

MIL-R-3241E

9 July 1985

~~SUPERSEDING~~

MIL-R-3241D

8 July 1969

MILITARY SPECIFICATION
 REELS, CABLE (REELS DR-5(), DR-7(),
 DR-8(), RC-453()/G, RL-159()/U)

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

1. SCOPE

1.1 SCOPE. This specification covers five types of steel reels for use in storing and transporting field wire and cable, designated as Reels DR-5(), DR-7(), DR-8(), RC-453()/G and RL-159()/U. (See 6.4)

2. APPLICABLE DOCUMENTS

2.1 Government Documents.

2.1.1 Specifications and Standards. Unless otherwise specified, the following specifications, standards, and handbooks of the issue listed in that issue of the Department of Defense Index of Specifications and Standards (DODISS) specified in the solicitation from a part of this specification to the extent specified herein.

SPECIFICATIONS

Federal

PPP-C-650 - Crates, Wood, Open and Covered.

Military

MIL-P-116 - Preservation, Methods of.

Beneficial comments (recommendations, additions, deletions) and any pertinent data which may be of use in improving this document should be addressed to Commander, U.S. Army Communications-Electronics Command and Fort Monmouth, ATTN: AMSEL-ED-TO, Fort Monmouth, New Jersey 07703-5016 by using the self-addressed Standardization Document Improvement Proposal (DD Form 1426) appearing at the end of this document or by letter.

FSC 8130

DISTRIBUTION STATEMENT A. Approved for public release; distribution is unlimited.

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- MIL-W-6858 - Welding, Resistance, Aluminum, Magnesium, Non-Hardening Steels or Alloys, Nickel Alloy, Heat-Resisting Alloys, and Titanium Alloys. Spot and Steam.
- MIL-M-10578 - Metal Conditioner and Rust Remover, Phosphoric Acid Base
- MIL-M-11473 - Magnetic-Particle Inspection, Soundness Requirements for Weldments.
- MIL-W-12332 - Welding, Resistance, Spot, Seam, and Projection, for Fabricating Assemblies of Low-Carbon Steel.
- MIL-M-13231 - Marking for Electronic Items.
- MIL-F-14072 - Finishes for Ground Signal Equipment.
- MIL-E-55585 - Electronic Equipment and Parts.

STANDARDS

Federal

- No. 151 - Metals, Test Methods.

Military

- MIL-STD-22 - Welded-joint Designs.
- MIL-STD-105 - Sampling Procedures and Tables for Inspection by Attribute
- MIL-STD-129 - Marking for Shipment and Storage.
- MIL-STD-170 - Moisture Resistance Test Cycle for Ground Signal Equipment.
- MIL-STD-202 - Test Methods for Electronic and Electrical Components Parts.
- MIL-STD-726 - Packaging Requirements Code.

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2.1.2 Other Government Documents, Drawings, and Publications. The following other government documents, drawings, and publications form a part of this specification to the extent specified herein.

Electronics Command

- SC-F-639 - Reel DR-5(), Assembly.
- SC-F-5697 - Reel DR-7(), Assembly.
- SC-DL-90889 - Reel DR-8(), Drawing and Data List.
- SC-DL-621036 - Reel RL-159()/U, Drawing and Data List.
- DL-A-3003198 - Reel RC-453()/G, Drawing and Data List.

(Copies of Specifications, standards, and drawings required by contractors in connection with specific procurement functions should be obtained from the procuring agency or as directed by the contracting officer.)

2.2 Other publications. The following documents form a part of this specification to the extent specified herein. Unless otherwise indicated, the issue in effect on date of invitation for bids or requests for proposal shall apply.

OFFICIAL CLASSIFICATION COMMITTEE

Uniform Freight Classification Rules.

(Application for copies should be addressed to the official Classification Committee, 1 Park Avenue at 33rd Street, New York, NY 10016.)

AMERICAN TRUCKING ASSOCIATION

National Motor Freight Classification Rules.

(Application for copies should be addressed to the American Trucking Association, 1616 P Street, NW, Washington, DC 20036.)

2.3 Order of precedence. In the event of a conflict between the text of this specification and the references cited herein, the text of this specification shall take precedence.

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3. REQUIREMENTS

3.1 CONSTRUCTION. Each reel shall be fabricated in accordance with the applicable drawing listed below and with performance characteristics contained herein:

Reel DR-5()	-SC-F-639
Reel DR-7()	-SC-F-5697
Reel DR-8()	-SC-DL-90889
Reel DR-159()/U	-SC-DL-621036
Reel RC-453()/G	-DL-A-3003198

3.2 Steel reel heads. (See 4.12.) The heads of the reels, except DR-8(), shall be made of steel which, after heat treatment, shall have the properties specified below:

Tensile strength	-135,000 p.s.i. minimum. (See 4.12.1)
Yield strength(0.1%)	-120,000 p.s.i. minimum. (See 4.12.1)
Elongation at rupture	-7 percent minimum. (See 4.12.1)
Hardness	-Rockwell C31 to C41 (Brinnell 294 to 381). (See 4.12.2)

3.3 Welding. Whenever practicable, welded joints shall conform to MIL-STD-22 and shall be such that grinding on the finished weld will be unnecessary. Spot, tack and seam welds shall conform to MIL-W-6858. When spot or other intermittent welds are used to hold a part, the number of welds shall be at least two.

3.3.1 Cleaning prior to welding. Surfaces to be welded shall be cleaned in accordance with good commercial practice and shall be free from rust, scale, paint, grease, and other foreign material.

3.3.2 Process. Preheating shall be employed where distortion is likely to result from welding. Welds shall have a thorough penetration and good fusion and shall be free from scabs, blisters, abnormal pock marks, crack, voids, slag inclusions, and other harmful defects. Where undesirable internal stresses are likely to result from welding, welded items shall be stress-relieved.

3.3.3 Cleaning after welding. Welded assemblies shall be cleaned to remove rust, scale, oxidation products, and excess flux by sandblasting, wire brushing,

or other suitable means. Prior to painting steel parts that have been arc or acetylene welded, parts shall be subjected to vat passivation or a phosphoric acid etch in accordance with MIL-M-10578. Acid used for cleaning shall be completely neutralized and removed. Sandblast cleaned items shall be finished or a protective coating shall be applied within four hours of its cleaning.

3.3.4 Weld inspection. Inspection of weld joints shall be made in accordance with, and meet the requirements of MIL-M-11473. (See 4.11.)

3.4 Fit on axle. When tested as specified in 4.7, the fit on the axle shall be such that the axle can be completely inserted and withdrawn without binding.

3.5 Alignment. On completed reels no point on the circumference of the head shall be more than one-fourth of an inch from the perpendicular to the axle, when tested as specified in 4.8.1. Measurements shall be taken and recorded at four points 90° apart on each head.

3.5.1 Plate alignment on Reel RC-453()/G. On completed Reel RC-453()/G, no point on the circumference of the plates shall be more than one-fourth of an inch from the perpendicular to the drum when tested as specified in 4.8.2. At no time shall the space within the connector compartment be less than 3 inches.

3.6 Vibration. The reels shall show no evidence of permanent degradation including no loosening of parts when tested as specified in 4.9.

3.7 Drop. The reels shall show no evidence of permanent degradation other than deformation, no evidence of loosening of parts and shall exhibit a maximum deformation of no more than one inch when tested as specified in 4.10. Alignment measurements shall be taken before and after each drop to the point of impact. Maximum deformation is the difference between these measurements.

3.8 Moisture resistance. Upon completion of test specified in 4.13, there shall be no evidence of corrosion or any other form of deterioration.

3.9 Dielectric strength for Reel DR-8(). Reel DR-8() shall withstand the dielectric strength test specified in 4.14, without breakdown.

3.10 Identification marking. All reels shall bear identification markings in accordance with the applicable detailed drawing and MIL-M-13231. (See 3.1.)

3.11 Finish, protective. The reels shall be given a protective finish in accordance with equipment drawings. Finish on reels shall be smooth and free from blowholes, and shall be applied after completion of tests specified in 4.9, 4.10, 4.11, and 4.12 have been met.

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3.12 Workmanship. (See 4.6) The reels shall be manufactured and assembled in accordance with the applicable portions of the following paragraphs herein:

- 3.1 ----- Construction.
- 3.3 ----- Welding.
- 3.3.1----- Cleaning prior to welding.
- 3.3.2----- Process for welding.
- 3.3.3----- Cleaning after welding.
- 3.10 ----- Marking.
- 3.11 ----- Finish, protective.
- 3.13 ----- Nylon Finish (where applicable).

3.13 Nylon Finish. Nylon finishes shall be processed to form adherent, even and continuous coatings. Finished surfaces shall be clean of all foreign debris, smooth and free from burnings, blisters gouge marks, checks, pits, nodules or other significant defects. Finished parts shall be dry and free from residuals of corrosive processing agents.

3.13.1 Nylon Thickness. The nylon thickness and tolerance shall be in accordance with that listed on the applicable drawing. (See 4.15.1)

3.13.2 Nylon Adhesion. Peeling of the nylon surface shall not take place when tested in accordance with paragraph 4.15.2.

3.14 First Article. When specified, samples shall be subjected to first article inspection. (See 4.3)

QUALITY ASSURANCE PROVISION

4.1 Responsibility for inspection. Unless otherwise specified in the contract or purchase order, the contractor is responsible for the performance of all inspection requirements as specified herein. Except as otherwise specified in the contract or purchase order, the contractor may use his own or any other facilities suitable for the performance of the inspection requirements specified herein, unless disapproved by the government. The government reserves the right to perform any of the inspections set forth in the specification where such inspections are deemed necessary to assure supplies and services conform to prescribed requirements.

4.2 Classification of inspections. The inspections specified herein are classified as follows:

a. Quality conformance inspection.

1. Quality conformance inspection of equipment before packaging.
(See 4.4)

2. Quality conformance inspection of packaging. (See 4.5)

b. First Article inspection. (See 4.3)

4.3 First article inspection. This inspection shall consist of the inspection specified in Table 1 and shall include, as referenced on inspection data sheets, inspection specified in subsidiary documents and the supplementary tests. Order and quantity of equipments to be subjected to First Article Testing shall be as specified in Table I.

4.3.1 Standard of Workmanship. Standard of workmanship, 3.12, shall be established during the Visual Inspection of 4.6.

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TABLE I - FIRST ARTICLE TEST SCHEDULE

TITLE	RQT PARA	TEST PARA	SEQUENCE			
			UNIT	UNIT	UNIT	UNIT
SAMPLE			1	2	3	4
Workmanship	3.12	4.6	2	2	2	2
Fit on Axle	3.4	4.7	7	8		
Alignment	3.5	4.8	3	3		
Dielectric Strength (If applicable)	3.9	4.14	4	4		
Nylon Thickness (If applicable)	3.13.1	4.15.1	5	5		
Nylon Adhesion (If applicable)	3.13.2	4.15.2	6	7		
Drop Test	3.7	4.10			4	3
Vibration	3.6	4.9			3	4
Moisture Resistance	3.8	4.13		6		
Steel Reel Heads	3.2	4.12	(See Note Below)			
Welds Inspection	3.3.4	4.11	1	1	1	1

NOTE: This test should be conducted on two reel heads randomly selected from different batches of heat treated heads prior to assembly.

4.4 Quality conformance inspection of equipment before packaging. The contractor shall perform the inspection specified in 4.4.1 through 4.4.3.4. This does no relieve the contractor of his responsibility for performing any additional inspection which is necessary to control the quality of the product and to assure compliance with all specification requirements. The government reserves the right to review and evaluate the contractor's inspection procedures and examine the contractor's inspection records. The contractor's inspection records for all inspections performed shall accurately reflect the observed attributes (actual measurements shall be recorded if otherwise required by the

contract or this specification) for each characteristic identified within the required inspection/test parameters as correlated with the particular product offered to the government. (See 6.6)

4.4.1 Group A inspection.

4.4.1.1 Inspection lot. An inspection lot shall consist of all reels of the same type, produced under essentially the same conditions and offered for inspection at one time.

4.4.1.2 Group A tests. Group A tests shall consist of the tests specified in Table II, and shall be made on the same set of sample units in the order shown.

4.4.1.2.1 Sampling plan. Statistical sampling and inspection shall be in accordance with MIL-STD-105 for general inspection level II. The acceptable quality level (AQL) shall be as specified in Table II. Major and minor defects shall be defined in MIL-STD-105.

TABLE II. Group A inspection.

Inspection	Requirement paragraph	Test Method paragraph	AQL (percent defective)	
			Major	Minor
Workmanship	3.12	4.6	1%	4%
Fit on axle	3.4	4.7	see note	
Alignment	3.5	4.8	see note	
Dielectric strength	3.9	4.14	see note	

NOTE: All defects considered major, AQL is 1%.

4.4.2 Group B inspection. This inspection, including sampling, shall conform to table III and to the special procedures for small-sample inspection of MIL-STD-105. The AQL shall be 1.0 percent defective. Inspection shall be performed on inspection lots that have passed group A inspection.

TABLE III. Group B inspection.

Inspection	Rqt Para	Test Method Para
Nylon Thickness	3.13.1	4.15.1

4.4.3 Group C inspection. This inspection shall consist of the tests specified in Table IV, groups C-1 and C-2, and shall be performed on samples that have

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been subjected to and met group A and B inspection. Sample units shall be selected at random without regard to their quality except that the samples selected at the start of the contract shall be selected from the first units produced.

4.4.3.1 Group C-1 inspection. The test specified in Table IV, group C-1, shall be performed on one unit at the beginning of production and every month, or every 1,000 units, whichever comes first.

4.4.3.2 Group C-2 inspection. Weld inspection shall be performed at the beginning of production and every month or every 2,500 units, whichever comes first. The other tests specified in Table IV, group C-2, shall be performed every 5000 units or every three months except that hardness shall be measured in accordance with MIL-STD-105, Level 2, AQL 1% on each heat treated batch of heads with each batch identified through final assembly and shipment.

TABLE IV. Group C inspection.

Inspection	Requirement paragraph	Test Method paragraph
<u>Group C-1</u>		
Droptest	3.7	4.10
<u>Group C-2</u>		
Vibration	3.6	4.9
Moisture resistance	3.8	4.13
Steel reel heads	3.2	4.12
Weld inspection	3.3.4	4.11
Nylon adhesion	3.13.2	4.15.2

4.4.3.3 Noncompliance. The contractor shall immediately report, in writing, each group C failure occurrence, including details of the failure and characteristics affected. The contractor shall immediately investigate the cause of failure and further report the results of investigation and details of the proposed corrective action on (i) the process and materials, as applicable, and (ii) all units of product which were manufactured under the same conditions and which the government considered subject to the same failure. Reports shall be forwarded to the responsible technical activity designated in the contract through the Quality Assurance Representative. After corrective action has been

taken, additional sample units shall be subjected to group C inspection (all inspections, or the inspections which the sample failed, at the option of the government and group A inspection may be reinstated; however, final acceptance and shipment will be withheld until the group C reinspection results have shown that the corrective action was effective. (See 6.3)

4.4.3.4 Reinspection of conforming group C sample units. Unless otherwise specified, sample units which have been subjected to and passed group C inspection may be accepted on contract, provided that they are resubjected to and pass group A inspection after repair of all visible damage.

4.5 Quality conformance inspection of packaging.

4.5.1 Materials inspection. All materials to be used in packaging shall be inspected in accordance with the applicable material specification.

4.5.2 Preservation inspection. Inspection of preservation and interior markings shall be in accordance with group A and B Quality Conformance Inspection Requirements of MIL-P-116. Lot formation and sampling procedures shall be as specified therein.

4.5.3 Packing inspection. Inspection of packing and the marking for shipment and storage shall consist of the examinations specified in Table V, "PACKING INSPECTION PROVISIONS." Lot formation shall consist of all packs made of the same materials during an identifiable period and submitted at one time for acceptance. Sampling procedures shall be in accordance with MIL-STD-105, using a single sampling plan and Acceptable Quality level of 4.0 percent defective.

TABLE V. PACKING INSPECTION PROVISIONS.

NO.	CHARACTERISTIC	METHOD OF INSPECTION
101	Intermediate container not as specified	Visual
102	Improper closure of intermediate container	Visual
103	Shipping containers not in accordance with specification	Visual
104	Excessive cube	Visual
105	Improper blocking and bracing	Visual
106	Closure not in accordance with specification	Visual
107	Weight and size exceed container limitations	Wt & Mea
108	Strapping not in accordance with specification, incorrectly applied, omitted	Visual
109	Marking omitted, incorrect, or illegible	Visual

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4.6 Workmanship. The reels shall be given a thorough visual and mechanical inspection to ascertain that the material, construction, and welding are in accordance with applicable requirements. (See 3.12)

4.7 Test for fit on axle. Reels DR-5(), DR-7(), RC-453()/G and RL-159()/U shall be tested with an axle $1\frac{1}{32}$ inch $+0 -\frac{1}{64}$ by $1\frac{1}{32}$ inch $+0 -\frac{1}{64}$ to insure compliance with 3.4. Reel DR-8() shall be tested with an axle $1\frac{1}{32}$ inch $+0 -\frac{1}{64}$ by the $1\frac{1}{32}$ inch $+0 -\frac{1}{64}$ to insure compliance with 3.4.

4.8 Alignment tests.

4.8.1 Reel head. The requirements of 3.5 shall be met for Reels DR-5(), DR-7(), RC-453()/G and RL-159()/U when axle, $1\frac{1}{32}$ inch $+0 -\frac{1}{64}$ by $1\frac{1}{32}$ inch $+0 -\frac{1}{64}$ is inserted through the center of reels. The same shall apply for Reel DR-8() except that the axle size shall be $1\frac{1}{32}$ inch $+0 -\frac{1}{64}$ by $1\frac{1}{32}$ inch $+0 -\frac{1}{64}$.

4.8.2 Plate alignment on Reel RC-453()/G. The requirements of 3.5.1. shall be met using the drum as a reference.

4.9 Vibration test. The reels shall be subjected to the test of 4.9.1 through 4.9.4. During vibration the unit shall be clamped in its normal operating position on a vibration table that can be controlled to within 10 percent of specified frequencies and amplitudes.

4.9.1 Direction of vibration. The reels shall be vibrated successively, over the specified ranges of applied frequencies, in three mutually perpendicular directions parallel to the edges of the reels.

4.9.2 Rate of change of vibration frequency. The frequency of the applied vibration shall be varied uniformly at a rate of approximately one Hz per minute.

4.9.3 Amplitude and frequency of applied vibration. The amplitude (one-half of the total excursion) of the vibration table and the frequency range shall be in accordance with the following:

<u>Frequency of vibration (hz)</u>	<u>Amplitude of vibration (in)</u>	
	Horizontal	Vertical
10 to 33	0.020	0.030

4.9.4 Duration of test. The reels shall be vibrated for at least six hours, two hours in each of the three directions specified in 4.9.1.

4.9.5 At the conclusion of the tests, the reels shall be examined for compliance with 3.6.

4.10 Drop test. The drop test shall be performed on the reels specified in 4.10.1. prior to finishing.

4.10.1 Each type of reel shall be loaded with a weight of wire or cable comparable to its normal use with total weight as follows:

DR-5()	125 pounds
DR-7()	133 pounds
DR-8()	15 pounds
RC-453()/G	150 pounds
RL-159()/U	50 pounds

4.10.2 The reel shall be lifted off the floor by use of a hoist, equipped with a quick release device. When the bottom of the reel is 3-1/2 feet above the 2 inch fir platform backed by a concrete floor, it shall be released so as to drop squarely on the periphery of both heads.

4.10.3 The reel shall then be lifted as above, held until motionless, and dropped squarely on one side. Then repeat on other side.

4.10.4 The reel shall be lifted at a single point at the edge of one head, held until motionless, and then dropped so that the reel will land on the opposite head at an angle to the periphery of one head. Repeat the same procedure on the other head.

4.10.5 At the conclusion of the tests, the reel shall be examined for compliance with 3.7.

4.11 Welding inspection. Welding shall be testing for nonvisual defects by magnetic particle method specified in MIL-M-11473 for compliance with 3.3.4.

4.12 Steel reel heads.

4.12.1 The yield strength, tensile strength, and elongation at rupture of the steel reel heads shall be tested in accordance with Method 211 of Federal Standard No. 151 for compliance with 3.2.

4.12.2 The hardness of the reel heads shall be tested in accordance with Method 242 or 243 of Federal Standard No. 151 for compliance with 3.2. The test shall be made before paint is applied.

4.13 Moisture resistance test. The reel shall be subjected to fifteen continuous 48 hour cycles. Temperature, relative humidity, and period of time for each

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portion of the cycle shall conform to MIL-STD-170. The equipment shall meet the requirements of 3.8.

4.14 Dielectric strength test for Reel DR-8(). Reel DR-8() shall be tested as follows for compliance with 3.9:

a. Apply a potential of 500 volts rms, 60 hz, for 1 minute between each binding post of Connector M-221 and the unfinished inside of the reel hub.

b. Apply a potential of 500 volts rms, 60 hz, for 1 minute between the two binding posts of Connector M-221

4.15 Nylon finish. The quality of the nylon finish shall be ascertained by subjecting sample reels to the following tests.

4.15.1 Nylon thickness test. The thickness of the nylon coating shall be measured at four randomly selected areas of the reel. This measurement shall be performed with a dry film thickness gage. A suggested source for this type of gage is P/N 790031 from Nordson Corp., Amherst, OH. (See 3.13.1.)

4.15.2 Nylon adhesion. Four areas of the reel shall be tested by using a razor edge to mark two parallel lines approximately two inches long and 1/4 inch apart and then marking a diagonal line from the "end" of one parallel line to the "beginning" of the other line. A penknife shall then be used on one of the resulting acute angles to develop an area large enough to be gripped by a pair of 6 inch standard needle nose pliers. Using this tool, attempt to peel the nylon surface from the reel. (See 3.13.2.)

5. PACKAGING

5.1 Preservation. Preservation shall be specified in MIL-STD-726, coded as follows:

5.1.1 Level A. 10-1-1-00-00-NS-X-ED-0-00-A

5.1.2 Level B. 10-1-1-00-00-NS-X-ED-0-00-B

5.2 Packing and marking. Packing and marking shall be in accordance with MIL-E-55585.

6. NOTES

6.1 Intended use. The reels covered by this specification are intended for use in storing and transporting the following length and types of wire and cable:

<u>Designation</u>	<u>Capacity</u>
Reel RL-159()/U	2 kilometers of Wire WD-1/TT
Reel DR-5()	1 mile of wire WF-16()/U
Reel DR-7()	1000 feet of cable having an outside diameter of 0.700 inch
Reel DR-8	1/2 kilometer of wire WD-1/TT
Reel RC-453()/G	1/4 mile of Cable Assembly CX-1606()/G or CX-11230()/G or 1 kilometer of Cable Assembly, Fiber optic, CX-XXXXX

6.2 Ordering data. Procurement documents should specify the following:

- a. Title, number and date of the specification and any amendment thereto.
- b. Type required. (See 1.1)
- c. Level A or B preservation and packing. (See section 5.)
- d. Special marking required, if any. (See 5.2)
- e. Place of final inspection.

6.3 Group C inspection. Approval to ship may be withheld, at the discretion of the government, pending the decision from the contracting officer on the adequacy of corrective action. (See 4.4.3.3.)

6.4 Nomenclature. The parenthesis in the nomenclature will be deleted or replaced by a letter identifying the particular design, for example, Reel RC-453W/G. As soon as possible after the award of the contract, the contractor should apply to the government office specified in the contract for such information. (See 1.1.)

6.5 International standardization agreements. Certain provisions (RL-159()/U) of this specification are the subject of international standardization agreement (ABC Standard No. 79.) When amendment, revision, or cancellation of this specification is proposed which will effect or violate the international agreement concerned, the preparing activity will take appropriate reconciliation action through international standardization channels including departmental standardization offices, if required.

6.6 Verification inspection. Verifications by the government will be limited to the amount deemed necessary to determined compliance with the contract and will be limited in severity to the definitive quality assurance provision established in this specification and the contract. The amount of verification inspection by the government will be adjusted to make maximum utilization of the

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contractor's quality control system and the quality history of the product.
(See 4.4.)

6.7 Environmental. Environmental pollution prevention measures are contained in the packaging material specifications referenced herein. Refer to material specifications or preparing activity for recommended disposability methods.

6.8 Level B preservation. When level B preservation is specified, this level or protection will only be used under known favorable conditions during transportation, storage, and handling.

Custodians:

Army-CR
Navy-YD
Air Force-69

Review Activities:

Army-MI
Navy
Air Force-99
DLA-GS

User Activities:

Navy-MC

International Interest (See 6.5)

Preparing Activity:

ARMY-CR
Project 8130-0013

INSTRUCTIONS In a continuing effort to make our standardization documents better, the DoD provides this form for use in submitting comments and suggestions for improvements. All users of military standardization documents are invited to provide suggestions. This form may be detached, folded along the lines indicated, taped along the loose edge (*DO NOT STAPLE*), and mailed. In block 5, be as specific as possible about particular problem areas such as wording which required interpretation, was too rigid, restrictive, loose, ambiguous, or was incompatible, and give proposed wording changes which would alleviate the problems. Enter in block 6 any remarks not related to a specific paragraph of the document. If block 7 is filled out, an acknowledgement will be mailed to you within 30 days to let you know that your comments were received and are being considered.

NOTE This form may not be used to request copies of documents, nor to request waivers, deviations, or clarification of specification requirements on current contracts. Comments submitted on this form do not constitute or imply authorization to waive any portion of the referenced document(s) or to amend contractual requirements.

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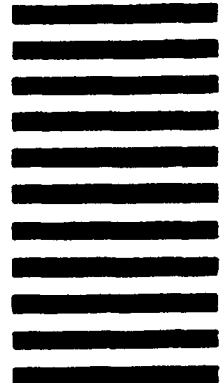
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STANDARDIZATION DOCUMENT IMPROVEMENT PROPOSAL

(See Instructions - Reverse Side)

1 DOCUMENT NUMBER MIL-R-3241E		2 DOCUMENT TITLE REELS, CABLE, DR-5, DR-7, DR-8, RC-453, RL-159	
3a NAME OF SUBMITTING ORGANIZATION		4 TYPE OF ORGANIZATION <i>(Mark one)</i> <input type="checkbox"/> VENDOR <input type="checkbox"/> USER <input type="checkbox"/> MANUFACTURER <input type="checkbox"/> OTHER <i>(Specify)</i> _____	
b ADDRESS <i>(Street, City, State, ZIP Code)</i>			
5 PROBLEM AREAS			
a Paragraph Number and Wording			
b Recommended Wording			
c Reason/Rationale for Recommendation			
REMARKS			
NAME OF SUBMITTER <i>(Last, First, MI) - Optional</i>		b WORK TELEPHONE NUMBER <i>(Include Area Code) - Optional</i>	
MAILING ADDRESS <i>(Street City State ZIP Code) - Optional</i>		8 DATE OF SUBMISSION (YYMMDD)	