INCH-POUND

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SUPERSEDING
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9 September 1987

MILITARY SPECIFICATION

CHICKEN BREAST MEAT IN GRAVY, THERMOSTABILIZED, TRAY PACK

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

1. SCOPE

1.1 Scope. This specification covers chicken breasts in gravy, thermostabilized in tray pack cans, for use by the Department of Defense as a component of operational rations.

2. APPLICABLE DOCUMENTS

2.1 Government documents.

2.1.1 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 listed in the issue of the Department of Defense Index of Specifications and Standards (DODISS) and supplement thereto, cited in the solicitation (see 6.1).

SPECIFICATIONS

FEDERAL

PPP-B-636 - Boxes, Shipping, Fiberboard

Beneficial comments (recommendations, additions, deletions) and any pertinent data which may be used in improving this document should be addressed to: U.S. Army Natick Research, Development, and Engineering Center, Natick, MA 01760-5014 by using the Standardization Document Improvement Proposal (DD Form 1426) appearing at the end of this document or by letter.

AMSC N/A FSC 8940

DISTRIBUTION STATEMENT A. Approved for public release; distribution is unlimited.

MILITARY

MIL-L-1497 - Labeling of Metal Cans for Subsistence Items
MIL-L-35078 - Loads, Unit: Preparation of Semiperishable Subsistence Items; Clothing, Personal Equipment and Equipage; General Specifications For
MIL-C-44340 - Can, Tray Pack

STANDARDS

MILITARY

MIL-STD-105 - Sampling Procedures and Tables for Inspection by Attributes
MIL-STD-129 - Marking for Shipment and Storage
MIL-STD-900 - Bacterial Standards for Starches, Flours, Cereals, Alimentary Pastes, Dry Milks and Sugars Used in the Preparation of Thermostabilized Foods for the Armed Forces

(Unless otherwise indicated, copies of federal and military specifications, standards, and handbooks are available from the Standardization Documents Order Desk, Bldg. 4D, 700 Robbins Avenue, Philadelphia, PA 19111-5094.)

2.1.2 Other Government documents, drawings, and publications. The following other Government documents, drawings, and publications form a part of this document to the extent specified herein. Unless otherwise specified, the issues are those cited in the solicitation.

ENVIRONMENTAL PROTECTION AGENCY (EPA)

National Primary Drinking Water Regulations

(Copies are available from the Office of Drinking Water, Environmental Protection Agency, WH550D, 401 M Street, S.W., Washington, DC 20460.)

U.S. DEPARTMENT OF AGRICULTURE (USDA)

Food Safety and Inspection Service, Canning of Meat and Poultry Products (9 CFR Part 318)

Poultry Products Inspection Regulations (9 CFR Part 381)

(Single copies may be obtained free from Poultry Division, Agricultural Marketing Service, U.S. Department of Agriculture, Room 3944, South Building, P.O. Box 96456, Washington, DC 20090-6456.)

U.S. Standards of Identity for Cream Cheese

(Copies are available from the Superintendent of Documents, U.S. Government Printing Office, Washington, DC 20402-0001.)

U.S. Standards for Condition of Food Containers

(Copies are available from the Chairman, Condition of Container Committee, Agricultural Marketing Service, U.S. Department of Agriculture, Room 2506, South Building, P.O. Box 96456, Washington, DC 20090-6456.)

U.S. DEPARTMENT OF HEALTH AND HUMAN SERVICES

Federal Food, Drug, and Cosmetic Act and regulations promulgated thereunder (21 CFR Parts 1-199)

(Copies are available from the Superintendent of Documents, U.S. Government Printing Office, Washington, DC 20402-0001.)

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 cited 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 (see 6.1).

AMERICAN ASSOCIATION OF CEREAL CHEMISTS

Approved Methods of the American Association of Cereal Chemists

(Application for copies should be addressed to the American Association of Cereal Chemists, 3340 Pilot Knob Road, St. Paul, MN 55121.)

AMERICAN DEHYDRATED ONION AND GARLIC ASSOCIATION (ADOGA)

Official Standards and Methods of the American Dehydrated Onion and Garlic Association for Dehydrated Onion and Garlic Products

(Application for copies should be addressed to the American Dehydrated Onion and Garlic Association, 650 California Street, Suite 800, San Francisco, CA 94108.)

AMERICAN SOCIETY FOR TESTING AND MATERIALS (ASTM)

D 3330 - Peel Adhesion of Pressure-Sensitive Tape

(Application for copies should be addressed to the American Society for Testing and Materials, 1916 Race Street, Philadelphia, PA 19103-1187.)

ASSOCIATION OF OFFICIAL ANALYTICAL CHEMISTS (AOAC)

Official Methods of Analysis of the Association of Official Analytical Chemists

(Application for copies should be addressed to the Association of Official Analytical Chemists, 2200 Wilson Boulevard, Suite 400-CD, Arlington, VA 22201-3301.)

NATIONAL ACADEMY OF SCIENCES

Food Chemicals Codex

(Application for copies should be addressed to the National Academy Press, 2101 Constitution Avenue, N.W., Washington, DC 20418.)

(Non-Government standards and other publications are normally available from the organizations that prepare or distribute the documents. These documents also may be available in or through libraries or other informational services.)

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, supersedes applicable laws and regulations unless a specific exemption has been obtained.

3. REQUIREMENTS

3.1 First article. When specified (see 6.1), a sample shall be subjected to first article inspection (see 6.2) in accordance with 4.4.

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 Chicken breasts. Chicken breasts shall be uncooked, boneless, and skinless whole breasts or breast halves prepared from fryers or broilers in accordance with USDA Poultry Products Inspection Regulations. The chicken breasts shall be U.S. Grade A. Tenderloins shall not be included. Chicken breasts shipped between plants shall be accompanied by a USDA Poultry Products Grading Certificate to certify quality, class, weight range requirements, and condition of the product and either the initial chilling date or initial freezing (in-storage) date.

3.2.1.1 Chicken breasts, chilled. Whole chicken breasts or breast halves received in the chilled state shall not have been previously frozen and shall have been held at an internal temperature of 28° to 40°F for a period of time not to exceed 4 days following initial chilling and prior to preparation and further processing (see 3.3).

3.2.1.2 Chicken breasts, frozen. Raw (uncooked) whole chicken breasts or breast halves received in the frozen state shall have been held at an internal temperature not to exceed 0°F for a period of time not to exceed 60 days following initial freezing and prior to preparation and further processing (see 3.3).

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

3.2.3 Broth, chicken. Chicken broth may be frozen or canned (thermostabilized). The broth shall be inspected in accordance with USDA Poultry Products Inspection Regulations. The broth shall be free from extraneous material and cracklings. If frozen, broth shall have been held at an internal temperature of 0°F or below for a period not to exceed 75 days prior to use in product formulation. The broth shall be clear and have a fat content of not more than 1.0 percent. The chicken broth shall be concentrated to a soluble solids level sufficient to comply with the solids requirements in the product formulation. The broth shall have a characteristic mild chicken broth odor and flavor and may contain flavor enhancers approved by Food and Drug Administration (FDA).

3.2.4 Starch food, modified, high opacity. The high opacity starch shall be white, odorless, finely pulverized, modified maize food starch for use in thermostabilized foods. The modified starch shall demonstrate initial viscosity development in the temperature range of 140° to 170°F and a typical viscosity (be fully hydrated) at common retort temperatures. The modified starch shall resist breakdown at low pH, under shear stress, and under conditions of cold storage. The cooked modified starch slurry shall be bland with essentially no cereal or starch taste and shall comply with MIL-STD-900.

3.2.5 Cheese, cream, fresh. Fresh cream cheese shall comply with the U.S. Standards of Identity for Cream Cheese (21 CFR 133.133). Fresh cream cheese shall possess a delicate butter-like or creamy flavor and shall be moderately salted. It may have a very slight acid flavor and aroma or slightly cooked flavor. The body and texture shall be smooth, creamy, and uniformly white in color. The cream cheese shall not be coarse, crumbly, gummy, grainy, or sticky, nor with any free whey present.

3.2.6 Fat, chicken, rendered, frozen. Frozen rendered chicken fat shall have a clear, yellow color and a characteristic mild chicken-fat odor and flavor. The fat may contain USDA approved antioxidants. The chicken fat shall have a peroxide value not to exceed 6 meq./kg, a free fatty acid value not to exceed 0.50 percent (expressed as oleic acid), and a moisture content not to exceed 0.25 percent. The chicken fat shall be produced in accordance with USDA regulations and shall have been held at an internal temperature of 0°F or lower for a period not to exceed 75 days prior to gravy formulation.

3.2.7 Onion powder. Onion powder shall be Fancy Grade as defined in the Official Standards and Methods of the American Dehydrated Onion and Garlic Association for Dehydrated Onion and Garlic Products.

3.2.8 Shortening, powdered, vegetable. The powdered vegetable shortening shall consist of components which, when combined, will serve as a product whitening agent. The powdered shortening, when used as an ingredient in this product, shall withstand the conditions of thermoprocessing specified in this document without browning. A typical analysis of this powdered shortening follows:

Fat	75.00 percent ± 1.50 percent
Protein	5.50 percent ± 0.50 percent
Carbohydrates	15.00 percent ± 1.00 percent
Moisture	2.00 percent maximum

3.2.9 Salt. Salt shall be noniodized, free flowing, white, refined sodium chloride with or without anticaking agents and shall comply with purity standards for sodium chloride of the Food Chemicals Codex.

3.2.10 Monosodium glutamate. Monosodium glutamate shall meet the requirements of the Food Chemicals Codex.

3.2.11 Lecithin. Lecithin shall comply with the Food Chemicals Codex.

3.2.12 Pepper, white, ground. Ground white pepper shall be derived from the dried mature berries of Piper nigrum L. from which the outer covering or the outer and inner coverings have been removed. The pepper shall have a characteristic, penetrating odor, a hot biting pungent flavor and a light color. The white pepper shall contain not less than 1.0 mL of volatile oil per 100 grams of ground white pepper and be of such size that not less than 95 percent shall pass through a U.S. Standard No. 40 sieve.

3.2.13 Garlic powder. Garlic powder shall be Fancy Grade as defined in the Official Standards and Methods of the American Dehydrated Onion and Garlic Association for Dehydrated Onion and Garlic Products.

3.2.14 Celery seed, ground. Ground celery seed shall be prepared from the seed of Apium graveolens L. The ground celery seed shall be light to rich brown in color and possess a characteristic celery odor and flavor with a warm, slightly bitter taste. The ground celery seed shall contain not less than 2.0 mL of volatile oil per 100 grams and shall be of such size that not less than 95 percent, by weight, shall pass through a U.S. Standard No. 35 sieve.

3.2.15 Bay leaves, ground. Ground bay leaves shall be derived from the dried leaves of Laurus nobilis L. The bay leaves shall possess a pleasant, aromatic odor and pungent, mildly bitter flavor with a pale green to yellow green color. A minimum of 95 percent shall pass through a U.S. Standard No. 30 sieve. Volatile oil content shall be not less than 1.0 mL of volatile oil per 100 grams of ground bay leaves.

3.2.16 Thyme, ground. The ground thyme shall be derived from the dried leaves and flowering tops of Thyme vulgaris L. and shall have a fragrant, aromatic odor, and minty flavor. Volatile oil content shall be not less than 0.8 percent mL of volatile oil per 100 grams of ground thyme and be of such size that not less than 95 percent shall pass through a U.S. Standard No. 30 sieve.

3.2.17 Preblended spice and seasoning mixture. Preblended spices and seasonings may be used. The spices and seasonings in the mixture shall comply with the requirements in this specification. The containers used for the spice and seasoning blend shall be labeled with each ingredient and the percentage of each ingredient in the blend. The ingredients shall be in the same proportions as specified in the ingredient formula.

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

3.3.1 Chicken preparation. The chicken shall be prepared as follows:

a. The chicken shall consist of all breast meat (skin and essentially all adhering fat removed).

b. The uncooked whole chicken breasts or breast halves shall weigh 4 ounces (± 0.5 ounce) each and shall be water cooked, roasted, or steamed so as to conform to the finished product requirements (see 3.6).

c. The broth obtained from cooking the chicken may be used in the gravy preparation in the amount and in compliance with the solids content as required.

d. The cooked chicken breasts shall be filled into the tray pack cans within 1 hour after cooking or shall be held for not more than 48 hours at an internal temperature of 28° to 40°F prior to filling.

3.3.2 Gravy preparation. The gravy shall be formulated as follows:

Ingredients	Percent
Chicken broth, 3.0 to 3.5 percent solids 1/	79.76
Starch, modified, high opacity	5.50
Cream cheese, fresh	4.00
Chicken fat	4.00
Onion powder	3.00
Powdered vegetable shortening	1.50
Salt 2/	1.40
Monosodium glutamate	0.50
Lecithin	0.20
Pepper, white	0.08
Garlic powder	0.02
Celery seed, ground	0.02
Bay leaves, ground	0.01
Thyme, ground	0.01

1/ Chicken broth with different soluble solids content shall be adjusted to the 3.0 to 3.5 percent solids.

2/ The total amount of salt in gravy formula shall be adjusted as necessary to produce a product that complies with the *finished product salt requirement*.

NOTE: The following gravy preparation procedures were used in the development of this product. Alternative procedures may be used provided finished product requirements are met. (When alternative procedures are used, the time and temperature requirements specified for the prepared gravy are still applicable.)

a. A slurry shall be made using part of the chicken broth, the starch, and the powdered vegetable shortening.

b. The remainder of the chicken broth, chicken fat, and lecithin shall be heated to a boil in a steam-jacketed kettle with continuous and vigorous mixing to attain maximum emulsification of the fat into the broth.

c. An emulsion shall be made by mixing the cream cheese and remainder of the ingredients with the broth.

d. The emulsion shall be heated to a boil with continuous and vigorous mixing to attain maximum emulsification of the cream cheese.

e. The steam supply to the kettle shall be shut off, the slurry shall be added and uniformly mixed to form the gravy.

f. The volume of the final mixture shall be adjusted with water to compensate for evaporation loss during heating and holding.

g. If the gravy is not to be immediately filled into the cans, it shall be maintained in the temperature range of 150° to 180°F. The holding time from end of preparation until filling into the cans shall not exceed 4 hours.

3.4 Tray pack filling and sealing. Each tray pack can (see 5.1.1) shall be filled with product such as to conform to the finished product requirements and to the following requirements:

a. Eighteen intact whole chicken breasts or breast halves shall be placed into the tray pack can and the can filled with gravy.

b. The internal temperature of the chicken breasts at the time of filling shall be 28° to 40°F, if not filled immediately after cooking (see 3.3.1.d).

c. The temperature of the gravy at the time of filling shall be 150° to 180°F.

d. Immediately after filling, each can shall be hermetically sealed under a vacuum established by a processing authority and specified in the scheduled process so as to ensure compliance with the finished product requirements (see 3.6q).

e. Each filled and sealed tray pack can shall be in the retort process within 2 hours after sealing.

3.5 Tray pack thermoprocessing. The filled and sealed tray pack cans shall be thermostabilized by retorting until a sterilization value (F_o) of not less than 6.0 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, glass, or metal.

b. There shall be no foreign odors or flavors such as, but not limited to, burnt, scorched, stale, sour, rancid, or moldy.

c. There shall be no color foreign to the product.

d. No individual can shall contain less than 104 ounces of product.

e. The average net weight shall be not less than 106 ounces.

f. The total weight of skin, cartilage, coarse connective tissue, section of tendons or ligaments, and discolored meat, collectively, in a can shall be not more than 1 ounce.

g. No individual can shall contain a bone piece measuring more than 0.3 inch in any dimension.

h. Drained weight of 18 chicken breasts in any individual tray pack can shall be not less than 40.0 ounces.

i. The average drained weight of chicken breasts shall be not less than 42.0 ounces.

j. There shall be no feathers or feather parts.

k. Texture of chicken breasts shall not be dry, rubbery, or mushy.

l. The gravy shall be smooth, without lumps.

m. The product shall show no evidence of excessive heating (materially darkened or scorched).

n. The average fat content of the finished product shall be not greater than 7.0 percent and no individual tray pack shall have a fat content greater than 9.0 percent.

o. The salt content of an individual tray pack shall be not greater than 1.3 percent nor less than 0.5 percent.

p. The viscosity of the gravy shall be not less than 7.5 cm per 10 seconds nor greater than 16.0 cm per 10 seconds when determined by the Bostwick Consistometer (see 4.5.3.4).

q. Filled, sealed, and retorted cans must shall evidence of proper vacuum as determined by concavity of the can lid (see 4.5.6).

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

3.7 Plant qualification. The poultry component and the finished product hall originate and be produced, processed, and stored in plants regularly perating under Poultry Products Inspection Regulations of the U.S. Department f Agriculture.

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

4. QUALITY ASSURANCE PROVISIONS

4.1 Contractor's responsibility. Inspection and acceptance by the USDA shall ot relieve the contractor of obligation and responsibility to deliver a product omplying with all requirements of this specification. The contractor shall nsure product compliance prior to submitting the product to the USDA for any nspection.

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

4.3 Classification of inspections. The inspection requirements specified 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 specification and evaluated for overall appearance and palatability. Any failure to conform to the quality assurance provisions of this specification 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 MIL-STD-105.

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 specification or applicable purchase document.

4.5.1.1 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, and compliance shall 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 condition 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.

4.5.2 In-process examination. In-process examination shall be performed to determine conformance to the preparation, processing, can interior coating, filling, sealing, and packaging 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 Tray pack inspection. The inspection lot shall include only tray packs produced in one workshift. The USDA reserves the right to separate the inspection lot into smaller inspection lots.

4.5.3.1 Net weight inspection. Randomly select 30 filled and sealed tray pack cans from the inspection lot and weigh separately. Subtract the average tare weight (determined by randomly selecting and weighing 30 of the empty tray pack cans and lids used in preparing the product and dividing the total weight by 30) from the weight of each tray pack in the sample. The results shall be reported to the nearest 1 ounce. If the average net weight is less than 106 ounces or if the net weight of any individual can is less than 104 ounces, the lot shall be rejected.

4.5.3.2 Product inspection. The sample size shall be as indicated by the double sampling plan specified in table I. The sample cans shall be selected at random from the lot. The sample cans shall be heated in accordance with heating instructions on the can label, opened, and inspected for the defects listed in table II.

TABLE I. Double sampling plan for product inspection 1/

Lot size (cans)	Sample size (cans)	Cumulative sample	Acceptance number	Rejection number
0 to 3200	8	--	0	2
	8	16	1	2
3201 to 35000	13	--	0	3
	13	26	3	4

1/ a. If no defects are found in the first sample, the lot shall be accepted.

b. If the number of defects found in the first sample equals or exceeds the rejection number, the lot shall be rejected.

c. If the number of defects found in the first sample exceeds the acceptance number but is less than the rejection number, the second sample shall be inspected. Defects found in the first and second samples shall be combined and if the number of defects in the cumulative sample equals or exceeds the rejection number, the lot shall be rejected.

TABLE II. Product defects 1/ 2/ 3/

Category	Defect
Major	
101	Total weight of skin, cartilage, coarse connective tissue, sections of tendons or ligaments, and discolored meat, collectively, is more than 1 ounce

TABLE II. Product defects 1/ 2/ 3/

Category	Defect
Major	
102	Presence of bone piece measuring more than 0.3 inch in any dimension
103	Drained weight of 18 chicken breasts in an individual can is less than 40.0 ounces 4/ 5/
104	Less than 18 distinct whole chicken breasts or chicken breast halves
105	Presence of feathers or feather parts
106	Texture of whole chicken breasts or breast halves dry, rubbery, or mushy 6/
107	Gravy consistency is lumpy
108	Product shows evidence of excessive heating (materially darkened or scorched) 7/

1/ The presence of foreign material (for example, dirt, insect parts, hair, glass, wood, metal), foreign odor or flavor (for example, burnt, scorched, moldy, rancid, sour, stale), or foreign color shall be cause for rejection of the lot.

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

3/ Interior of filled and sealed cans shall be examined visually for coating defects during product examination. Suspected rust spots shall be verified by testing in accordance with 4.5.7. Any spot verified as a rust spot shall be cause for rejection of the lot. Any scratch or fracture that penetrates through the coating of a can shall be cause for rejection of the lot.

4/ To determine drained weight, the free liquid in the can shall be poured off, strained through a U.S. Standard No. 8 sieve, and reserved for viscosity determinations. The remaining contents shall be poured into a flat bottom container. A minimum of three times the tray pack 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 such as to liquify

rendered fat and to remove the gravy without breaking the chicken breasts. The contents shall then be poured into a U.S. Standard 1/4-inch sieve in a manner that will distribute the product over the sieve without breaking the chicken breasts. 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.

5/ The lot shall be rejected if the sample average drained weight of the chicken breasts is less then 42.0 ounces.

6/ Examination for texture conformance of the chicken breasts shall be made of representative chicken breasts immediately following the determination of drained weight.

7/ Defect scored only once per tray can.

4.5.3.3 Fat and salt content testing. Three filled and sealed tray pack cans shall be selected at random from the lot. The tray pack cans shall be individually tested for fat and salt content in accordance with the Official Methods of Analysis of the Association of Official Analytical Chemists, chapter: Meat and Meat Products, except that preparation of the samples shall be as follows: The unopened tray pack cans shall be gently warmed in a water bath to melt fat adhering to the inside of the cans. The cans shall be opened and the entire contents of each can shall be separately blended in a Waring Blendor or equivalent. The test results shall be reported to the nearest 0.1 percent. Any result failing to conform to the fat and salt requirements in 3.6 shall be classified as a major defect and shall be cause for rejection of the lot.

4.5.3.4 Viscosity testing. The strained free liquid collected from each of the cans in the first sample of cans selected for drained weight inspection (see 4.5.3.2 and 4/ to table I) shall be individually tested for viscosity as specified in 4.5.3.4.1 (see 6.4).

4.5.3.4.1 Bostwick Consistometer method.

Instrument: Bostwick Consistometer
Catalog Number: 23270-004
VWR Scientific Company
P.O. Box 7900
San Francisco, CA 94120

or

Catalog number: 15-347-50
Fisher Scientific
585 Alpha Drive
Pittsburgh, PA 15238

Method:

a. Level the instrument.

b. Bring gravy to 100°F ± 1°F in a water bath in a covered container.

c. Stir gravy thoroughly before filling the Bostwick cavity.

d. Scrape gravy evenly across upper edge of cavity.

e. Release gravy and time gravy flow to the nearest 1 second and measure distance traveled to the nearest 0.1 cm.

The lot shall be rejected if the Bostwick viscosity value of the gravy from any can in the sample is less than 7.5 cm per 10 seconds or greater than 16.0 cm per 10 seconds.

4.5.4 Can condition examination. Examination of filled and sealed tray pack cans shall be in accordance with the U.S. Standards for Condition of Food Containers, except that inspection for labeling shall be as specified in 4.5.4.1. In addition, the following defect shall be classified as a major defect.

Evidance of buffing with an abrasive substance (see 5.1.1)

4.5.4.1 Can label examination. Labels shall be examined for defects in accordance with MIL-L-1497 (see 5.4) except,. for self-adhering labels, the following additional defects shall apply:

Major: Label torn or scratched so as to obliterate any of the markings.

Minor: Air bubbles under label.
Label not properly adhered to can (for example, label raised or peeled back from edges or corners).

4.5.4.2 Label adhesive examination. When self-adhering labels are used, the adhesive shall be tested in accordance with ASTM D 3330.

4.5.5 Can closure examination. Can closure shall be examined visually and by teardowns in accordance with the can manufacturer's requirement and 21 CFR, Part 113, Subpart D, or 9 CFR, Part 318, Subpart G, as applicable. Any nonconformance based on observation of can seam teardowns or on record of can seam teardowns shall be classified as a major defect and shall be cause for rejection of any involved product.

4.5.6 Vacuum examination. Cans shall be allowed to cool to 75° ± 5°F, held for at least 24 hours after sealing, and then examined for vacuum retention. To examine, lay a straight edge in the center of the lid along the length of the tray pack. Both ends of the straight edge shall touch the lid at the inside edge of the double seam. There shall be a visible gap between the straight edge and the lid for the entire distance of the label panel. Using a shorter straight edge, the same procedure shall be used across the width, in the center of the tray pack can. One measurement shall be made when examining a ribbed lid; lay the straight edge between the two center ribs along the length of the

can. The inspection lot shall include only tray packs produced in a single shift on a single sealing machine. The sample size shall be 50 cans. Any nonconformance shall be classified as a major defect and shall be cause for rejection of the lot.

4.5.7 Test for rust spots on interior of tray pack cans. Where rust spots are suspected on interior of tray pack cans, the following test shall be performed:

a. Immerse a cotton swab in acetone or methyl ethyl ketone solvent and gently rub suspected spot. Handling of the solvent shall be in strict accordance with the guidelines of the manufacturer's Material Safety Data Sheet (MSDS).

b. If suspected spot immediately disappears, it is not a rust spot.

c. If suspected spot remains, continue gently rubbing with the swab resoaked with solvent, and observe for disappearances or retention of spot. Replenish solvent as necessary.

d. If spot persists, and all but a very thin coating, or no coating remains, it will be scored as a rust spot. This can be confirmed further by rubbing with a finger. The rust spot will be felt as a slight bump over the substrate.

4.5.8 Shipping container examination. Shipping containers shall be examined for defects in assembly, closure, and reinforcement (when applicable) in accordance with PPP-B-636. 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 the quality assurance provisions of MIL-L-35078.

5. PACKAGING

5.1 Preservation. The product shall be preserved in accordance with level A.

5.1.1 Level A. One hundred and six ounces of food product shall be filled into a tray pack can conforming to MIL-C-44340 and sealed and thermoprocessed as specified in 3.4 and 3.5. The practice of reconditioning tray pack cans by buffing with an abrasive substance shall not be permitted (see 4.5.4). The interior coating of filled and sealed thermoprocessed cans shall be free of rust spots, scratches, or fractures that penetrate through the coating when examined in accordance with 4.5.3.2.

5.2 Packing. The product shall be packed in accordance with level A, B, or C as specified (see 6.1).

5.2.1 Level A packing. Four cans of product, preserved as specified in 5.1, shall be packed in a snug-fitting fiberboard box, constructed and closed in accordance with style RSC-L or HSC-L with an HSC full depth cover, grade V2s of PPP-B-636. The cans shall be packed flat, four in depth within the box, with the first two cans placed with the lids together and the next two cans with the lids together. The inside of each box shall be provided with a box liner and five fiberboard pads fabricated of grade V3c fiberboard. The height of the box liner shall be equal to the full inside depth of the box (+0 inch, -1/8 inch). Flute direction of the box liner shall be vertical. The pads shall be placed between the cans and on the top and bottom of the stacked cans. The pad dimensions shall be not less than 1/8 inch of the full length and width dimensions of the box. Each box shall be reinforced with nonmetallic strapping or pressure-sensitive adhesive, filament-reinforced tape in accordance with the appendix of PPP-B-636. Shipping containers shall be arranged in unit loads in accordance with MIL-L-35078 for the type and class of load specified (see 6.1) except that the unit load shall consist of 48 boxes with 12 boxes per course and four courses per load with all courses having the same pattern so as to create columnar stacking. When unit loads are strapped, strapping shall be limited to nonmetallic strapping, except for type II, class F loads.

5.2.2 Level B packing. Four cans of product, preserved as specified in 5.1, shall be packed as specified in 5.2.1 except the box shall be constructed of grade V3c, V3s, or V4s fiberboard.

5.2.3 Level C packing. Four cans of product, preserved as specified in 5.1, shall be packed in a snug-fitting fiberboard box, constructed and closed in accordance with style RSC-L, class domestic, grade 275 of PPP-B-636. The cans shall be packed flat, four in depth within the box, with the first two cans placed with the lids together and the next two cans with the lids together. The inside of each box shall be provided with a box liner and five fiberboard pads. The height of the box liner shall be equal to the full inside depth of the box (+0 inch, -1/8 inch). Flute direction of the box liner shall be vertical. The pads shall be placed between the cans and on the top and bottom of the stacked cans. The pad dimensions shall be not less than 1/8 inch of the full length and width dimensions of the box and shall be fabricated of the same material as the box.

5.3 Unit loading. When specified (see 6.1), the product, packed as specified in 5.2.2 or 5.2.3, shall be arranged in unit loads in accordance with MIL-L-35078 for the type and class of load specified except that the unit load shall consist of 48 boxes with 12 boxes per course and four courses per load with all courses having the same pattern so as to create columnar stacking. When unit loads are strapped, the strapping shall be limited to nonmetallic strapping, except for type II, class F loads.

5.4 Labeling. Each tray pack can shall be labeled in accordance with MIL-L-1497 and with the following:

- Official establishment number (for example, EST 38) or a three-letter code identifying the establishment
- Lot number 1/
- Production shift number 1/
- Retort identification number 1/
- Retort cook number 1/

1/ The lot number shall be expressed as a four-digit Julian code. The first digit shall indicate the year of production and the next three digits shall indicate the day of the year. (Example, March 19, 1990 would be coded as 0078.) The Julian code shall represent the day the product was packaged and processed. Sub-lotting (when used) shall be represented by an alpha character immediately following the four-digit Julian code. Following the four-digit Julian code and the alpha character (when used), the other required code information shall be printed in the sequence as listed above.

In addition, the name of product shall be marked, stamping is permitted, on one 1001 by 200 side of the can. The labeling shall be legible when examined as specified in 4.5.4 after preparation of the product in accordance with heating instructions. Paper labels are not permitted. Cans shall show the following statements:

TO HEAT IN WATER: Submerge unopened can in boiling water. Simmer gently 40 - 45 minutes. Avoid overheating (can shows evidence of bulging).

CAUTION: Use care when opening as pressure may have been generated within the can.

TO HEAT IN OVEN: Either punch several holes in lid of can or open can in usual manner leaving the loose lid in place. Place in a 350°F oven 35 - 40 minutes.

WARNING: Do not place unopened can in oven. This may cause the can to burst.

YIELD: Serves 9 portions (2 chicken breasts plus approximately 5 ounces of gravy).

As an alternative labeling method, a preprinted, self-adhering, 0.002-inch thick, clear polyester label printed with indelible black ink may be used. Self-adhering labels shall be applied after retorting. Pressure-sensitive adhesive shall require no preparation prior to application. Labels shall tack quickly and adhere without curling or breaking. The adhesive shall have a minimum adhesion of 60 ounces per inch width when examined as specified in 4.5.4.2. When self-adhering labels are used, the tray pack cans shall be labeled with the Julian code and a product code prior to retorting.

5.5 Marking.

5.5.1 Shipping containers. In addition to any special marking required by the contract or purchase order, shipping containers shall be marked in accordance with MIL-STD-129.

5.5.2 Unit loads. Unit loads shall be marked in accordance with MIL-L-35078. In addition, the following precautionary marking in capital letters larger than other markings shall be included:

CAUTION: DO NOT STACK PALLETS IN TRANSIT OR MORE THAN TWO HIGH IN STORAGE, UNLESS PALLET RACKS ARE USED.

6. NOTES

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

6.1 Acquisition requirements. Acquisition documents must specify the following:

a. Title, number, and date of this specification.
b. Issue of DODISS to be cited in the solicitation, and if required, the specific issue of individual documents referenced (see 2.1.1 and 2.2).
c. When a first article is required (see 3.1, 4.4, and 6.2).
d. Provisions for approved preproduction samples (see 3.6.1 and 6.2).
e. Level of packing required (see 5.2).
f. Type and class of unit load when unit loading is required (see 5.2.1 and 5.3).

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

6.3 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 contracting 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.

6.4 Alternative viscosity testing method. The contracting officer may authorize an alternative contractor recommended method of viscosity testing if the alternative method is approved by U.S. Army Natick Research, Development, and Engineering Center.

6.5 Subject term (key word) listing.

Canned foods
Combat field feeding
Operational ration
Poultry
Shelf stable

6.6 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.

Custodians:

Army - GL
Navy - SA
Air Force - 50

Preparing activity;

Army - GL

(Project 8940-0688)

Review activities:

Army - MD, QM
Navy - MC
DP - SS

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-C-44295A	2. DOCUMENT DATE (YYMMDD) 1990 June 26

3. DOCUMENT TITLE
CHICKEN BREAST MEAT IN GRAVY, THERMOSTABILIZED, TRAY PACK

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 U.S. Army Natick RD&E Center	b. TELEPHONE (Include Area Code) (1) Commercial: 508-651-5221 (2) AUTOVON: 256-5221
c. ADDRESS (Include Zip Code) Commander, U.S. Army Natick RD&E Center ATTN: STRNC-ES Natick, MA 01760-5014	IF YOU DO NOT RECEIVE A REPLY WITHIN 45 DAYS, CONTACT: Defense Quality and Standardization Office 5203 Leesburg Pike, Suite 1403, Falls Church, VA 22041-3466 Telephone (703) 756-2340 AUTOVON 289-2340

DD Form 1426, OCT 89 NATICK OP, APR 90 Previous editions are obsolete. 198/290