

SECTION C

C-1 ITEM DESCRIPTION

PCR-M-006, MASHED POTATOES WITH BROWN GRAVY, PACKAGED IN A TRAY PACK CAN, SHELF STABLE

Each component is consumed by combat personnel under worldwide environmental extremes as part of an operational ration, and is a source of nutritional intake.

C-2 PERFORMANCE REQUIREMENTS

A. Product standard. A sample shall be subjected to first article or product demonstration model inspection as applicable, in accordance with the tests and inspections of Section E of this Performance-based Contract Requirements document.

B. Commercial sterility. The packaged food shall be processed until commercially sterile.

C. Shelf life. The packaged product shall meet the minimum shelf life requirement of 36 months at 80°F.

D. Appearance.

(1) General. The finished product shall be cooked mashed potatoes with a top layer of brown gravy. The mashed potatoes shall be off white to tan and the gravy shall be light brown to brown in color. The mashed potatoes shall be practically free of small lumps and pieces of potato skin. The packaged food shall be free from foreign materials.

E. Odor and flavor.

(1) General. The packaged food shall have a cooked mashed potato and mild gravy odor and flavor. The packaged food shall be free from foreign odors and flavors.

F. Texture. The mashed potatoes shall be moderately thick and may have small soft lumps. The mashed potatoes shall not be pasty. The gravy shall be moderately thick and smooth.

G. Net Weight. The average net weight shall be not less than 108 ounces. No individual can shall have a net weight of less than 106 ounces.

H. Palatability and overall appearance. The finished product shall be equal to or better than the approved product standard in palatability and overall appearance.

I. Nutrient content.

(1) Fat content. The fat content shall be not greater than 4.5 percent.

(2) Salt content. The salt content shall be not less than 0.8 percent and not greater than 1.3 percent.

(3) Moisture content. The moisture content shall be not greater than 84.0 percent and not less than 79.0 percent.

C-3 MISCELLANEOUS INFORMATION

THE FOLLOWING IS PROVIDED FOR INFORMATION ONLY TO PROVIDE THE BENEFIT OF PAST GOVERNMENT EXPERIENCE. THIS IS NOT A MANDATORY CONTRACT REQUIREMENT.

A. Ingredients/formulation. Ingredients and formulation percentages for the brown gravy may be as follows:

<u>Ingredients</u>	<u>Percent by weight</u>
Water	88.08
Modified high opacity starch	4.80
Tomato paste	2.50
Onion powder	2.50
Salt	0.90
Natural roast beef flavoring <u>1/</u>	0.65
Garlic powder	0.35
Ground black pepper	0.12
Powdered caramel color <u>2/</u>	0.10

1/ Natural rare roast beef flavoring used was Harrmann & Reimer Natural Roast Beef flavor powder WONF.

2/ Powdered caramel color used was Sethness caramel powder 858.

B. Ingredients/formulation. Ingredients and formulation percentages for the mashed potatoes may be as follows:

<u>Ingredients</u>	<u>Percent by weight</u>
Dehydrofrozen mashed potatoes <u>1/</u>	47.00
Water	46.97
Margarine	5.00
Salt	1.00
Ground white pepper	0.03

1/ Dehydrofrozen potatoes used were Ore Ida frozen scratch plus supplied by McCains Inc. Potato preparation: HEAT WATER TO BOILING; ADD MARGARINE AND MELT; ADD SALT AND PEPPER AND ADJUST WITH WATER BACK TO FORMULA WEIGHT.

C. Product preparation. Percentages for product preparation may be as follows:

<u>Ingredients</u>	<u>Percent by weight</u>
Potatoes	83.00
Gravy	17.00

SECTION D

D-1 PACKAGING

A. Preservation. Product shall be filled into a tray pack can conforming to MIL-C-44340, Can, Tray Pack. The practice of reconditioning tray pack cans by buffing with an abrasive substance shall not be permitted. Verification testing and inspection of tray pack can conformance to the requirements shall be by the testing and inspections of Section 4 of MIL-C-44340 and the Quality Assurance Provisions of Section E of this Performance-based Contract Requirements document.

B. Can condition. The filled, sealed, and processed tray pack can shall conform to the United States Standards for Condition of Food Containers.

C. Can closure. The filled, sealed, and processed tray pack can shall be securely closed.

D. Can vacuum. The filled, sealed, and processed tray pack can shall show evidence of vacuum.

D-2 LABELING

A. Tray pack can body. One side of each tray pack can body shall be clearly printed or stamped, in a manner that does not damage the tray pack can, with permanent black ink or any other contrasting color, which is free of carcinogenic elements or ingredients. Paper labels are not permitted. Each tray pack can shall be labeled with the following:

- (1) Product name. Commonly used abbreviations may be used when authorized by the inspection agency.
- (2) Tray pack can code includes: 1/
Lot Number
Filling equipment identification number
Retort identification number
Retort cook number

1/ Shall be code marked as follows: 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, 27 March 2000 would be coded as 0087). The Julian code shall represent the day the product was packaged into the tray pack can 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.

B. Tray pack can lid. The tray pack can lid shall be clearly printed or stamped, in a manner that does not damage the lid, with permanent black ink or any other contrasting color, which is free of carcinogenic elements or ingredients. As an alternate lid labeling method, a preprinted self-adhering 0.002 inch thick clear polyester label printed with indelible black or other contrasting color ink may be used. Tray pack can labels shall show the following statements:

- (1) Lid labeling shall include:
Product name
Ingredients
Net weight
Name and address of packer
Official establishment number (for example, EST 38) or a three letter code identifying the establishment

- (2) Lid labeling shall also show the following statements:

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

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

YIELD: Serves 18 portions of approximately 2/3 cup each.

D-3 PACKING

A. Packing for shipment to ration assembler. Four filled, sealed, and processed cans

of product, shall be packed in a snug fitting fiberboard box conforming to style RSC-L, grade 275 of ASTM D 5118, Standard Practice for Fabrication of Fiberboard Shipping Boxes. The cans shall be packed flat, 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 class domestic, grade 175 fiberboard. The box shall be closed in accordance with ASTM D 1974, Standard Practice for Methods of Closing, Sealing, and Reinforcing Fiberboard Shipping Containers.

D-4 UNITIZATION

A. Unit loads. Unit loads shall be as specified in DSCP FORM 3507, Loads, Unit: Preparation of Semiperishable Subsistence Items.

D-5 MARKING

A. Shipping containers and unit loads. Marking of shipping containers and unit loads shall be as specified in DPSC FORM 3556 Marking Instructions for Shipping Cases, Sacks and Palletized/Containerized Loads of Perishable and Semiperishable Subsistence.

SECTION E INSPECTION AND ACCEPTANCE

The following quality assurance criteria, utilizing ANSI/ASQC Z1.4-1993, Sampling Procedures and Tables for Inspection by Attributes, are required. When required, the manufacturer shall provide the certificate(s) of conformance to the appropriate inspection activity. Certificate(s) of conformance not provided shall be cause for rejection of the lot.

A. Definitions.

(1) Critical defect. A critical defect is a defect that judgment and experience indicate would result in hazardous or unsafe conditions for individuals using, maintaining, or depending on the item; or a defect that judgment and experience indicate is likely to prevent the performance of the major end item, i.e., the consumption of the ration.

(2) Major defect. A major defect is a defect, other than critical, that is likely to result in failure, or to reduce materially the usability of the unit of product for its intended purpose.

(3) Minor defect. A minor defect is a defect that is not likely to reduce materially the usability of the unit of product for its intended purpose, or is a departure from established standards having little bearing on the effective use or operation of the unit.

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

(1) Product standard inspection. The first article or product demonstration model shall be inspected in accordance with the provisions of this Performance-based Contract Requirements document and evaluated for overall appearance and palatability. Any failure to conform to the performance requirements or any appearance or palatability failure shall be cause for rejection.

(2) Conformance inspection. Conformance inspection shall include the examinations and the methods of inspection cited in this section.

E-5 QUALITY ASSURANCE PROVISIONS (PRODUCT)

A. Product examination. The finished product shall be examined for compliance with the performance requirements specified in Section C of this Performance-based Contract Requirements document utilizing the double sampling plans indicated in ANSI/ASQC Z1.4 - 1993. The lot size shall be expressed in tray pack cans. The sample unit shall be the contents of one tray pack can. The inspection level shall be S-3 and the acceptable quality level (AQL), expressed in terms of defects per hundred units, shall be 4.0 for major defects and 6.5 for minor defects. Defects and defect classifications are listed in Table I below. The tray pack cans shall be heated in accordance with the heating instructions from the tray pack can label prior to conducting any portion of the product examination.

TABLE I. Product defects 1/ 2/

Category		Defect
<u>Major</u>	<u>Minor</u>	
		<u>Appearance</u>
	201	Mashed potatoes not an off white to tan color.
	202	Gravy not a light brown to brown color.
	203	Product not practically free of small lumps or pieces of potato skins.
		<u>Odor and flavor</u>
101		The packaged food does not have an odor or flavor of cooked mashed potato and mild gravy.
		<u>Texture</u>
	204	Mashed potatoes lumps not soft.
	205	Mashed potatoes are pasty.
	206	Mashed potatoes not moderately thick.
	207	Gravy not smooth.
	208	Gravy not moderately thick.
		<u>Net weight</u>
	209	Net weight of an individual tray pack can is less than 106 ounces. <u>3/</u>

1/ The presence of any foreign material such as but not limited to, dirt, insect parts, hair, wood, glass, metal, or mold or the presence of any foreign odors or flavors such as, but not limited to burnt, scorched, rancid, sour, or stale shall be cause for rejection of the lot.

2/ Finished product not equal to or better than the approved product standard in palatability and overall appearance shall be cause for rejection of the lot.

3/ Sample average net weight less than 108 ounces shall be cause for rejection of the lot.

B. Methods of inspection.

(1) Commercial sterility. Commercial sterility shall be verified in accordance with USDA/FSIS regulations or U.S. Food and Drug Administration regulations, as applicable.

(2) Shelf life. The contractor shall provide a certificate of conformance that the product has a 3 year shelf life when stored at 80⁰F. Government verification may include storage for 6 months at 100⁰F or 36 months at 80⁰F. Upon completion of either storage period, the product will be subjected to a sensory evaluation panel for appearance and palatability and must receive an overall score of 5 or higher based on a 9 point hedonic scale to be considered acceptable.

(3) Net weight. The net weight of the filled and sealed tray pack can shall be determined by weighing each sample unit on a suitable scale tared with a representative empty tray pack can and lid. Results shall be reported to the nearest 1 ounce.

(4) Nutrient content. The sample to be analyzed shall be a composite of three filled and sealed tray pack cans which have been selected at random from the lot. The composited sample shall be prepared (see NOTE) and analyzed for fat content, salt content and moisture content in accordance with the following methods of the Official Methods of Analysis of AOAC International:

<u>Test</u>	<u>Method Number</u>
Fat	922.06
Salt	935.47
Moisture	926.08

Test results shall be reported to the nearest 0.1 percent. Any nonconforming results shall be cause for rejection of the lot.

NOTE: The USDA will use AOAC method 983.18 for preparation of the sample.

E-6 QUALITY ASSURANCE PROVISIONS (PACKAGING AND PACKING MATERIALS, TRAY PACK CAN)

A. Packaging.

(1) 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. In addition, scratches, scuffs or abrasions that occur on the outside coating as a result of the filling, sealing, and processing of the tray pack cans shall not be scored as a defect.

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

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

B. Labeling.

(1) Can body labeling examination. The tray pack can body shall be examined for the labeling defects listed in table II below. The lot size shall be expressed in tray pack cans. The sample unit shall be one tray pack can. 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 4.0 for minor defects.

TABLE II. Can body labeling defects

Category		Defect
<u>Major</u>	<u>Minor</u>	
101		Tray pack can code or product name missing, incorrect, or illegible.
102		Not printed or stamped as specified.
103		Printing or stamping causes can body damage.
	201	Labeling ink not a contrasting color.

(2) Can lid labeling examination. The tray pack can shall be examined for the defects listed in table III below. The lot size shall be expressed in tray pack cans. The sample unit shall be one tray pack can. 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 4.0 for minor defects.

TABLE III. Can lid labeling defects

Category		Defect
<u>Major</u>	<u>Minor</u>	
101		Label torn or scratched so as to obliterate any of the markings.
102		Labeling missing, incorrect or illegible.
	201	Air bubbles under label.
	202	Label not properly adhered to can (label raised or peeled back from edges or corners).

(3) Label adhesive examination. When self-adhering labels are used, the adhesive shall be tested in accordance with ASTM D 3330. In lieu of testing, a certificate of conformance (COC) shall be provided.

C. Packing.

(1) Shipping container and marking examination. The filled and sealed shipping containers shall be examined for the defects listed in table IV below. The lot size shall be expressed in shipping containers. The sample unit shall be one shipping container fully packed. The inspection level shall be S-3 and the AQL, expressed in terms of defects per hundred units, shall be 4.0 for major defects and 10.0 for total defects.

TABLE IV. Shipping container defects

Category		Defect
<u>Major</u>	<u>Minor</u>	
101		National stock number, item description, contract number, name and address of producer, or date of pack missing, incorrect, or illegible.
102		Container not closed properly.
103		Interior packing with fiberboard liner or pads not as specified.
104		Dimensions of pads not as specified.
	201	Other required markings missing, incorrect, or illegible.
	202	Arrangement or number of tray pack cans not as specified.

D. Unitization.

(1) Unit load examination. The unit load shall be examined in accordance with the requirements of DSCP Form 3507, Loads, Unit: Preparation of Semiperishable Subsistence Items. Any nonconformance shall be classified as a major defect and shall be cause for rejection of the lot.

SECTION J REFERENCE DOCUMENTS

DPSC/DSCP FORMS

DPSC FORM 3556 Marking Instructions for Shipping Cases, Sacks and Palletized/Containerized Loads of Perishable and Semiperishable Subsistence
DSCP FORM 3507 Loads, Unit: Preparation of Semiperishable Subsistence Items

MILITARY SPECIFICATIONS

MIL-C-44340 Can, Tray Pack

GOVERNMENT PUBLICATIONS

Federal Food, Drug, and Cosmetic Act and regulations promulgated thereunder (21 CFR Parts 1-199) and (9 CFR Parts 1-391)
U.S. Standards for Condition of Food Containers

NON-GOVERNMENTAL STANDARDS

AMERICAN SOCIETY FOR QUALITY (ASQ)

ANSI/ASQCZ1.4-1993 Sampling Procedures and Tables for Inspection by Attributes

AMERICAN SOCIETY FOR TESTING AND MATERIALS (ASTM)

D 1974 Standard Practice for Methods of Closing, Sealing, and Reinforcing Fiberboard Shipping Containers
D 3330 Peel Adhesion of Pressure-Sensitive Tape
D 5118 Standard Practice for Fabrication of Fiberboard Shipping Boxes

AOAC INTERNATIONAL Official Methods of Analysis of the AOAC International

AMSSB-RCF-FN (Richards/5037)

21 September 2000

TO: DSCP-HSL (Woloszyn/4435)

Subject: (DDC00-114); Change to Tray Pack Can PCRs, and Quality Assurance Provisions and Packaging Requirements for PCRs.

1. Reference: DSCP coordination comment on draft Pork Sausage Links in Brine, Tray Pack Can dtd 29 August 2000.

2. Based on referenced comment, and review of PCRs, the U.S. Army Soldier and Biological Chemical Command, Soldier Systems Center requests that DSCP implement the change cited below. The following change is provided for all current, pending, and future procurements until the document is formally amended or revised:

Tray Pack Can PCRs:

PCR-B-018, Beef Chunks w/Noodles, Tray Pack Can, Shelf Stable;
PCR-B-006, Beef Patties in Broth, Tray Pack Can, Shelf Stable;
PCR-B-019, Beef Stew, Tray Pack Can, Shelf Stable;
PCR-B-027, Bread Stuffing, Tray Pack Can, Shelf Stable;
PCR-C-008, Chicken Breast in Gravy, Tray Pack Can, Shelf Stable;
PCR-C-028, Chicken W/Vegetables in Teriyaki Sauce, Tray Pack Can, Shelf Stable;
PCR-C-035, Chili w/Beans, Tray Pack Can, Shelf Stable;
PCR-C-042, Cream Gravy with Ground Beef, Tray Pack Can, Shelf Stable;
PCR-H-004, Hash, Corned Beef, Tray Pack Can, Shelf Stable;
PCR-H-006, Ham Slices in Brine, Tray Pack Can, Shelf Stable;
PCR-H-007, Ham Slices in Spice Sauce, Tray Pack Can, Shelf Stable;
PCR-M-006, Mashed Potatoes with Brown Gravy, Tray Pack Can, Shelf Stable;
PCR-P-013, Pork Sausage in Cream Gravy, Tray Pack Can, Shelf Stable:

Paragraph D-3. A. Packing, lines 7-8: Delete " the same material as the box" and insert " class domestic, grade 175 fiberboard".

Quality Assurance Provisions and Packaging Requirements:

PCR-O-0001, Omelet with Bacon and Cheese, Tray Pack Can, Shelf Stable;
PCR-O-0002, Omelet with Cheese, Western-Style, Tray Pack Can, Shelf Stable;
PCR-O-0003, Omelet with Sausage and Potatoes, Tray Pack Can, Shelf Stable.

Paragraph D-3. A. Packing, line 10: Delete "the same material as the box" and insert " class domestic, grade 175 fiberboard".

3. POC for this action is Mr. Allen Richards, X5037.

DONALD A. HAMLIN
Team Leader
DoD Food Engineering
Services Team

Document changes.

CF: (ARichards)
Alashaian
Beward
Byrd
Charya
Costanza
Hamlin
Hoffman

Konrady M.
Malason
Richards
Salerno
Valvano
Wagner