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SUPERSEDING
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MILITARY SPECIFICATION

CHICKEN STEW, 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 document covers chicken stew 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 Documents. The following documents form a part of this document to the extent specified herein. Unless otherwise specified, the issues of these documents shall be those listed in the issue of the Department of Defense Index of Specifications and Standards (DODISS) and supplement thereto, cited in the solicitation.

SPECIFICATIONS

FEDERAL

TT-C-495	-	Coatings, Exterior, for Tinned Food Cans
PPP-B-636	-	Boxes, Shipping, Fiberboard

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

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

AMSC N/A FSC 8940

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 Thermo-stabilized Foods for the Armed Forces

(Copies of documents required by contractors in connection with specific acquisition functions should be obtained from the procuring activity or as directed by the contracting activity.)

2.1.2 Other Government documents. The following other Government documents form a part of this document to the extent specified herein. Unless otherwise specified, the issues shall be those in effect on the date of the solicitation.

U.S. DEPARTMENT OF HEALTH AND HUMAN SERVICES

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

(Application for copies should be addressed to the Superintendent of Documents, U.S. Government Printing Office, Washington, DC 20402.)

U.S. DEPARTMENT OF AGRICULTURE (USDA)

Poultry Products Inspection Regulations

U.S. Standard of Identity for Cream Cheese

(Application for copies should be addressed to the Superintendent of Documents, U.S. Government Printing Office, Washington, DC 20402.)

U.S. Standards for Grades of Frozen Carrots

U.S. Standards for Grades of Frozen Peas

(Application for copies should be addressed to the Chief, Processed Products Branch, Agricultural Marketing Service, U.S. Department of Agriculture, Washington, DC 20250.)

United States Standards for Condition of Food Containers

(Application for copies should be addressed to the Director, Market Research and Development Division, Agricultural Marketing Service, U.S. Department of Agriculture, Washington, DC 20250.)

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

(Application for copies should be addressed to the Superintendent of Documents, U.S. Government Printing Office, Washington, DC 20402.)

ENVIRONMENTAL PROTECTION AGENCY (EPA)

National Primary Drinking Water Regulations

(Application for copies should be addressed to the Office of Drinking Water, Environmental Protection Agency, WH550D, 401 M Street, S.W., Washington, DC 20460.)

2.2 Other 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 shall be those listed in the issue of the DODISS specified in the solicitation. Unless otherwise specified, the issues of documents not listed in the DODISS shall be the issues of the nongovernment documents which are current on the date of the solicitation.

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, 1111 North 19th Street, Suite 210, Arlington, VA 22209.)

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.)

NATIONAL ACADEMY OF SCIENCE

Food Chemicals Codex

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

(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 shall take precedence. Nothing in this document, however, shall supersede applicable laws and regulations unless a specific exemption has been obtained.

3. REQUIREMENTS

3.1 First article. When specified, 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 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 quality, 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 4 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. Frozen cooked 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, 3.3.1.1 and 3.3.1.2. The chicken, in either log or dice form, shall be packaged and vacuum-sealed in water impermeable material having an oxygen permeability rate of not more than 10cc of oxygen per square meter per 24 hours at 73°F and 0 percent relative humidity and shall be frozen to 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 30 days prior to can filling (see 3.4). Frozen cooked chicken compliance with processing and packaging requirements shall be certified by the ingredient supplier.

3.2.2 Potatoes. Potatoes shall be either fresh or dehydrofrozen and shall meet the requirements of 3.2.2.1 or 3.2.2.2.

3.2.2.1 Potatoes, fresh. The potatoes shall be fresh, firm, and of a white flesh variety suitable for canning. The maximum specific gravity for the potatoes shall be 1.075 with a reducing sugar content of not more than 2.0 percent on a dry weight basis.

3.2.2.2 Potatoes, dehydrofrozen, diced. Dehydrofrozen potatoes shall be firm, possess a good color and flavor and be of a white flesh variety suitable for canning. The maximum specific gravity for the potatoes shall be 1.075 with a reducing sugar content of not more than 2.0 percent on a dry weight basis. The potatoes shall be mechanically diced to dimensions that comply with finished product requirements.

3.2.3 Carrots. The carrots may be either fresh or frozen.

3.2.3.1 Carrots, fresh. The carrots shall be fresh, firm, of good color, and of a variety suitable for canning.

3.2.3.2 Carrots, frozen, diced. The frozen diced carrots shall comply with the U.S. Grade A requirements of the U.S. Standards for Grades of Frozen Carrots and shall be of the latest season's crop. The carrots shall be mechanically diced to approximately 3/8 by 3/8 by 3/8 inch dimensions. The frozen carrots shall be of the latest date of pack.

3.2.4 Broth, chicken. Chicken broth may be frozen or canned (thermostabilized). The chicken broth shall be inspected in accordance with USDA Poultry Products Inspection Regulations. It shall be free from extraneous material and cracklings. If frozen, broth shall have been held at 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.

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

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 0°F or lower for a period not to exceed 75 days prior to sauce formulation.

3.2.7 Cheese, cream, fresh. Fresh cream cheese shall possess a delicate butter-like or creamy flavor and shall be moderately salted. The body and texture shall be smooth, creamy, and free from lumps or excess gumminess. The cream cheese shall be in excellent condition and free from discoloration or burnt particles. Fresh cream cheese shall comply with U.S. Standards of Identity for Cream Cheese.

3.2.8 Onions, dehydrated, chopped. The dehydrated chopped onions 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.

3.2.9 Peas, green. Peas shall be either fresh or frozen and shall meet the requirements of 3.2.9.1 or 3.2.9.2.

3.2.9.1 Peas, green, fresh. The green peas shall be fresh, sweet, and of a variety suitable for canning. The shelled peas shall be well-formed, bright, young, tender, and of such size as not to pass through a 9/32 inch sieve.

3.2.9.2 Peas, green, frozen. Frozen green peas shall comply with the U.S. Grade A requirements of the U.S. Standards for Grades of Frozen Peas and shall be of the latest season's crop.

3.2.10 Shortening, vegetable, powdered. 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 the 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

3.2.11 Celery, dehydrated, sliced. The dehydrated celery slices shall be obtained from clean, sound Pascal type celery. The celery shall be approximately 3/8 inch cross-cut stalk slices with no leaf cuts. The slices shall be free flowing and have bright uniform color. The dehydrated celery shall have a moisture content not in excess of 4.5 percent.

3.2.12 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 Index.

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

3.2.14 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 ground white 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.

3.2.15 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 a pungent, mildly bitter flavor and 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 Sage, ground. Ground sage shall be derived from the dried leaves of Salvia officinalis L. The sage shall be green to grayish-green in color and have a strong fragrant and aromatic odor and a slightly bitter taste. The sage shall contain not less than 1.5 mL of volatile oil per 100 grams of ground sage and be of such size that not less than 95 percent shall pass through a U.S. Standard No. 20 sieve.

3.2.17 Thyme, ground. Ground thyme shall be derived from the dried leaves and flavoring tops of Thymus vulgaris L. and shall have a fragrant, aromatic odor and minty flavor. The thyme shall contain not less than 0.8 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.

3.2.18 Allspice, ground. Ground allspice shall be derived from the dried, nearly ripe fruit of Pimenta officinalis L. and shall have a fragrant clove-like aroma, strongly aromatic, pungent, clove-like flavor, and a dark reddish-brown color. Allspice shall contain not less than 3.0 mL of volatile oil per 100 grams of ground allspice with 80.0 percent eugenol as a principal constituent. A minimum of 95 percent, by weight, shall pass through a U.S. Standard No. 25 sieve.

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

3.2.20 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 document. 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.

3.2.21 Water. Water used for ice-making, formulation, rehydration, blanching and washing shall conform to the National Interim Primary Drinking Water Regulations.

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

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

a. 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 from feathers, skin, blood clots, bruises, blemishes, ligaments, tendons, coarse connective tissue, cartilage and bone greater than 0.3 inch in any dimension. The boneless chicken meat shall be comprised of at least 50 percent white meat.

b. 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 in the temperature range of 28°F to 40°F and coarse ground within 4 days following boning. 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.

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

Ingredient	Percent by weight
Chicken meat	95.75
Ice or ice water	3.00
Salt	1.00
Sodium tripolyphosphate	0.25

a. The coarse ground (chunked) chicken meat shall be mechanically mixed with the salt and sodium tripolyphosphate. 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° to 40°F during this time period.

b. 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 period of time may be extended for up to 24 hours, provided the meat logs are maintained in the temperature range of 28° to 40°F).

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

d. The cooked chicken logs shall be cooled to 40°F or below within 4 hours following the cooking process and shall be held not longer than 48 hours at a temperature not to exceed 40°F prior to dicing (see 3.3.1.2).

e. If the cooked chicken is to be stored in the frozen log or dice form, the cooked chicken meat shall, within 4 hours following the cooking or dicing process, be packaged and vacuum-sealed in packaging material complying with the requirements specified in 3.2.1.3. Within 72 hours of packaging, the logs shall be frozen to 0°F or below. The packaged, frozen, cooked chicken shall be maintained at 0°F or below for a period not to exceed 30 days prior to can filling (see 3.4).

3.3.1.2 Dicing of cooked chicken logs. The cooked chicken logs shall be mechanically diced with dicer settings at 1/2 by 1/2 by 1/2 inch dimensions. After dicing, the meat shall be screened through a U.S. Standard 1/2-inch sieve to eliminate fines. Not less than 95 percent by weight of the dices shall be retained on the sieve. The diced meat shall be held not longer than 4 hours in the temperature range of 28°F to 40°F until preparation of the finished product or, if stored in frozen form, until packaged and vacuum-sealed.

3.3.2 Vegetable preparation.

3.3.2.1 Potato preparation.

3.3.2.1.1 Fresh potato preparation. The clean, fresh potatoes shall be peeled, trimmed, and mechanically diced with dicer settings at 1/2 by 1/2 by 1/2 inch dimensions. The diced potatoes shall be blanched sufficiently to prevent discoloration and to remove excess air. The blanched potatoes shall be immediately cooled to the initial temperature of the cooling water and thoroughly drained. The cooled, drained potato dices shall be handled in a manner to prevent discoloration and filled into the tray pack can with 4 hours after blanching.

3.3.2.1.2 Dehydrofrozen potato preparation. Diced dehydrofrozen potatoes shall be prepared in a manner to assure compliance with finished product requirements and shall be handled in a manner to prevent discoloration.

3.3.2.2 Carrot preparation. The carrots shall be washed, sorted, peeled, and trimmed. The carrots shall be mechanically diced with dicer settings at 3/8 by 3/8 by 3/8 inch dimensions, and then blanched sufficiently to prevent discoloration and to remove excess air. The blanched carrots shall be immediately cooled to the initial temperature of the cooling water and thoroughly drained. The cooled, drained carrot dices shall be handled in a manner to prevent discoloration and filled into the tray pack can within 4 hours after blanching.

3.3.2.2.1 Preparation of frozen carrot dices. Frozen carrots shall be thawed only to the extent necessary to accommodate the filling operation. The thawed carrots shall be handled in a manner to prevent discoloration.

3.3.3 Sauce formulation and preparation. The sauce shall be formulated and prepared as follows:

Ingredient	Percent by weight
Chicken broth 1/	75.85
Starch, modified, high opacity	5.50
Chicken fat	4.00
Cream cheese	4.00
Onions, chopped, rehydrated	3.75
Peas, green	3.00
Shortening, vegetable, powdered	2.00
Celery, sliced, rehydrated	1.00
Salt 2/	0.50
Lecithin	0.25
Pepper, white, ground	0.08
Bay leaves, ground	0.02
Sage, ground	0.02
Thyme, ground	0.02
Allspice, ground	0.01

1/ The chicken broth shall be adjusted to 3.0 to 3.5 percent solids.

2/ The total amount of salt in the sauce formula shall be adjusted as necessary to produce a product that complies with the finished product salt requirements (see 3.6).

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

b. An emulsion shall be made by mixing the remainder of the chicken broth, the chicken fat, cream cheese, and the lecithin. The emulsion shall be heated to a boil in a steam jacketed kettle with continuous and vigorous agitation to attain maximum emulsification of the fat.

c. The emulsion shall be cooled to 180°F or lower and the remaining ingredients added. The emulsion shall be stirred to assure that the salt is dissolved, the dehydrated vegetables are rehydrated, and the spices are uniformly dispersed.

d. The slurry shall be added to the emulsion and final mixture heated to 180° to 190°F and held in this temperature range for 5 minutes.

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

f. If the sauce 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.

3.3.4 Product preparation. The chicken, potatoes, carrots, and sauce shall be combined in the following proportions:

Ingredient	Percent by weight
Sauce	52.83
Chicken, diced	28.30
Potatoes, diced	11.32
Carrots, diced	7.55

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. Each can shall be hermetically sealed under a vacuum established by a processing authority and specified in the scheduled process so as to assure compliance with the finished product requirement paragraph 3.6.s.

b. Each filled and sealed tray pack can shall be in the retort process within 1 hour 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, musty or moldy.

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

d. There shall be no feathers or feather parts.

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

f. 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 1.0 ounce.

g. The average net weight shall be not less than 108 ounces.

h. No individual can shall contain less than 106 ounces of product.

i. The average drained weight of whole intact chicken dices and vegetable pieces shall be not less than 49.0 ounces.

j. No individual can shall contain less than 45.0 ounces of drained whole intact chicken dices and vegetable pieces.

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

l. Texture of the potatoes shall not be mushy, hard, fibrous, or tough.

m. Not less than 90 percent by weight of whole intact chicken dices shall be retained on U.S. Standard 3/8-inch sieve.

n. Texture of carrots and peas may be soft, but shall not be hard, fibrous, tough, or mushy.

o. Sauce consistency shall be smooth, without lumps, and shall not be excessively thick or thin.

p. The average fat content shall be not greater than 7.0 percent and no individual tray pack shall have a fat content greater than 9.0 percent.

q. The salt content of the product in any individual can shall be not greater than 1.0 percent nor less than 0.5 percent.

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

s. Filled, sealed and retorted cans must show evidence of proper vacuum as determined by concavity of the can lid (see vacuum examination paragraph).

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 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 supervision necessary to assure compliance with the requirements of this document.

4.3 Classification of inspection. 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 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 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 document 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, 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 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 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 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. Results shall be reported to the nearest 1 ounce. If the average net weight is less than 108 ounces or if the net weight of any individual can is less than 106 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 tray pack cans shall be selected at random from the lot. The tray pack 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 acceptable 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/

Category	Defect
Major	
101	Presence of bone measuring more than 0.3 inch in any dimension.
102	Presence of feathers or feather parts.
103	Total weight of skin, cartilage, coarse connective tissue, section of tendons or ligaments, and discolored meat, collectively, is more than 1 ounce.
104	Drained weight of whole intact chicken dices and vegetable pieces in an individual can is less than 45.0 ounces. 3/ 4/
105	Texture of chicken dices is dry, rubbery, or mushy. 6/
106	Less than 90 percent by weight of whole intact chicken dices are retained on a U.S. Standard 3/8-inch sieve. 5/
107	Texture of potatoes, carrots, and other vegetables mushy, hard, fibrous, tough. 6/
108	Sauce consistency is lumpy or is excessively thick or thin.
109	Product shows evidence of excessive heating (materially darkened or scorched)

1/ Presence of foreign material (e.g., glass, dirt, insect parts, hair, wood, meta.), foreign odor or flavor (e.g., burnt, scorched, stale, sour, rancid, musty, moldy), or foreign color shall be cause for rejection of the lot.

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 Agricultural Marketing Service (AMS) agent.)

3/ To determine drained weight, the free liquid in the can shall be poured off and 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 gently agitated such as to liquify rendered fat and to

remove the sauce without breaking the chicken dices or vegetables. 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 dices or vegetables. 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 an approximate 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/ The lot shall be rejected if the average drained weight of whole intact chicken dices and vegetable pieces is less than 49.0 ounces.

5/ Defect scored only once per tray can.

6/ Examination for appearance and texture conformance of the chicken and vegetable dices, shall be made of representative dices immediately following the determination of drained weight.

4.5.3.3 Fat and salt content testing. Nine tray packs shall be selected at random from the lot and distributed as follows:

- three for laboratory analysis
- three for submission to the contractor
- three for retention by an AMS agent as reserve samples.

The three tray packs for laboratory analyses shall individually be 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 three unopened 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 blender or equivalent. The test results shall be reported to the nearest 0.1 percent. The lot shall be rejected if:

a. The average fat content of the three tray packs is greater than 7.0 percent.
b. The fat content of any individual tray pack is greater than 9.0 percent.
c. The salt content of any individual tray pack is less than 0.5 percent or greater than 1.0 percent.

Analysis of reserve samples at the request of the contractor shall not be permitted unless the original laboratory analysis indicated that the involved lot will be rejected because of noncompliance with the fat or salt content requirement. When the reserve samples are analyzed, the analyses for both fat and salt shall be made and will be considered final. Unused reserve samples shall be returned to the contractor for inclusion in subsequent lots.

4.5.4 Can condition examination. Examination of filled and sealed tray pack cans shall be in accordance with the United Standards for Condition of Food Containers, except that inspection for labeling shall be in accordance with MIL-L-1497 (see 5.4).

4.5.5 Can closure examination. Can closure shall be examined visually and by teardowns in accordance with the can manufacturer's requirement and CFR 21, Part 113, Subpart D, or CFR 9, Part 318, Subpart G, as applicable.

4.5.6 Vacuum examination. The sampling plan shall be as specified in table III. 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 across the top of the double seam and verify that the distance from the straight edge to the middle of the center panel is greater than near the double seam. The inspection lot shall include only tray packs produced in a single day on a single sealing machine.

TABLE III. Sampling plan for can vacuum examination

Lot size (cans)	Sample size (cans)	Acceptance number	Rejection number
0 to 1200	32	0	1
1,201 to 3,200	50	0	1
3,201 to 10,000	80	1	2

4.5.7 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 or C as specified (see 6.1).

5.1.1 Level A. A size 1001 by 1206 by 200 tray pack can shall be filled with 108 ounces of the food product, sealed, and thermoprocessed as specified in 3.4 and 3.5. The base plate of the can shall be electrolytic chromium-coated steel and shall be of sufficient temper to protect the product during shipment and storage. The base place weight of the body and end of each can shall be 90 pounds per base box. The entire inside area of the can shall be coated. Scratches or fractures shall not penetrate through the interior can coating. The interior can coating shall not peel or blister when in contact with the product. The interior can coating shall neither affect nor be affected by the packaged product. A certificate of conformance shall be furnished to certify compliance with the interior can coating requirements. The can shall be coated overall on the outside with a coating conforming to type I of TT-C-495.

5.1.1.1 When specified (see 6.1), the base plate of the can shall be electrolytic chromium-coated steel and shall be of sufficient temper to protect the product during shipment and storage. The base plate weight of the body and end of each can shall be 98 pounds per base box. The body design shall be reinforced on the bottom with six longitudinal beads or ribs 0.050 ± 0.010 inches deep. The beads shall be 9 inches by 3/4 inch in length and width and shall be equidistant in the center panel of the bottom. The end design shall be reinforced with eight longitudinal beads 0.018 ± 0.004 inches deep. The beads shall be 11 inches by 3/4 inch in length and width and shall be equidistant in the center panel of the end. The center four beads on the end design shall be interrupted to provide a 5-inch by 5-inch flat center panel for labeling. The apex of all these beads shall be outward. The interior and exterior can coating requirements shall be as specified in 5.1.1.

5.1.2 Level C. The product shall be preserved as specified in 5.1.1, except flat cans with commercial exterior coating will be acceptable.

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 fiberboard box, constructed and closed in accordance with style HSC-L with a HSC full depth cover, grade V2s of PPP-B-636. The inside box dimensions shall be 12-3/4 inches in length by 10-1/2 inches in width by 8-1/2 inches in depth. The cans shall be packed flat, four in depth within the box, with the first two cans placed with ends down and the next two cans with ends up. The inside of each box shall be provided with a box liner and five fiberboard pads fabricated of grade V3c fiberboard. The dimensions of the fiberboard pads shall be 11-1/4 inches by 9-1/4 inches (± 1/8 inch). The pads shall be placed between the cans and on the top and bottom of the stacked cans. 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 load.

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 inside box dimensions shall be 12-3/4 inches in length by 10-1/2 inches in width by 8-1/2 inches in depth. The cans shall be packed flat, four in depth within the box, with the first two cans placed with ends down and the next two cans with ends up. The inside of each box shall be provided with a box liner and five fiberboard pads fabricated of grade 275 fiberboard. The dimensions of the fiberboard pads shall be 11-1/4 by 9-1/4 inches (± 1/8 inch). The pads shall be placed between the cans and on the top and bottom of the stacked cans.

5.3 Unit loading. When specified (see 6.1), the product, packed as specified in 5.2.2 and 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. Each tray pack shall be labeled with:

- Official establishment number (e.g., EST 38) or a three digit 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, 1987 would be coded as 7078.) 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 in accordance with 4.5.4 after submerging the can in boiling water for 30 minutes. Paper labels are not permitted. Cans shall show the following statements:

TO HEAT

a. To heat in water: Submerge sealed can in boiling water. Bring to boil, continue boiling for 40 to 45 minutes. Avoid overheating to the point where internal pressure is evident (can shows evidence of bulging). Remove from water and open lid for serving.

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

b. To heat in oven: Either punch several holes in lid of tray can or open can in usual manner leaving the loose lid in place to prevent moisture loss. Place in 350°F oven for approximately 35 minutes until contents reach an internal temperature of 165°F.

WARNING: Do not place closed can in oven as heating will increase internal pressure which may cause the can to burst.

YIELD

For unitized and other uses, serves 12 portions of 1 cup each.

5.5 Marking

5.5.1 Shipping containers. In addition to any special marking required by the contract, 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, when tray pack cans are fabricated from 90 pounds per base box, 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.

6. NOTES

6.1 Ordering data. Acquisition documents should specify the following:

a. Title, number, and date of this document.
b. When a first article is required (see 3.1, 4.4, and 6.3).
c. Provisions for approved preproduction samples (see 3.6.1 and 6.3).
d. Level of preservation and packing required (see 5.1 and 5.2).
e. When tray pack cans are to be fabricated from 98 pounds per base box (see 5.1.1.1).
f. Type and class of unit load when unit loading is required (see 5.2.1 and 5.3).

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 contracting officer 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. 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 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 foods
Chicken
Rations
Tray pack

Custodians:

Army - GL
Navy - SA
Air Force - 50

Review activities:

Army - MD, TS
Navy - MC, MS
DP - SS

Preparing activity:

Army - GL

Project No. 8940-A534

INSTRUCTIONS: In a continuing effort to make our standardization documents better, the DoD provides this form for use in submitting comments and suggestions for improvements. All users of military standardization documents are invited to provide suggestions. This form may be detached, folded along the lines indicated, taped along the loose edge *(DO NOT STAPLE)*, and mailed. In block 5, be as specific as possible about particular problem areas such as wording which required interpretation, was too rigid, restrictive, loose, ambiguous, or was incompatible, and give proposed wording changes which would alleviate the problems. Enter in block 6 any remarks not related to a specific paragraph of the document. If block 7 is filled out, an acknowledgement will be mailed to you within 30 days to let you know that your comments were received and are being considered.

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STANDARDIZATION DOCUMENT IMPROVEMENT PROPOSAL

(See Instructions – Reverse Side)

1. DOCUMENT NUMBER	2. DOCUMENT TITLE
MIL-C-44288	Chicken Stew, Thermostabilized, Tray Pack

3a. NAME OF SUBMITTING ORGANIZATION

b. ADDRESS (Street, City, State, ZIP Code)

4. TYPE OF ORGANIZATION *(Mark one)*

- ☐ VENDOR
- ☐ USER
- ☐ MANUFACTURER
- ☐ OTHER *(Specify)*: _____

5. PROBLEM AREAS

a. Paragraph Number and Wording:

b. Recommended Wording:

c. Reason/Rationale for Recommendation:

6. REMARKS

7a. NAME OF SUBMITTER *(Last, First, MI)* – Optional	b. WORK TELEPHONE NUMBER *(Include Area Code)* – Optional
c. MAILING ADDRESS *(Street, City, State, ZIP Code)* – Optional	8. DATE OF SUBMISSION *(YYMMDD)*

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