

NOTE: The document identifier and heading has been changed on this page to reflect that this is a performance specification. There are no other changes to this document. The document on subsequent pages has not been changed, but will be changed the next time this document is revised.

MIL-PRF-21479B(OS)
1 March 1985
 SUPERSEDING
 See 6.3

PERFORMANCE SPECIFICATION

CABLES ASSEMBLIES, GENERAL SPECIFICATION FOR (ORDNANCE)

This specification is approved for use by the Naval Sea Systems Command, Department of the Navy, and is available for use by all Departments and Agencies of the Department of Defense.

1. SCOPE

1.1 Scope. This specification covers the requirements for the procurement of cable assemblies for use in or testing of weapons and weapon components. Cable assemblies covered by this specification are of one type and class.

2. APPLICABLE DOCUMENTS

2.1 Government documents.

2.1.1 Specifications and Standards. The following specifications and standards of the issue listed in the issue of the Department of Defense Index of Specifications and Standards (DoDISS) specified in the solicitation form a part of this specification to the extent herein.

SPECIFICATIONS

Military

MIL-C-5015 Connectors, Electrical, Circular Threaded, General Specification for

STANDARDS

Federal

FED-STD-101 Test Procedures for Packaging Materials

Military

MIL-STD-105 Sampling Procedures and Tables for Inspections by Attributes

MIL-STD-129 Marking for Shipment and Storage

Beneficial comments (recommendations, additions, deletions) and any pertinent data which may be of use in improving this document should be addressed to: Commanding Officer, Naval Ordnance Station, Standardization Division (524), Indian Head, MD 20640-5035, by using the Standardization Document Improvement Proposal (DD Form 1426) appearing at the end of this document or sending a letter.

MIL-C-21479B(OS)

MIL-STD-202	Test Methods for Electronic and Electric Component Parts
MIL-STD-331	Fuze and Fuze Components, Environmental and Performance Tests for
MIL-STD-1310	Shipboard Bonding, Grounding, and Other Techniques for Electromagnetic Compatibility and Safety
MIL-STD-1364	Standard General Purpose Electronic Test Equipment

2.1.2 Other Government documents, drawings, and publications. The following Government drawings form a part of this specification to the extent specified herein. Unless otherwise specified, the issues shall be those in effect on the date of the solicitation.

DRAWINGS

Naval Sea Systems Command (Code Ident 10001)

LD284865	Preparation for Delivery of Cable Assemblies
LD284866	Preparation for Delivery of Test Set Cable Assemblies
1358405	Preparation for Delivery of Cable Assemblies

(Copies of specifications, standards, and drawings required by manufacturers in connection with specific acquisition functions should be obtained from the contracting officer).

2.2 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.

3. REQUIREMENTS

3.1 Description. The cable assemblies covered by this specification consist of insulated electrical conductors grouped together in cables, unterminated or terminated with AN connectors or other termination as specified in the applicable drawing.

3.2 General requirements.

3.2.1 First article. When specified, a sample shall be subjected to first article inspection (see 4.4 and 6.4).

3.2.2 Design and construction. The cable assemblies shall be manufactured in accordance with the drawing cited in the ordering document (see 6.2), all documents listed therein, and as specified herein. Non-portable cables or cable assemblies planned for installation in a ship topside area shall be suitably shielded for EMP protection or EMI reduction, as required by MIL-STD-1310. Inspection and acceptance shall be in accordance with section 4.

3.3 Performance requirements and production characteristics. The cable assemblies shall meet the following performance requirements and product characteristics:

NOTE: When specified in the contract, order or applicable drawing, the performance requirements and product characteristics specified below may be modified or omitted, and additional requirements may be included.

MIL-C-21479B(OS)

3.3.1 Connectors. After assembly, connectors of cable assemblies shall show no damage, shall be capable of being fully mated and unmated by hand without the use of tools, and individual socket type contacts of connectors shall exhibit a force within allowable limits required to engage or disengage a corresponding pin contact, when tested as specified in 4.5.2.1.

3.3.2 Electrical continuity. The d-c resistance between all points connected by design shall be 0.2 ohms or less when measured as specified in 4.5.2.2.

3.3.2.1 Electrical continuity (connector pins in motion). When required by the contract, purchase order or applicable drawings, the cable assemblies shall meet the electrical continuity requirements of 3.3.2 while the connector pins are in motion. Cable assemblies shall be tested for conformance to this requirement, in accordance with 4.5.2.2.1. No erratic movement of the resistance-bridge-null-indicator needle shall occur during the electrical continuity measurements (see 6.2).

3.3.3 Insulation resistance. Each circuit and each unused pin of the cable assembly shall exhibit an insulation resistance of 50 megohms or more at a test potential of 500 ± 50 volts dc (or other value of insulation resistance and test potential when specified by contract, purchase order or applicable drawing) with respect to all other non-connected circuits and unused pins connected together, to the connector housing and to ground. The cable assembly shall be tested as specified in 4.5.2.3.2 after being conditioned as required by 4.5.2.3.1.

3.3.3.1 Insulation resistance (connector pins in motion). When required by the contract, purchase order or applicable drawings the cable assemblies shall meet the insulation requirements of 3.3.3 while the connector pins are in motion. Cable assemblies shall be tested for conformance to this requirement in accordance with 4.5.2.3.3. No erratic movement of the megohmmeter needle shall occur during the insulation resistance measurements (see 6.2).

3.3.4 Dielectric withstanding voltage. The cable assemblies shall withstand the dielectric withstanding voltage test specified in 4.5.2.4. This test shall be required only when specified in the contract, purchase order or applicable drawings (see 6.2).

3.4 Environmental requirements.

3.4.1 Vibration.

3.4.1.1 Vibration, transportation, storage and handling. After a cable assembly has been mounted and tested as specified in 4.6.1.1, it shall show no evidence of damage and its function shall not be impaired.

3.4.1.2 Vibration, ready-non-operating. After a cable has been mounted and tested as specified in 4.6.1.2, it shall show no evidence of damage and its function shall not be impaired.

3.4.2 Shock.

3.4.2.1 Shock, transportation, storage and handling. After a cable has been mounted and tested as specified in 4.6.2.1, it shall show no evidence of damage and its function shall not be impaired.

3.4.2.2 Shock, ready-non-operating. After a cable has been tested as specified in 4.6.2.2, it shall show no evidence of damage and its function shall not be impaired.

MIL-C-21479B(OS)

3.4.3 Temperature storage. The cable assemblies, packaged and packed in accordance with Drawing LD284865 shall be subjected to the temperature conditions specified in 4.6.3. After being subjected to the specified temperature cycle, the cable assemblies shall show no damage or excessive corrosion and shall meet all performance and product requirements of this specification.

3.4.4 Pressure. Cable assemblies required to be submersible shall withstand the test pressure specified for the time specified (see 6.2) when tested in accordance with 4.6.4.

3.5 Clean-up. Prior to and after final assembly, all parts, components and the assembly shall be thoroughly cleaned of loose, spattered or excess solder, metal chips and other foreign matter. Burrs and sharp edges as well as rosin flash shall be removed.

3.6 Workmanship. The cable assembly, including parts and accessories, shall be constructed and finished in a manner to assure compliance with all requirements of this specification. Particular attention shall be paid to neatness, and thoroughness of soldering, wiring, marking of parts and assemblies, plating, painting, riveting, machine screw assemblage and freedom of parts from burrs and sharp edges. Conductors shall not be damaged as a result of stripping of insulation or crimping of terminals. The standards of workmanship exhibited in any approved first article approval, shall determine the requirements of the contract relative to workmanship insofar as not specifically covered by applicable specifications.

4. QUALITY ASSURANCE PROVISIONS

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 inspection requirements specified herein are classified as follows:

- a. First article inspection (see 4.3.1).
- b. Quality conformance inspection (see 4.3.2).
- c. Periodic production inspection (see 4.3.3).

4.3 Inspections.

4.3.1 First article inspection. A first article sample of 20 cable assemblies manufactured in accordance with 3.2.1 shall be subjected to the examinations and tests detailed in 4.5 and 4.6 at an activity designated by the procuring activity. Acceptance of the sample examination and test shall be based on no defects in this sample. When cable assemblies are required to be submersible, 25 units shall comprise a first article sample.

4.3.2 Quality conformance inspection.

4.3.2.1 100 percent inspection. Each unit shall be subjected to the examination of 4.5.1 and tests designated as 100 percent in 4.5.2. Any unit containing one or more defects shall be cause for regarding the unit as defective.

4.3.2.2 Sampling. Tests designated as sample tests in 4.5.2 shall be conducted on a random sample of cable assemblies selected from each production lot in accordance with the provisions of MIL-STD-105, inspection level II, AQL 0.25 percent defective. No lot shall be shipped until the samples representing the lot have successfully passed the quality conformance sampling tests. Unless otherwise specified in the contract or purchase order, a "lot" size shall be one month's scheduled production (see 6.2). When the lot size is increased the sample size shall be increased accordingly.

4.3.3 Periodic inspection. After successful completion of the quality conformance inspection of 4.5, the environmental test indicated in Table II shall be conducted on a random sample of six cable assemblies selected by the Government from each lot of cable assemblies offered for acceptance. When a unit fails to pass any environmental test or specified subsequent quality conformance test, examination of the unit shall be made by the contractor to analyze the cause of the failure and corrective action may be taken. When cause of the failure is determined to be a supplier nonconformance to the quality conformance test requirements of this specification and/or its associated drawings, the contractor may be required to screen the lot and repair or replace the discrepant part of material and resubmit the lot for complete retesting. When the cable assemblies are required to be submersible, eight units shall comprise a periodic test sample (see 6.2).

4.4 Test equipment. Items of test equipment which may be required to perform the tests set forth in this specification are as follows. Selection of test equipment shall be made from MIL-STD-1364.

NOTE: The test equipment listed below covers the tests specified to verify the performance requirements and product characteristics. Where modifications in performance requirements and product characteristics are specified in the contract, or applicable drawings, suitable additional test equipment shall be required to perform the additional acceptance tests specified.

- a. A resistance bridge, capable of measuring low resistance (0-1 ohm) to an accuracy of ± 2 percent.
- b. A megohmmeter, capable of measuring resistance to 1000 megohms to an accuracy of ± 10 percent or better at a test potential of 500 ± 50 volts dc.
- c. Equipment necessary to perform the dielectric withstanding voltage tests specified in MIL-STD-202, Method 301.
- d. Special contact test pins, as required, which shall be mated with contact sockets of fully assembled connectors when attached to the cable assemblies.

4.5 Quality conformance inspection.

4.5.1 Examination. Each cable assembly shall be visually and dimensionally examined in accordance with the applicable classification of defects to determine compliance with this specification and those lists of drawings, standards and specifications listed on the applicable drawing. Any cable assembly containing one or more defects shall either be satisfactorily corrected before being returned to the lot or discarded. Examination in accordance with the applicable classification of defects shall not relieve the contractor of his responsibility to meet all drawing requirements not listed on the classification of defects. Unless otherwise specified, the classification for non-conforming unlisted characteristics or workmanship defects shall be determined by the contracting officer.

4.5.2 Tests.

- NOTES: 1. Test probes shall not be used to make electrical connections to AN connectors or similar connectors of special design. Jigs made up of mating connectors shall be used. Mating connectors may be wired or their solder pots may be used as the test points.
2. Where the contract, purchase order or applicable drawings specify performance requirements and product characteristics in addition to those specified under 3.4, suitable acceptance tests, in addition to those listed below, shall be performed to verify the characteristics specified and the test procedures shall be as approved by the procuring activity or contracting officer (see 6.2).

4.5.2.1 Connectors. After assembly, connectors of cable assemblies shall be examined for bent pins, cracked insulating inserts, solder flash or other damage.

4.5.2.1.1 Sampling test. The connector shall be engaged fully with a corresponding mating connector (including the tightening of the coupling ring) and then disengaged. The connectors not engaging freely, by hand, without the use of tools shall be considered defective.

4.5.2.1.2 Sampling test. Connectors having socket type contacts shall be tested for contact engaging and separating forces. For each socket of the connector, using the equipment specified in 4.4, gradually increasing loads shall be applied axially to a pin of corresponding size until the pin contact engages properly with or separates from the socket. Depth of engagement shall conform with that encountered in service. Dimensions of test pins for corresponding socket contacts shall be in accordance with MIL-C-5015 or applicable drawings (see 6.2). Connectors represented by the sample shall be screened and corrected by discarding all defective units when any of the following conditions exist:

- a. The average force required to engage or separate pins and sockets exceeds the average value specified in Table I.
- b. Any force required to engage or separate pins and sockets is less than the minimum specified in Table I.
- c. A force greater than that specified by table I to engage 96 percent or more of the connector pins and sockets.

TABLE I. Contact engaging and separating forces.

Contact size ^{1/}	Average	Force (pounds)	
		Maximum	Minimum
16	2.1	3	1/4
12	3.5	5	1/2
8	7.0	10	3/4
4	10.5	15	1
0	14	10	2

^{1/} See MIL-C-5015 or applicable drawing.

4.5.2.2 Electrical continuity (100 percent test). With the resistance bridge described in 4.4, measure the dc resistance between all points designed to be electrically connected, as shown on applicable drawings. In each case the dc resistance shall be 0.2 ohms or less. Remove test equipment. Any cable assembly not meeting the requirements of this test shall be considered defective.

4.5.2.2.1 Electrical continuity (connector, pins in motion) (sampling). When required by the contract, purchase order or applicable drawings, motion shall be imparted to the pins of each connector in the cable assembly during the electrical continuity test. The following procedure shall be used. Connect one of the connectors of the cable assembly to a mating connector which is held immovable in a jig, clamp or other holding device. Grasp the cable with the hand so that 2 to 3 inches of cable are visible between the hand and the shell, or over-molding, of the cable assembly connector that is mated to the immovable connector. Bend the cable so that it forms an angle of 20 to 30 degrees with the longitudinal axis of the connector. Repeat this back and forth motion at a frequency of 25 to 35 cycles per minute for the duration of the test. Change the orientation of the motion so that, for the period of the test, cable motion shall occur in at least three separate planes which are radial with respect to the longitudinal axis of the connector. With the resistance bridge described in 4.4 measure the resistance between all pins designed to be electrically connected, as shown on applicable drawings. In each case, no erratic movement of the resistance-bridge-null indicator needle shall occur and the resistance measured shall be 0.2 ohms or less. Repeat the above procedure and measurement for each cable assembly connector. Remove test equipment. Any cable assembly not meeting the requirements of this test shall be considered defective.

4.5.2.3 Insulation resistance.

4.5.2.3.1 Immediately preceding this test the cable assemblies shall be conditioned for 24 hours or more at $75^{\circ} \pm 5^{\circ}\text{F}$ and 75 ± 5 percent relative humidity. The cable assemblies may then be tested at any temperature above 70°F and relative humidity above 70 percent. However, cable assemblies shall be rejected only when they fail to pass after conditioning when tested under the temperature and humidity specified for the conditioning and when measured within 1 hour upon removal from conditioning chamber.

4.5.2.3.2 (100 percent). Using the megohmmeter specified in 4.4, measure the insulation resistance of each circuit and each unused pin of the cable assembly, with respect to all other non-connected circuits and unused pins shorted together, to the connector housing the ground. The insulation resistance, measured at a test potential of 500 volts dc, applied for not less than 0.1 second for each test point, shall be 50 megohms or more, unless otherwise specified on the applicable drawings. Remove test equipment. Any cable assembly not meeting the requirements of this test shall be considered defective.

4.5.2.3.3 Insulation resistance (connector, pins in motion) (sampling). When required by the contract, purchase order or applicable drawings, motion shall be imparted to the pins of each connector in the cable assembly during the insulation resistance test. Using the procedure of 4.5.2.2.1, impart motion to the pins of a connector in the cable assembly and measure the insulation resistance of the cable assembly in accordance with 4.5.2.3.1 and 4.5.2.3.2. No erratic movement of the megohmmeter needle shall occur during the measurement and the insulation resistance shall be as specified in 3.3.3. Repeat the above procedure and measurements for each connector in the cable assembly. Remove the test equipment. Any cable assembly not meeting the requirements of this test shall be considered defective.

4.5.2.4 Dielectric withstanding voltage (100 percent). This test shall be required only when specified in the contract, purchase order or applicable drawings. The cable assemblies shall be subjected to the dielectric withstanding voltage test of MIL-STD-202, Method 301. The test voltage shall be applied between each conductor or circuit and all other non-connected conductors or circuits, connected together and to connector housings and ground. The cable assemblies shall be immersed in a water bath, with terminations above water, in such manner that only the outer sheath is submerged. The water bath shall constitute the ground electrode. In the case of cable assemblies containing one or more shields, the shields shall be connected to ground while the insulated conductors are being tested, and then the insulated conductors shall be connected together and to the shields and potential applied between the shields and ground or water bath. Unless otherwise specified, cable assemblies rated at over 500 volts or less shall be tested at 1000 volts rms, 60 cycles ac, applied for not less than 15 seconds. Unless otherwise specified, cable assemblies rated at over

500 volts shall be tested at 60 cycles ac at peak voltage equal to two times the peak value of the rated voltage, plus 1000 volts, applied for not less than 15 seconds. For dielectric withstanding voltage tests conducted following tests performed on first article and periodic production samples, the test potential shall be applied for not less than 60 seconds. Following dielectric withstanding voltage test, the cable assemblies shall pass the insulation resistance test specified in 4.5.2.3. Remove test equipment. Any cable assembly not meeting the requirements of this test shall be considered defective.

4.6 Environmental tests. From the first article sample or each periodic test sample of cable assemblies at least the quantities indicated in Table II shall be subjected to the tests listed in the table.

TABLE II. Environmental tests.

Test	Quantity	
	Preproduction sample	Periodic test sample
Vibration, transportation storage and handling (4.6.1.1)	10	—
Vibration, ready-non-operating (4.6.1.2)	10	2
Shock, transportation storage and handling (4.6.2.1)	10	—
Shock, ready-non-operating (4.6.2.2)	10	2
Temperature storage (4.6.3)	10	2
Pressure (4.6.4), when required	5	2

1/ When cable assemblies are supplied with test sets, environmental tests need not be performed. The same cable assemblies shall be subjected in sequence to 4.6.1.1, 4.6.2.1, 4.6.1.2 and 4.6.2.2 or 4.6.1.2 and 4.6.2.2, as applicable. Each unit comprising the sample shall be subjected to at least one environmental test. Following 4.6.1.2, 4.6.2.2, 4.6.3 and 4.6.4, each cable assembly tested shall be subjected to all the quality conformance tests of 4.5.2 except that 4.5.2.2.1, 4.5.2.2.3 and 4.5.2.4 need not be performed unless specified by the contract, purchase order or applicable drawings. Cable assemblies in which physical damage has occurred or that failed to meet the requirements of any quality conformance test to which they have been subjected shall be considered as having failed the environmental test.

4.6.1 Vibration.

4.6.1.1 Vibration, transportation, storage and handling. For this test the cable assemblies, when packaged as for shipment, shall be placed on a vibration platform equipped with barriers so as to allow free movement of the cable assembly relative to the platform but prevent it from falling off the platform. The motion of the platform shall be such that any point on the platform moves in a circular path 1 inch in diameter with the plane of the circle perpendicular to the platform. The frequency shall be within the range of 240 to 300 cycles per minute. The vibration shall be for a period of ½ hour on each face of the container. Dummy unit containers may be used as required to fill the shipping container (see 4.6.3).

4.6.1.2 Vibration, non-ready operating. The cable assembly shall be mounted to the vibration table to simulate service conditions. Simple harmonic excitation shall be applied to each of the three principal axes of the cable assembly for equal periods of time. The frequency range of 10 to 60 cycles per second may be covered either by cycling at a logarithmic rate between the limits or by at least 24 discrete frequency steps which have a logarithmic distribution. The vibration amplitude shall be maintained at $2 \pm .2G$ vector or 0.10 ± 0.01 inch (peak to peak) amplitude, whichever is lesser. The duration of the test in each direction is 4 hours. The total test duration shall be 12 hours.

4.6.2 Shock.

4.6.2.1 Shock, transportation, storage and handling. The cable assemblies packaged and packed in accordance with Drawing LD284865 shall be subjected to the corner wise drop test of FED-STD-101, Test Method 214, except that the test shall be applied to each of the eight corners of the container. Damage to the exterior shipping container which is the result of improper interior packaging, blocking or bracing or other structural damage to the exterior shipping container which would result either in spilling of the contents or failure of the container in subsequent handling may require that the contractor repack the lot represented by the sample. There shall be no evidence of a substantial amount of shifting of the contents within the interior of the shipping container that would create conditions likely to cause damage during shipment, storage or reshipment of the container. Minor container damage such as chipping of wood members, dents, paint chipping, is not evidence that the container has failed this test.

4.6.2.2 Shock, ready-non-operating. The cable assembly, mounted to simulate service conditions shall be subjected to a continuous two-phase shock applied in any direction with respect to the cable assembly.

a. The first (impact) phase shall consist of a change of velocity of 5.5 to 7.0 feet per second taking place in from 0.2 to 0.4 millisecond.

b. During the second (drag) phase, the cable assembly shall be accelerated for a minimum time of 15 seconds in such manner that during this time the minimum average acceleration is 90 g's. The peak acceleration shall be between 125 and 150 g's. Upon completion of the above test, the cable assembly shall be capable of meeting all performance requirements of this specification.

4.6.3 Temperature storage. The cable assembly packaged and packed as designated in section 5 shall be subjected to one 14 day JAN temperature cycle defined in MIL-STD-331, Test Method 105 except that the relative humidity in the chamber need not be raised above room ambient or ambient as controlled. Dummy unit containers may be used as required to fill the shipping containers. Unless otherwise specified in the contract or purchase order the term "Unit Containers" is used to designate fiberboard box, folding paperboard box or paperboard set-up box used to individually package a cable assembly (see Drawing 1358405, para. 1.1.1.1). The term "shipping container" is used to designate the wood box into which one or more unit containers are packed (see Drawing 1358405, para. 2.1).

4.6.4 Pressure. Cable assemblies required to be submersible when specified in the contract, purchase order or applicable drawings shall be pressure tested as required by 3.4.4. At the conclusion of the test the cable assemblies shall meet all the performance and other requirements of this specification.

4.6.4.1 A suitable pressure chamber shall be provided, designed to withstand safely the specified test pressure. The chamber shall be of sufficient size to contain one or more cable assemblies in such manner that the entire cable assemblies, or such portions thereof as are designed to be submerged and exposed to water, may be wholly submerged under pressure within the chamber. The chamber shall contain suitable connectors, stuffing tubes, glands, or other means of passing the cables or fittings thereof through the chamber walls to simulate installation of the cable assemblies in actual use, and located so as to permit visual inspection to determine water leakage, and to permit making electrical test connections to each circuit of the cable connectors.

4.6.4.2 The cable assemblies, mounted in the test chamber shall be submerged in fresh water for the pressure and time specified in the contract, purchase order or applicable drawings. The water used in the chamber shall be maintained above room temperature to prevent moisture condensation on the chamber exterior or in the fittings of the cable assemblies under test.

4.6.4.3 After application of pressure for the specified period of time, and with pressure still applied, examine all cable assembly connector terminations, stuffing tubes, glands or other fittings for seepage of water, and then measure insulation resistance in accordance with 4.5.2.3.

4.6.4.4 Any evidence of seepage of water during the test, or decrease in insulation resistance below the value specified in 4.5.2.3 when measured under pressure (4.6.4.3) shall constitute failure to pass the pressure test.

4.7 Failure of the cable assembly to meet any of the requirements and test of this specification shall be considered cause for rejection.

5. PACKAGING

NOTE: The following requirements for preparation for delivery apply only to cable assemblies where standard preparation is intended. Where special preparation, packaging or packing is required, the methods specified in the applicable NAVSEA Drawing for packaging and packing shall apply. When cable assemblies are purchased for a prime contract for installation into Assembly Condition "D" Mines, preparation for delivery shall be adequate to protect the unit prior to installation.

5.1 Packaging. Packaging shall be level A or C as specified (see 6.2).

5.1.1 Level A.

5.1.1.1 Cable assemblies including first article sample shall be individually packaged in accordance with Drawing LD284865. When cable assemblies are supplied with test sets, packaging shall be in accordance with Drawing LD284866 (see 6.2).

5.1.1.2 Include the following information only when the individual cable assemblies are shipped directly to the Government or furnished as replacement parts. This need not apply when the cable assemblies are purchased as a component of a fully or partially assembled mine.

(1) Packaging Level "A"

(2) Special marking, if required

5.1.2 Level C. Cable assemblies shall be packaged in a manner which will afford adequate protection from deterioration and physical damage during shipment from the contractor or supply source to the first receiving activity for immediate use.

5.2 Packing. Packing shall be level A or C as specified (see 6.2).

5.2.1 Level A. Cable assemblies including first article samples shall be packed in accordance with Drawing LD284865. When cable assemblies are supplied with test sets, packing shall be in accordance with Drawing LD284866 (see 6.2).

5.2.2 Level C. Cable assemblies shall be packed in a manner which will afford adequate protection from damage during direct shipment from the contractor or supply source to the first receiving activity for immediate use. The type of containers used shall conform to applicable carrier rules and regulations.

5.3 Marking. In addition to any special marking required by the contract or purchase order (see 6.2), all markings shall be in accordance with MIL-STD-129.

MIL-C-21479B(OS)

6. NOTES

6.1 Intended use. The cable assemblies covered by this specification are used to interconnect various components of weapons, and for use with calibration test equipment.

6.2 Ordering data. Acquisition documents should specify the following:

- a. Title, number and date of this specification
- b. Applicable drawings.
- c. Government activity or contractor, as appropriate, to perform first article and periodic sampling tests.
- d. If the contract establishes periodic test samples at variance with this specification, the contract shall also furnish a new test plan or in some manner designate the desired level and sequence of testing for each of the sample units.
- e. If a month's scheduled production is not acceptable, the lot size shall then be specified (see 4.3.2.2).
- f. Whether the requirements for electrical continuity (connector, pins in motion) 3.3.3.1, insulation resistance (connector, pins in motion) 3.3.3.1, dielectric withstanding voltage 3.3.4 and/or pressure 3.4.4 are required.
- g. Test pressure and time of application of pressure for submersible cables (see 3.4.4).
- h. Level of packaging, packing or special marking required.
- i. When additional performance requirements are specified in the contract, purchase order or applicable drawing, the applicable document shall specify any additional test equipment and acceptance tests required.

6.3 Supersession information. This document includes the requirements of and supersedes MIL-C-21479A(OS), dated 4 January 1967.

6.4 Changes from previous issue. Asterisks are not used in this revision to identify changes with respect to the previous issue due to the extensiveness of the changes.

6.5 Recovered materials. Unless specified herein, all equipment, material, and articles incorporated in the products covered by this specification shall be new and shall be fabricated using materials produced from recovered materials to the maximum extent practicable without jeopardizing the intended use. The term "recovered materials" means materials which have been collected or recovered from solid waste and reprocessed to become a source of raw materials, as opposed to virgin raw materials. Unless otherwise specified, none of the above shall be interpreted to mean that the use of used or rebuilt products is allowed under this specification.

Custodian:
Navy - OS

Preparing activity:
Navy - OS

Project No. 1135-N016

STANDARDIZATION DOCUMENT IMPROVEMENT PROPOSAL

(See Instructions - Reverse Side)

1. DOCUMENT NUMBER MIL-C-21479B(OS)		2. DOCUMENT TITLE Cable Assemblies, General Specifications for (Ordnance)	
3a. NAME OF SUBMITTING ORGANIZATION		4. TYPE OF ORGANIZATION (Mark one)	
A. ADDRESS (Street, City, State, ZIP Code)		<input type="checkbox"/> VENDOR <input type="checkbox"/> USER <input type="checkbox"/> MANUFACTURER <input type="checkbox"/> OTHER (Specify): _____	
5. PROBLEM AREAS			
a. Paragraph Number and Wording:			
b. Recommended Wording:			
c. Reason/Rationale for Recommendation:			
6. REMARKS			
7a. NAME OF SUBMITTER (Last, First, MI) - Optional		b. WORK TELEPHONE NUMBER (Include Area Code) - Optional	
c. MAILING ADDRESS (Street, City, State, ZIP Code) - Optional		8. DATE OF SUBMISSION (YYMMDD)	

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