	.294	79.6	81.1
M7078/8 -10-3	36	.0035	.314	115.0	117.0
M7078/8 -10-4	36	.007	.355	154.0	156.0
M7078/8 -10-5	36	.007	.391	188.0	192.0
2/ M7078/8 -10-6	36	.007	.429	224.0	228.0
M7078/8 -10-7	36	.007	.429	256.0	261.0

1/ Nominal values for weight of shielded jacketed cable are given for information only. Nominal values are not requirements.

2/ Six-conductor cables to this specification sheet will not be procured or stocked by the Department of Defense. Seven-conductor cables will be used in lieu of six-conductor constructions.

Preparing activity:
Navy - AS

(Project 6145-N153)

SPECIFICATION ANALYSIS SHEET

Form Approved
Budget Bureau No. 119-R004

INSTRUCTIONS

This sheet is to be filled out by personnel either Government or contractor, involved in the use of the specification in procurement of products for ultimate use by the Department of Defense. This sheet is provided for obtaining information on the use of this specification which will insure that suitable products can be procured with a minimum amount of delay and at the least cost. Comments and the return of this form will be appreciated. Fold on lines on reverse side, staple in corner, and send to preparing activity *(as indicated on reverse hereof)*.

SPECIFICATION

MIL-C-7078/8(AS) CABLE, ELECTRIC, AEROSPACE VEHICLE, MIL-W-81381/11 BASIC WIRES

ORGANIZATION *(Of submitter)* COPPER SHIELD, POLYIMIDE TAPE | CITY AND STATE 600-VOLT, 150°C

CONTRACT NO.	QUANTITY OF ITEMS PROCURED	DOLLAR AMOUNT $

MATERIAL PROCURED UNDER A

☐ DIRECT GOVERNMENT CONTRACT ☐ SUBCONTRACT

1. HAS ANY PART OF THE SPECIFICATION CREATED PROBLEMS OR REQUIRED INTERPRETATION IN PROCUREMENT USE?
   A. GIVE PARAGRAPH NUMBER AND WORDING.

   B. RECOMMENDATIONS FOR CORRECTING THE DEFICIENCIES.

2. COMMENTS ON ANY SPECIFICATION REQUIREMENT CONSIDERED TOO RIGID

3. IS THE SPECIFICATION RESTRICTIVE?

   ☐ YES ☐ NO IF "YES", IN WHAT WAY?

4. REMARKS *(Attach any pertinent data which may be of use in improving this specification. If there are additional papers, attach to form and place both in an envelope addressed to preparing activity)*

SUBMITTED BY *(Printed or typed name and activity)*	DATE

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