

ACR-F-08
9 March 2010
W/Change 09 3 August 15 ES15-070 (DSCP-SS-15-01321)

SECTION C

The First Strike Ration[®] (FSR) provides a special purpose operational ration for the individual during the first 72 hours of a mission.

C-1 ITEM DESCRIPTION

ACR-F-08, FIRST STRIKE RATION[®] (FSR) ASSEMBLY REQUIREMENTS

C-2 ASSEMBLY REQUIREMENTS

A. Components. The components are specified in table I.

TABLE I. Components

| Component | Reference |
|---|---|
| <u>Entrees</u> | |
| Chicken Breast Fillets, Seasoned | A-A-20361 |
| Garlic and Herb Seasonings | Type I |
| Barbecue Sauce | Type II |
| Chicken Chunks, White, Cooked, Canned or in a Pouch, 7 oz. Pouch | A-A-20352B , Type VI |
| Filled Bakery Item | MIL-DTL-32221A |
| Filled French Toast | Type I |
| Cinnamon Bun | Type II |
| Apple Turnover | Type III |
| Blueberry Turnover | Type IV |
| Filled Wrap | MIL-DTL-32347 |
| Barbecued Seasoned Pork | Type I |
| Mexican Style Beef | Type II |
| Salmon, Flexible Retort Pouch, Pink, Deep Skinned and Boneless, Other, Mango Chipotle, Regular Sodium | A-A-20158E , Type B, Species IV, Style c, Packing media 3, Flavor 2, Sodium Level (a) |
| Sandwich, Breakfast, Shelf Stable, Bacon Cheddar | MIL-DTL-32223 |
| Sandwich, Shelf Stable | MIL-DTL-32141 |
| Nacho Flavored Beef | Type I |
| Pepperoni | Type II |
| Honey Barbecue Chicken | Type III |
| Honey Barbecue Beef | Type IV |
| Italian Style | Type V |

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TABLE I. Components - Continued

| Component | Reference |
|--|---|
| Tuna, Flexible Pouches | A-A-20155D , Type B, |
| Chunk, Light, Water, Lemon Pepper, Regular Salt | Form I, Color a, Packing Media 1, Flavor 1, Salt/Sodium Level (a) |
| Chunk, Light, Water, Sweet and Spicy Regular Salt | Form I, Color a, Packing Media 1, Flavor 3, Salt/Sodium Level (a) |
| Solid, White (Albacore), Water, Unflavored, Regular Salt, 3 ounce | Form II, Color b, Packing Media 1, Unflavored, Salt/Sodium Level (a) |
| <u>Starches and Soups</u> | |
| Bagel, Plain | MIL-DTL-32219 , Type I |
| Crackers, Fortified, Plain | PCR-C-037A , Type I |
| Snack Bread, Fortified | PCR-S-009D |
| Wheat Snack Bread, Twin Pack | Type I, Style B |
| Spread Soup Mix | PCR-S-023 |
| Cheddar Potato with Artificial Bacon Bits | Type II |
| Tortillas | PCR-T-008A |
| <u>Fruits</u> | |
| Fruits, Wet Pack | PCR-F-002C |
| Applesauce, Carbohydrate Enhanced, Sweetened, Regular Style, Style 2 or 3 spout pouch | Type VII |
| Applesauce, Carbohydrate Enhanced, Sweetened, Regular Style, Cinnamon, Style 2 or 3 spout pouch | Type IX |
| Fruits, Infused and Dried | A-A-20299B |
| Sliced Cranberries, Not Fortified | Type VII, Fortification a |
| Whole Raisins, Not Fortified | Type IX, Fortification a |
| <u>Beverages</u> | |
| Beverage Powder, Carbohydrate, Flat Interlocking Closure Pouch | PCR-B-055 , Design B |
| Fortified with Ascorbic Acid and Enhanced with Maltodextrin | Formulation b |
| Fruit Punch, Grape, Lemon-Lime, Orange, Tropical Punch or Lemonade | Flavors 1, 2, 3, 4, 5 or 6 |
| Chocolate Protein Drink | PCR-C-082 |
| Dairyshake Powder, Fortified with Calcium and Vit. D | PCR-D-002B |
| <i>Trans</i> Fat Free, Flat Interlocking Closure Pouch | Type II, Design B |
| Vanilla or Strawberry Banana | Flavors I or IV |

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TABLE I. Components - Continued

| Component | Reference |
|--|---|
| <u>Desserts and Snacks</u> | |
| Beef and Turkey Snacks, Cured | A-A-20298B |
| Beef, Moist Cured/Kippered, Chopped and Formed, Strips | Variety A, Type II, Style a, Class 1 Package J |
| Teriyaki or Barbeque | Flavors (b) or (c) |
| Beef, Moist cured/Lactate, Natural Style, Nuggets | Variety A, Type III, Style b, Class 4 |
| Cranberry | Flavor (g) |
| Turkey, Moist cured/Lactate, Natural Style, Nuggets | Variety B, Type III, Style b, Class 4 |
| Smoked | Flavor (a) |
| Caffeinated Chocolate Pudding | PCR-C-081 |
| Style 2 or 3 Spout Pouch | |
| Cakes, Brownies, Muffin Tops and Filled Cakes | PCR-C-007F |
| Pound Cake, Lemon Poppy Seed, <i>Trans</i> Fat Free | Type I, Flavor 6, Style 2 |
| Candy and Chocolate Confections | A-A-20177E |
| Caffeinated Mints, Round Tablets, Sugar Free | Type XII, Style B |
| Peppermint | Flavor 1 |
| Cheese Spread, Cheddar; Fortified | PCR-C-039 |
| Plain or with Jalapeno Peppers | Type I or II |
| Dessert Bar | PCR-D-004 |
| Mocha, Peanut Butter or Chocolate Banana Nut | Flavors I, II or III |
| Energy Gel, Mixed Berry | PCR-E-018 , Flavor I |
| First Strike™ Bar, Mini | PCR-F-001 , Style B |
| Chocolate, Apple-Cinnamon, Cran-Raspberry or Mocha | Flavors I, II, III or V |
| Nut and Fruit Mix | PCR-N-003 |
| Nut and Raisins with Pan Coated Chocolate Disks | Type II |
| Nuts with Raw Sunflower Kernels and Infused Fruit | Type III |
| Nuts, Shelled, Roasted | A-A-20164D |
| Almonds (Unblanched), Flavored (Smoked) | Type IX, Style C |
| Nut Butters and Nut Spreads | A-A-20328B , Class A, Type a, |
| Regular, Stabilized, Fortified, Salted, Conventional | Fortification 2, Seasoning (a), Agricultural Practices (1) |
| Peanut Butter, Smooth | Style I, Texture 1 |

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TABLE I. Components - Continued

| Component | Reference |
|---|---|
| Snack Foods | A-A-20195D |
| Pretzels, Bavarian or Hard, Rods, Sticks, Twists or Nuggets, Plain, Salted | Type II, Style A, B, C (Flavor 1), D (Flavor 1) or E (Flavor 1) |
| Filled Pretzels, Cheddar Cheese | Type II, Style F, Flavor 1 |
| Baked Snack Crackers, Hot and Spicy Cheese | Type V, Flavor 2 |
| Toasted Corn Kernels, Plain, Salted | Type VI, Flavor 1 |
| Cheese Filled Crackers, Cheddar Cheese | Type VII, Flavor 1 |
| Toaster Pastries, Shelf Stable, Regular, Not Fortified, Rectangular, Enriched Wheat Flour Single Serving Packet | A-A-20211C , Type I, Fort. b, Shape i, Grain Composition (1) Servings (a) |
| Frosted Brown Sugar Cinnamon, Without Sprinkles | Style B, Flavor 3, Frosting (B) |
| Frosted Chocolate Chip, With Swirled or Drizzled Icing | Style B, Flavor 12, Frosting (C) |
| <u>Other Items</u> | |
| Barbecue Sauce, Plain/Regular, Without Fruit Purees | A-A-20335B , Flavor I, Type B |
| Chewing Gum | A-A-20175E |
| Tablet, Large, with Caffeine, Regular, Peppermint | Type I, Size C, Style (2), Class 1, Flavor a |
| Cinnamon | Flavor c |
| Disk, Regular, with Caffeine, Regular, Peppermint | Type VII, Size B, Style (2), Class 1 Flavor a |
| Cinnamon | Flavor c |
| Hot Sauce <u>2/</u> | A-A-20097F |
| Extra Hot 4x, 1/8 fl. oz. pouch | Type II |
| Mayonnaise, Salad Dressing and Tartar Sauce | A-A-20140D |
| Mayonnaise, Fat Free | Type I, Style C |
| Fork, Knife and Spoon, Picnic (Plastic) | A-A-3109B |
| High Impact, Spoon, MRE, 7-inch (Brown) | Type IV, Item 13 |
| Re-closeable Interlocking Plastic Bag | <u>1/</u> |

1/ The plastic bag shall be 0.003” thick, beige, opaque, LDPE, minimum 10 inches wide by 12 inches long, with double track zippers.

2/ Hot sauce may be packaged in the subassembly/accessory packet or loose in the meal bag.

B. Accessory components. Accessory components are specified in table II.

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TABLE II. Accessory Components

| Component | Reference | Acc. Pack |
|--|---|--------------|
| Chewing Gum, Tablet, Regular, Without Caffeine, Xylitol Sweetened, Peppermint or Cinnamon <u>1/</u> | A-A-20175E Type I, Size B, Style (1), Class 3, Flavor a or c | A, B, C |
| Hand Cleaner (Pre-moistened Towelette), Unscented, Water Based | A-A-461B , Type II, 2 towelettes per accessory pack | 2 A, B, C |
| Matches, Safety | A-A-59489A , Type I, Class B | A, B, C |
| Salt, Table, Iodized, 4 grams | NaCl Monograph | A, B, C |
| Toilet Tissue, Institutional, Folded, One Ply, Perforated, 4-1/2 by 4-1/2 inches | A-A-59594A , Style II, Type A, Class 1, Sheet size b | A, B, C |
| Coffee, Soluble Spray Dried, Agglomerated or Freeze Dried, Regular | A-A-20184C Type II or Type III, Style A | A |
| Creamer, Non-Dairy, Dry, Regular, Original | A-A-20043C , Style I, Flavor A | A |
| Sugar, 1/7 ounce | A-A-20135D , Type I, Style A | A |
| Beverage Base (Powdered) <u>1/</u> Sweetened with Non-Nutritive Sweetener, Lap or Fin Seal Pouch | A-A-20098E Type III Design D | B |
| Lemonade, Non-fortified | Flavor 8, Formulation a | |
| Raspberry, Non-fortified | Flavor 13, Formulation a | |

1/ Flavors shall be procured in equal quantities and assembled in a uniform distribution

C. Contents. The contents of each meal are specified in table III.

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TABLE III. Contents

| <u>Menu #1</u> | <u>Menu #2</u> | <u>Menu #3</u> |
|-------------------------------|---------------------------|--------------------------|
| Filled French Toast | Toaster Pastry | Cake, Lemon Poppy Pound |
| Sandwich, Breakfast Bac. Ch. | Sandwich, Italian Style | Sandwich, Honey BBQ Beef |
| Sandwich, Pepperoni | Chicken Chunks | Tuna, Lemon Pepper |
| Cheese Spread, Jalapeno | Tortillas | Tortillas |
| Snack Bread | Peanut Butter | Cheese Spread, Plain |
| Dessert Bar, Peanut Butter | Crackers | Crackers |
| First Strike™ Bar, Chocolate | Dessert Bar, Mocha | Dessert Bar, |
| Beef Snack, Teriyaki | First Strike™ Bar, Apple- | Chocolate Banana Nut |
| Beef Snack, Barbeque | Cinnamon | First Strike™ Bar, Mocha |
| Snack, Pretzels | Beef Snack, Teriyaki | First Strike™ Bar, Cran- |
| Fruit, Zapplesauce®, Cinnamon | Beef Snack, Barbeque | Raspberry |
| Nut Fruit Mix, Type III | Fruit, Zapplesauce® | Snack, Corn Kernels |
| Chocolate Protein Drink | Fruit, Dried, Cranberries | Fruit, Zapplesauce® |
| Beverage (1) <u>1/</u> | Nuts, Almonds | Nut Fruit Mix, Type III |
| Gum, Caffeine, Cinnamon | Beverages (2) <u>1/</u> | Beverages (2) <u>1/</u> |
| Hand Cleaner | Gum, Caffeine, Peppermint | Candy, Caffeinated Mints |
| Re-closeable Plastic Bag | BBQ Sauce | Mayonnaise |
| Spoon | Hot Sauce <u>2/</u> | Hot Sauce <u>2/</u> |
| Accessory Packet B | Hand Cleaner | Hand Cleaner |
| | Re-closeable Plastic Bag | Re-closeable Plastic Bag |
| | Spoon | Spoon |
| | Accessory Packet B | Accessory Packet A |

1/ Flavors shall be procured in equal quantities and assembled in a uniform distribution. When menu contains two beverages, they shall be different flavors.

2/ Hot sauce may be packaged in the subassembly/accessory packet or loose in the meal bag.

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TABLE III. Contents - Continued

| <u>Menu #4</u> | <u>Menu #5</u> | <u>Menu #6</u> |
|--------------------------------|-------------------------------|--------------------------------|
| Filled Cinnamon Bun | Filled French Toast | Filled Apple Turnover |
| Filled Wrap, Mexican Beef | Toaster Pastry | Filled Wrap, BBQ Pork |
| Chicken, BBQ | Sandwich, BBQ Chicken | Chicken, Garlic and Herb |
| Cheese Spread, Jalapeno | Salmon, Mango Chipotle | Cheese Spread, Plain |
| Snack Bread | Peanut Butter, Plain | Bagel, Plain |
| Beef Snack, Cranberry Nugget | Crackers, Plain | Beef Snack, Cranberry Nugget |
| Dessert Bar, Peanut Butter | Turkey Snack | Snack, Filled Pretzel, Cheddar |
| First Strike™ Bar, Mocha | Snack, Corn Kernels | Dessert Bar, Mocha |
| Energy Gel, Mixed Berry | First Strike™ Bar, Cran- | First Strike™ Bar, Apple- |
| Snack, Filled Pretzel, Cheddar | Raspberry | Cinnamon |
| Fruit, Zapplesauce® | Energy Gel, Mixed Berry | Caffeinated Chocolate Pudding |
| Fruit, Raisins | Nut Fruit Mix, Type II | Fruit, Dried, Cranberries |
| Beverages (2) <u>1/</u> | Fruit, Zapplesauce®, Cinnamon | Dairyshake, |
| Gum, Caffeinated, Cinnamon | Chocolate Protein Drink | Strawberry Banana |
| Hot Sauce <u>2/</u> | Beverage (1) <u>1/</u> | Beverage (1) <u>1/</u> |
| Hand Cleaner | Candy, Caffeinated Mints | Gum, Caffeinated, Peppermint |
| Re-closeable Plastic Bag | Hand Cleaner | Hot Sauce <u>2/</u> |
| Spoon | Re-closeable Plastic Bag | Hand Cleaner |
| Accessory Packet A | Spoon | Re-closeable Plastic Bag |
| | Accessory Packet C | Spoon |
| | | Accessory Packet C |

1/ Flavors shall be procured in equal quantities and assembled in a uniform distribution. When menu contains two beverages, they shall be different flavors.

2/ Hot sauce may be packaged in the subassembly/accessory packet or loose in the meal bag.

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TABLE III. Contents - Continued

| <u>Menu #7</u> | <u>Menu #8</u> | <u>Menu #9</u> |
|------------------------------|-------------------------------|-------------------------------|
| Filled Blueberry Turnover | Filled French Toast | Filled Cinnamon Bun |
| Sandwich, Beef Nacho | Sandwich, BBQ Chicken | Sandwich, Italian |
| Tuna, Sweet and Spicy | Tuna, Albacore | Chicken, Garlic and Herb |
| Spread, Cheddar Potato Bacon | Bagel, Plain | Tortillas |
| Crackers, Plain | Snack, Filled Cracker, | Spread, Cheddar Potato Bacon |
| Snack Bread | Cheddar | Crackers, Plain |
| Snack, Baked Cracker, | Beef Snack, Barbeque | Snack, Corn Kernels |
| Hot and Spicy Cheese | Beef Snack, Teriyaki | Beef Snack, Cranberry Nugget |
| Turkey Snack | Dessert Bar, | First Strike™ Bar, Cran- |
| First Strike™ Bar, Chocolate | Chocolate Banana Nut | Raspberry |
| First Strike™ Bar, Apple- | First Strike™ Bar, Mocha | Caffeinated Chocolate Pudding |
| Cinnamon | Fruit, Zapplesauce®, Cinnamon | Fruit, Dried, Raisins |
| Nut Fruit Mix, Type III | Nut Fruit Mix, Type II | Dairyshake, Vanilla |
| Fruit, Zapplesauce® | Dairyshake, Vanilla | Beverage (1) <u>1/</u> |
| Beverages (2) <u>1/</u> | Beverage (1) <u>1/</u> | Candy, Caffeinated Mints |
| Gum, Caffeinated, Cinnamon | Gum, Caffeinated, | Hand Cleaner |
| Mayonnaise | Peppermint | Re-closeable Plastic Bag |
| Hand Cleaner | Mayonnaise | Spoon |
| Re-closeable Plastic Bag | Hand Cleaner | Accessory Packet B |
| Spoon | Re-closeable Plastic Bag | |
| Accessory Packet A | Spoon | |
| | Accessory Packet A | |

1/ Flavors shall be procured in equal quantities and assembled in a uniform distribution. When menu contains two beverages, they shall be different flavors.

2/ Hot sauce may be packaged in the subassembly/accessory packet or loose in the meal bag.

SECTION D

D-1 PACKAGING

A. Components.

(1) Subassembly packet/accessory packet. The subassembly/accessory packet shall be a preformed pouch or a form-fill-seal pouch. Dimensions shall be sufficient to contain all

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components. Seals shall be a minimum 1/8 inch wide. A tear nick, notch or serrations shall be provided to facilitate opening of the filled and sealed pouch. The average seal strength of the pouch seals shall be not less than 3.5 pounds per inch of width and no individual specimen shall have a seal strength of less than 3.0 pounds per inch of width. As an alternative to the seal strength requirement, 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. The pouch shall be made from polymeric films or film combinations with adequate strength and thickness to contain and protect the components. The water vapor transmission rate (WVTR) of the film shall not exceed 6.2 gm/m²/24hrs/90%rh/100°F when tested in accordance with ASTM F 372, Standard Test Method for Water Vapor Transmission Rate of Flexible Barrier Materials Using an Infrared Detection Technique; ASTM E 96, Standard Test Methods for Water Vapor Transmission of Materials or Method 3030 of FED-STD-101, Test Procedures for Packaging Materials. The exterior color of the pouch shall be clear or tan.

(2) Time-temperature indicator (TTI) label. The TTI label shall be a 3/4 inch square, bull's-eye type, pressure sensitive adhesive label. The TTI label shall have an activation energy (Ea) of 24–30 kcal/mole, be protected from ultraviolet radiation and have a shelf life of ~~730~~ **1100** days at 80°F as pivot point.

(3) Meal assembly packet. The meal assembly packet shall be of sufficient thickness and strength to contain the meal components without tearing or spillage of meal contents throughout assembly, packing and distribution.

B. Assembly.

(1) Subassembly/accessory packet assembly. One of each applicable component as described in table II shall be inserted in a pouch. If a subassembly is used, additional components may also be inserted in the pouch. For a preformed pouch, contents shall be inserted in the pouch and the pouch shall be closed with a heat seal not less than 1/8 inch wide. For a form-fill-seal pouch, components shall be placed in the body and the cover applied by heat sealing with a seal not less than 1/8 inch wide. The closure seal shall be free of foldover wrinkles or entrapped matter that reduces the effective seal width to less than 1/16 inch. The average seal strength of the pouch seals shall be not less than 3.5 pounds per inch of width and no individual specimen shall have a seal strength of less than 3.0 pounds per inch of width. As an alternative to the seal strength requirement, 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.

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(2) Meal assembly. Each applicable component for each meal as described in table III shall be inserted in a meal assembly packet. The packet shall be a single bag or pouch. The meal assembly packet shall be shrink wrapped or heat-sealed (as applicable). If closed by heat seal, the seal shall be not less than 1/8 inch wide. The sealed assembly packet shall not show any evidence of foreign odor. The size of the finished meal assembly packet shall allow for the packing of nine meals into the box.

D-2 LABELING

A. Subassembly/accessory packet. The subassembly/accessory packet shall be labeled on one face in permanent dark contrasting color ink with the letter A, B, or C as applicable.

B. Meal assembly packet. Each packet shall be correctly and legibly labeled in accordance with the colors and design of the FIRST STRIKE RATION® label shown in figure 1. (NOTE: The registered label design of the U.S. Army Research, Development and Engineering Command, Natick Soldier Research, Development and Engineering Center is available electronically.) As an alternate labeling method, a pre-printed self-adhering 0.002 inch thick polyester label may be used.

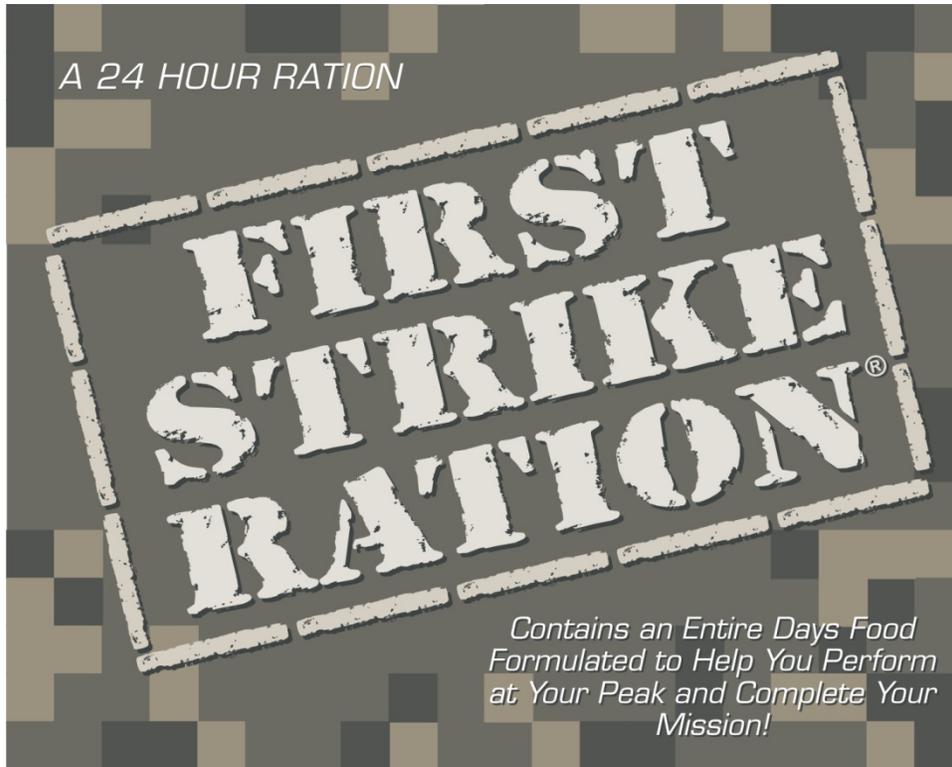


Figure 1. First Strike Ration® Label.

The following information shall also be printed on the packet:

Contractor's name and address
Appropriate menu number and contents

D-3 PACKING

A. Packing. Nine meals, one of each menu, shall be packed in a fiberboard box. The fiberboard box shall conform to RSC-L, of ASTM D 5118/D 5118M, Standard Practice for Fabrication of Fiberboard Shipping Boxes, grade V2s of ASTM D 4727/D 4727M, Standard Specification for Corrugated and Solid Fiberboard Sheet Stock (Container Grade) and Cut Shapes, except the requirements for dry burst strength shall be minimum 425 psi, the requirement for wet burst strength shall be minimum 250 psi and the laminated board thickness shall be 0.069 inches. [The U.S. Army Research, Development & Engineering Command, Natick Soldier Research, Development and Engineering Center has found that

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solid fiberboard shipping container material consisting of two outer facings of 90# wet strength linerboard and an inner ply of 69# linerboard meets the performance criteria of this specification.] The box liner shall be a full inside width box liner fabricated from grade W5c fiberboard in accordance with ASTM D 5118/D 5118M, except the terminal ends of the liner shall overlap a minimum of 2 inches and no fastening of the overlap is required. The box shall be closed in accordance with closure method 2A1 of ASTM D 1974, Standard Practice for Methods of Closing, Sealing, and Reinforcing Fiberboard Boxes; except the gap between the outer flaps shall be not more the 3/4 inch wide. Each box shall be reinforced with two girthwise nonmetallic straps. The inside dimensions of the box shall be 16-11/16 inches in length, 9-1/8 inches in width and 10-1/4 inches in depth.

D-4 UNITIZATION

A. Unit loads. Forty-eight boxes shall be arranged in unit loads in accordance with type I, class C of DSCP FORM 3507, Loads, Unit: Preparation of Semiperishable Subsistence Items. At least two boxes in each tier shall be oriented to display the TTI label.

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 and as specified in the contract with the following exceptions:

(1) Identification markings normally placed on an end of the shipping container shall read from top to bottom, left to right, when the shipping container is rotated from its upright position onto its side for palletization. The major flaps of the shipping container closure immediately to the right of the marked end of the shipping container shall bear the following marking:

Contract data and other required markings
Date of pack
Lot number
U.S. GOVERNMENT PROPERTY – COMMERCIAL RESALE IS UNLAWFUL

Time Temperature Indicator label shall be centrally positioned on the panel. A minimum distance (quiet zone) of 1/4 inch from the nearest identification marking shall be maintained.

(2) One side panel of shipping container shall be marked “FIRST STRIKE RATION®” in letters not less than 1-1/4 inches high.

B. Unit loads. Unit loads shall be marked in accordance with DSCP FORM 3556.

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. Conformance inspection. Conformance inspection shall include the examinations/tests and the methods of inspection cited in this section.

C. Packaging examination.

(1) Subassembly/accessory material certification. The pouch material shall be tested for these characteristics. A Certificate of Conformance (CoC) may be accepted as evidence that the characteristics conform to the specified requirements.

| <u>Characteristic</u> | <u>Requirement para</u> | <u>Test procedure</u> |
|--------------------------------------|-------------------------|---|
| Color of subassembly/accessory pouch | D-1,A(1) | Visual evaluation |
| Water vapor transmission rate | D-1,A(1) | ASTM F 372, ASTM E 96 or Method 3030, FED-STD-101 <u>1/</u> |

1/ ASTM E 96 Standard Test Methods for Water Vapor Transmission of Materials

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ASTM F 372 Standard Test Method for Water Vapor Transmission Rate of Flexible Barrier Materials Using an Infrared Detection Technique

FED-STD-101 Test Procedures for Packaging Materials

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

(3) Subassembly/accessory packet examination. The filled and sealed packets shall be examined for the defects listed in table IV. The lot size shall be expressed in packets. The sample unit shall be one packet. The inspection level shall be S-4 and the acceptable quality level (AQL), expressed in terms of defects per hundred units, shall be 2.5 for major defects and 4.0 for minor defects.

TABLE IV. Subassembly/accessory packet defects

| Category | | Defect |
|--------------|--------------|--|
| <u>Major</u> | <u>Minor</u> | |
| 101 | | Not clean. <u>1/</u> |
| | 201 | Seal width less than 1/16 inch. <u>2/</u> |
| | 202 | Tear nick or notch or serrations missing or does not facilitate opening. |
| | 203 | Tear or hole or open seal. |
| | 204 | Label missing or incorrect or illegible. |
| | 205 | Pouch not sealed on four sides. |

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

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

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b. Localized dried product which affects less than 1/8 of the total surface area of one pouch face, or an aggregate of scattered dried product which affects less than 1/4 of the total surface area of one pouch face.

2/ An effective seal is defined as any uncontaminated, fusion bonded, continuous path, minimum 1/16 inch wide, producing a hermetically sealed pouch.

(4) Subassembly/accessory packet contents examination. The filled and sealed packets shall be examined for the defects listed in table V (this examination may be performed on the preformed pouches after filling and prior to sealing). The lot size shall be expressed in packets. The sample unit shall be one packet open or sealed. The inspection level shall be S-4 and the AQL, expressed in terms of defects per hundred units, shall be 1.5 for major defects and 4.0 for minor defects.

TABLE V. Subassembly/accessory packet contents defects

| Category | | Defect |
|--------------|--------------|---|
| <u>Major</u> | <u>Minor</u> | |
| 101 | | Component not clean. <u>1/</u> |
| | 201 | Missing or unserviceable component. |
| | 202 | Plastic shrink film missing from around screw cap of hot sauce bottle or hot sauce bottle leaking, as applicable. |

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

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

b. Localized dried product which affects less than 1/8 of the total surface area of one package face, or an aggregate of scattered dried product which affects less than 1/4 of the total surface area of one package face.

(5) Assembled meal packet examination. The filled and sealed meal packets shall be inspected for the defects listed in table VI. The lot size shall be expressed in packets. The

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sample unit shall be one packet. The inspection level shall be S-4 and the AQL, expressed in terms of defects per hundred units, shall be 2.5 for major defects and 4.0 for minor defects. A minimum of 50 samples shall be examined for critical defects. The finding of any critical defect shall be cause for rejection of the lot. The inspection sample shall contain a proportionate amount of each of the meals.

TABLE VI. Assembled meal packet defects

| Category | | | Defect |
|-----------------|--------------|--------------|---|
| <u>Critical</u> | <u>Major</u> | <u>Minor</u> | |
| 1 | | | Tear or hole or open seal in sandwich, filled wrap, filled bakery item, cheese spread, salmon, tuna or chicken pouch. |
| 2 | | | Swollen sandwich, filled wrap, filled bakery item, cheese spread, salmon, tuna or chicken pouch. |
| | 101 | | Menu component missing or incorrect assortment for menu. |
| | 102 | | Meal packet not clean or outer packaging of contents not clean. <u>1/</u> |
| | 103 | | Foreign odor. |
| | 104 | | Labeling missing or incorrect or illegible. |
| | 105 | | Swollen peanut butter or spread soup pouch. |
| | 106 | | Tear or hole or open seal in component packages. |
| | 107 | | Crushed or broken component. <u>2/</u> |
| | 108 | | Broken spoon. |
| | 201 | | Tear or hole or open seal in meal packet. <u>3/</u> |
| | 202 | | Tear or hole or open seal in subassembly/accessory packet. |
| | 203 | | Plastic shrink film missing from around screw cap of hot sauce bottle or hot sauce bottle leaking, as applicable. |
| | 204 | | Re-closeable interlocking plastic bag not as specified. |

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1/ Outer packaging shall be free from foreign matter, which is unwholesome, has the potential to cause package damage (i.e. glass, metal filings, etc.), or generally detracts from the clean appearance of the package. The following examples shall not be scored as defects for unclean:

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

b. Localized dried product which affects less than 1/8 of the total surface area of one pouch face, or an aggregate of scattered dried product which affects less than 1/4 of the total surface area of one pouch face.

2/ For definition of crushed or broken, refer to applicable ration component document.

3/ The holes provided in shrink films to allow venting of air to facilitate effective application of shrink wrap film are permitted and shall not be scored as defects. In addition a single vent hole in a preformed bag not greater than 1/4 inch diameter is allowed and shall not be scored a defect.

D. Methods of inspection.

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

a. Unfilled preformed subassembly/accessory packet pouch. The seals of the unfilled preformed pouches for the subassembly/accessory packet shall be tested for seal strength in accordance with ASTM F 88, Seal Strength of Flexible Barrier Materials. The lot size shall be expressed in pouches. The sample unit shall be one pouch. The inspection shall be level S-1 and the AQL, expressed in defects per hundred units, shall be 10.0. Three 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 results of the three specimens cut from that side. Any test specimen failing to meet a seal strength of 3 pounds per inch of width shall be scored a major defect. Any average seal strength of less than 3.5 pounds per inch of width shall be cause for rejection of the lot. Alternatively, the internal pressure resistance shall be determined by pressurizing the pouches while they are restrained between two rigid plates. 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

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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. Any seal separation that reduces the effective closure seal width to less than 1/16 inch (see table IV, footnote 2/) shall be considered a test failure. Any test failure shall be classified as a major defect and shall be cause for rejection of the lot.

b. Subassembly/accessory packet pouch closure. The closure seals of the pouches for the subassembly/accessory packet 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 inspection level shall be S-1 and the AQL, expressed in defects per hundred units, shall be 10.0. For the closure seal on preformed pouches, three adjacent specimens shall be cut from the closure seal of each pouch in the sample. For the form-fill-seal pouches, three 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 test specimen failing to meet a seal strength of 3 pounds per inch of width shall be scored a major defect. Any average seal strength of less than 3.5 pounds per inch of width shall be cause for rejection of the lot. Alternatively, the internal pressure resistance shall be determined by pressurizing the pouches while they are restrained between two rigid plates. 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. Any seal separation that reduces the effective closure seal width to less than 1/16 inch (see table IV, footnote 2/) shall be considered a test failure. Any test failure shall be classified as a major defect and shall be cause for rejection of the lot.

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E. Packing.

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

| Category | | Defect |
|--------------|--------------|---|
| <u>Major</u> | <u>Minor</u> | |
| 101 | | Marking missing or incorrect or illegible. |
| 102 | | Outer flaps do not completely meet, leaving an opening greater than 3/4 inch between flap ends. |
| 103 | | Inadequate workmanship. <u>1/</u> |
| 104 | | Missing meal. <u>2/</u> |
| 105 | | Not one of each menu. |
| | 201 | Time-temperature indicator missing or not centrally located on panel. |
| | 202 | Time-temperature indicator 1/4-inch quiet zone not maintained. |

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.

2/ Each missing meal is a defect.

(2) Flap closure testing. The lot size shall be expressed in shipping containers. The sample unit shall be one shipping container. The inspection level shall be S-2 and the AQL, expressed in terms of defects per hundred units, shall be 4.0. The closure of the four outer flaps of the container shall be tested separately. A 90 degree angular bar with each leg approximately 5 inches long by 3 inches wide by 1/8 inch thick shall be used to test the flap closures. Insert one leg of the angular bar full length under the center of one outer flap. Insertion shall be made through the open slot between the outer flaps. Lift the container

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vertically by the other leg of the bar until the container is suspended. The complete upper surface of the inserted leg shall be in contact with the inner surface of the flap during the lifting and suspension of the container. Complete separation of the adhesive bond of one or more of the outer flaps, showing no evidence of fiber tear, shall be scored a major defect.

F. Unit load examination. The unit load shall be examined in accordance with the requirements of DSCP FORM 3507. Any nonconformance shall be classified as a major defect.

SECTION J REFERENCE DOCUMENTS

Unless otherwise specified, the issues of these documents are those active on the date of the solicitation or contract

DSCP FORMS

| | |
|-------------------|--|
| DSCP FORM 3507 | Loads, Unit: Preparation for Semiperishable Subsistence Items |
| DSCP FORM 3556 | Marking Instructions for Boxes, Sacks, and Unit Loads of Perishable and Semiperishable Subsistence |

FEDERAL STANDARDS

| | |
|-------------|---|
| FED-STD-101 | Test Procedures for Packaging Materials |
|-------------|---|

NON-GOVERNMENTAL STANDARDS

AMERICAN SOCIETY FOR QUALITY (ASQ) www.asq.org

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

ASTM INTERNATIONAL www.astm.org

| | |
|----------------|---|
| D 1974 | Standard Practice for Methods of Closing, Sealing, and Reinforcing Fiberboard Boxes |
| D 4727/D 4727M | Standard Specification for Corrugated and Solid Fiberboard Sheet Stock (Container Grade) and Cut Shapes |
| D 5118/D 5118M | Standard Practice for Fabrication of Fiberboard Shipping Boxes |
| E 96/E 96M | Standard Test Methods for Water Vapor Transmission of |

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Materials

- F 88 Standard Test Method for Seal Strength of Flexible Barrier Materials
- F 372 Standard Test Method for Water Vapor Transmission Rate of Flexible Barrier Materials Using an Infrared Detection Technique

For DLA - Troop Support Website Posting

RDNS-SEC-EM

3 August 2015

TO: Defense Logistics Agency (DLA) - Troop Support – Subsistence DSCP-FTRE

SUBJECT: ES15-070 (DSCP-SS-15-01321); Change in shelf life requirement for the First Strike Ration[®] (FSR); update FSR ACR-F-08, Assembly Requirements document to reflect change

1. Natick initiated an Engineering Support case to request a change to the shelf life requirement of the First Strike Ration[®] (FSR).
2. Natick recommends that the shelf life requirement of the FSR be changed from 2 years at 80° F to 3 years at 80° F in DLA - Troop Support contract number SPM3S1-12-D-Z127 as well as any future contracts.
3. This change is a result of a review of sensory evaluation data of all long term storage studies conducted on the FSR ration components. Additionally, a shelf life validation study was conducted on cases of FSRs procured under DLA - Troop Support contract number SPM3S1-10-D-Z104 and assembled on 30 June 2012 with an inspect by date of 30 June 2014. These cases were procured through DLA - Troop Support and then placed into storage at 80°F for an additional year, bringing the pull date to 30 June 2015.
4. Sensory evaluations were conducted on the ration components and all received acceptable quality scores.
5. While reviewing the shelf life requirement in the FSR contracts it was also noted that the shelf life requirement for the Time Temperature Indicator (TTI) label in the ACR-F-08, First Strike Ration[®], Assembly Requirements document needed to be updated to reflect the same shelf life requirement for the TTI label of the Meal, Ready-to-Eat (MRE) and the Meal, Cold Weather/Food Packet, Long Range Patrol (MCW/LRP), Combined Ration, Assembly Requirements documents.
6. Natick submits the following change to subject document for all current, pending, and future procurements until the document is formally amended or revised:
 - a. Page 9, D-1,A(2), second sentence, delete “730” insert “1100”.

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7. Attached is Change 09, ACR-F-08, First Strike Ration[®], Assembly Requirements document dated 3 August 2015, with the change highlighted.