

SECTION C

This document covers freeze dehydrated ice cream sandwich, packaged in a flexible pouch for use by the Department of Defense as a component of operational rations.

C-1 ITEM DESCRIPTION

PCR-I-002, ICE CREAM SANDWICH, FREEZE DEHYDRATED, PACKAGED IN A FLEXIBLE POUCH, SHELF STABLE

Flavors.

| | |
|-------------|-------------------|
| Flavor I - | Cookies and Cream |
| Flavor II - | Other |

Packages.

| | |
|-------------|--------------------------------------|
| Package A - | Meal, Cold Weather (MCW) |
| Package B - | Food Packet, Long Range Patrol (LRP) |

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

C. Appearance.

(1) General. The finished product shall be a freeze dehydrated ice cream sandwich. The product shall be free of glazed surface areas or dark colored cores larger than 1/2 inch in any dimension. The finished product shall be free from foreign materials.

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(2) Ice cream sandwich. The freeze dehydrated ice cream sandwich shall have two brown circular chocolate cookies one on each side of the ice cream center. The cookies may have doquets on the surface. For flavor 1, the center shall be freeze dehydrated cream colored ice cream with small chocolate cookie pieces throughout. The sandwich shall be intact.

D. Odor and flavor. The chocolate cookie shall have a baked chocolate cookie odor and flavor. The freeze dehydrated ice cream shall have a sweet dairy and dried milk odor and flavor. For flavor 1, the ice cream shall also have a vanilla and slight chocolate cookie flavor. The packaged food shall be free from foreign odors and flavors.

E. Texture. The circular chocolate cookies shall be crisp and moderately crunchy. The freeze dehydrated ice cream center shall be fine textured, have a slightly firm bite with a creamy, slightly gummy texture that melts quickly in mouth.

F. Size. The sandwich shall be between 2.5 and 4.0 inches in diameter.

G. Net weight. The average net weight shall be not less than 28 grams. No individual ice cream sandwich shall have a weight of less than 25 grams.

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. Analytical requirements.

(1) Fat content. The fat content shall be not less than ~~13.0~~ 10.0 percent and not greater than 23.0 percent.

Comment [MTF1]: Natick case ES11-036 (DSCP-SS-11-12479) change 02, 07 Dec 10. C-2, I, (1) Fat content. Line 1, delete "13.0" and insert "10.0".

(2) Sodium content. The sodium content shall be not greater than 600 mg per 100 grams.

(3) Moisture content. The moisture content of the freeze dehydrated product shall be not greater than 2.0 percent.

J. Microbiological requirements.

(1) Aerobic plate count. The aerobic plate count shall be not greater than 25,000 per gram in 4 of 5 samples and not greater than 50,000 per gram in any individual sample.

(2) Yeast and mold. The yeast and mold count (combined) shall not exceed 100 per gram.

(3) E. coli. The *Escherichia coli* count shall have no positive tubes in the standard 3 tube most probable number (MPN) technique.

(4) Salmonella. The ice cream sandwich shall be *Salmonella* negative.

C-3 MISCELLANEOUS INFORMATION

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

A. Ingredients. Ingredients may be as follows: Cookies and Cream Ice Cream: milkfat, sugar, chocolate cookie bits (sugar, wheat flour, partially hydrogenated soybean and cottonseed oils, cocoa, high fructose corn syrup, sugar corn starch, baking soda, salt, caramel color whey, ammonium bicarbonate, soy lecithin, natural and artificial flavor), nonfat milk, corn syrup, whey, mono and diglycerides, guar gum, cellulose gum and carrageenan, artificial flavor and annatto color. Chocolate Cookies: bleached wheat flour, sugar, partially hydrogenated soybean and cottonseed oils, caramel color, sugar, corn syrup, cocoa, modified corn starch, salt, baking soda and soy lecithin.

SECTION D

D-1 PACKAGING

A. Packaging. One ice cream sandwich shall be packed in a preformed or form-fill-seal barrier pouch as described below. The sandwich may have a paper overwrap to facilitate processing.

(1) Preformed pouches.

a. Pouch material. The preformed pouch shall be fabricated from 0.002 inch thick ionomer or polyethylene film laminated or extrusion coated to 0.00035 inch thick aluminum foil which is then laminated to 0.0005 inch thick polyester. Tolerances for thickness of plastic films shall be plus or minus 20 percent and tolerance for foil layer shall be plus or minus 10 percent. The material shall show no evidence of delamination, degradation, or foreign odor when heat sealed or fabricated into pouches. The material shall be suitably formulated for food packaging and shall not impart an odor or flavor to the product. For package A (MCW) the complete exterior surface of the pouch shall be colored white overall with a color in the range of 37778 through 37886 of FED-STD-595, Colors Used in

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Government Procurement. For package B (LRP), the complete exterior surface of the pouch shall be uniformly colored in the range of 20219, 30219, 30227, 30279, 30313, 30324, or 30450 of FED-STD-595.

b. Pouch construction. The pouch shall be a flat style preformed pouch having maximum inside dimensions of 5 1/4 inches wide by 7 1/2 inches long. The pouch shall be made by heat sealing three edges with 3/8 inch ($\pm 1/8$ inch) wide seals. The side and bottom seals shall have an average seal strength of not less than 6 pounds per inch of width and no individual specimen shall have a seal strength of less than 5 pounds per inch of width when tested as specified in E-6,B,(1),a. Alternatively, the pouch shall exhibit no rupture or seal separation greater than 1/16 inch or seal separation that reduces the effective closure seal width to less than 1/16 inch when tested for internal pressure resistance as specified in E-6,B,(1),c. A tear nick, notch, or serrations shall be provided to facilitate opening of the filled and sealed pouch. A 1/8 inch wide lip may be incorporated at the open end of the pouch.

c. Pouch filling and sealing. When specified in D-1,A, product shall be inserted into the pouch and the filled pouch shall be sealed. The closure seal shall be free of foldover wrinkles or entrapped matter that reduces the effective closure seal width to less than 1/16 inch. Seals shall be free of impression or design on the seal surface that would conceal or impair visual detection of seal defects. The average seal strength shall be not less than 6 pounds per inch of width and no individual specimen shall have a seal strength of less than 5 pounds per inch of width when tested as specified in E-6,B,(1),b. Alternatively, the filled and sealed pouch shall exhibit no rupture or seal separation greater than 1/16 inch or seal separation that reduces the effective closure seal width to less than 1/16 inch when tested for internal pressure resistance as specified in E-6,B,(1),c.

(2) Horizontal form-fill-seal pouches.

a. Pouch material. The horizontal form-fill-seal pouch shall consist of a formed tray-shaped body with a flat sheet, heat sealable cover or a tray-shaped body with a tray-shaped heat sealable cover. The tray-shaped body and the tray-shaped cover shall be fabricated from a 3-ply flexible laminate barrier material consisting of, from outside to inside, 0.0009 inch thick oriented polypropylene bonded to 0.0007 inch thick aluminum foil with 10 pounds per ream pigmented polyethylene or adhesive and bonding the opposite side of the aluminum foil to 0.003 inch thick ionomer or a blend of not less than 50 percent linear low density polyethylene and polyethylene. The linear low density polyethylene portion of the blend shall be the copolymer of ethylene and octene-1 having a melt index range of 0.8 to 1.2 g/10 minutes in accordance with ASTM D 1238, Standard Test Method for Flow Rates of Thermoplastics by Extrusion Plastometer and a density range of 0.918 to 0.922 g/cc in accordance with ASTM D 1505, Standard Test Method for Density of Plastics by Density-

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Gradient Technique. Alternatively, 0.0005 inch thick polyester may be used in place of the oriented polypropylene as the outer ply of the laminate. The flat sheet cover shall be made of the same 3-ply laminate as specified for the tray-shaped body except the aluminum foil thickness may be 0.00035 inch. Tolerances for thickness of plastic films shall be plus or minus 20 percent and tolerance for foil layer shall be plus or minus 10 percent. The color requirements of the exterior of the pouch shall be as specified in D-1,A(1)a. The material shall show no evidence of delamination, degradation, or foreign odor when heat sealed or fabricated into pouches. The material shall be suitably formulated for food packaging and shall not impart any odor or flavor to the product. The color requirements of the exterior (oriented polypropylene or polyester side) of the laminate shall be as specified in D-1, A(1)a.

b. Pouch construction. The tray-shaped body and the tray-shaped cover shall be formed by drawing the flexible laminate material into an appropriately shaped cavity. The flat cover shall be in the form of a flat sheet of the barrier material taken from roll stock. One unit of product shall be placed into the tray-shaped body of the pouch. Pouch closure shall be effected by heat sealing together the cover and body along the entire pouch perimeter. The closure seal width shall be a minimum of 1/8 inch. The closure seal shall be free of entrapped material (bread crumbs, moisture, etc.) that reduces the effective closure seal to less than 1/16 inch wide. The closure seal shall have an average seal strength of not less than 6 pounds per inch of width and no individual specimen shall have a seal strength of less than 5 pounds per inch of width when tested as specified in E-6,B(1)b. Alternatively, the filled and sealed pouch shall exhibit no rupture or seal separation greater than 1/16 inch or seal separation that reduces the effective closure seal width to less than 1/16 inch when tested for internal pressure resistance as specified in E-6,B(1)c. The maximum outside dimensions of the sealed pouch shall be 6 inches wide by 6 inches long. A tear nick, notch or serrations shall be provided to facilitate opening of the filled pouch. The sealed pouch shall not show any evidence of material degradation, aluminum stress cracking, delamination or foreign odor. Seals shall be free of impression or design on the seal surface that would conceal or impair visual detection of seal defects.

D-2 LABELING

A. Pouches. Each pouch shall be correctly and legibly labeled. Printing ink shall be permanent black ink or other, dark, contrasting color which is free of carcinogenic elements. The label shall contain the following information:

- (1) Name and flavor of product (letters not less than 1/8 inch high)
- (2) Ingredients
- (3) Date 1/
- (4) Net weight

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- (5) Name and address of packer
- (6) "Nutrition Facts" label in accordance with the Nutrition Labeling and Education Act (NLEA) and all applicable FDA regulations.

1/ Each pouch shall have the date of pack noted by using a four-digit code beginning with the final digit of the current year followed by the three digit Julian day code. For example, 14 February 2008 would be coded as 8045. The Julian day code shall represent the day the product was packaged into the pouch.

D-3 PACKING

A. Packing for shipment to ration assembler. Not more than 40 pounds of pouched product shall be packed in a fiberboard shipping container constructed in accordance with style RSC-L, class domestic, variety SW, 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-5 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/ASQ Z1.4, Sampling Procedures and Tables for Inspection by Attributes, are required. Unless otherwise specified, single sampling plans indicated in ANSI/ASQ 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. 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 Research, Development, and Engineering Center
AMSRD-NSR-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 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/ASQ Z1.4. The lot size shall be expressed in pouches. The sample unit shall be the contents of one

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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.

TABLE I. Product defects 1/ 2/

| Category | | Defect |
|----------|-------|---|
| Major | Minor | |
| | | <u>General</u> |
| 101 | | Product not a freeze dehydrated ice cream sandwich. |
| 102 | | Glazed surface areas measuring more than 1/2 inch in any dimension. <u>3/</u> |
| 201 | | Dark colored cores measuring more than 1/2 inch in any dimension. <u>4/</u> |
| | | <u>Appearance</u> |
| 202 | | Freeze dehydrated ice cream sandwich does not have two cookies, one on each side of the ice cream center. |
| 203 | | Cookies not brown or not circular or not chocolate. |
| 204 | | For flavor 1, ice cream sandwich center not freeze dehydrated cream colored ice cream or not with small chocolate cookie pieces throughout. |
| 205 | | Sandwich not intact. <u>5/</u> |
| | | <u>Odor and flavor</u> |
| 103 | | Chocolate cookie not a baked chocolate cookie odor or flavor. |

TABLE I. Product defects 1/ 2/ continued

| Category | Defect |
|--------------|--|
| <u>Major</u> | <u>Minor</u> |
| 104 | Freeze dehydrated ice cream not a sweet dairy or not a dried milk odor or flavor. |
| 105 | For flavor 1, ice cream not a vanilla or not a slight chocolate cookie flavor. |
| | <u>Texture</u> |
| 106 | Presence of wet or soft spots. <u>4/</u> |
| 205 | Chocolate cookies not crisp or not moderately crunchy. |
| 206 | Freeze dehydrated ice cream center not fine textured or does not have a slightly firm bite. |
| 207 | Freeze dehydrated ice cream center not creamy or not slightly gummy or does not melt quickly in mouth. |
| | <u>Size</u> |
| 208 | Sandwich less than 2.5 inches or greater than 4.0 inches in diameter. |
| | <u>Net weight</u> |
| 209 | Average net weight less than 28 grams. <u>6/</u> |

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, stale, musty or moldy 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/ Evidence of faulty dehydration.

4/ Evidence of incomplete dehydration.

5/ More than 5.0 grams of the individual sandwich are separate pieces or crumbs.

6/ No individual piece less than 25 grams.

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 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.

(2) Net weight. The net weight of the filled and sealed pouch shall be determined by weighing each sample unit on a suitable scale tared with a representative empty pouch. Results shall be reported to the nearest 1 gram.

(3) 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(s)</u> |
|-------------|---------------------------|
| Fat | 925.12, 922.06, or 985.15 |
| Sodium | 985.35, 984.27 |

Test results for fat shall be reported to the nearest 0.1 percent. Test results for sodium content shall be reported to the nearest 1 mg per 100 grams. Government verification will be conducted through actual testing by a government laboratory. Any nonconforming result shall be cause for rejection of the lot.

(4) Moisture content testing. Eight filled and sealed pouches shall be selected at random from the lot regardless of lot size. The contents of each pouch shall be blended to uniformity using a blender or a food processor. The blending must be rapid and conducted in such a way that minimum heat is transferred to the product and that the product has minimum exposure to atmospheric moisture. Each sample shall be tested for moisture content in accordance with the OMA of the AOAC International, method 926.08, (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. Government verification will be conducted through actual testing by a government laboratory. Any result not conforming to the moisture requirements shall be cause for rejection of the lot.

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(5) Microbiological testing. Five filled and sealed pouches shall be selected at random from the lot regardless of lot size. The pouched product shall be individually tested for microbiological levels in accordance with the OMA of the AOAC, for aerobic plate count method 966.23 or 990.12 and for *E. coli*, method 966.24 or the methods on page 4.03 Section C and page 4.05, Section F, Chapter 4, 8th edition, FDA Bacteriological Analytical Manual (BAM). The diluent shall be added to each sample and allowed to stand for 15 minutes before blending the sample. Yeast and mold testing shall be in accordance with the OMA of the AOAC, method 997.02. *Salmonella* testing shall be in accordance with the OMA of the AOAC, methods 967.25, 967.28, 986.35, 991.13, 996.08, 2003.09 or 2004.03. Government verification will be conducted through actual testing by a government laboratory. Any result not conforming to the microbiological requirements shall be cause for rejection of the lot.

NOTE: The following conditions apply for *Salmonella* and microbiological testing:

- (a) For prepackaged product and pre-made ice cream sandwiches received in bulk, the contractor will furnish a Certificate of Analysis that the product represented is *Salmonella* negative and meets all microbiological requirements.
- (b) USDA *Salmonella* and additional microbiological testing is required for each end item lot and shall be the basis for lot acceptance with respect to *Salmonella* and other microbiological testing requirements.

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

A. Packaging.

(1) Pouch material certification. A Certificate of Conformance may be accepted as evidence that the characteristics listed below conform to the specified requirements.

| <u>Requirement</u> | <u>Requirement paragraph</u> | <u>Test procedure</u> |
|---|------------------------------|--------------------------------|
| Thickness of films for laminated material | D-1,A(1)a and D-1,A(2)a | As specified in ASTM D 2103 1/ |

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| Aluminum foil thickness | D-1,A(1)a and D-1,A(2)a | As specified in ASTM B 479 <u>2/</u> |
| Laminated material identification and construction | D-1,A(1)a and D-1,A(2)a | Laboratory evaluation |
| Color of laminated material | D-1,A(1)a and D-1,A(2)a | Visual evaluation by FED-STD-595 <u>3/</u> |

1/ ASTM D 2103 Standard Specification for Polyethylene Film and Sheeting

2/ ASTM B 479 Standard Specification for Annealed Aluminum and Aluminum-Alloy Foil For Flexible Barrier, Food Contact, and Other Applications.

3/ FED-STD-595 Colors Used in Government Procurement.

(2) Unfilled preformed pouch certification. A certification of conformance may be accepted as evidence that unfilled pouches conform to the requirements specified in D-1,A,(1)a. and b. When deemed necessary by the USDA, testing of the unfilled preformed pouches for seal strength shall be as specified in E-6,B,(1)a.

(3) Filled and sealed pouch examination. The filled and sealed pouches shall be examined for the defects listed in table II. The lot size shall be expressed in pouches. The sample unit shall be one 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 II. Filled and sealed pouch defects 1/

| Category | | Defect |
|--------------|--------------|--|
| <u>Major</u> | <u>Minor</u> | |
| 101 | | Tear or hole or open seal. |
| 102 | | Seal width less than 1/16 inch. <u>2/</u> |
| 103 | | Presence of delamination. <u>3/</u> |
| 104 | | Unclean pouch. <u>4/</u> |
| 105 | | Pouch has foreign odor. |
| 106 | | Any impression or design on the heat seal surfaces which conceals or impairs visual detection of seal defects. <u>5/</u> |
| 107 | | Not packaged as specified. |
| 108 | | Presence of stress cracks in the aluminum foil. <u>6/ 7/</u> |
| | 201 | Label missing or incorrect or illegible. |
| | 202 | Tear nick or notch or serrations missing or does not facilitate opening. |
| | 203 | Seal width less than 1/8 inch but greater than 1/16 inch. |
| | 204 | Presence of delamination. <u>3/</u> |

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

2/ The effective closure seal is defined as any uncontaminated, fusion bonded, continuous path, minimum 1/16 inch wide, from side seal to side seal that produces a hermetically sealed pouch.

3/ Delamination defect classification:

Major - Delamination of the outer ply in the pouch seal area that can be propagated to expose aluminum foil at the food product edge of the pouch after manual flexing of the delaminated area. To flex, the delaminated area shall be held between the thumb and forefinger of each hand with both thumbs and forefingers touching each other. The

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delaminated area shall then be rapidly flexed 10 times by rotating both hands in alternating clockwise- counterclockwise directions. Care shall be exercised when flexing delaminated areas near the tear notches to avoid tearing the pouch material. After flexing, the separated outer ply shall be grasped between thumb and forefinger and gently lifted toward the food product edge of the seal or 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 a gentle lifting force applied against the outer ply. If separation of the outer ply can be made to extend to the product edge of the seal with no discernible resistance to the gentle lifting, the delamination shall be classified as a major defect. Additionally, spot delamination of the outer ply in the body of the pouch that is able to be propagated beyond its initial borders is also a major defect. To determine if the laminated area is a defect, use the following procedure: Mark the outside edges of the delaminated area using a bold permanent marking pen. Open the pouch and remove the contents. Cut the pouch transversely not closer than 1/4 inch ($\pm 1/16$ inch) from the delaminated area. The pouch shall be flexed in the area in question using the procedure described above. Any propagation of the delaminated area, as evidenced by the delaminated area exceeding the limits of the outlined borders, shall be classified as a major defect.

Minor - Minor delamination of the outer ply in the pouch seal area is acceptable and shall not be classified as a minor defect unless it extends to within 1/16 inch of the food product edge of the seal. All other minor outer ply delamination in the pouch seal area or isolated spots of delamination in the body of the pouch that do not propagate when flexed as described above shall be classified as minor defects.

4/ Outer packaging shall be free from foreign matter which is unwholesome, has the potential to cause pouch damage (for example, glass, metal filings) or generally detracts from the clean appearance of the pouch. The following examples shall not be classified 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 pouch 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).

5/ If doubt exists as to whether or not the sealing equipment leaves an impression or design on the closure seal surface that could conceal or impair visual detection of seal defects, samples shall be furnished to the contracting officer for a determination as to acceptability.

6/ Applicable to form-fill-seal pouches only.

7/ The initial examination shall be a visual examination of the closed package. Any suspected visual evidence of stress cracks in the aluminum foil (streaks, breaks, or other disruptions in the laminated film) shall be verified by the following physical examination. To examine for stress cracks, the inside surface of both tray-shaped bodies shall be placed over a light source and the outside surface observed for the passage of light. Observation of light through the pouch material in the form of a curved or straight line greater than 2 mm in length shall be evidence of the presence of stress cracks. Observation of light through the pouch material in the form of a curved or straight line 2 mm in length or smaller or of a single pinpoint shall be considered a pinhole. Observation of ten or more pinholes per pouch shall be evidence of material degradation.

B. Methods of inspection.

(1) Seal testing. The pouch seals shall be tested for seal strength as required in a, b or c, as applicable.

a. Unfilled preformed pouch seal testing. The seals of the unfilled preformed pouch shall be tested for seal strength in accordance with ASTM F 88, Standard Test Method for Seal Strength of Flexible Barrier Materials. The lot size shall be expressed in pouches. The sample unit shall be one unfilled pouch. The sample size shall be the number of pouches indicated by the inspection level S-1. Three adjacent specimens shall be cut from each of the three sealed sides of each pouch in the sample. The average seal strength of any side shall be calculated by averaging the three specimens cut from that side. Any average seal strength of less than 6 pounds per inch of width or any test specimen with a seal strength of less than 5 pounds per inch of width shall be classified as a major defect and shall be cause for rejection of the lot.

b. Pouch closure seal testing. The closure seals of the pouches shall be tested for seal strength in accordance with ASTM F 88. The lot size shall be expressed in pouches. The sample unit shall be one pouch. The sample size shall be the number of pouches indicated by inspection level S-1. For the closure seal on preformed pouches, three adjacent specimens shall be cut from the closure seal of each pouch in the sample. For form-fill-seal pouches, three adjacent specimens shall be cut from each side and each end of each pouch in the sample. The average seal strength of any side, end or closure shall be calculated by averaging the three specimens cut from that side, end or closure. Any average seal strength of less than 6 pounds per inch of width or any test specimen with a seal strength of less than 5 pounds per inch of width shall be classified as a major defect and shall be cause for rejection of the lot.

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c. Internal pressure test. The internal pressure resistance shall be determined by pressurizing the pouches while they are restrained between two rigid plates. The lot shall be expressed in pouches. The sample unit shall be one pouch. The sample size shall be the number of pouches indicated by inspection level S-1. If a three seal tester (one that pressurizes the pouch through an open end) is used, the closure seal shall be cut off for testing the side and bottom seals of the pouch. For testing the closure seal, the bottom seal shall be cut off. The pouches shall be emptied prior to testing. If a four-seal tester (designed to pressurize filled pouches by use of a hypodermic needle through the pouch wall) is used, all four seals can be tested simultaneously. The distance between rigid restraining plates on the four-seal tester shall be equal to the thickness of the product +1/16 inch. Pressure shall be applied at the approximate uniform rate of 1 pound per square inch gage (psig) per second until 14 psig pressure is reached. The 14 psig pressure shall be held constant for 30 seconds and then released. The pouches shall then be examined for separation or yield of the heat seals. Any rupture of the pouch or evidence of seal separation greater than 1/16 inch in the pouch manufacturer's seal shall be considered a test failure and shall be classified as a major defect. Any seal separation that reduces the effective closure seal width to less than 1/16 inch (see table II, footnote 2/) shall be considered a test failure, shall be classified as a major defect and shall be cause for rejection of the lot.

C. Packing.

(1) Shipping container and marking examination. The filled and sealed shipping containers shall be examined for the defects listed in table III 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 III. 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 | More than 40 pounds of product. |

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

FEDERAL STANDARD

FED-STD-595 Colors Used in Government Procurement

NON-GOVERNMENTAL STANDARDS

AMERICAN SOCIETY FOR QUALITY (ASQ) <http://www.asq.org>

ANSI/ASQ Z1.4-2003 Sampling Procedures and Tables for Inspection by
Attributes

ASTM INTERNATIONAL www.astm.org

B 479-06 Standard Specification for Annealed Aluminum and
Aluminum-Alloy Foil For Flexible Barrier, Food
Contact, and Other Applications

D 1238-04c Standard Test Method for Melt Flow Rates of
Thermoplastics by Extrusion Plastometer

D 1505-03 Standard Test Method for Density of Plastics by

PCR-I-002
2 June 2008
Change 02 7 December 2010

Density-Gradient Technique

- D 1974-98 (2003) Standard Practice for Methods of Closing, Sealing,
and Reinforcing Fiberboard Boxes
- D 2103-05 Standard Specification for Polyethylene Film and
Sheeting
- D 5118/D 5118M-5ae1 Standard Practice for Fabrication of Fiberboard
Shipping Boxes
- F 88-07a Standard Test Method for Seal Strength of Flexible
Barrier Materials

AOAC INTERNATIONAL <http://www.aoac.org>

Official Methods of Analysis (OMA) of AOAC International

GOVERNMENTAL PUBLICATIONS

FDA Bacteriological Analytical Manual (BAM), 8th Edition or
<http://www.cfsan.fda.gov/~ebam/bam-toc.html>

PCR-I-002
2 June 2008
Change 02 7 December 2010

For DLA TROOP SUPPORT Website Posting

RDNS-CFF

7 December 2010

TO: DLA Troop Support- Subsistence DSCP-FTRE

SUBJECT: ES11-036 (DSCP-SS-11-12479); Waiver Request for USDA failed fat requirement for Ice Cream sandwich, Lot 0261 (16, 900 pouches); and Request for document change to fat content requirement; PCR-I-002, Ice Cream Sandwich, Freeze Dehydrated, Packaged in a Flexible Pouch, Shelf Stable

1. Natick concurs with a one time only waiver for lot 0261 (16, 900 pouches) for the fat content of ice cream sandwich, freeze dehydrated.
2. Natick recommends the following change to the subject document for all current, pending, and future contracts until the document is formally amended or revised:
 - a. Section C-2, I, (1) Fat content. Line 1, delete "13.0" and insert "10.0".
3. The contractor also requested that the upper limit for the fat be changed from 23.0 percent to 20.0 percent; however, the original data for the requirement came from the label and contractor's website nutritional information. Since the label indicates that the product has about 21 percent fat, it is not recommended the upper limit be changed at this time. Natick recommends the contractor review their label claims and revise as needed.
4. This change has no significant effect on total menu nutrition for the Meal, Cold Weather or Food Packet, Long Range Patrol rations.
5. The Service reps were contacted and their replies were:
 - Army: concurs with Natick
 - Marine Corps: concurs with Natick
6. Attached is PCR-I-002, Ice Cream Sandwich, Freeze Dehydrated, Packaged in a Flexible Pouch, Shelf Stable with Change 02, dated 7 Dec 10 with changes highlighted.