

SECTION C

This document covers dehydrated uncooked pork chops packaged in a No. 10 metal can for use by the Department of Defense as a component of operational rations.

C-1 ITEM DESCRIPTION

PCR-P-039, PORK CHOPS, DEHYDRATED, UNCOOKED, PACKAGED IN A No. 10 METAL CAN, SHELF STABLE

C-2 PERFORMANCE REQUIREMENTS

A. Product standard. A sample shall be subjected to first article (FA) or product demonstration model (PDM) inspection as applicable, in accordance with the tests and inspections of Section E of this Performance-based Contract Requirements (PCR) document. The approved sample shall serve as the product standard. Should the contractor at any time plan to, or actually produce the product using different raw material or process methodologies from the approved Product Standard, which result in a product non comparable to the Product Standard, the contractor shall arrange for a new or alternate FA or PDM approval. In any event, all product produced must meet all requirements of this document including Product Standard comparability.

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

C. Pork chops. The pork chops shall be USDA certified Institutional Meat Purchase Specifications (IMPS) for fresh pork products, series 400, item No. 1413.

D. Dehydrated product.

(1) General. The finished product shall be dehydrated uncooked pork chops. There shall be no evidence of faulty dehydration procedures such as glazed areas more than 1/2 inch (12.7 mm) in any dimension or dark-colored cores of any dimensions. The product shall show no evidence of incomplete dehydration such as wet or soft spots. The dehydrated product shall have a fresh pork color. At least 95 percent of the container net weight shall consist of whole intact pork chops weighing 0.50 to 0.75 ounce each. The packaged food shall be free from foreign materials.

(2) Odor. The packaged food shall have an dehydrated uncooked pork odor. The packaged food shall be free from foreign odors.

E. Net weight. The average net weight shall be not less than 20.00 ounces. No individual can shall have a net weight of less than 19.25 ounces.

F. Rehydrated uncooked product appearance. The overall appearance shall be of fresh, uncooked pork chops. The pork chops shall remain intact after rehydration. The rehydrated product shall have the odor of fresh uncooked pork chops. The rehydrated uncooked pork chops shall be free from foreign odors. The rehydrated uncooked product shall be free from foreign materials.

(1) There shall be no cuts or splits penetrating the lean meat more than 1/4 inch.

(2) There shall be no blood clots or bruises larger than 1/4 inch in any dimension.

(3) There shall be no opaque connective tissue (surface) in excess of 1/4 square inch. In addition, there shall be no protruding ligaments and no blood vessels larger than 1/8 inch in diameter.

(4) The rehydrated product shall be practically free of bone or bone fragments.

(5) The rehydrated product shall consist of whole pieces meeting the following fat and dimensional requirements:

(a) Surface fat shall be not more than 1/4 inch average thickness with no point exceeding 3/8 inch. Bridging, not exceeding 1 inch in length is permitted.

(b) There shall be no fat on the flat surface of the chop (surface formed in cutting chop from boneless loin) measuring more than 3/8 inch in width and 3/4 inch in length on both surfaces.

(c) Thickness of individual chops shall be 3/8 inch \pm 1/16 inch.

(6) The individual chops shall be approximately circular in shape. There shall be no edge crevices, caused by forming or defatting, that extend more than 3/4 inch toward the center of the chop.

G. Rehydrated cooked product.

(1) General. The rehydrated cooked pork chops shall show no unrehydrated spots larger than 1/8 inch in any dimension. The rehydrated cooked product shall be free from foreign materials.

(2) Odor and flavor. The rehydrated cooked pork chops shall have a cooked, browned, pork and pork fat odor and flavor. The rehydrated cooked pork chops shall be free from foreign odors and flavors.

(3) Texture. The rehydrated cooked pork chops shall have a tender, chewy, slightly fibrous texture.

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. Moisture content. The moisture content of the dehydrated product shall not exceed 2.0 percent.

J. Oxygen content. Oxygen content of the headspace gas shall not exceed 2.0 percent. Product shall be tested no more than 24 hours after packaging.

SECTION D

D-1 PACKAGING

A. Packaging. The dehydrated product shall be packaged in a No. 10 metal can under an atmosphere of nitrogen so that the oxygen content of the gases in the filled and sealed container shall not exceed 2.0 percent when tested within 24 hours of packing. The can shall not leak when tested in accordance with E-5, B, (4).

D-2 LABELING

A. Labeling of metal cans. Labeling of metal cans shall be as specified in DSCP FORM 2997, Labeling of Metal Cans for Subsistence. In addition, the following information, and directions for use, as applicable, shall appear on one end of the can:

PORK CHOPS, DEHYDRATED, UNCOOKED

Net weight

Name of processor

Date of packaging (day-month-year)

Lot No. (concurrent with dehydration load)

Official establishment number (for example, EST 38) or a three letter code identifying the establishment

THIS PRODUCT IS GAS PACKED

Directions for use

Rehydrate the chops as soon as can is opened. Cover chops with lukewarm (90°-100°F) salted water (1 teaspoon salt per quart of water). Soak 20 minutes or until all portions are soft. Drain. If possible, cover and place chops in refrigerator over night to equilibrate moisture.

Mix 5 oz (1-1/4 cup) sifted flour and 1 teaspoon salt. Dredge rehydrated pork chops in flour mixture; shake off excess.

Use 4 oz (1/2 cup) melted shortening. Brown chops in shallow fat about 1-1/2 minutes per side on 375°F griddle.

Place in 1/2 steam table pan. Pour 1 quart gravy or tomato sauce over pork chops. Cover and bake in 350°F oven 1-1/2 hours.

NOTE: Use 1 pound of dehydrated product for 3 pounds fresh, boned pork chops.

D-3 PACKING

A. Commercial packing. Six cans of product shall be packed in a shipping container complying with ASTM D3951-98 (2004), Standard Practice for Commercial Packaging.

B. Export packing. Six cans of product shall be packed in a fiberboard shipping container conforming to style RSC, grade W5c or W5s of ASTM D5118/D5118M-95 (2001), Standard Practice for Fabrication of Fiberboard Shipping Boxes. Each shipping container shall be closed and reinforced with nonmetallic strapping or pressure-sensitive adhesive filament-reinforced tape in accordance with ASTM D1974-98 (2003), Standard Practice for Methods of Closing, Sealing, and Reinforcing Fiberboard Boxes.

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 DSCP FORM 3556 Marking Instructions for Boxes, Sacks and Unit 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. Unless otherwise specified, Single Sampling Plans indicated in ANSI/ASQC Z1.4-1993 will be utilized. 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 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 of the lot. The approved first article or product demonstration model shall be used as the product standard for periodic review evaluations. All food components that are inspected by the USDA shall be subject to periodic review sampling and evaluation. The USDA shall select sample units during production of contracts and submit them to the following address for evaluation:

US Army Research, Development and Engineering Command
Natick Soldier Center
AMSRD-NSC-CF-F
15 Kansas Street
Natick, MA 01760-5018

One lot shall be randomly selected during each calendar month of production. Two (2) sample units of each item produced shall be randomly selected from that one production lot. The two (2) sample units shall be shipped to Natick within five working days from the end of the production month and upon completion of all USDA inspection requirements. The sample units will be evaluated for the characteristics of appearance, odor, flavor, texture and overall quality.

(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 cans. The sample unit shall be the contents of one can. The inspection level shall be S-3 and the acceptable quality level (AQL), expressed in terms of defects per hundred units, shall be 1.5 for major defects and 6.5 for minor defects. Defects and defect classifications are listed in table I below.

TABLE I. Product defects 1/ 2/ 3/

Category		Defect
<u>Major</u>	<u>Minor</u>	
		<u>Dehydrated product</u>
101		Product not dehydrated uncooked pork chops.
102		Glazed areas more than 1/2 inch (12.7 mm) in any dimension or dark-colored cores of any dimensions. <u>4/</u>
103		Presence of wet or soft spots indicating incomplete dehydration.
	201	Dehydrated product not a fresh pork color.
	202	Dehydrated product does not have an uncooked pork odor.
	203	Less than 95 percent of the container net weight consist of whole intact pork chops weighing 0.50 to 0.75 ounce each.
		<u>Net weight</u>
	204	The net weight of an individual can is less than 19.25 ounces. <u>5/</u>

TABLE I. Product defects 1/ 2/ 3/ cont'd

Category		Defect
<u>Major</u>	<u>Minor</u>	
		<u>Rehydrated uncooked product 6/</u>
104		Overall appearance not of fresh, uncooked pork chops.
105		Pork chops do not remain intact after rehydration.
106		Product does not have the odor of fresh uncooked pork chops.
107		Bone or bone fragment measuring more than 0.3 inch in any dimension.
	205	Cuts or splits penetrating the lean meat more than 1/4 inch.
	206	Blood clots or bruises larger than 1/4 inch in any dimension.
	207	Protruding ligaments, or blood vessels larger than 1/8 inch in diameter.
	208	Opaque connective tissue (surface) in excess of 1/4 square inch.
	209	Surface fat more than 1/4 inch in average thickness. <u>7/</u>
	210	Fat on the flat surface of the chop (surface formed in cutting chop from boneless loin) measuring more than 3/8 inch in width and 3/4 inch in length on both surfaces.
	211	Thickness of individual chops not 3/8 inch \pm 1/16 inch.
	212	Chops not approximately circular in shape.
	213	Edge crevices, caused by forming or defatting, that extend more than 3/4 inch toward the center of the chop.
		<u>Rehydrated cooked product</u>
108		Rehydrated cooked pork chop has unrehydrated spots larger than 1/8 inch in any dimension. <u>8/</u>

TABLE I. Product defects 1/ 2/ 3/ cont'd

Category		Defect
<u>Major</u>	<u>Minor</u>	
		<u>Rehydrated cooked product cont'd</u>
		<u>Odor and flavor</u>
109		Not cooked, browned, pork and pork fat odor or flavor.
		<u>Texture</u>
	214	Not tender or not chewy or not slightly fibrous.

1/ Presence of any foreign materials such as, but not limited to dirt, insect parts, hair, wood, glass, metal, or mold, or 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. Foreign flavor not applicable to dehydrated product.

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. Palatability not applicable to dehydrated product.

3/ The fresh pork chops shall be USDA certified IMPS item No. 1413. Product not accompanied by a USDA certificate shall be cause for rejection of the lot.

4/ Glazed areas caused by surface blood shall not be scored a defect.

5/ Average net weight less than 20.00 ounces shall be cause for rejection of the lot.

6/ Rehydrate in an excess of water at a temperature of 70⁰ to 100⁰F for 20 minutes.

7/ No point shall exceed 3/8 inch. Bridging, not exceeding 1 inch in length is permitted.

8/ The rehydrated cooked pork chop shall be cut through twice at right angles. Since gristle, gelatinous material, and connective tissue frequently tend to impede proper rehydration, callous-like areas ascribable to these conditions shall not be considered evidence of improper rehydration.

B. Methods of inspection.

(1) Shelf life. The contractor shall provide a certificate of conformance that the product has a 36 month 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.

(2) Net weight. The net weight of the filled and sealed can shall be determined by weighing each sample unit on a suitable scale tared with a representative empty can and lid. Results shall be reported to the nearest 0.1 ounce.

(3) Moisture content testing. The sample to be analyzed shall be a one-pound composite of three filled and sealed cans that have been selected at random from one production lot. The composite sample shall be tested for moisture content in accordance with the Official Methods of Analysis of the AOAC method 925.45/A (except that the temperature-time cycle for moisture analysis shall be modified by using a temperature of 70°C for 16 hours at a pressure of not more than 100 mm of mercury. Test results shall be reported to the nearest 0.1 percent. Any result not conforming to the requirements specified in Section C of this Performance-based Contract Requirements document shall be cause for rejection of the lot.

(4) Oxygen content in the headspace gas examination. The determination of the oxygen content in the headspace gas shall be by using an electronic oxygen analyzer which operates on the principle of the difference in partial pressure of oxygen between the oxygen reference and the oxygen content of the sample as detected by a porous zirconia sensor, such as the Illinois Instrument Analyzer or its equivalent: or on the principle of paramagnetic resonance such as the Servomex analyzer, or its equivalent. The oxygen analyzer shall be calibrated to a known standard prior to testing the headspace gas of the product. Any result not conforming to the oxygen in headspace requirement in C-2, J shall be classified as a major defect. The lot size shall be expressed in units of cans. The sample unit shall be one filled and sealed can. The inspection level shall be S-2 and the AQL, expressed in terms of defects per hundred units, shall be 1.5. Test results shall be reported to the nearest 0.1 percent.

(5) Can leakage examination. Cans shall be inspected for leakage. The sample unit shall be one filled and sealed can. The lot size shall be expressed in cans. The sealed cans shall be examined for leakage by submerging the can in water contained in a vacuum desiccator, Mead Tester, or equivalent device, and drawing a vacuum of 10 inches of mercury (atmospheric pressure 29.9 inches of Hg) for at least 30 seconds. A leak is indicted by a steady progression of bubbles and is a major defect. Isolated bubbles caused by air entrapped in the double seam are not considered signs of leakage. The inspection level shall be S-2 and the AQL, expressed as defects per hundred units, shall be 1.5.

E-6 QUALITY ASSURANCE PROVISIONS (PACKAGING AND PACKING MATERIALS, No. 10 METAL CAN)

A. Packaging.

(1) Can condition examination. Examination of filled and sealed 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 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.

B. Labeling.

(1) Can labeling examination. The can labeling shall be examined in accordance with the requirements of DSCP FORM 2997, Labeling of Metal Cans for Subsistence. Any nonconformance shall be classified as a major defect.

C. Packing.

(1) Shipping container and marking examination. The filled and sealed shipping containers shall be examined for the defects listed in table II 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 II. Shipping container and marking defects

Category		Defect
<u>Major</u>	<u>Minor</u>	
101		Marking omitted, incorrect, illegible, or improper size, location sequence or method of application.
102		Inadequate workmanship. <u>1/</u>
	201	Number of cans not as specified.

1/ Inadequate workmanship is defined as, but not limited to, incomplete closure of container flaps, loose strapping, inadequate stapling, improper taping, or bulged or distorted container.

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.

SECTION J REFERENCE DOCUMENTS

DSCP FORMS

DSCP FORM 2997	Labeling of Metal Cans for Subsistence
DSCP FORM 3507	Loads, Unit: Preparation of Semiperishable Subsistence Items
DSCP FORM 3556	Marking Instructions for Boxes, Sacks and Unit Loads of Perishable and Semiperishable Subsistence

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

ASTM INTERNATIONAL

D1974-98 (2003)	Standard Practice for Methods of Closing, Sealing, and Reinforcing Fiberboard Boxes
D3951-98 (2004)	Standard Practice for Commercial Packaging
D5118/D5118M-95 (2001)	Standard Practice for Fabrication of Fiberboard Shipping Boxes

AOAC INTERNATIONAL Official Methods of Analysis of the AOAC International (OMA)