

INCH-POUND

MIL-DTL-117H

30 April 2001

SUPERSEDING

MIL-B-117G

18 August 1993

DETAIL SPECIFICATION

BAGS, HEAT-SEALABLE

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

1. SCOPE

1.1 Scope. This document covers heat-sealable bags used in military preservation.

1.2 Classification. Bags are furnished in the following types, classes, and styles as specified (see 6.2):

1.2.1 Type. The type of bags is as follows:

- | | | |
|----------|---|-------------|
| Type I | - | Heavy duty |
| Type II | - | Medium duty |
| Type III | - | Light duty |

1.2.2 Class. The class of bags is as follows:

- | | | |
|---------|---|--|
| Class A | - | Waterproof, electrostatic protective, static dissipative |
| Class B | - | Waterproof |
| Class C | - | Waterproof, greaseproof |

Beneficial comments (recommendations, additions, deletions) and any pertinent data which may be used in improving this document should be addressed to: Commander, Naval Air Warfare Center Aircraft Division (Code 414100B120-3), Highway 547, Lakehurst, NJ 08753-5100 by using the Standardization Document Improvement Proposal (DD Form 1426) appearing at the end of this document or by letter.

AMSC N/A

FSC 8105

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- | | | |
|---------|---|--|
| Class E | - | Watervaporproof, greaseproof |
| Class F | - | Watervaporproof, electrostatic protective, electrostatic and electromagnetic shielding |
| Class H | - | Waterproof, electrostatic protective, electrostatic shielding |

1.2.3 Style. The style of bags is as follows:

- | | | |
|---------|---|---|
| Style 1 | - | Opaque |
| Style 2 | - | Transparent |
| Style 3 | - | One side opaque, other side transparent |

2. APPLICABLE DOCUMENTS

2.1 General. The documents listed in this section are specified in sections 3 and 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 and 4 of this specification, whether or not they are listed.

2.2 Government documents.

2.2.1 Specifications and standards. The following specifications and standards form a part of this document to the extent specified herein. Unless otherwise specified, the issues of these documents are those listed in the issue of the Department of Defense Index of Specifications and Standards (DoDISS) and supplement thereto, cited in the solicitation (see 6.2).

SPECIFICATIONS

FEDERAL

- | | | |
|----------|---|----------------------------|
| A-A-3174 | - | Plastic Sheet, Polyolefin. |
|----------|---|----------------------------|

DEPARTMENT OF DEFENSE

- | | | |
|---------------|---|---|
| MIL-PRF-121 | - | Barrier Materials, Greaseproof, Waterproof, Flexible, Heat-Sealable. |
| MIL-PRF-131 | - | Barrier Materials, Watervaporproof, Greaseproof, Flexible, Heat-Sealable. |
| MIL-PRF-22191 | - | Barrier Materials, Transparent, Flexible, Heat-Sealable. |
| MIL-PRF-81705 | - | Barrier Materials, Flexible, Electrostatic Protective, Heat-Sealable. |

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STANDARDS

FEDERAL

FED-STD-101 - Test Procedures for Packaging Materials.

DEPARTMENT OF DEFENSE

MIL-STD-129 - Standard Practice for Military Marking.

MIL-STD-2073-1 - Standard Practice for Military Packaging.

(Unless otherwise indicated, copies of the above specifications and standards are available from the Standardization Document Order Desk, 700 Robbins Avenue, Building 4D, Philadelphia, PA 19111-5094.)

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 the documents, which are DoD adopted, are those listed in the issue of the DoDISS cited in the solicitation. Unless otherwise specified, the issues of documents not listed in the DoDISS are the issues cited in the solicitation (see 6.2).

AMERICAN SOCIETY FOR QUALITY CONTROL (ASQC)

ASQC-Z1.4 - Procedures, Sampling and Tables for Inspection by Attributes.
(DoD adopted)

(Application for copies should be addressed to the American Society for Quality Control, P.O. Box 3005, 611 East Wisconsin Avenue, Milwaukee, WI 53201-4604).

2.4 Order of precedence. In the event of a conflict between the text of this document and the references cited herein, 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 6.2), samples shall be subjected to first article inspection in accordance with 4.2.

3.2 Material. Materials shall meet the requirements of the types, classes, and styles specified in table I.

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TABLE I. Classification of materials.

| MIL-DTL-117 | | | Required Materials for Bag Fabrication | | |
|-------------|-------|-------|--|----------------|-----------------------|
| Type | Class | Style | Document | Type | Class |
| I | E | 1 | MIL-PRF-131 | - | 1 |
| I | E | 2 | MIL-PRF-22191 | I | 1 or 2 |
| I | E | 3 | MIL-PRF-131 or MIL-PRF-22191 | - I | 1 1 or 2 |
| I | F | 1 | MIL-PRF-81705 | I | 1 or 2 |
| II | A | 2 | MIL-PRF-81705 | II | 1 or 2 |
| II | C | 1 | MIL-PRF-121 | I | - |
| II | C | 2 | MIL-PRF-22191 | II | 1 or 2 |
| II | C | 3 | MIL-PRF-121 or MIL-PRF-22191 | I II | - 1 or 2 |
| II | E | 1 | MIL-PRF-131 | - | 2 |
| II | H | 2 | MIL-PRF-81705 | III | 1 or 2 |
| III | B | 2 | MIL-PRF-22191 or A-A-3174 <u>1/</u> | III I or II | 1 or 2 1 <u>2/</u> |
| III | C | 1 | MIL-PRF-121 | II | - |

1/ Unless otherwise specified (see 6.2), nominal thickness shall be 0.004 inches.

2/ Finish shall be No. 2 (treated).

3.3 Construction. Class A, B, C, and E bags shall be formed using two sheets or by folding one sheet of material. Heat-sealable surfaces of the specified material shall be placed face to face, heat-sealing along both sides and the bottom edge as required. Transparent bags fabricated by the side weld process shall be folded and have two side seams. The side seams shall be parallel to each other and to the outer edges of the bag in all cases. The bottom fold shall be at right angles to the side seams. Class F and H bags shall be formed from one folded sheet of material heat-sealed on three sides (fold shall be heat-sealed).

3.3.1 Notched bags. When specified (see 6.2), bags shall have a tear, nick, or V-notch 1/8 inch deep with a tolerance of $\pm 1/16$ inch, in at least one edge located 1 to 1-1/4 inches from the open (unsealed) end of the bag. The legend "TEAR HERE TO OPEN" with an arrow pointing to the tear, nick, or V-notch shall be printed on the bag with lettering that shall be not less than 1/8 inch in height.

3.4 Dimensions and tolerances. The length and width of bags shall be specified in the contract or purchase order (see 6.2). The width shall be measured from the inside edges of the side seams. The length shall be measured from the inside edge of the bottom seam or bottom fold to the edge of the opening. The tolerances for the length and width shall be as indicated in table II. The maximum heat-seal widths shall be as indicated in table II.

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TABLE II. Dimensions and tolerances.

| Bag area (one side) | Length and width tolerances (inch) | Maximum heat-seal width (inch) <u>1/</u> |
|------------------------|---------------------------------------|---|
| 25 sq. in. or less | -1/16, +1/8 | 3/8 |
| 26 thru 200 sq. in. | -1/8, +1/4 | 1/2 |
| 201 thru 500 sq. in. | -1/4, +3/8 | 5/8 |
| 501 sq. in. or over | -1/4, +1/2 | 5/8 |

1/ Seams fabricated by the dielectric, impulse, or ultra-sonic process shall have a minimum 1/32-inch heat-seal. Seams fabricated from unsupported plastic sheet such as polyethylene or polyolefin shall meet the heat-sealed seam test specified in 3.5 with no minimum seal width required.

3.5 Bag integrity requirements. Bags shall meet the leakage test requirements of FED-STD-101, Method 5009 (see 4.4.2). Heat-seals shall meet the requirements of the heat-sealed seam test of MIL-STD-2073-1, Appendix G (see 4.4.1).

3.6 Identification. Each bag shall be marked or printed in capital letters or numbers, using 10-point type, and shall contain the following information: This specification number and revision letter; type, class, and style; bag manufacturer's name and bag designation; month; and year of bag fabrication. Each bag shall contain this printing on at least one surface with the color and position of the printing being optional. When the marking is interrupted or incomplete due to the size of the bags, the individual bag need not be marked as specified, but shall be accompanied within the shipping container by an identification sheet marked or printed with the same information. When specified (see 6.2), a pressure sensitive label shall be applied to the outer surface of each bag in lieu of marking the bag.

3.6.1 Sealing recommendation. Each unit package of bags shall include a sheet legibly marked with the following heat-sealing information.

- a. Jaw type sealer (temperature, pressure, and dwell).
- b. Band type sealer (temperature, pressure, and dwell).
- c. Rotary type sealer (preheat, pressure, and speed).

3.7 Workmanship. Bags shall be free from any foreign matter, pinholes, tears, cuts, splits, slits, creases, wrinkles, or other imperfections.

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4. VERIFICATION

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

- a. First article inspection (see 4.2).
- b. Conformance inspection (see 4.3).

4.2 First article inspection. First article inspection shall consist of all the tests and examinations specified in this specification.

4.3 Conformance inspection. Conformance inspections shall consist of the bag integrity tests listed in 4.4 and the visual examinations listed in 4.3.2.

4.3.1 Sampling for conformance inspection. For the purpose of determining the sample size in accordance with ASQC-Z1.4, the lot size (see 6.3) shall be expressed in number of bags produced in one production run and shall use an inspection level of S-1 for testing and S-3 for visual examination.

4.3.2 Visual examination of end item for defects in materials, construction, notching, dimensions and tolerance, sealing recommendation. The sample unit for the end item visual inspection shall be one bag. The sample unit shall be visually inspected and measured to ensure it meets the requirements specified in 3.2, 3.3, 3.3.1, 3.4, 3.6, 3.6.1, and 3.7.

4.4 Bag integrity testing.

4.4.1 Heat-sealed seam test. Heat-seal specimens from bags shall be tested in accordance with the heat-sealed seam test described in MIL-STD-2073-1, Appendix G.

4.4.2 Leakage test. Before conducting the leakage test, paper towels or similar dunnage material shall be placed in the bag to simulate representative contents. A unit pack shall then be formed by heat-sealing the bag opening using the same equipment and technique used during fabrication of the bag. The completed unit pack shall then be subjected to the leakage test using the submersion technique described in FED-STD-101, Method 5009.

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 personnel, these personnel need to contact the responsible packaging activity to ascertain requisite packaging requirements. Packaging requirements are maintained by the Inventory Control Point's

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packaging activity within the Military Department or Defense Agency, or within the Military Department's System Command. Packaging data retrieval is available from the managing Military Department's 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 that may be helpful, but is not mandatory.)

6.1 Intended use. Bags covered by this specification are intended for use in specialized military methods of preservation. The barrier materials, from which these bags are constructed of, are all approved and military unique and provide the necessary requirements for protection from exposure to the extremes of the navy/naval aviation environment. There are no commercial equivalents that meet the requirements necessary to protect materiel that is exposed to the operational naval aviation environment. Specifically, Methods of Preservation 31, 32, 33, 41, 42, 51, and 52 utilize these bags in order to provide the specialized military preservation required by MIL-STD-2073-1.

6.1.1 Classes A and H bags. Class A and H bags are intended for preserving electrostatic discharge sensitive items.

6.1.2 Class B bags. Class B bags are intended for preserving items that require waterproof protection as specified in MIL-STD-2073-1, Method 31 and Method 32.

6.1.3 Class C bags. Class C bags are intended for preserving items that require greaseproof protection in addition to waterproof protection as specified in MIL-STD-2073-1 Method 33.

6.1.4 Class E bags. Class E bags are intended for preserving items that require watervaporproof, waterproof, and greaseproof protection as specified in MIL-STD-2073-1, Method 41, 42, 51, and 52.

6.1.5 Class F bags. Class F bags are intended for preserving electrostatic discharge sensitive items. They also provide electromagnetic interference and electrostatic shielding protection. Additionally, these bags provide the watervaporproof protection as specified in MIL-STD-2073-1, Method 41 and Method 51.

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6.1.6 Size of bags.

6.1.6.1 Size limitations. Although the size of bag is unrestricted, the following recommendations are provided:

a. Type II, class E, style 1 – sum of bag inside dimensions should not exceed 42 inches and bag should not contain a double seam junction.

b. Type III, class C, style 1 – maximum area (product of inside bag dimensions): 50 square inches.

6.1.6.2 Bag stock sizes. Commonly stocked bag sizes are listed in table III.

TABLE III. Common bag stock sizes.

| Size designation | Inside dimensions (inches) (W x L) |
|------------------|------------------------------------|
| 1 | 2-1/2 by 3 |
| 2 | 2-1/2 by 6 |
| 3 | 3 by 5 |
| 4 | 4 by 6 |
| 5 | 4 by 8 |
| 6 | 4 by 12 |
| 7 | 6 by 6 |
| 8 | 6 by 8 |
| 9 | 8 by 12 |
| 10 | 10 by 10 |
| 11 | 10 by 13 |
| 12 | 10 by 12 |
| 13 | 12 by 12 |

6.1.7 Weight limitations. No weight limitations are imposed if any filled bag is further packed in a supporting container. When a bag is used without an additional supporting container, the net weight of contents should not exceed 10 pounds, with the following exceptions:

a. Maximum weight of contents should be restricted to 5 pounds when A-A-3174 material is used for type III, class B, style 2 bags.

b. No weight restrictions apply to type I, class E, style 1, 2, or 3 bags or to type I, class F, style 1 bags.

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6.2 Acquisition requirements. Acquisition documents must specify the following:

- a. Title, number, and date of this specification.
- b. Type, class, and style of bags (see 1.2).
- c. Issue of DoDISS to be cited in the solicitation, and if required, the specific issue of individual documents referenced (see 2.2.1).
- d. If nominal thickness of A-A-3174 material other than .004 inches is required (see table I).
- e. If tears, nicks, or V-notches are required (see 3.3.1).
- f. Size of bags (inside length and width dimensions) (see 3.4 and 6.1.6)
- g. If pressure-sensitive labels should be applied (see 3.6).
- h. If first article inspection is required (see 4.2).
- i. Packaging requirements (see 5.1).

6.3 Lot size. Inspection lot should consist of all bags manufactured by the same process from the same raw material during one production run.

6.4 Subject term (key word) listing.

Container
Electrostatic-protective
Electromagnetic shielding
Greaseproof
Packaging material
Preservation
Waterproof
Watervaporproof

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

CONCLUDING MATERIAL

Custodians:
Army – SM
Navy – AS
Air Force – 11
DLA – DH

Preparing activity:
Navy – AS

(Project 8105-0378)

Review activities:
Army – AT, AV, EA, GL3, MI
Navy – MC, OS, SA, SH

STANDARDIZATION DOCUMENT IMPROVEMENT PROPOSAL

INSTRUCTIONS

1. The preparing activity must complete blocks 1, 2, 3, and 8. In block 1, both the document number and revision letter should be given.
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| | | |
|---|--|--|
| I RECOMMEND A CHANGE: | 1. DOCUMENT NUMBER MIL-DTL-117H | 2. DOCUMENT DATE (YYYYMMDD) 20010430 |
| 3. DOCUMENT TITLE BAGS, HEAT-SEALABLE | | |
| 4. NATURE OF CHANGE (<i>Identify paragraph number and include proposed rewrite, if possible. Attach extra sheets as needed.</i>) | | |
| 5. REASON FOR RECOMMENDATION | | |
| 6. SUBMITTER | | |
| a. NAME (<i>Last, First, Middle Initial</i>) | b. ORGANIZATION | |
| c. ADDRESS (<i>Include ZIP Code</i>) | d. TELEPHONE (<i>Include Area Code</i>) (1) Commercial (2) DSN (<i>If applicable</i>) | 7. DATE SUBMITTED (YYYYMMDD) |
| 8. PREPARING ACTIVITY | | |
| a. NAME COMMANDER NAVAL AIR WARFARE CENTER AIRCRAFT DIVISION | b. TELEPHONE (<i>Include Area Code</i>) (1) Commercial (2) DSN (732) 323-2947 624-2947 | |
| c. ADDRESS (<i>Include ZIP Code</i>) CODE 414100B120-3 HIGHWAY 547 LAKEHURST, NJ 08733-5100 | IF YOU DO NOT RECEIVE A REPLY WITHIN 45 DAYS, CONTACT: Defense Standardization Program Office (DLSC-LM) 8725 John J. Kingman Road, Suite 2533 Fort Belvoir, Virginia 22060-6221 Telephone (703) 767-6888 DSN 427-6888 | |