

MILITARY SPECIFICATION
CABLES, RADIO FREQUENCY, FLEXIBLE AND SEMIRIGID,
GENERAL SPECIFICATION FOR

This amendment forms a part of MIL-C-17F, dated 18 January 1983,
and is approved for use by all Departments and Agencies of the
Department of Defense.

PAGE 3

2.2, add the following new publications:

* "AMERICAN SOCIETY FOR TESTING MATERIALS

ASTM B-355 - Nickel-Coated Soft or Annealed Copper Wire.

INSTITUTE OF ELECTRICAL AND ELECTRONIC ENGINEERS

IEEE-STD-383 - IEEE Standard for Type Test of Class 1E Electric
Cables, Field Splices, and Connections for Nuclear
Power Generating Stations.

(Applications for copies should be addressed to The Institute of Electrical and
Electronic Engineers, Inc., 345 East 47th Street, New York, NY 10017)."

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- * 3.5.1.1f, delete in its entirety and substitute: "Silver-coated copper-clad
steel wire. Silver-coated copper-clad steel wire shall conform to ASTM B-501,
class 40 HS or 40A, except thickness of silver coating shall not be less than 40
microinches."

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3.5.2.1a: Delete "class I" and substitute "class L".

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3.5.6b: Delete "class M" and substitute "class L".

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3.6.2, add the following to the end of paragraph:

"The dimensions shall be as specified in the detailed specification and
out-of-roundness (the difference in diameter dimension in mutual
perpendicular planes at any cross-section) shall not exceed 50 percent of the
difference between minimum and maximum diameters specified."

3.7.9, delete and substitute:

"3.7.9 Capacitance. When cables are tested as specified in 4.8.10, the
maximum capacitance shall be as specified (see 3.1)."

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Add the following new paragraph:

"3.7.23 Flame propagation (when specified (see 3.1)). Samples of completed
cable, when tested in accordance with 4.8.25, shall be self-extinguishing and
shall not burn to the top of the tray."

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3.8b(1), second sentence, delete and substitute: "Cables with type V jackets shall be marked with tapes, or surface marked in ink."

* 3.8b(2), delete and substitute: "Type IX and XIII jackets shall be marked at intervals not exceeding six inches with marker tape or surface marking. Cables with type IX and XIII jackets whose nominal outside diameter is .150 inch or less need not be marked."

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TABLE III, add the following:

Inspection		Requirement paragraph	Method paragraph
Semirigid cable <u>1/</u>	All other cable <u>2/</u>		
	Out-of-roundness of jacket measurements	3.6.2	4.8.1.2

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TABLE IV, Group II, after "Flammability", add the following:

Inspection	No. of specimens to be tested	Requirement paragraph	Method paragraph
Flame propagation <u>2/</u>	1	3.7.23	4.8.25

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TABLE V, add the following:

Inspection	Requirement paragraph	Method paragraph	AQL (percent defective)
Adhesion of conductors	3.6.4	4.8.1.4	1
Eccentricity of inner conductor	3.6.3	4.8.1.3	

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4.8.1.4.1, add the following new paragraph:

"c. When semi-rigid cables are tested in accordance with the preceding procedure and the conductor-to-core bond is not broken at the specified maximum force (see 3.1), the test shall be repeated with additional specimens and the following modifications:

"(1) The length of the outer conductor section (see figure 1B), shall be 1.00 inch \pm .12 inch (25.4 \pm 3.05 mm), in lieu of 6.00 \pm .50 inches (152.40 \pm 12.70 mm).

"(2) The force grip (see figure 2B) shall be applied to the core in lieu of the inner conductor.

"(3) Conductor adhesion shall not exceed the specified maximum value (see 3.1)."

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4.8.4c, delete and substitute:

"c. For two-conductor cables. The test voltage shall be applied individually between each inner conductor and the outer conductor with the outer conductor and the other inner conductor grounded."

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TABLE IX, step 3, Type A dielectric °C temperature: Delete "+40 \pm 2" and substitute "-40 \pm 2".

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* 4.8.16.1, line 3: Delete "125 \pm 1 feet times" and substitute "125 \pm 1 times". Also, line 4: Delete "95 \pm 1 feet times" and substitute "95 \pm 1 times".

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4.8.17.2, first sentence, delete and substitute: "Clamp one end of each specimen to a mandrel whose diameter is three times the nominal jacket diameter of the cable unless otherwise specified (see 3.1). Wrap each specimen for 10 turns around the mandrel and clamp the specimen to the mandrel at this point."

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4.8.19.1a(2), last sentence, delete and substitute: "For those cables that have been previously subjected to the aging stability and stress-crack resistance tests, the test temperature shall be -35°C \pm 2°C."

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Add new paragraphs as follows:

"4.8.25 Flame propagation (see 3.7.23). This test determines the relative ability of grouped cable to resist the propagation of fire along its length.

"4.8.25.1 Specimen. Each specimen shall consist of a piece of completed cable which shall have a length of not less than 8 feet. The total number of specimens required shall be as specified in the vertical tray flame test of IEEE-STD-383.

"4.8.25.2 Special apparatus. The apparatus shall include all equipment specified in the vertical tray flame test of IEEE-STD-383.

"4.8.25.3 Procedure. The specimens shall be tested as specified in the vertical tray flame test of IEEE-STD-383.

"4.8.25.4 Observation. Specimen failure shall be construed when any portion of any specimen burns to the top of the tray, either during or after operation of the ribbon burner. The following information (which does not constitute failure criteria) shall additionally be reported to help expand a performance data base: Flame temperature, period of time between burner shutoff and cessation of flame on the specimen, overall distance of specimen jacket damage above the burner, overall distance of specimen conductor damage above the burner, and a brief description of any dripping or flaming material which falls from the specimen to the floor during the test."

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30, 30.1, delete and substitute:

" 30. EXTENT OF QUALIFICATION

" 30.1 Group qualification. The cable types listed in column 3 of table XIII are eligible for group qualification. The groups are based on similar characteristics and requirements. At the discretion of the Government, qualification may be extended to cover any or all cable types in a group, based on compliance of one cable type in that group with the qualification inspection. The Government reserves the right to authorize performance of any or all qualification inspection on additional types in the group that are considered necessary to the extension of qualification within each group. Cable types not included in these groups are not eligible for group qualification. Group qualification will be granted final acceptance contingent upon receipt of successful retention of qualification data for individual cables within two years.

* TABLE XIII. Group qualification.

Group	Submission and qualification of any of the following cable types	Qualifies the following cable types
I	M17/84-RG223	M17/167-00001
II	M17/60-RG142	M17/111-RG303, M17/158-00001, M17/170-00001
III	M17/67-RG177	M17/79-RG218, M17/78-RG217, M17/160-00001, M17/165-00001, M17/166-00001
IV	M17/137-00001	M17/139-00001
V	M17/65-RG165	M17/86-00001, M17/159-00001
VI	M17/152-00001	M17/113-RG316
VII	M17/131-RG403	M17/93-RG178, M17/169-00001
VIII	M17/28-RG058	M17/155-00001
IX	M17/52-RG119	M17/156-00001

See footnotes at end of table.

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TABLE XIII. Group qualification - Continued.

Group	Submission and qualification of any of the following cable types	Qualifies the following cable types
X	M17/54-RG122	M17/157-00001
XI	M17/72-RG211	M17/161-00001
XII	M17/73-RG212	M17/162-00001
XIII	M17/74-RG213	M17/74-RG215, M17/163-00001
XIV	M17/75-RG214	M17/164-00001
XV	M17/92-RG115	M17/168-00001
XVI	M17/112-RG304	M17/171-00001
XVII	M17/119-RG174	M17/173-00001
XVIII	M17/127-RG393	M17/174-00001
XIX	M17/128-RG400	M17/175-00001
XX	M17/93-RG178	M17/169-00001

NOTES:

1. Swept cables automatically qualify their nonswept counterpart (i.e., M17/28-RG058 qualifies M17/155-00001).
2. Qualification of an unarmored cable automatically qualifies its armored version, when requested by the manufacturer.
3. Qualification of any semi-rigid cable in a series described by a single detail specification sheet automatically qualifies any other version in the same series, when requested by the manufacturer."

The margins of this amendment are marked with asterisks to indicate where changes (additions, modifications, corrections, deletions) from the previous issue were made. This was done as a convenience only and the Government assumes no liability whatsoever for any inaccuracies in these notations. Bidders and contractors are cautioned to evaluate the requirements of this document based on the entire content irrespective of the marginal notations and relationship to the last previous issue.

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Custodians:

Army - CR
Navy - EC
Air Force - 85

Review activities:

Army - AR, MI
Navy - SH
Air Force - 11, 80, 99
DLA - ES, IS

User activities:

Army - AT, ME
Navy - AS, MC, OS
Air Force - 19

Preparing activity:
Army - CR

Agent:
DLA - ES

(Project 6145-1008)