

INCH-POUND

MIL-DTL-3962F
20 August 2015
SUPERSEDING
MIL-A-3962E
19 May 1986

MILITARY SPECIFICATION

ANCHORS, GROUND, ARROWHEAD WITH DRIVING EQUIPMENT

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

1. SCOPE

1.1 Scope. This specification covers general requirements for anchors, ground, arrowhead with driving equipment.

1.2 Part or Identifying Number (PIN) for hose. The PIN consists of the prefix letter "M" the specification sheet number, a dash number for style, a dash, and color designator.



PIN example:

MS3962/1-1C34079 indicates a 4 inch anchor with a cable without thimble, with driving head, holding handle, and driving rod, forest green.

Comments, suggestions, or questions on this document should be addressed to: DLA Land and Maritime, Attn: VAI, P.O. Box 3990, Columbus, OH 43218-3990, or emailed to FluidFlow@dla.mil. Since contact information can change you may want to verify the currency of this address information using the ASSIST Online database at <https://assist.dla.mil>.

AMSC N/A

FSC 4030



2. APPLICABLE DOCUMENTS

2.1 General. The documents listed in this section are specified in sections 3 or 4 of this specification. This section does not include documents cited in other sections of this specification or recommended for additional information or as examples. While every effort has been made to ensure the completeness of this list, document users are cautioned that they must meet all specified requirements documents cited in sections 3 or 4 of this specification, whether or not they are listed.

2.2 Government documents.

2.2.1 Specifications standards, and handbooks. The following specifications, standards, and handbooks form a part of this document to the extent specified herein. Unless otherwise specified, the issues of these documents are those cited in the solicitation or contract.

DEPARTMENT OF DEFENSE SPECIFICATIONS

MIL-DTL-53039 - Coating, Aliphatic Polyurethane, Single Component, Chemical Agent Resistant

(See supplement 1 for list of specification sheets.)

DEPARTMENT OF DEFENSE STANDARD

MIL-STD-129 - Marking for Shipment and Storage

(Copies of these documents are available online at <http://quicksearch.dla.mil>.)

2.3 Non-Government publications. The following documents form a part of this document to the extent specified herein. Unless otherwise specified, the issues of these documents are those cited in the solicitation or contract.

ASTM INTERNATIONAL

ASTM E60 - Standard Practice for Analysis of Metals, Ores, and Related Materials by Spectrophotometry

ASTM E-18 - Standard Test Methods for Rockwell Hardness of Metallic Materials

(Copies of this documents are available online at <http://www.astm.org> or from the ASTM International, P.O. Box C700, 100 Barr Harbor Drive, West Conshohocken, PA 19428-2959.)

2.4 Order of precedence. Unless otherwise noted herein or in the contract, in the event of a conflict between the text of this document and the references cited herein (except for related specification sheets), the text of this document takes precedence. Nothing in this document, however, supersedes applicable laws and regulations unless a specific exemption has been obtained.

3. REQUIREMENTS.

3.1 First article. When specified (see 6.1), samples shall be subjected to first article inspection in accordance with 4.5.

3.2. Recycled, recovered, environmentally preferable, or biobased materials. Recycled, recovered, environmentally preferable, or biobased materials should be used to the maximum extent possible, provided that the material meets or exceeds the operational and maintenance requirements, and promotes economically advantageous life cycle costs.

3.2.1 Recovered materials. 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 or used or rebuilt products is allowed under this specification.

3.2.2 Hazardous substances. The use of hazardous substances, toxic chemicals, or ozone depleting chemicals shall be avoided, whenever feasible.

3.3 Design. The ground anchor assemblies and driving equipment shall conform to the material (see 4.7.2), construction, finish, and marking requirements specified herein and on associated slash sheets MIL-DTL-3962/1, through MIL-DTL-3962/7. See table V for legacy.

3.3.1 Load requirements for ground anchors with cable assemblies.

3.3.1.1 Size 4 inch, grade A or B, styles 1 and 2. The anchor assembly shall withstand a load of not less than 3100 pounds without breakage when tested as specified in 4.7.3.

3.3.1.2 Size 4 inch, grade A or B, style 5. The anchor assembly shall withstand a load of not less than 1500 pounds without breakage when tested as specified in 4.7.3.

3.3.1.3 Sizes 6 and 8 inch, grade A or B, styles 3 and 4. The anchor assembly shall withstand a load of not less than 5500 pounds without breakage when tested as specified in 4.7.3.

3.3.2 Finish.

3.3.2.1 Anchor bodies. Prior to application of finish, anchor bodies shall have all burrs, flashings, and sharp edges removed.

3.3.2.2 Aluminum bodies. Aluminum bodies shall be given no finish.

3.3.2.3 Malleable iron bodies and pins, and pins for aluminum anchor bodies. The assembled malleable iron anchor body and pin and the pin for aluminum bodies shall be coated with aluminum pigmented enamel or coated with enamel conforming to MIL-DTL-53039 or shall be galvanized.

3.3.2.4 Driving heads, driving rods, and holding handles. Driving rods, driving heads, and holding handles shall be cleaned free of oil, grease, and other foreign matter and then coated with enamel conforming to MIL-DTL-53039. Holes in driving rods and driving heads shall be free of excess enamel to ensure proper fit. Driving head and driving rods shall be heat treated after fabrication to Rockwell 40-45 HRC, see 4.7.4.

3.4 Marking. All characters on the anchor bodies shall be cast in raised letters and shall include the manufacturer's name, trade name or trademark, and year of contract. Except as otherwise specified on drawings, characters shall be not less than 1/4 inch in size.

3.5 Workmanship. The finished items shall be clean, free of cracks, blowholes, burrs, free of sharp edges, no corroded areas, and shall not be broken or malformed, see [table I](#).

TABLE I. Workmanship examinations

Defects	Method of Inspection	Paragraph
Dimensional requirements	Measure	3.3
Burrs, flashings, and sharp edges not removed	Visual	3.3.2.1
Finish/color not as specified	Visual	3.3.2.4
Marking missing, illegible, or not as specified	Visual	3.4
Assembly not as specified	Visual	3.3

4. VERIFICATION

4.1 Classification of inspection. The inspection requirements specified herein are classified as follows:

- a. First article inspection (see [4.5](#)).
- b. Conformance inspection (see [4.6](#)).

4.2 Inspection conditions. Unless otherwise specified, all inspections shall be performed in accordance with the test conditions specified in accordance with the applicable test method referenced in the test procedures.

4.3 Responsibility for compliance. All items shall meet all requirements of sections [3](#) and [4](#). The inspection set forth in this specification shall become a part of the contractor's overall inspection system or quality program. The absence of any inspection requirements in the specification shall not relieve the contractor of the responsibility of ensuring that all products or supplies submitted to the Government for acceptance comply with all requirements of the contract. Sampling inspection, as part of manufacturing operations, is an acceptable practice to ascertain conformance to requirements, however, this does not authorize submission of known defective material, either indicated or actual, nor does it commit the Government to accept defective material.

4.4 Lot records. Manufacturers shall keep lot records for 3 years minimum. Manufacturers shall monitor for compliance to the prescribed procedures, and observe that satisfactory manufacturing conditions and records on lots are maintained for these anchor assemblies. The records, including as a minimum, an attributes summary of all quality conformance inspections conducted on each lot, shall be available to review by the government at all times.

4.5 First article inspection. First article inspection may be performed at a laboratory acceptable to the procuring activity.

4.5.1 First article inspection method. All samples shall be subjected to first article inspection in accordance with [table II](#).

4.5.2 Samples for first article. Samples for first article inspection shall be representative of the products proposed to be furnished to this specification, see [4.5.2.1](#).

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4.5.2.1 Lot and sample. The inspection lot shall be selected at random from the production lot, without regard to quality. A lot shall consist of all anchors, driving heads, driving rods, and holding handles of the same type, size, material, and manufactured under essentially the same conditions and submitted for acceptance at one time. The minimum sample size for first article inspection shall be 2 anchors including, 1 driving head, 1 driving rod, and 1 holding handle. The anchors shall be of the same size, type, and material. The driving head, driving rod, and holding handle shall be for the size for the anchor being subjected to the first article inspection.

TABLE II. First article inspection.

Inspection	Requirement	Test method
Visual	3.5	4.7.1
Chemical analysis	3.3	4.7.2
Load test 1/	3.3.1	4.7.3
Rockwell hardness 2/	3.3.2.4	4.7.4

1/ Applicable to anchor assemblies only, and shall not be supplied as part of the contract or purchase order.

2/ Applicable to driving head and driving rod only.

4.5.3 Failures. All samples must meet all of the contract requirements. Failure of a sample unit to pass any test shall be cause for rejection of the entire lot and to deny first article approval.

4.5.4 First article samples. Unless otherwise specified, after award of the contract or order, the manufacturer shall forward one sample fabricated from random samples of the ground anchors, driving heads, driving rods or holding handles as applicable. The samples shall be representative of the construction, workmanship, components, and materials to be used during production. When a manufacturer is in continuous production of ground anchors, holding handles, driving heads, or driving rods as applicable, from one contract to another, submission of additional first article samples for a new contract may be waived at the discretion of the acquiring activity (see 6.2).

4.5.6 First article information. Upon completion of first article inspection, the Government activity responsible for conducting the inspection program (see 6.2), shall report the results of the inspection, with appropriate recommendation, to the contracting officer. Approval of the first article samples or the waiving of first article inspection does not preclude the requirements for performing conformance inspection.

4.6 Conformance inspection. For manufacture's that have successfully passed first article inspections and are continuously producing round anchors, driving heads, driving rods, or holding handles as applicable to this specification on going inspections shall consist of individual inspections see table IV. If first article is waived due to prior successful first article inspection the individual inspection shall be the manufactures in house inspection procedure. The minimum sample size shall be as shown table III.

TABLE III. Lot and sample size.

Production lot size	Sample size min.
1 to 20	2
21 to 50	3
51 to 100	5
101 to 500	7

4.6.1 Individual inspection. Individual inspection shall consist of the inspection specified in [table IV](#). Individual inspections shall be implemented on a continual basis throughout the production of ground anchors, driving head, holding handle, or driving rod as applicable.

TABLE IV. Individual inspection.

Inspection	Requirement	Test method
Workmanship	3.5	4.7.1

4.6.2 Nonconformance of conformance inspections. If one or more defects are found in the inspection lot, then the production lot shall be screened for that particular defect and defects removed. An inspection lot shall be selected from the production lot and all individual tests (see [table IV](#)) shall be performed. If one or more defects are found in the second inspection lot, the production lot shall be rejected and shall not be supplied to this specification. Test data of part performance shall be made available to the contracting agency upon request.

4.6.3 Waivers or deviations to specification requirements. All waivers or deviations to specification requirements shall be coordinated through the preparing activity: DLA Land and Maritime, Attn: VAI, P.O. Box 3990, Columbus, Ohio 43218-3990 or e-mailed to FluidFlow@dla.mil.

4.7 Test methods.

4.7.1 Visual inspection. Each of the ground anchors, driving heads, driving rods, or holding handles as applicable shall be examined for compliance with the requirements in paragraph [3.5](#) of this document. This element of inspection shall encompass all visual examinations and dimensional measurements.

4.7.2 Chemical analysis. When requested by the acquiring activity either a certificate showing conformance with the applicable material specification shall be made available or spectrochemical testing shall be performed. When specified spectrochemical analysis shall be in accordance with ASTM E60 (see [6.2](#)).

4.7.3 Load test. With a load tester at a rate not greater than 2000 pounds per minute, the cable or wire assembly, as applicable, shall meet the load requirements as specified for the 4-inch size in [3.3.1.1](#), [3.3.1.2](#), and for the 6- and 8-inch sizes as specified in [3.3.1.3](#). Any evidence of failure, such as tearing of the anchor, strands breaking, or other defects, shall constitute failure of this test.

4.7.4 Rockwell hardness testing (driving head and driving rod). Rockwell hardness testing shall be in accordance with ASTM E-18. The driving head and driving rod shall meet the requirements Rockwell hardness requirement specified in [3.3.2.4](#).

5. PACKAGING

5.1 Packaging. For acquisition purposes, the packaging requirements shall be as specified in the contract or order (see [6.2](#)). When actual packaging of materiel is to be performed by DoD or in-house contractor personnel, these personnel need to contact the responsible packaging activity to ascertain packaging requirements. Packaging requirements are maintained by the Inventory Control Point packaging activities within the Military Service or Defense Agency, or within the military service's system command. Packaging data retrieval is available from the managing Military Service or Defense Agency's automated packaging files, CD-ROM products, or by contacting the responsible packaging activity.

6. NOTES

(This section contains information of a general or explanatory nature which is helpful, but is not mandatory.)

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6.1 Intended use. The ground anchor assemblies with driving equipment are intended for securing tents, shelters, aircraft, small utility poles, and communication masts to the ground.

6.2 Acquisition requirements. Acquisition documents should specify the following:

- a. Title, number, and date of this specification.
- b. PIN see 1.2.
- c. Quantity required.
- d. When first article is required for inspection or waived (see 4.5.3).
- e. Lot records if required (see 4.4).
- f. Name and address of the first article inspection test facility to which first article samples (if required) are to be forwarded (see 4.5.4) and the name and address of the Government activity responsible for conducting the first article inspection program (see 6.3).
- g. Material certification certificate or spectrochemical analysis (see 4.7.2).
- h. Packaging requirements (see 5.1).

6.3 First article. The contracting officer should include specific instructions in acquisition documents regarding arrangements for examinations, approval of first article test results, and disposition of first article samples. Invitations for bids should provide that the Government reserves the right to waive the requirement for samples for first article inspection to those bidders offering a product which has been previously acquired or tested by the Government, and that bidders offering such products, who wish to rely on such production or test, must furnish evidence with the bid that prior Government approval is presently appropriate for the pending contract.

6.3.1 Defense Logistics Agency (DLA) waiver of first article test. A waiver of a first article testing will only be considered by DLA when the contractor has delivered the same item within the last three years, has no unfavorable quality history, has not changed processes, or changed any subcontractors. DLA will not accept first article testing results outside the stated requirements.

6.5 Legacy. The drawings (Army 81337) from previous revisions of this specification were made into slash sheets, see table V.

TABLE V. Cross reference table.

Drawings	New slash sheets
4-1-196	MIL-DTL-3962/1
4-1-197	MIL-DTL-3962/2
4-1-198	MIL-DTL-3962/3
4-1-198	MIL-DTL-3962/4
4-1-198	MIL-DTL-3962/5
4-1-198	MIL-DTL-3962/6
4-1-199	MIL-DTL-3962/7

6.6 Environmentally preferable material. Environmentally preferable materials should be used to the maximum extent possible to meet the requirements of this specification. As of the dating of this document, the U.S. Environmental Protection Agency (EPA) is focusing efforts on reducing 31 priority chemicals. The list of chemicals and additional information is available on their website <http://www.epa.gov/osw/hazard/wastemin/priority.htm>. Included in the EPA list of 31 priority chemicals are cadmium, lead, and mercury. Use of these materials should be minimized or eliminated unless needed to meet the requirements specified herein (see Section 3).

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6.7 Changes from previous issue. Marginal notations are not used in this revision to identify changes with respect to the previous issue due to the extent of the changes.

CONCLUDING MATERIAL

Custodians:

Army - GL
Navy - YD
Air Force - 99
DLA - CC

Preparing Activity:

DLA - CC

(Project 4030-2015-010)

Review Activities:

Army - EA, MD
Navy - SA
Air Force- 71
DLA IS

NOTE: The activities listed above were interested in this document as of the date of this document. Since organizations and responsibilities can change, you should verify the currency of the information above using the ASSIST Online database at <https://assist.dla.mil>.