

INCH-POUND

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SUPERSEDING
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MILITARY DETAILED SPECIFICATION

HAM CHUNKS, WITH JUICES, CANNED

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

1. SCOPE

1.1 Scope. This document covers ham chunks with juices, canned for use by the Department of Defense.

2. APPLICABLE DOCUMENTS

2.1 Government Documents. The following Government documents form a part of this document to the extent specified herein. Unless otherwise specified, the issues are those in effect on the date of the solicitation.

U. S. DEPARTMENT OF HEALTH AND HUMAN SERVICES

Applicable provisions of the Federal Food, Drug and Cosmetic Act (21 CFR Parts 1-199).

(This document may be purchased from: Superintendent of Documents, ATTN: New Orders P. O. Box 371954, Pittsburgh, PA 15250-7954. Credit Card (Mastercard or VISA) purchases may be made by calling the Superintendent of Documents on (202) 512-1803.)

Beneficial comments (recommendations, additions, deletions) and any pertinent data that may be of use in improving this document should be sent to: Commander, Defense Supply Center Philadelphia, 700 Robbins Avenue, Directorate of Subsistence, Building 6, ATTN: DSCP-HSL, Philadelphia, PA 19111-5092 or fax (215) 737-2963, by using the Standardization Document Improvement Proposal (DD Form 1426) appearing at the end of this document or by letter.

AMSC N/A

FSC 8905

Distribution Statement A. Approved for public release; distribution is unlimited.

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U.S. DEPARTMENT OF AGRICULTURE (USDA)

Applicable provisions of the Meat and Poultry Inspection Regulations (9 CFR Parts 200-to end)

(These documents may be purchased from: Superintendent of Documents, ATTN: New Orders P.O. Box 371954, Pittsburgh, PA 15250-7954. Credit Card (Mastercard or VISA) purchases may be made by calling the Superintendent of Documents on (202) 512-1800.)

U.S. Standards for Condition of Food Containers

(Copies of the United States Standards for Condition of Food Containers are available from: Chairperson, Condition of Container Committee, U. S. Department of Agriculture, STOP 0243, 1400 Independence Ave., SW Washington, DC 20250-0243.)

U.S. ENVIRONMENTAL PROTECTION AGENCY (EPA)

National Primary Drinking Water Regulations

(Copies of the National Primary Drinking Water Regulations are available from: Office of Ground Water and Drinking Water, U.S. Environmental Protection Agency, Mail Code 4601, 401 M Street, SW, Washington, DC 20460.)

DEFENSE SUPPLY CENTER PHILADELPHIA

DSCP Form 3507 Loads, Unit:
Preparation of Semiperishable Subsistence Items

(Copies of DSCP Form 3507 are available from: Commander, Defense Supply Center Philadelphia, 700 Robbins Ave., Directorate of Subsistence, Bldg. 6, ATTN: DSCP-HSL, Philadelphia, PA 19111-5092.)

2.2 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 specified in the solicitation. Unless otherwise specified, the issues of documents not listed in the DODISS are the issues of the documents cited in the solicitation.

AMERICAN NATIONAL STANDARDS INSTITUTE

ANSI/ASQC Z1.4 Sampling Procedures and Tables for Inspection by Attributes

(Copies of ANSI/ASQC Z1.4 Sampling Procedures and Tables for Inspection by Attributes are available from: American Society for Quality Control, 611 East Wisconsin Avenue, Milwaukee, WI 53202.)

AMERICAN ASSOCIATION OF CEREAL CHEMISTS (AACC)

Approved Methods of the American Association of Cereal Chemists

(Copies of Approved Methods of the American Association of Cereal Chemists are available from: American Association of Cereal Chemists, 3340 Pilot Knob Road, St. Paul, MN 55121.)

ASSOCIATION OF OFFICIAL ANALYTICAL CHEMISTS (AOAC)

Official Methods of Analysis of the Association of Official Analytical Chemists International

(Copies of Official Methods of Analysis of the Association of Official Analytical Chemists International may be obtained from: AOAC International, 481 North Frederick Avenue, Suite 500, Gaithersburg, MD 20877.)

(Technical society and technical association documents are generally available for reference from libraries. They are also distributed among technical groups and using Federal agencies.)

2.3 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, shall supersede applicable laws and regulations unless a specific exemption had been obtained.

3. REQUIREMENTS

3.1 First Article. When specified in the contract or purchase order, a sample shall be subjected to first article inspection (see 4.4, 6.1, and 6.3).

3.2 Ingredients. All ingredients shall be clean, sound, wholesome, and free from foreign material, evidence of rodent or insect infestation, extraneous material, off-odors, off-flavors, and off-colors.

3.2.1 Ham. The ham shall be of high commercial quality and shall be offered in the chilled state as cured, smoked, fully-cooked, shankless; cured, smoked, sectioned and formed; or cured, smoked, shankless hams. Hams labeled "water added" shall be acceptable. The ham shall show no evidence of freezing, defrosting or mishandling. Coarse-textured dark meat or the presence of shank meat shall cause rejection of the lot. The ham offered for examination shall not show evidence of prolonged storage, brine residue on casing, and overcooking.

3.2.1.1 Boning and trimming. The whole, smoked, shankless ham shall be boned and trimmed to remove objectionable material such as bone, cartilage, heavy connective tissue, seam fat, etc. The boneless, trimmed ham shall comply with the limitations listed in tables I and II.

3.2.1.2 Handling and storage. Boned and trimmed ham not processed into the finished product on the day the smoking procedure is completed shall be maintained at a temperature not to exceed 40°F prior to preparation and further processing.

3.2.2 Water. Water used for formulation, blanching, ice making and washing shall conform to the National Drinking Water Regulations.

3.3 Preparation and processing. Processing shall be on a continuous basis.

3.3.1 Ham chunk preparation. The hams shall be cut or diced into chunks measuring not greater than 2.5 by 2.5 by 1 inch. The chunks shall be heated at a temperature and time to ensure appropriate percent cook out in order to meet finished product drained weight requirements. The ham chunks shall be agitated during heating to prevent clumping, scorching and burning. The broth shall be drained from the cooked ham. Immediately after heating, the ham chunks shall be utilized in the can filling and sealing (see 3.4). If this cannot be accomplished immediately, the cooked ham chunks and broth shall be cooled down and maintained at a temperature not to exceed 40°F for not more than 4 hours prior to can filling and sealing.

3.4 Can filling, sealing. Each can (see 5.1) shall be filled with product such as to conform to the finished product requirements and to the following requirements:

- a. The ham chunks and broth shall be filled into the cans. Water may be added as needed to each can in order to meet the finished product requirements.
- b. Immediately after filling, each can shall be hermetically sealed under a vacuum, to achieve not less than 5 inches mercury on the finished product.
- c. The filled and sealed cans shall be in the thermostabilized process within 2 hours after sealing.

3.5 Can thermoprocessing. The filled and sealed cans shall be thermostabilized by retorting or other approved methods until a sterilization value (F_0) of not less than 6 has been achieved.

3.6 Finished product requirements. The finished product shall comply with the following requirements:

- a. There shall be no foreign material such as, but not limited to, dirt, insect parts, hair, wood, paper, paint, glass or metal.
- b. There shall be no foreign odor or flavor such as, but not limited to, burnt, scorched, stale, sour, rancid, musty or moldy.
- c. There shall be no color foreign to the product.

- d. There shall be no ham chunk existing entirely of fat.
- e. There shall be no extraneous material such as, but not limited to, casings, string, or wrapping paper.
- f. No individual can shall contain less than 15.5 ounces, drained weight, of ham chunks.
- g. No ham chunks shall measure greater than 2.5 by 2.5 by 1 inch in size.
- h. The average net weight shall be not less than 29.0 ounces.
- i. No individual can shall contain less than 28.5 ounces of product.
- j. The average fat content of the entire can contents shall not be greater than 15.0 percent.
- k. The fat content of any individual can shall not be greater than 17.0 percent.
- l. The salt content of any individual can shall not be greater than 2.5 percent.
- m. The average drained weight shall be not less than 16.0 ounces.

3.6.1 Palatability. The finished product shall be equal to or better than the approved preproduction sample (see 6.1) in palatability and overall appearance.

3.7 Plant qualification. The ham component and the finished product shall originate and be produced, processed, and stored in plants regularly operating under the Meat and Poultry Inspection Regulations of the U.S. Department of Agriculture.

3.8 Federal Food, Drug and Cosmetic Act. All deliveries shall conform in every respect to the provisions of the Federal Food, Drug, and Cosmetic Act and regulations promulgated thereunder.

4. QUALITY ASSURANCE PROVISIONS

4.1 Contractor's responsibility. Inspection and acceptance by the USDA shall not relieve the contractor of obligation and responsibility to deliver a product complying with all requirements of this document. The contractor shall assure product compliance prior to submitting the product to the USDA for any inspection.

4.2 Inspection and certification. Product acceptability shall be determined by the USDA. The USDA will determine the degree of inspection necessary to assure compliance with the requirements of this document.

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

- a. First article inspection (see 4.4).
- b. Quality conformance inspection (see 4.5).

4.4 First article inspection. When a first article is required (see 6.1), it shall be inspected in accordance with the quality assurance provisions of this document and evaluated for overall appearance and palatability. Any failure to conform to the quality assurance provisions of this document or any appearance or palatability failure shall be cause for rejection of the first article.

4.5 Quality conformance inspection. Unless otherwise specified, sampling for inspection shall be performed in accordance with ANSI/ASQC Z1.4.

4.5.1 Component and material inspection. In accordance with 4.1, components and materials shall be inspected in accordance with all the requirements of referenced documents unless otherwise excluded, amended, modified or qualified in this document or applicable purchase document.

4.5.1.1 Ham examination and condition. All ham shall be examined in either the bone-in or boneless state for conformance to the condition requirements in 3.2.1. Any nonconforming ham shall be rejected.

4.5.1.2 Boned and trimmed ham examination. After boning and trimming and prior to any further processing, the ham shall be examined for the defects listed in table II. The lot size expressed in terms of hams shall be declared to the Agricultural Marketing Service (AMS) agent by the contractor. However, the AMS agent reserves the right to declare as a lot a portion of a declared lot, if, in his or her own opinion, that portion may be out of compliance with any requirement. The sample unit shall be one ham. The sample size shall be as specified in table I. Failure of the ham to meet the acceptance criteria as indicated in table I shall be cause for rejection of the lot. Except for ham rejected because of not being in excellent condition, the ham may be reworked by the contractor and reoffered for examination. For reexamination, the sampling plan used shall be the one in table I designed for the next larger lot size than the one under which the lot was originally rejected. Ham shall not be reexamined more than one time. For examination, each ham selected as a sample unit shall be divided into pieces by straight cuts made perpendicular to the cutting table surface and at an approximate right angle to the long axis of the ham. The cuts shall be made randomly across the surface, however, no piece shall be more than 1.5 or less than 1 inch in width. Examination shall be made on the right-hand surfaces exposed by these cuts. The pieces resulting from this examination may be included for processing into the end item.

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TABLE I. Sampling plan for boned and trimmed ham

Lot size (hams)	Sample size (hams)	Defect category Major	
		AC	RE
500 or less	5	0	1
501 to 35,000	20	1	2
35,001 or more	32	2	3

TABLE II. Boned and trimmed ham defects 1/ 2/ 3/ 4/

Category	Defect
<u>Major</u>	
101	Presence of bone measuring 0.3 inch or more in any dimension.
102	Presence of cartilage measuring 0.3 inch or more in any dimension.
103	Presence of skin measuring 1.0 inch or more in any dimension.
104	Presence of popliteal, prescapular, prefemoral or any exposed lymph gland measuring 0.5 inch or more in any dimension.
105	Presence of blood clot or bruise measuring 0.5 inch or more in any dimension.
106	Presence of one or more pale or soft areas 1.0 inch or more in any dimension.
107	Surface or seam fat measuring more than 0.3 inch in thickness.
108	Presence of uncured or uncooked areas 0.5 inch or more in size dimension.

1/ Determination of wholesomeness and acceptability of product with respect to the presence of foreign material (e.g., glass, dirt, insect parts, hair, wood, metal) shall be made by a Meat and Poultry Inspection Operation employee.

2/ Evidence of freezing or defrosting or product not in excellent condition shall cause rejection of the lot.

3/ Defects may be cut from sliced surfaces to measure all dimensions.

4/ No defect shall be scored more than one per ham.

4.5.1.3 Ingredient and component examination. Conformance of ingredients and components to identity, condition, and other requirements specified in 3.2 shall be certified by the ingredient supplier or ingredient manufacturer, or compliance be verified by examination of pertinent labels, markings, U.S. Grade Certificates, certificates of analyses, or other such valid documents acceptable to the inspection agency. If necessary, each ingredient shall be examined organoleptically or inspected according to generally recognized test methods, such as the standard methods described in the Official Methods of Analysis of the Association of Official Analytical Chemists and in the Approved Methods of the American Association of Cereal Chemists, to determine conformance to the requirements. Any nonconformance to an identity, condition, or other requirement shall be cause for rejection of the ingredient or component lot or of any involved product.

4.5.1.4 Unfilled can inspection. Conformance of unfilled cans to the requirements specified in the contract shall be determined by examination of certificates of conformance or of other valid documents. Any nonconformance shall be cause for rejection of the can lot or of any involved product.

4.5.2 In-process examination. In-process examination shall be performed to determine conformance to the preparation, processing, can interior coating, filling, sealing, and packing requirements. Any nonconformance revealed by actual examination or by review of records of time, temperature, and formulation or of other valid documents shall be cause for rejection of the involved product.

4.5.3 Net weight inspection. Randomly select 30 filled and sealed cans from the inspection lot and weigh separately. Subtract the average tare weight (determined by randomly selecting and weighing 30 of the empty cans and lids used in preparing the product and dividing the total weight by 30) from the weight of each filled can in the sample. The results shall be reported to the nearest 0.1 ounce. If the average net weight is less than 29.0 ounces or if the net weight of any individual can is less than 28.5 ounces, the lot shall be rejected.

4.5.4 Product examination. Randomly select eight filled and sealed cans from those used in the net weight examination. The filled and sealed cans shall be examined for can vacuum examination (see 4.5.6) prior to product examination. The sample cans shall be heated for at

least 15 minutes in 140° to 150°F water, opened, and examined for the defects listed in table III. The finding of any defect shall be cause for rejection of the lot.

TABLE III. Product defects 1/ 2/

Category	Defect
<u>Major</u>	
101	Drained weight of ham chunks in a can is less than 15.5 ounces. <u>3/</u> <u>4/</u>
102	Chunk consisting entirely of fat.
103	Ham chunk greater than 2.5 by 2.5 by 1 inch in size.

1/ The presence of foreign material (e.g., glass, dirt, insect parts, hair, paper, paint, wood, metal), foreign odor or flavor (e.g., burnt, scorched, moldy, sour, rancid, stale), extraneous material (e.g., casing, string, wrapping paper), or foreign color shall be cause for rejection of the lot. (To be determined by a Meat and Poultry Inspection Operations employee.)

2/ Product not equal to or better than the approved preproduction sample (see 6.1) in palatability and overall appearance shall be cause for rejection of the lot. (This comparison shall be performed only when deemed necessary by an AMS agent.)

3/ To determine drained weight, the free liquid in the can shall be poured off. The remaining contents shall be poured into a flat-bottom container. A minimum of three times the can's volume of 190° to 212°F water shall be added to the container so as to cover the contents. The contents and water shall be agitated so as to liquify rendered fat without breaking ham chunks. The contents shall then be poured into a U.S. Standard 1/2 inch sieve in a manner that will distribute the product over the sieve without breaking the ham chunks. Sieve area shall be such that the distributed product does not completely cover all the openings of the sieve. The sieve shall be tilted at approximately a 45° angle and allowed to drain for 2 minutes before determining the drained weight by subtracting the sieve tare weight from the gross weight. The drained weight shall be reported to the nearest 0.1 ounce.

4/ If the sample average drained weight is less than 16.0 ounces, the lot shall be rejected.

4.5.5 Fat and salt content testing. Prepare the sample, which includes the entire can contents, according to AOAC International Method No. 983.13. Analysis shall be made in accordance with the following methods described in the Official Methods of Analysis of the AOAC International. The results shall be reported to the nearest 0.1 percent.

<u>Test</u>	<u>Method</u>
Fat	922.06
Salt	935.47

Any individual result failing to conform to the requirements in 3.6 (k and l) shall be classified as a major defect. In addition, the lot shall be rejected if the average fat content fails to conform to the requirement in 3.6 (j). The sampling and acceptance criteria shall be as specified in table IV.

TABLE IV. Sampling plan for fat and salt content testing.

Lot size (cans)	Sample size (cans)	Acceptance Number	Rejection Number
0 to 1,200	3	0	1
over 1,201	13	1	2

4.5.6 Can vacuum examination. The filled and sealed cans selected for the product examination (see 4.5.4) shall be examined for vacuum. The cans and contents shall be allowed to reach 70° to 80°F. The vacuum reading shall be taken with a puncture-type vacuum gauge making the puncture as near as possible to the double seam to minimize error due to distortion of the end. A correction of 1 inch of vacuum shall be added to the gauge reading for each 1000 feet above sea level at which the determination is made. Failure of any can to meet the vacuum requirement shall cause rejection of the lot.

4.5.7 Can condition examination. Examination of filled and sealed cans shall be in accordance with the U.S. Standards for Condition of Food Containers.

4.5.8 Shipping container examination. Shipping containers shall be examined for defects in assembly, closure, and reinforcement (when applicable) in accordance with U.S. Standards for Condition of Food Containers. In addition, the following defects shall be classified as follows:

- Major: National stock number, item description, contract number, or date of pack markings missing, incorrect, or illegible.
Reinforced with other than nonmetallic strapping or tape.
Dimensions of pads not as specified.
Interior packing with fiberboard liner or pads not as specified.
- Minor: Other required markings missing, incorrect, or illegible.
Arrangement or number of cans not as specified.

4.5.9 Unit load inspection. Inspection of unit loads shall be in accordance with quality assurance provisions of DSCP Form 3507.

5. PACKAGING

5.1 Packaging. For acquisition purposes, the packaging requirements shall be as specified in the contract or order (see 6.1). 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 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

6.1 Ordering data. Acquisition documents will specify the following:

- a. Title, number, and date of this document.
- b. When a first article sample is required (see 3.1, 4.4, and 6.3).
- c. Provisions for approved preproduction samples (see 3.6.1 and 6.3).
- d. Packaging requirements (see 5.1).

6.2 Appropriate level of pack. Based on the conditions known or expected to be encountered during shipment, handling, and storage of the specific item being procured, the procuring activity should select the appropriate level of pack in accordance with the criteria established in AR 700-15/NAVSUPINST 4030.28/AFR 71-6/MCO 4030.33A/DLAR 4145.7.

6.3 First article inspection. When a first article sample is required, it will be inspected and approved under the appropriate provisions of FAR 52.209. The first article should be a preproduction sample. The contracting officer should include specific instructions in all acquisition documents regarding arrangements for selection, inspection, and approval of the first article.

6.4 Subject term (key word) listing.

Canned food

Food processing

Ration

Thermostabilized

Custodians:

Army - GL
Navy - SA
Air Force - 35

Preparing activity:

DLA - SS
(Project No. 8905-P035)

Review activities:

Army - MD, QM
Navy - MC
USDA -FV

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.
2. The submitter of this form must complete blocks 4, 5, 6, and 7.
3. The preparing activity must provide a reply within 30 days from receipt of the form.

NOTE: This form may not be used to request copies of documents, nor to request waivers, or clarification of 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.

I RECOMMEND A CHANGE:

1. DOCUMENT NUMBER
MIL-DTL-44159C

2. DOCUMENT DATE (YYMMDD)
990302

HAM CHUNKS, WITH JUICES, CANNED

4. NATURE OF CHANGE *(Identify paragraph number and include proposed rewrite, if possible. Attach extra sheets as needed.)*

5. REASON FOR RECOMMENDATION

6. SUBMITTER

a. NAME *(Last, First, Middle Initial)*

b. ORGANIZATION

c. ADDRESS *(Include Zip Code)*

d. TELEPHONE *(Include Area Code)*
(1) Commercial
(2) AUTOVON
(if applicable)

7. DATE SUBMITTED
(YYMMDD)

8. PREPARING ACTIVITY

a. NAME

COMMANDER, DEFENSE SUPPLY CENTER
PHILADELPHIA

b. TELEPHONE *Include Area Code)*
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(215) 737-4435

(2) AUTOVON
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