

INCH-POUND

MIL-C-44246B

19 June 1990

SUPERSEDING

MIL-C-44246A

26 July 1988

MILITARY SPECIFICATION**CHICKEN SLICES 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 slices 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.

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MILITARY

- MIL-L-1497 - Labeling of Metal Cans for Subsistence Items
- MIL-L-35078 - Loads, Unit: Preparation of Semiperishable Subsistence Items; Clothing, Personnel Equipment and Equipage; General Specification 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)

Poultry Products Inspection Regulations (9 CFR Part 381)

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

United States Standards for Condition of Food Containers

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

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U.S. DEPARTMENT OF HEALTH AND HUMAN SERVICES (HHS)

Federal Food, Drug, and Cosmetic Act and Regulations Promulgated Thereunder
(21 CFR Parts 1-199)

(Copies are available from 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 (AACC)

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.)

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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. The chicken shall be prepared from chilled or frozen ready-to-cook fowl (mature female chicken) which has been processed in accordance with USDA Poultry Products Inspection Regulations. All chicken (raw or cooked) shipped between plants shall be accompanied by a USDA Poultry Product Grading Certificate to certify class and condition of the product and either the initial chilling date or initial freezing (in-storage) date.

3.2.1.1 Chicken, chilled. Raw bone-in or boneless chicken received in the chilled state shall not have been previously frozen and shall have been held at a temperature not to exceed 40°F for a period of time not to exceed 6 days following initial chilling and prior to preparation and further processing (see 3.3).

3.2.1.2 Chicken, frozen. Raw bone-in or boneless chicken received in the frozen state shall have been held at a temperature not to exceed 0°F for a period of time not to exceed 120 days following initial freezing and prior to preparation and further processing (see 3.3).

3.2.1.3 Chicken, cooked, frozen. Cooked frozen chicken shall be prepared from chilled chicken that complies with 3.2.1 and 3.2.1.1. The chicken shall be processed in accordance with 3.3.1 and 3.3.1.1. The chicken, in either log or slice form, shall be packaged and vacuum-sealed in water impermeable material having an oxygen permeability rate of not more than 10cc of oxygen

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per square meter per 24 hours at 73°F and 0 percent relative humidity and shall be frozen to an internal temperature of 0°F or below within 72 hours. The packaged, frozen cooked chicken shall have been held at 0°F or below for a period not to exceed 60 days prior to tray pack filling (see 3.4). The initial freezing (in-storage) date and processing and packaging requirements shall be certified by a USDA Agricultural Marketing Service (AMS) Poultry Products agent.

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

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

3.2.4 Sodium tripolyphosphate. Sodium tripolyphosphate shall comply with the Food Chemicals Codex.

3.2.5 Pepper, white, ground. The ground white pepper shall have been 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 ground 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 and be of such size that 95 percent shall pass through a U.S. Standard No. 40 sieve.

3.2.6 Garlic powder. Garlic powder shall be fancy grade of the Official Standards and Methods of the American Dehydrated Onion and Garlic Association for Dehydrated Onion and Garlic Products.

3.2.7 Broth, chicken. Chicken broth may be frozen or canned (thermostabilized). The chicken broth shall be produced from USDA inspected fowl in accordance with USDA Poultry Products Inspection Regulations. It shall be free from extraneous material or 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, essentially fat free, and concentrated to a soluble solids level sufficient to comply with the solids requirement in the product formulation. The broth shall have a characteristic mild chicken broth odor and flavor and may contain flavor enhancers approved by FDA.

3.2.8 Starch, food, modified, high opacity. The high opacity starch shall be white, odorless, finely pulverized, modified waxy maize starch for use in canned 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 starch shall resist breakdown at low pH, under shear stress, and under conditions of cold storage. The cooked slurry prepared from the starch shall be bland with essentially no cereal or starch taste and shall comply with MIL-STD-900.

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3.2.9 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.

3.2.10 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 to slightly bitter taste. The celery seed shall contain not less than 2.0 mL of volatile oil per 100 grams and be of such size that not less than 95 percent shall pass through a U.S. Standard No. 35 sieve.

3.2.11 Turmeric, ground. Ground turmeric shall be prepared from Curcuma longa L. The ground turmeric shall possess a deep yellow to orange-yellow color with a peppery, aromatic odor. The ground turmeric shall contain not less than 3.5 mL of volatile oil per 100 grams of ground turmeric and shall be of such size that not less than 95 percent shall pass through a U.S. Standard No. 40 sieve.

3.2.12 Preblended spice and seasoning mixture. Preblended spices and seasonings may be used. The spices and seasonings in the mixture shall comply with the requirements of 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 further processing. Processing shall be on a continuous basis.

3.3.1 Chicken preparation. The chicken shall be made boneless and skinless. The wing tips, giblets, neck, backs, feet, and viscera shall be excluded. The boned meat shall be free of pin feathers, skin, blood clots, bruises, blemishes, ligaments, tendons, coarse connective tissue, cartilage, and bone greater than 0.3 inch in any dimension. The boneless meat shall be formed of at least 50 percent white meat.

3.3.1.1 Chicken log preparation and processing. The chicken logs shall be prepared and processed as follows:

<u>Ingredients</u>	<u>Percent by weight</u>
Chicken meat	95.50
Ice or ice water	3.69
Salt	0.50
Sodium tripolyphosphate	0.25
Pepper, white, ground	0.04
Garlic powder	0.02

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a. Fresh-chilled chicken meat processed on the day of boning shall be coarse ground within 24 hours following boning. If fresh-chilled (not previously frozen) chicken meat is transported between plants, it shall be maintained at an internal temperature of 28°C to 40°F and coarse ground within 6 days following initial chilling. Frozen chicken meat shall be maintained at 0°F or lower until further processing and be coarse ground within 120 days after boning. The meat shall be mechanically coarse ground through a grinder plate having kidney-shaped openings not less than 2 inches in the shortest dimension. The grinder shall be equipped with a 2-blade knife.

b. The coarse ground (chunked) chicken meat shall be mechanically vacuum mixed with the spices and other ingredients. The mixing shall continue until the mixture exhibits a sticky (tacky) consistency. Time from grinding to mixing shall not exceed 4 hours. The ground chicken meat shall be maintained in the temperature range of 28°C to 40°F during this time period.

c. The mixed meat shall immediately be mechanically stuffed tightly into prestuck, regenerated cellulose casings of a size to accommodate the finished product meat dimension requirement. The stuffed meat logs shall be in the cooking process within 4 hours after being stuffed. (This time period may be extended up to 24 hours, provided the meat logs are maintained at an internal temperature of 28°C to 40°F.)

d. The chicken logs shall be cooked in a cook house (smoke house without smoke) or by other commercially acceptable cook methods to provide a product meeting the finished product drained weight and other requirements.

e. Immediately after completion of the cooking process, the cooked chicken logs shall be placed in an ice water bath, or cooled by other commercially acceptable cooling methods, and rapidly cooled to an internal temperature of 130°F or below. The chicken logs shall be further cooled from 130°C to 80°F or below within 2 hours and further cooled from 80°C to 40°F within 4 hours. The cooled logs shall be held for not more than 48 hours at an internal temperature of 28°C to 40°F prior to packaging for frozen storage (see 3.2.1.3).

f. Chicken logs shall be sliced in a manner to ensure compliance with finished product requirements. Each slice shall be approximately the shape and size in figure 1 or 2.

g. When slicing to filling is a continuous operation, the chicken slices shall be filled into the tray pack cans within 4 hours of being sliced.

3.3.2 Gravy formulation and preparation. Gravy shall be formulated and prepared as follows:

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<u>Ingredient</u>	<u>Percent by weight</u>
Chicken broth <u>1/</u>	94.32
Starch	5.50
Pepper, white, ground	0.05
Onion powder	0.05
Celery seed, ground	0.05
Garlic powder	0.02
Turmeric, ground	0.01

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

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 with the starch and part of the chicken broth.
- b. The balance of ingredients shall be heated to a boil in a steam jacketed kettle with continuous and vigorous mixing to ensure the spices are uniformly dispersed.
- c. The steam supply to the kettle shall be shut off and the slurry added and uniformly mixed to form the gravy.
- d. The volume of the final mixture shall be adjusted with water to compensate for evaporation loss during heating and holding.
- e. 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 the product to conform to the finished product requirements and to the following requirements:

- a. Not less than 36 intact chicken slices shall be shingled in two rows lengthwise into the tray pack can and the can filled with gravy.
- b. The temperature of the chicken slices at the time of filling shall be 28° to 40°F.
- 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 finished product requirement (see 3.6u).

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e. The filled and sealed tray pack cans 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_0) 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 odor or flavor 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 a bone piece measuring 0.3 inch or more in any dimension.

e. Total weight of cartilage, coarse connective tissue, sections of tendons or ligaments, and glandular material, collectively, in any individual can shall not be greater than 1 ounce.

f. There shall be no feathers or feather parts.

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

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

i. Each can shall contain at least 36 intact chicken slices (approximately the shape and size shown in figure 1 or 2).

j. The average drained weight of the chicken slices shall be not less than 63.0 ounces.

k. The drained weight of 36 intact chicken slices in any individual can shall be not less than 61 ounces.

l. The texture of the slices shall not be dry, rubbery, or mushy.

m. There shall be no void areas or air pockets that measure more than 0.5 inch in any dimension.

n. The gravy shall be light tan to dark tan in color.

o. The gravy shall not be lumpy.

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- p. The average fat content shall be not greater than 10.0 percent.
- q. The fat content of an individual tray pack shall be not greater than 12.0 percent.
- r. The salt content of an individual tray pack shall be not greater than 1 percent nor less than 0.5 percent.
- s. The product shall show no evidence of excessive heating (materially darkened or scorched).
- t. The viscosity of the gravy shall be not less than 7.0 cm per 10 seconds nor greater than 23.0 cm per 10 seconds when determined by a Bostwick Consistometer (see 4.5.3.4).
- u. Filled, sealed, and retorted cans shall show evidence of proper vacuum as determined by concavity of the can lid (see 4.5.6).

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 poultry component and the finished product shall originate and be produced, processed, and stored in plants regularly operating under Poultry Products 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 the requirements of this specification. The contractor shall ensure 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 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).

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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 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.

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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
<u>Major</u>	
101	Presence of a bone piece measuring more than 0.3 inch in any dimension
102	Total weight of cartilage, coarse connective tissue, sections of tendons or ligaments, and glandular material, collectively, is more than 1 ounce
103	Presence of feathers or feather parts
104	Less than 36 intact chicken slices in any individual cane

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TABLE II. Product defects 1/ 2/ 3/ (cont'd)

Category	Defect
<u>Major</u>	
105	Drained weight of 36 intact chicken slices in an individual can is less than 61 ounces <u>4/</u> <u>5/</u>
106	Slices not approximating the size and shape shown in figure 1 or 2 <u>6/</u>
107	Meat texture dry, rubbery, or mushy
108	Presence of void area or air pocket that measures more than 0.5 inch in any dimension
109	Gravy not light tan to dark tan
110	Gravy is lumpy
111	Product shows evidence of excessive heating (materially darkened or scorched)

- 1/ The presence of any foreign material (for example, dirt, insect parts, hair, wood, glass, 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 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 and the remaining contents of the can 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

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so as to cover the contents. The contents and water shall be agitated so as to liquify rendered fat and remove the gravy without breaking the roast beef slices. 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 roast beef slices. 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-degree angle and allowed to drain for 2 minutes before determining the drained weight by subtracting the sieve tare weight from the gross weight. After total drained weight has been determined, remove the mushrooms and reweigh. 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 slices is less than 63 ounces.
- 6/ Chicken slices with broken corners shall not be considered as intact slices.

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 4.5.3.1 and footnote 4/ to table II) 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

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Method:

- a. Level the instrument.
- b. Bring gravy to $100^{\circ} \pm 1^{\circ}\text{F}$ 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 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 7.0 cm per 10 seconds or greater than 23.0 cm per 10 seconds.

4.5.4 Can condition examination. Examination of filled and sealed tray pack cans shall be in accordance with the United States 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.

Evidence of buffing with an abrassive 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 of record of can seam teardowns is 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 $75^{\circ} \pm 5^{\circ}\text{F}$, 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

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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.

4.5.8 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.

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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.

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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 4 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.

5.4 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 the 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 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 to 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 to 40 minutes.

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

YIELD: Serves 18 portions of 2 slices each.

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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 also include specific instructions in acquisition documents regarding arrangements for selection, inspection, and approval of the first article.

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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 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.

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

6.5 Subject term (key word) listing.

Canned foods
 Combat field feeding
 Operational rations
 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 8940-0699)

Review activities:

Army - MD, QM
 Navy - MC
 DP - SS

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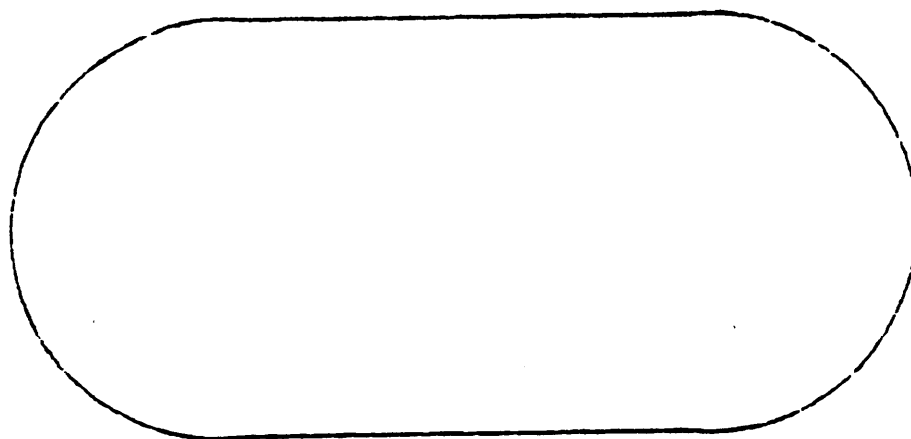


Figure 1

CHICKEN SLICE SHAPE

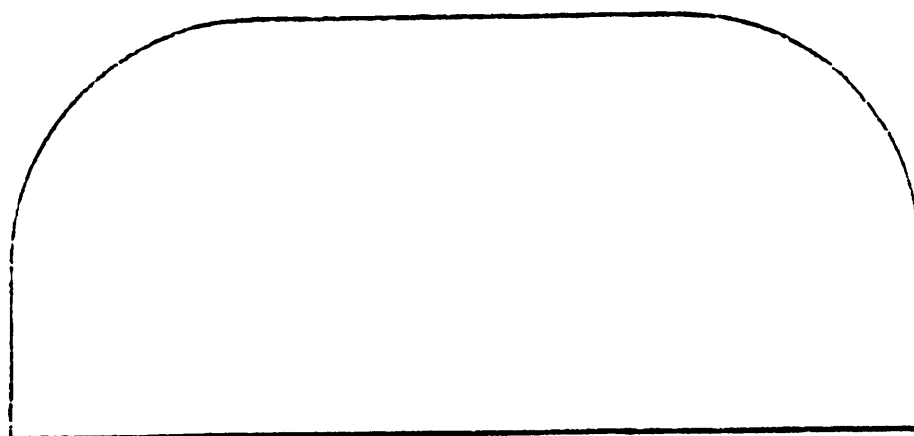


Figure 2

ALTERNATIVE CHICKEN SLICE SHAPE

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-44246B	2. DOCUMENT DATE (YYMMDD) 1990 June 19
3. DOCUMENT TITLE CHICKEN SLICES 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)	e. DATE SUBMITTED (YYMMDD)
8. PREPARING ACTIVITY			
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: SPENCER 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	

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