

MIL-C-13459B (MU)
1 September 1971
SUPERSEDING
MIL-C-13459A (MU)
30 April 1963

MILITARY SPECIFICATION

CASES, BINOCULAR: M62A1 AND M63A1

1. SCOPE

1.1 This specification covers two models of plastic binocular cases. The cases are similar in configuration and are constructed of the same materials but differ in size (see 6.1).

2. APPLICABLE DOCUMENTS

2.1 The following documents, of the issue in effect on date of invitation for bids or request for proposal, form a part of this specification to the extent specified herein.

SPECIFICATIONS

Military

MIL-F-13926	Fire Control Materiel, General Specification Governing the Manufacture and Inspection of
MIL-P-14232	Parts, Equipment and Tools for Army Materiel, Packaging and Packing of
MIL-I-45607	Inspection Equipment, Acquisition, Maintenance and Disposition of

STANDARDS

Military

MIL-STD-105	Sampling Procedures and Tables for Inspection by Attributes
MIL-STD-109	Quality Assurance Terms and Definitions

DRAWINGS

U.S. Army, Frankford Arsenal

D7694280	Case, Binocular, M62A1
D7694281	Case, Binocular, M63A1

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PACKAGING DATA SHEETS

7694280 Packaging of Case, Binocular, M62A1
 7694281 Packaging of Case, Binocular, M63A1

(Copies of specifications, standards, drawings and packaging data sheets required by suppliers in connection with specific procurement functions should be obtained from the procuring activity or as directed by the contracting officer.)

3. REQUIREMENTS

3.1 Materials.- The materials shall be in accordance with drawings, material specifications and general specifications forming a part of this specification.

3.2 Fabrication.- The cases shall be constructed in accordance with the applicable drawings specified in the contract or purchase order.

3.3 General specification.- The contractor shall be responsible for adherence to, and compliance with, the following requirements of MIL-F-13926:

- a. Order of precedence
- b. Dimensions and tolerances
- c. Inorganic protective surface finishes
- d. Part identification and marking
- e. Workmanship

3.4 Environmental.

3.4.1 Storage temperature.- The case shall show no evidence of physical failure due to storage at temperature ranging from -80° to $+160^{\circ}$ F. Subsequent to meeting this requirement the case shall be capable of meeting all requirements of this specification.

3.4.2 Operating temperature.- The case shall meet the requirements of 3.5.2, 3.5.3 and 3.6 while exposed and thermally stabilized at ambient temperatures of plus 150° and minus 40° F.

3.5 Physical.

3.5.1 Rain test.- Subsequent to 3.4 the case shall show no evidence of leakage or damage and shall meet the requirements of 3.6 after having been fastened and positioned 45° to the vertical, lid upward, and subjected to Procedure I of the rain test in Specification MIL-F-13926.

3.5.2 Flexural resistance.- The case shall not show any defects when subjected to the flexural resistance test specified herein.

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3.5.3 Impact resistance.- There shall be no permanent deep dents, loosening, damage or misalignment of parts, or any breakage, cracking or chipping of the surfaces of the case when the case is dropped four (4) feet to a concrete surface. The case shall be dropped a total of two times, once on a corner of the lid and once on a corner of the bottom.

3.6 Operation.

3.6.1 Fastening device.- The fastening device used to secure the case shall function without interference; and when secure shall show no evidence of looseness.

3.6.2 Ease of operation.- The case, including hinge components and carrying straps shall open and close and operate easily without restriction or binding.

3.6.3 Interface requirements.- Carrying Cases M62A1 and M63A1 shall interface with and support intended contents (see 6.1).

QUALITY ASSURANCE PROVISIONS

4.1 Responsibility for inspection.- Unless otherwise specified in the contract or purchase order, the supplier is responsible for the performance of all inspection requirements as specified herein. Except as otherwise specified, the supplier may utilize his own facilities 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.

4.1.1 General provisions.- The component and subassembly inspection requirements of MIL-F-13926 form a part of the Quality Assurance Provisions of this specification. Definitions of inspection terms shall be as listed in MIL-STD-109.

4.2 First article (initial production) approval.- The requirement for first article approval and the responsibility (Government or contractor) for first article testing shall be as specified in the contract. The sample for first article testing shall consist of three (3) of the required model. The sample shall be manufactured in the same manner, using the same materials, equipment processes and procedures as used in regular production. All parts and materials, including packing and packaging shall be obtained from the same source of supply as used in regular production.

4.2.1 Government testing.- When the Government is responsible for conducting first article approval tests, the contractor, prior to submitting the sample to the Government shall inspect the sample to insure that it conforms to all the requirements of the contract and submit a record of this inspection with the sample, including certificates of conformance for materials.

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4.2.2 Contractor testing.- When the contractor is responsible for conducting first article approval tests, the sample shall be inspected by the contractor for all requirements of the contract. The sample and a record of this inspection, including certificates of conformance for materials, shall be submitted to the Government for approval. The Government reserves the right to witness the contractors inspection.

4.3 Inspection provisions.

4.3.1 Submission of product.- Unless otherwise specified by the contracting officer, inspection lot size, lot formation and presentation of lots shall be in accordance with "Submission of Product" provisions of MIL-STD-105.

4.3.2 Examination and tests.

4.3.2.1 Components and subassemblies.- Components and subassemblies shall be inspected in accordance with the inspection provisions contained in MIL-F-13926. Examinations and tests related to Section 3 herein shall be performed on a single defect (individual characteristic) basis in accordance with MIL-STD-105 and the sampling plans specified in Tables I, II and III herein. Examination and tests for packaging, packing and marking shall be in accordance with MIL-P-14232 and Section 5 herein. The tabulated classification of defects shall constitute the minimum inspection to be performed by the supplier after first article approval and prior to Government acceptance or rejection by item or lot.

TABLE I - CLASSIFICATION OF DEFECTS

<u>Class</u>	<u>Requirement</u>	<u>Test Procedure</u>
<u>Critical:</u> None		
<u>Major:</u> <u>AQL 1.0% Defective</u>		
101. Fastening devices	3.6.1	4.7.1
102. Ease of operation	3.6.2	4.7.2
103. Interface requirements	3.6.3	4.7.3
<u>Minor:</u> None		

NOTE: The tests in Table I shall be conducted at a temperature between +60° and +90°F.

4.3.3 Acceptance and rejection.- Rejected lots shall be screened for all defective characteristics. Removal or correction of defective units and resubmittance of rejected lots shall be in accordance with "Acceptance and Rejection" as specified in MIL-STD-105.

4.4 Special sampling.

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4.4.1 General.- Three (3) cases of each type shall be selected at random by a Government representative as a special sample from each 100 produced. The sample shall meet the requirements and tests in Table II.

TABLE II

<u>Characteristic</u>	<u>Requirements</u>	<u>Test Procedures</u>
301. Materials	3.1	Applicable drawings -- Visual
302. Fabrication	3.2	Applicable drawings
303. General specification	3.3	MIL-F-13926 - Visual

4.4.2 Environmental and functional.- Three (3) cases of each type shall be selected at random by a Government representative as a special sample from each 50 produced or from each month's production, whichever occurs first. The samples shall have met the requirements and tests in Table III and shall then meet the requirements and tests in Table I and Table II.

TABLE III

<u>Characteristics</u>	<u>Requirements</u>	<u>Test Procedures</u>
304. Storage temperature	3.4.1	4.6.1
305. Extreme operating temperature	3.4.2	4.6.2
306. Rain test	3.5.1	4.6.3
307. Flexural resistance	3.5.2	4.6.4
308. Impact resistance	3.5.3	4.6.5

4.4.3 Failure of sample.- Should any one item of a special sampling fail to meet the specified test requirements, acceptance of the product will be suspended by the Government until necessary corrections have been made by the contractor and the resubmitted samples have been approved (see 4.3.3).

4.5 Inspection equipment.- Except as otherwise provided for by the contract, the contractor shall supply and maintain inspection equipment in accordance with the applicable requirements of MIL-I-45607.

4.5.1 Government furnished inspection equipment.- Where the contract provides for Government furnished test equipment, supply and maintenance of test equipment shall be in accordance with the applicable requirements specified in MIL-I-45607.

4.5.2 Contractor furnished inspection equipment.

4.5.2.1 Government design.- Unless otherwise specified in the contract, all inspection equipment specified by drawing number in specification or JAP forming a part of the contract shall be supplied by the contractor in accordance with technical data listed in the technical data package (TDP).

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4.5.2.2 Contractor design.- The contractor shall design and supply inspection equipment compatible with the "Test Methods and Procedures" specified in 4.6 of this specification and with the component inspection procedures specified in "Examination" and "Test Facilities" requirements of MIL-F-13926. Since tolerance of test equipment is normally considered to be within 10% of the product tolerance for which it is intended, this inherent error in the test equipment design must be considered as part of the prescribed product tolerance limit. Thus, concept, construction, materials, dimensions and tolerances used in the design of test equipment shall be so selected and controlled as to insure that the test equipment will reliably indicate acceptability of a product which does not exceed 90% of the prescribed tolerance limit and permit positive rejection when nonconforming. Construction shall be such as to facilitate routine calibration of test equipment.

4.6 Test methods and procedures.

4.6.1 Storage temperature.- The testing equipment used in this test shall conform to the "Test Facilities" requirements of MIL-F-13926 and the conditions of 3.4.1. Each case shall be exposed to each of the temperature extremes specified in 3.4.1 for a minimum of three (3) hours. After each temperature exposure the case shall be stabilized in an ambient temperature between +60° and +90°F and subjected to a visual and tactile examination for any physical damage.

4.6.2 Extreme operating temperature.- The testing equipment used in this test shall be in accordance with the "Test Facilities" requirements of MIL-F-13926 and the conditions of 3.4.2. Each case shall be exposed to each temperature extreme specified in 3.4.2 for a period of three (3) hours. At the end of each three (3) hour period, and while still at the temperature extreme, the case shall be subjected to the tests of 4.6.4, 4.6.5, 4.7.1, 4.7.2 and 4.7.3 to determine compliance with 3.4.2.

4.6.3 Rain test.- The rain test shall be conducted in accordance with Procedure I of MIL-F-13926 and the conditions of 3.5.1. Subsequent to the rain test the case shall be subjected to a visual and tactile examination to determine compliance with 3.5.1.

4.6.4 Flexural resistance test.- This test shall be conducted utilizing a 2 inch diameter mandrel for the M63A1 Case and 1 1/2 inch mandrel for the M62A1 Case. With the mandrel inserted into one side (monocular simulation) of the respective case, a sufficient force shall be applied to the open (empty) side over a minimum area of one (1) square inch until at least half the circumference of the mandrel is in contact with the inner wall of the case cavity. Upon release the same procedure shall be repeated on the opposite side of the case and upon completion shall meet the requirements of 3.5.2.

4.6.5 Impact resistance.- While the case is thermally stabilized at each of the extreme operating temperatures specified in 3.4.2, it shall be

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dropped onto a concrete floor from a height of 48 inches, once on a corner of the lid and once on a corner of the bottom. Subsequent to the impacts at each temperature extreme, the case shall be subjected to a visual examination and shall meet the requirements specified in 3.5.3.

4.7 Operational.

4.7.1 Fastening device.- The fastening device used to secure the case shall be manually operated at least five (5) times to determine compliance with 3.6.1.

4.7.2 Ease of operation.- The case, including hinge components and carrying strap, shall be manually inspected in conjunction with 4.7.1 to determine compliance with 3.6.2.

4.7.3 Interface.- Carrying cases shall be tested by utilizing dummy binoculars if actual models are not available to determine that the case supports representative configuration of intended contents as specified in 3.6.3 and 6.1. Insertion and removal shall not require force and at least two (2) cases of each type shall be interchanged with the intended contents (binocular or dummy simulated binocular).

5 PREPARATION FOR DELIVERY

5.1 Packaging, packing and marking.- Packaging, packing and marking shall be in accordance with Packaging Data Sheet 7694280 for Binocular M62A1 and Packaging Data Sheet 7694281 for Binocular M63A1. The level of protection shall be as specified in the procurement document.

6. NOTES

6.1 Intended use.- The cases are intended to carry and protect hand held binoculars. Case M62A1 is used with 6 x 30 type military binoculars (M3 and M13A1 models) and Case M63A1 with 7 x 50 type military binoculars (M7, M15A1, M16 and M17A1 models).

6.2 Ordering data.- Procurement documents should specify the following:

- a. Title, date and number of this specification.
- b. Applicable packaging data sheet number.
- c. Selection of applicable levels of preservation, and packing.
- d. Provisions for first article testing.
- e. Type (model) of carrying case.

Custodian:

Army - MU

Preparing activity:

Army - MU

Project No. 6650-A056

SPECIFICATION ANALYSIS SHEET		Form Approved Budget Bureau No 22-R255
<p>INSTRUCTIONS: This sheet is to be filled out by personnel, either Government or contractor, involved in the use of the specification in procurement of products for ultimate use by the Department of Defense. This sheet is provided for obtaining information on the use of this specification which will insure that suitable products can be procured with a minimum amount of delay and at the least cost. Comments and the return of this form will be appreciated. Fold on lines on reverse side, staple in corner, and send to preparing activity. Comments and suggestions submitted on this form do not constitute or imply authorization to waive any portion of the referenced document(s) or serve to amend contractual requirements.</p>		
SPECIFICATION		
ORGANIZATION		
CITY AND STATE		CONTRACT NUMBER
MATERIAL PROCURED UNDER A <input type="checkbox"/> DIRECT GOVERNMENT CONTRACT <input type="checkbox"/> SUBCONTRACT		
1 HAS ANY PART OF THE SPECIFICATION CREATED PROBLEMS OR REQUIRED INTERPRETATION IN PROCUREMENT USE? A GIVE PARAGRAPH NUMBER AND WORDING		
B RECOMMENDATIONS FOR CORRECTING THE DEFICIENCIES		
2 COMMENTS ON ANY SPECIFICATION REQUIREMENT CONSIDERED TOO RIGID		
3 IS THE SPECIFICATION RESTRICTIVE? YES NO (If "yes", in what way?)		
4 REMARKS (Attach any pertinent data which may be of use in improving this specification. If there are additional papers, attach to form and place both in an envelope addressed to preparing activity.)		
5 FILLED BY (Printed or typed name and activity - Optional)		DATE

DD FORM 1426

REPLACES EDITION OF 1 OCT 64 WHICH MAY BE USED

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