INCH-POUND

MIL-B-44359(GL)
17 February 1989

MILITARY SPECIFICATION

BUNS, HAMBURGER, SHELF STABLE

This specification is approved for use by the U.S. Army Natick Research, Development, and Engineering Center, Department of the Army, and is available for use by all Departments and Agencies of the Department of Defense.

1. SCOPE

1.1 Scope. This specification covers shelf stable hamburger buns 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

L-P-378	-	Plastic Sheet and Strip, Thin Gauge, Polyolefin
QQ-A-1876	-	Aluminum Foil
PPP-B-636	-	Boxes, Shipping, Fiberboard
PPP-C-843	-	Cushioning Material Cellulosic

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 8920

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

MILITARY

MIL-L-35078 - Loads, Unit: Preparation of Semiperishable Subsistence Items; Clothing, Personal Equipment and Equipage; General Specifications For

STANDARDS

FEDERAL

FED-STD-595 - Colors

MILITARY

MIL-STD-105 - Sampling Procedures and Tables for Inspection by Attributes
MIL-STD-129 - Marking for Shipment and Storage

(Unless otherwise indicated, copies of federal and military specifications, standards, and handbooks are available from the Naval Publications and Forms Center, (ATTN: NPODS), 5801 Tabor Avenue, Philadelphia, PA 19120-5099.)

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.

U.S. DEPARTMENT OF HEALTH AND HUMAN SERVICES

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

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

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.)

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).

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, Inc., 3340 Pilot Road, St. Paul, MN 55121.)

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.)

AMERICAN SOCIETY FOR TESTING AND MATERIALS (ASTM)

F 88 - Seal Strength of Flexible Barrier Material

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

(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-flavors, off-odors, and off-colors.

3.2.1 Flour. The flour shall be matured, bleached, enriched, hard wheat flour having a protein content of approximately 12.5 percent which will produce a product in compliance with 3.6. Alternatively, unenriched flour may be used providing the equivalent enrichments required in the Standard of Identity for Enriched Flour (21 CFR, Part 137. 165) are added at the time of production of the finished product.

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

3.2.3 Shortening. Shortening shall be refined hydrogenated cottonseed or peanut oil or a combination of both and shall have a stability of not less than 100 hours as determined by the active oxygen method (AOM). Shortening used for greasing dough trough or dough pieces shall conform to the above requirements.

3.2.4 Glycerol. The glycerol shall comply with the Food Chemicals Codex.

3.2.5 Yeast. Yeast shall be good quality commercial baker's yeast.

3.2.6 Salt. Salt shall be noniodized, white, refined sodium chloride, with or without anticaking agents.

3.2.7 Emulsifier. The emulsifier shall be sucrose fatty acid esters complying with the Code of Federal Regulations (21 CFR, Part 172.859) and shall be limited to sucrose stearate having an HLB number of approximately 16 (see 6.4).

3.2.8 Gum arabic. Gum arabic shall comply with the Food Chemicals Codex and shall have been produced from a solution of gum arabic which has been spray dried.

3.2.9 Xanthan gum. Xanthan gum shall comply with the Food Chemicals Codex.

3.2.10 Potassium sorbate. Potassium sorbate shall comply with the Food Chemicals Codex.

3.2.11 Cream flavor, artificial. The cream flavor shall be a white to off-white powder or liquid having a characteristic odor and flavor (see 6.5).

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

3.3.1 Preparation. The bread may be manufactured by the straight dough method. Any other method yielding an equivalent product will be permissible. The dough shall be formulated from the following ingredients in the proportions specified:

Ingredient	Percent by weight
Flour	50.00
Water	29.74
Shortening	8.55
Glycerol	6.34
Yeast	2.25
Salt	1.29
Emulsifier	1.00
Gum arabic	0.50
Xanthan gum	0.25
Potassium sorbate	0.05
Cream flavor	0.03

3.3.2 Preparation of dough. The sucrose ester emulsifier shall be dry blended with the flour. All ingredients shall then be combined and sufficiently mixed to develop the dough.

3.3.3 Proofing, dividing and depositing. The mixed dough shall be sufficiently proofed. The proofed dough shall be divided into approximately 2.5 ounce pieces, then rounded and shaped into buns. The buns shall be deposited 12 each (3 by 4) per ovenable paperboard tray as specified in 3.5. The paper trays shall have a non-stick (release) surface approved by the FDA for food contact use. The deposited rolls shall be proofed sufficiently to meet end item requirements.

3.3.4 Baking. The proofed buns shall be fully baked to a uniform, typical baked bun color.

3.4 Pouch filling and sealing. Each pouch (see 5.1.1) shall be filled and sealed (see 4.5.7) so as to conform to the finished product requirements and to the following requirements:

a. The baked buns on paperboard trays shall be cooled to not less than 120°F.

b. The cooled buns on paperboard trays and three packages of oxygen scavenger shall be inserted into a trilaminate barrier pouch.

3.5 Ovenable paperboard tray. The paperboard tray shall be food grade and shall be fabricated from solid bleached sulfate paperboard with a thickness of 0.018 inch, and having a basic weight of 198.2 pounds per 1000 square feet. The paperboard shall be clay coated on one side and have 0.00125 inch polyester extruded on the other side. The size of the tray shall be 12 inches in length, 10 inches in width, and 1-5/8 inches in depth, and shall be fabricated with the polyester surface on the inside. The paperboard must be able to withstand an oven temperature of 400°F for a minimum of 1 hour.

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

a. There shall be no foreign materials such as, but not limited to, dirt, insects, insect parts, hair, wood, or metal.

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

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

d. The average net weight shall be not less than 28.4 ounces.

e. No individual pouch shall contain less than 26.0 ounces of product.

f. The oxygen content in an individual pouch shall not exceed 1.6 percent.

g. Each pouch shall contain 12 intact buns, one paper tray and three packages of oxygen scavenger.

h. The water activity for an individual pouch shall be not more than 0.89 when measured at 25°C.

i. The sample average water activity shall be not more than 0.88 when measured at 25°C.

j. The buns shall have a typical bun shape and appearance.

k. The bun crust shall have a uniform brown, baked bread color without being excessively light or dark.

l. The bun crumb shall be white to off white.

m. The texture of the buns shall not be excessively dry, crumbly, or excessively moist and gummy.

n. The buns shall show no evidence of dense crumb compression streaks.

o. There shall be only minor evidence of vacuum compression on the buns when the packaged buns are sealed and cooled (see 4.5.3).

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 product shall be prepared, processed, and packaged in establishments meeting the requirements of Title 21, code of Federal Regulations, Part 110, "Current Good Manufacturing Practice in Manufacturing, Processing, Packaging, or Holding of Human Foods", and the plant sanitation requirements of the appropriate Government inspection agency.

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

4. QUALITY ASSURANCE PROVISIONS

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

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

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

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

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

4.5 Quality conformance inspection. Unless otherwise specified, sampling for inspection shall be performed in accordance with MIL-STD-105.

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

4.5.1.1 Ingredient and component examination. Conformance of ingredients and components to identity, condition, and other requirements specified in 3.2 shall be certified by the ingredient supplier or ingredient manufacturer, and compliance be verified by examination of pertinent labels, markings, U.S. Grade Certificates, certificates of analyses, or other such valid documents acceptable to the inspection agency. If necessary, each ingredient shall be examined

organoleptically or inspected according to generally recognized test methods such as the standard methods described in the Official Methods of Analysis of the Association of Official Analytical Chemists and in the Approved Methods of the American Association of Cereal Chemists, to determine conformance to the requirements. Any nonconformance to an identity, condition, or other requirement shall be cause for rejection of the ingredient or component lot or of any involved product.

4.5.1.2 Laminated pouch material certification. Material listed below may be accepted on the basis of a contractor's certificate of conformance to the indicated requirements.

Material requirement	Requirement paragraph	Test procedure
Polyolefin film thickness	5.1.1.1.1	As specified L-P-378 except that a machinist's micrometer may be used provided that its graduations and accuracy conform to the requirement of L-P-378.
Polyester film thickness	5.1.1.1.1	As above.
Aluminum foil thickness	5.1.1.1.1	As specified in QQ-A-1876.
Laminated material construction	5.1.1.1.1	Laboratory evaluation
Color of laminated material	5.1.1.1.1	Visual evaluation

4.5.1.2.1 Ovenable paperboard tray material certification. Components and materials used in the construction of the ovenable paperboard tray may be accepted on the basis of a contractor's certificate of conformance to the indicated requirements specified in paragraph 3.5.

4.5.1.3 Unfilled preformed pouch seal strength testing. The unfilled pouches shall be tested for seal strength in accordance with ASTM F 88, except that the specimen holding clamps shall be spaced 2 inches apart prior to testing and the testing speed shall be 10 or 12 inches per minute. Machines that apply the tensile load to the test specimen by movement of the upper or lower clamp may be used. Test specimens shall be cut 1/2 or 1 inch in width and to a length suitable for proper mounting. The lot size shall be expressed in pouches. The sample size shall be the number of pouches indicated by inspection level S-1. Three adjacent specimens shall be cut from each of the three sealed sides of each pouch in the sample. The results shall be reported to the nearest 0.1 pound. The average seal strength of each seal shall be calculated by averaging the strengths of the three test specimens cut from that seal. Any test specimen failing to meet the individual test specimen seal strength requirement or any seal failing to meet the average seal strength requirement specified in 5.1.1.1.2 shall be classified as a major defect and shall be cause for rejection of the lot.

4.5.2 In-process examination. In-process examination shall be performed to determine conformance to formulation, processing, pouch filling, pouch 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 Pouch vacuum examination. The filled and sealed pouches shall be visually examined for proper vacuum level not less than 96 hours after filling and sealing. The sealed pouches shall be conditioned in a conditioning room at 73° ± 3°F. The sealed pouch shall exhibit a slight to moderate cling to the large face surface of the buns. Lack of vacuum is evidenced by a loose baggy appearance on the surface of the buns. The amount of vacuum shall not be excessive so as to cause more than a slight compression of the buns. Lack of vacuum or presence of excessive vacuum shall be classified as a major defect. The lot size shall be expressed in pouches. The sample unit shall be one filled and sealed pouch. The inspection level shall be I and the acceptable quality level (AQL), expressed in terms of defects per hundred units, shall be 0.65.

4.5.4 Filled and sealed pouch examination. The filled and sealed pouches shall be examined for the defects listed in table I. The lot size shall be expressed in pouches. The sample unit shall be one filled and sealed pouch. The inspection level shall be I and the AQL, expressed in terms of defects per hundred units, shall be 0.65 for major defects and 2.5 for minor defects.

TABLE I. Filled and sealed pouch defects 1/

Category		Defect
Major	Minor	
101		Tear, hole,or open seal
102		Not material specified
103		Pouch dimensions not as specified
104		Pouch not heat sealed
105		Width of side seals and bottom seal not as specified
106		Distance between inside edge of tear notch and inside edge of seal is less than 3/16 inch
107		Exterior color of pouch is not as specified
108		Pouch has odor not associated with material
109		Not clean 2/
110		Closure of top seal extends into or below tear notch locations
111		Closure seal not produced by means of heat
112		Closure seal less than specified width
113		Closure seal not located as specified
114		Presence of delamination 3/
115		Required labeling missing, incorrect, illegible, or that smudges
	201	Tear notch missing
	202	Tear notch not located as specified
	203	Depth of tear notch not as specified

1/ Any evidence of insect or rodent infestation shall be cause for rejection of the lot.

2/ Packaging shall be free from foreign matter which is unwholesome, has the potential to cause pouch damage (for example, glass, metal fillings, etc.) or generally detracts from the clean appearance of the package. The following examples shall not be scored as defects for unclean:

a. Foreign matter which presents no health hazard or potential pouch damage and which can be readily removed by gently shaking the package or by gently brushing the package with a clean, dry cloth.

b. Dried product which affects less than 1/8 of the total surface area of one pouch face (localized and aggregate).

c. Water spots.

d. Very thin film or grease, oil, or product residue which is discernible to touch, but is not readily discernible by visual examination.

3/ Delamination shall be scored as a defect except delamination of outer ply when located in the seal area 1/16 inch or further from food product edge of seal. Pouches exhibiting this type of delamination shall be tested by manually flexing the delaminated area 10 times. The area of delamination shall be held between thumb and forefinger of each hand with both thumbs and forefingers touching each other. The delaminated area shall then be rapidly flexed by rotating both hands in alternating clockwise-counterclockwise directions. Care shall be exercised when flexing delaminated area near the tear notches to avoid tearing the pouch material. After flexing, the separated outer ply shall be grasped between the thumb and forefinger and gently lifted toward the food product edge of the seal. If the separated area is too small to be held between thumb and forefinger,a number two stylus shall be inserted into the delaminated area and gentle lifting force applied against the outer ply. If separation of the outer ply can be made to extend to less than 1/16 inch from the product edge of the seal with no discernible resistance to the gentle lifting, it shall be scored as a delamination defect.

4.5.5 Net weight inspection. Randomly select 30 filled and sealed pouches from the inspection lot and weigh separately. Subtract the average tare weight (determined by randomly selecting and weighing 30 of the empty trays and pouches and 90 oxygen scavengers used in packaging the product and dividing the total weight by 30) from the weight of each filled pouch in the sample. The results shall be reported to the nearest 0.1 ounce. If the average net weight is less than 28.4 ounces or if the weight of any individual pouch is less than 26.0 ounces, the lot shall be rejected.

4.5.6 Product inspection. The filled and sealed sample pouches shall be brought to room temperature (65° to 75°F) and inspected for the defects listed in table II. The lot size shall be expressed in pouches. The sample unit shall be the contents of one pouch. The inspection level shall be S-2 and the AQL, expressed in terms of defects per hundred units, shall be 1.5 for major defects and 6.5 for minor defects.

TABLE II. Product defects 1/ 2/

Category		Defect
Major	Minor	
101		Oxygen content in pouch exceeding 1.6 percent 3/
102		Pouch does not contain 12 intact buns, 1 paper tray and three packages of oxygen scavenger
103		Two or more buns in pouch that do not have a typical bun shape and appearance
	201	Pouch contains a bun that does not have a typical bun shape and appearance
104		Two or more buns in a pouch that do not have crust color as specified (see 3.6k)
	202	Pouch contains a bun that does not have crust color as specified (see 3.6K)
105		Crumb color not white to off white 4/
106		Texture of buns is excessively dry, crumbly or excessively moist and gummy
107		Buns shows evidence of dense crumb compression streaks 4/
	203	Dimensions of oxygen scavenger package exceeds specified limits

1/ The presence of foreign material (for example, dirt, insect, insect parts, hair, wood, glass, or 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 or 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/ Filled and sealed pouches shall be tested for oxygen content in accordance with any USDA approved test method. Results shall be reported to the nearest 0.1 percent.

4/ To inspect for this defect, cut buns in half along the length from top to bottom.

4.5.7 Pouch closure seal testing. The filled and sealed pouches shall be tested in accordance with ASTM F 88, except that the specimen holding clamps shall be spaced 2 inches apart prior to testing and the testing speed shall be 10 or 12 inches per minute. Machines that apply tensile load to the specimen by movement of the upper or lower clamp may be used. The test specimens shall be cut to a length suitable for proper mounting. Three adjacent specimens, 1/2 or 1 inch wide shall be cut from the closure seal of each pouch in the sample. The average seal strength of the closure seal shall be calculated by averaging the test results of the three test specimens cut from that seal. The results shall be reported to the nearest 0.1 pound per inch of width. Any test specimen or average seal strength failing to meet the requirements of 5.1.1.1.3 shall be scored as a major defect. The lot size shall be expressed in pouches. The sample unit shall be one filled and sealed pouch. The inspection level shall be S-1 and the AQL, expressed in terms of defects per hundred units, shall be 1.5.

4.5.8 Water activity testing. Eight pouches shall be randomly selected from each production lot and individually tested for water activity. Water activity shall be determined 7 days after baking to allow moisture equilibration in the product. The water activity shall be determined in a USDA AMS laboratory in accordance with the Official Methods of Analysis of the Association of Official Analytical Chemists; Chapter: Vegetable Products, Processed; Method: Water Activity Official First Action, using an electric hygrometer system or an equivalent instrument. The sample unit shall be a specimen from the center of the trayed buns. The results of each Aw (water activity) determination shall be reported to the nearest 0.01. Any test result failing to conform to the requirements of 3.6h. and i. shall be classified as a major defect and shall be cause for rejection of the lot.

4.5.9 Shipping container examination. Shipping containers shall be examined in accordance with the appendix of PPP-B-636. In addition, the following defects shall be included in the table of examination:

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 pouches not as specified.

4.8 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.

5.1.1 Level A.

5.1.1.1 Unit packs. Twelve buns on a paperboard tray and three packages of an FDA approved oxygen scavenger substance (see 6.6) in spun bonded high density polyethylene pouches measuring 2 inches by 1 inch or less when laid flat, shall be unit packed in a preformed pouch as specified in 5.1.1.1.1.

5.1.1.1.1 Preformed pouch. The preformed pouch shall be fabricated from a three ply laminate consisting of, from inside to outside, 0.003 to 0.004 inch thick polyolefin, 0.00035 to 0.0007 inch thick aluminum foil, and 0.0005 inch thick polyester. The three plies shall be laminated with the polyester on the exterior of the pouch. The complete exterior of the pouch shall be uniformly colored in the range of 34079 through 34087 or 24052 through 24087 or 30045 through 30118 (excluding 30109) or 10045 of FED-STD-595. The material shall be suitably formulated for food packaging and shall not impart an odor or flavor to the product being packed. The material shall show no evidence of delamination, degradation, or foreign odor when heat sealed or fabricated into pouches.

5.1.1.1.2 Pouch construction. The preformed pouch shall be a flat style pouch having inside dimensions of 12-3/4 inches wide by 16 inches long (± 1/8 inch). The first dimension is measured at the opening of the pouch between the heat sealed sides. The empty pouch shall be made by heat sealing three edges with 3/8 inch (± 1/8 inch) wide seals. The heat seals shall be made in a manner that will assure hermetic seals. The side and bottom seals shall have an average seal strength of not less than 6 pounds per inch and no individual specimen shall have a seal strength of less than 5 pounds per inch when tested as specified in 4.5.1.3. A V-shaped or C-shaped (half round) tear notch at least 1/32 inch deep, located 1 to 1-1/4 inches from the top edge of the pouch, shall be made in one or both side seals. The distance between the inside edge of the tear notch and the inside edge of the seal shall be at least 3/16 inch. One side of the open end of the pouch shall be provided with an extended or foldover lip, extended not more than 1/8 inch (± 1/16 inch) to facilitate opening and filling. Tear notch location shall be measured from the top of the pouch, excluding the extended or foldover lip.

5.1.1.1.3 Pouch filling and sealing. The baked buns and the three packages of oxygen scavenger shall be placed into the pouch in a manner so as to avoid contamination of the closure seal area. The buns shall be filled into the pouch using the method specified in 3.4. The presence of vacuum shall be evident in the filled and sealed pouch when tested as specified in 4.5.3. The filled pouch shall be closed with a continuous heat seal not less than 1/4 inch wide. If thermal impulse or combination (heated curved bar with thermal impulse) sealing is used, any seal width from 1/8 to 1/16 inch will be acceptable. The closure seal shall not extend below the tear notch on either side of the pouch. The average seal strength shall be not less than 6 pounds per linear inch, and no individual test specimen shall be less than 5 pounds when tested as specified in 4.5.7.

5.2 Packing. Packing shall be level B or C as specified (see 6.1).

5.2.1 Level B packing. Four pouches of product preserved as specified in 5.1, shall be packed in a fiberboard box constructed and closed in accordance with style RSC-L, grade V3c of PPP-B-636. The inside box dimensions shall be 13-1/4 inches in length by 10 3/4 inches in width by 9-1/4 inches in depth. The pouches shall be packed flat, four in depth within the box. When packing, the pouches shall be separated by a 1/2 inch thick cellulosic cushioning material pad, approximately 19 inches by 12 inches, conforming with type II, class B of PPP-C-843. An additional pad shall be placed on the bottom of the pack and on the top of the top pouch. The ends of the pads shall be folded up over the end of the pouch to form a snug-fitting pack. Each box shall be reinforced with nonmetallic strapping or pressure-sensitive adhesive filament reinforced tape in accordance with the appendix of PPP-B-636.

5.2.2 Level C packing, for shipment to ration assembler. Four pouches 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, type CF, variety SW, class domestic, grade 275, of PPP-B-636. The inside box dimensions shall be 13-1/4 inches in length by 10-3/4 inches in width by 9-1/4 inches in depth. The pouches shall be packed flat, four in depth within the box. When packing, the pouches shall be separated by a 1/2 inch thick cellulosic cushioning material pad, approximately 19 inches by 12 inches, conforming to type I, class B of PPP-C-843. An additional pad shall be placed on the bottom of the pack and on the top of the top pouch. The ends of the pads shall be folded up over the end of the pouch to form a snug-fitting pack.

5.3 Unit loading. When specified (see 6.1), the product, packed as specified in 5.2.1 or 5.2.2, 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.

5.4 Labeling. Each pouch shall be labeled in accordance with Federal Food, Drug, and Cosmetic Act and regulations promulgated thereunder (21 CFR Parts 1-199).

5.5 Marking.

5.5.1 Shipping containers. 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.

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 5.3).

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.

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 Sucrose fatty acid ester. Sucrose fatty acid ester S-1670, produced by Mitsubishi International Corporation, 510 Madison Avenue, New York, New York was found to be satisfactory for the production of the hamburger buns.

6.5 Artificial cream flavor. Artificial cream flavor R-7752, produced by the Haaramann and Reimer Corporation, Springfield, New Jersey, or product no. 331884, produced by Felton International, Brooklyn, New York, were found to provide satisfactory flavor notes.

6.6 Oxygen scavenger. Oxygen scavenger suitable for the purpose may be obtained from the Multi-Form Company, Buffalo, New York. Other approved oxygen scavengers may be used.

6.7 Subject term (key word) listing.

Bread
Combat field feeding
Rolls

Custodians:
Army - GL
Navy - SA
Air Force - 50

Review activities:
Army MD, TS
Navy - MC
DLA - SS

Preparing activity:
Army - GL

(Project 8920-A527)

STANDARDIZATION DOCUMENT IMPROVEMENT PROPOSAL

(See Instructions – Reverse Side)

1. DOCUMENT NUMBER	2. DOCUMENT TITLE
MIL-B-44359	BUNS, HAMBURGER, SHELF STABLE

3a. NAME OF SUBMITTING ORGANIZATION	4. TYPE OF ORGANIZATION *(Mark one)*
	☐ VENDOR
b. ADDRESS *(Street, City, State, ZIP Code)*	☐ 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)*

(TO DETACH THIS FORM, CUT ALONG THIS LINE.)

DD FORM 82 MAR 1426

PREVIOUS EDITION IS OBSOLETE.