

## SECTION C

This document covers thermostabilized chicken and dumplings in a flexible pouch for use by the Department of Defense as a component of operational rations.

### C-1 ITEM DESCRIPTION

#### **PCR-C-067, CHICKEN AND DUMPLINGS, PACKAGED IN A FLEXIBLE POUCH, 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. 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 a mixture of cooked chicken breast strips, spätzle dumplings, carrots, and green peas in a chicken flavored sauce. Both the dumplings and the sauce shall be an off white to pale yellow color. The packaged food shall be free from foreign materials.

(2) Chicken. The chicken breast strips may be of random length and shall be sizes typically produced by equipment with settings that result in strips 5/8-inch in width. The packaged product shall be practically free of skin, bone or bone fragments, cartilage, coarse connective tissue, tendons or ligaments, and discolored meat. The chicken breast strips shall have a cooked chicken breast color.

(3) Dumplings. The spätzle dumplings shall be intact, small and of random shape and size.

(4) Vegetables. The diced carrots shall be 3/8 inch in size. The diced carrots and green peas shall be intact and have a cooked appearance.

(5) Sauce. The sauce shall be glossy, opaque, smooth and moderately thick.

E. Odor and flavor. The chicken and dumplings shall have an odor and flavor of cooked chicken and dumplings, carrots, and peas in a chicken flavored sauce with mild poultry seasoning. The packaged food shall be free from foreign odors and flavors.

F. Texture.

(1) Chicken. The cooked chicken breast strips shall be moist and tender.

(2) Dumplings. The cooked spätzle dumplings shall be moist, tender, slightly doughy, and moderately firm.

(3) Vegetables. The carrots and peas shall be tender.

(4) Sauce. The sauce shall be smooth and moderately thick.

G. Net weight. The average net weight of the pouched product shall be not less than 8.0 ounces (227 grams). No individual pouch shall have a net weight of less than 7.5 ounces (213 grams).

H. Drained weight.

(1) Chicken, dumplings and vegetables. The average drained weight shall be not less than 4.5 ounces (127 grams). The drained weight of chicken, dumplings and vegetables (combined) in an individual pouch shall be not less than 4.2 ounces (119 grams).

Comment [p1]: Natick case ES07-048 DSCP-SS-07-27204 change 01 9 Feb 07. Add new sub-para "(1) Chicken, dumplings and vegetables

(2) Chicken. The average drained weight of the chicken breast strips shall be not less than 2.0 ounces (57 grams). The drained weight of the chicken breast strips in an individual pouch shall be not less than 1.7 ounces (48 grams).

Comment [p2]: Natick case ES07-048 DSCP-SS-07-27204 change 01 9 Feb 07. Section C-2,H Drained Weight. Add new sub-para (2)

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

J. Analytical requirements.

(1) Fat content. The fat content shall be not greater than 7.5 percent.

(2) Salt content. The salt content shall be not less than 0.5 percent and not greater than 1.2 percent.

### **C-3 MISCELLANEOUS INFORMATION**

THE FOLLOWING INGREDIENTS ARE FOR INFORMATION ONLY. THIS IS NOT A MANDATORY REQUIREMENT.

A. Ingredients. Water, blanched spätzle dumplings (water, enriched wheat four {flour, ferrous sulfate, niacin, thiamine mononitrate, riboflavin, folic acid}, liquid whole eggs, enriched durum flour (durum wheat flour, ferrous sulfate, niacin, thiamine mononitrate, riboflavin, folic acid), salt, wheat gluten and turmeric (as color)), cooked chicken white meat, chopped and formed (boneless, skinless chicken white meat, water, salt, modified food starch, sodium phosphate), cooked chicken tenderloins (chicken breast tenderloins, water, salt, modified cornstarch, sodium phosphate and carrageenan), carrots, heavy cream, modified food starch, chicken food base (chicken meat including natural, chicken juices, salt, autolyzed yeast extract, flavorings, sugar, potato flour, rendered chicken fat and turmeric), peas, powdered vegetable shortening (partially hydrogenated soybean oil, maltodextrin and modified food starch), chicken fat, enriched wheat flour, cream powder (cream, lecithin, BHA), sugar, spice, soy lecithin, spice extractive, garlic powder, onion powder.

### **SECTION D**

#### **D-1 PACKAGING**

Product shall be filled into pouches, processed and each pouch placed into a carton in accordance with MIL-PRF-44073, Packaging of Food in Flexible Pouches, Type I.

#### **D-2 LABELING**

A. Pouches. Each pouch shall be correctly and legibly labeled. Printing ink shall be permanent black ink or any other contrasting color, which is free of carcinogenic elements. Prior to thermal processing of the pouches, the product name, lot number and filling equipment number shall be applied. All other marking may be applied before or after thermal processing.

- (1) Product name (not less than 1/8 inch high). Commonly used abbreviations may be used when authorized by the inspection agency.

(2) Pouch code includes: 1/

Lot Number  
Filling equipment identification number  
Official establishment number (for example, EST-38)  
Retort identification number  
Retort cook number

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, 30 August 2006 would be coded as 6242). The Julian code shall represent the day the product was packaged into the tray and processed. Sublotting (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. Cartons.**

(1) The cartons shall be clearly printed on one of the largest panels with permanent black ink as follows:

Product name (7/32 to 9/32 inch block letters)  
Ingredients  
Net weight  
Name and address of packer  
Code (same as pouch code, see pouches) 1/ 2/  
USDA official inspection legend for the packer's plant  
"Nutrition Facts" label in accordance with the Nutrition Labeling and Education Act (NLEA) and all applicable FDA/USDA regulations

1/ Code may be ink printed on any outside carton panel. Code may be embossed on any outside carton panel except the largest panels of the carton.

2/ Official establishment number not required in carton code.

(2) Military nutrition information entitled "Military Rations Are Good Performance Meals" shall be printed on the entrée cartons large panel opposite to the panel printed with the data in D-2, B, (1) above. The information, provided by the contracting officer, shall be clearly printed with permanent black ink in an area no smaller than 4-1/4 inches by 6-3/4 inches.

### **D-3 PACKING**

A. Packing for shipment to ration assembler. Seventy-two pouches (of the same product) in cartons shall be packed flat or on edge in a snug-fitting fiberboard shipping container conforming to style RSC, type CF, class domestic, grade 200 of ASTM D 5118/D 5118M, Standard Practice for Fabrication of Fiberboard Shipping Boxes. Each container shall be securely closed in accordance with ASTM D 1974, Standard Practice for Methods of Closing, Sealing, and Reinforcing Fiberboard Boxes.

### **D-4 MARKING**

A. Shipping containers. Shipping containers shall be marked in accordance with 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, Sampling Procedures and Tables for Inspection by Attributes, are required. Unless otherwise specified, Single Sampling Plans indicated in ANSI/ASQC Z1.4 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. Six (6) sample units of each item produced shall be randomly selected from that one production lot. The six (6) 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/tests and methods of inspection cited in this section and in Section 4 of MIL-PRF-44073.

#### **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. The lot size shall be expressed in pouches. The sample unit shall be the contents of one pouch. 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 4.0 for minor defects. Defects and defect classifications are listed in table I. For drained weight inspection, a separate set of pouches shall be selected from the lot using the same sampling criteria as above. The pouches shall be immersed in not less than 140°F water for 10 minutes prior to conducting the product examination and the drained weight inspection.

TABLE I. Product defects 1/ 2/ 3/ 4/

Category		Defect
<u>Major</u>	<u>Minor</u>	
		<u>Appearance</u>
101		Product not a mixture of cooked chicken breast strips, spätzle dumplings, carrots, and green peas in a chicken flavored sauce.
102		Bone or bone fragment measuring more than 0.3 inch in any dimension.
	201	Chicken breast strips not 5/8-inch in width.
	202	Chicken breast strips not a cooked chicken breast color.
	203	Dumplings not intact.
	204	Dumplings not small or not of random shape and size.
	205	Dumplings or sauce not an off white to pale yellow color.
	206	Diced carrots or green peas not intact.
	207	Diced carrots or green peas do not have a cooked appearance.
	208	Sauce not smooth or not glossy or not opaque or not moderately thick.
	209	Total weight of skin, cartilage, coarse connective tissue, tendons or ligaments, and discolored meat more than 0.20 ounces.
		<u>Odor and flavor</u>
103		The packaged food does not have an odor or flavor of cooked chicken and dumplings or carrot or peas in a chicken flavored sauce with mild poultry seasoning.
		<u>Texture</u>
	210	Chicken breast strips not moist or not tender.
	211	Dumplings not moist or not tender or not slightly doughy or not moderately firm.

TABLE I. Product defects 1/ 2/ 3/ 4/ (cont'd)

Category	Defect
<u>Major</u>	<u>Minor</u>
	212 Carrots or peas not tender.
	213 Sauce not smooth or not moderately thick.
	<u>Net weight</u>
	214 Net weight of an individual pouch less than 7.5 ounces (213 grams). <u>5/</u>
	<u>Drained weight</u>
	215 Drained weight of chicken, dumplings and vegetables (combined) in an individual pouch less than 4.2 ounces (119 grams). <u>6/</u>
<u>216</u>	Drained weight of the chicken breast strips in an individual pouch less than 1.7 ounces (48 grams). <u>7/</u>

**Comment [p3]:** Natick case ES07-048 DSCP-SS-07-27204 change 01 9 Feb 07. Section E-5, Table I. Add new minor defect 216

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.

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/ Machine setting for chicken breast strips shall be verified by Certificate of Conformance. Natural proportions of chicken used shall be verified by Certificate of Conformance.

4/ Type requirement for dumplings and size requirements for carrots shall be verified by Certificate of Conformance.

5/ Sample average net weight less than 8.0 ounces (227 grams) shall be cause for rejection of the lot.

6/ Sample average drained weight for chicken, dumplings, and vegetables less than 4.5 ounces (127 grams) shall be cause for rejection of the lot.

7/ Sample average drained weight for whole muscle chicken breast strips less than 2.0 ounces (57 grams) shall be cause for rejection of the lot.

**Comment [p4]:** Natick case ES07-048 DSCP-SS-07-27204 change 01 9 Feb 07. Section E-5, Table I. Add new footnote 7/:

B. Methods of inspection.

(1) Commercial sterility. Testing for commercial sterility shall be in accordance with USDA/FSIS regulations.

(2) Shelf life. The contractor shall provide a Certificate of Conformance that the product has a 36 month shelf life when stored at 80°F. Government verification may include storage for 6 months at 100°F or 36 months at 80°F. 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 pouches shall be determined by weighing each sample on a suitable scale tared with a representative empty pouch. Results shall be reported to the nearest 0.1 ounce or to the nearest gram.

(4) Drained weight. The pouch contents shall be poured into a flat-bottom container. A minimum of three times the volume of the pouch of not less than 140°F water shall be added to the container so as to cover the contents. The contents and water shall be gently agitated so as to liquefy rendered fat and to remove the sauce. The contents shall then be poured into a U.S. Standard No. 1/4 inch sieve in a manner that will distribute the product over the sieve. The 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 such an angle to assure complete drainage of liquid from the product. Drain product for two 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 or to the nearest gram.

(5) Analytical. The sample to be analyzed shall be a composite of eight filled and sealed pouches which have been selected at random from the lot. The composite sample shall be prepared and analyzed in accordance with the following methods of the Official Methods of Analysis (OMA) of AOAC International:

<u>Test</u>	<u>Method Number</u>
Fat	985.15
Salt	935.47

Test results shall be reported to the nearest 0.1 percent. Verification will be conducted through actual testing by a Government laboratory. Any nonconforming results shall be cause for rejection of the lot.

**E-6 QUALITY ASSURANCE PROVISIONS (PACKAGING AND PACKING MATERIALS)**

A. Packaging and labeling.

(1) Pouch material testing. The pouch material shall be examined for the characteristics listed in table I of MIL-PRF-44073 for Type I. The lot size, sample unit, and inspection level criteria for each of the test characteristics are listed below. Any test failure shall be classified as a major defect.

Characteristic	Lot size expressed in	Sample unit	Inspection level
Oxygen transmission rate	yards	1/2 yard	S-1
Water vapor transmission rate	yards	1/2 yard	S-1
Camouflage	yards	1/2 yard	S-1
Thermal processing	pouches	1 pouch	S-2
Environmental conditions	pouches	1 pouch	S-2

(2) Pouch examination. The pouches shall be examined for the defects listed in table II of MIL-PRF-44073 for Type I. The lot size shall be expressed in pouches. The sample unit shall be one thermal processed pouch. The inspection level shall be I and the AQL, expressed in terms of defects per hundred units, shall be 0.65 for major A defects, 2.5 for major B defects, and 4.0 for minor defects. Two hundred sample units shall be examined for critical defects. The finding of any critical defect shall be cause for rejection of the lot.

(3) Examination of pouch and carton assembly. The completed pouch and carton assemblies shall be examined for the defects listed in table III of MIL-PRF-44073 for Type I. The lot size shall be expressed in units of completed assemblies. The sample unit shall be one pouch and carton assembly. The inspection level shall be S-3 and the AQL, expressed in terms of defects per hundred units, shall be 0.65 for major defects and 2.5 for minor defects. Fifty sample pouch and carton assemblies shall be examined for critical defects. The finding of any critical defect shall be cause for rejection of the lot.

B. 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 missing or incorrect or illegible.
102		Inadequate workmanship. <u>1/</u>
	201	Contents more or less than 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.

## **SECTION J REFERENCE DOCUMENTS**

### DSCP FORMS

DSCP FORM 3556 Marking Instructions for Boxes, Sacks and Unit Loads of Perishable and Semiperishable Subsistence

### MILITARY SPECIFICATIONS

MIL-PRF-44073 Packaging of Food in Flexible Pouches

### NON-GOVERNMENTAL STANDARDS

AMERICAN SOCIETY FOR QUALITY (ASQ)

ANSI/ASQCZ1.4-2003 Sampling Procedures and Tables for Inspection by Attributes

### ASTM INTERNATIONAL

D 1974-98 (2003) Standard Practice for Methods of Closing, Sealing, and Reinforcing Fiberboard Boxes

D 5118/D 5118M-05a Standard Practice for Fabrication of Fiberboard Shipping Boxes

### AOAC INTERNATIONAL

Official Methods of Analysis (OMA) of the Association of Analytical Chemists International

## For DSCP Website Posting

AMSRD-NSC-CF-F

09 February 2007

TO: DSCP-FTRAA

SUBJECT: ES07-048; DSCP-SS-07-27204; Technical Inquiry PCR-C-067 Chicken and Dumplings, whole muscle versus chunked and formed and need for drained weight or protein requirement.

1. Natick received a technical inquiry from USDA and DSCP regarding PCR-C-067 Chicken and Dumplings. During inspection, the inspectors have noticed variations in the type and amount of chicken meat used in Chicken and Dumplings. The first question was if the chicken meat is to be from whole muscle, or chopped and formed chicken meat? The second question is regarding the drained weight requirements. Some similar MRE entrees have a drained weight requirement for the finished product and then a separate drained weight requirement for the chicken only. The pictures and data Natick received from USDA showed inconsistencies between the various contractors drained weights for the finished product as well as one contractor not meeting the minimum finished product drained weight of not less than 4.2 ounces (119 grams) in any individual pouch. While conducting the drained weight exams of this product, inspectors have noted that there have been some loss of vegetables through the currently required 1/4 inch sieve, but no failed drained weights.
2. Natick has reviewed the document and the inquiry regarding the type of chicken meat to be used in this product. At this time we do not want to restrict the producers of this product by changing the wording for the chicken to require whole muscle chicken.
3. Natick has reviewed the current 1/4 inch sieve size requirement along with notes from the MRE 26 Cutting and would like to leave the sieve size requirement as is based on the requirement for carrot dice size of 3/8 inch.
4. After reviewing the document, it appears as though the drained weight requirement for the chicken did not make it into the final document. Natick submits the following change for the subject document for all current, pending and future procurements:
  - a. Section C-2,H Drained Weight. Add new sub-para "(1) Chicken, dumplings and vegetables." The previous information under "Drained weight" will be in this sub-para.
  - b. Section C-2,H Drained Weight. Add new sub-para (2):

(2) Chicken. The average drained weight of the chicken breast strips shall be not less than 2.0 ounces (57 grams). The drained weight of the chicken breast strips in an individual pouch shall be not less than 1.7 ounces (48 grams).

c. Section E-5, Table I. Add new minor defect 216:

216 Drained weight of the chicken breast strips in an individual pouch less than 1.7 ounces (48 grams). 7/

d. Section E-5, Table I. Add new footnote 7/:

7/ Sample average drained weight for whole muscle chicken breast strips less than 2.0 ounces (57 grams) shall be cause for rejection of the lot.

5. Changes are highlighted in the attached document.