**ACR-M-001A**
**3 June 2008**
**Superseding**
**ACR-M-001**
**9 July 1999**
**W/CHANGE 06 9 October 2012**

## SECTION C

## C-1 ITEM DESCRIPTION

**ACR-M-001A, Meal Cold Weather/Food Packet Long Range Patrol, Combined Ration, Assembly Requirements**

The Meal, Cold Weather/Food Packet, Long Range Patrol provides an operational ration for two separate operational scenarios. The Meal, Cold Weather (MCW) is intended for cold weather feeding, it will not freeze and supplies extra drink mixes for countering dehydration during cold weather activities. It can be issued at three per day for complete cold weather ration. The Food Packet, Long Range Patrol (LRP) is a restricted calorie ration meant for special operations, where re-supply is not available and weight and volume are critical factors. It is issued at one per soldier per day for up to ten days. The combined product assembly consists of twelve meals or packets per shipping container.

## C-2 ASSEMBLY REQUIREMENTS

A. Components.

(1) Menu components. The components for menu assembly shall be as specified in Table I. Packaging of components shall be in a tan material, as appropriate, and as cited in the component document.

TABLE I. Components

| Component | Reference | Menu |
|---|---|---|
| Entrees | | |
| Beef Stew | PCR-B-015 | 7 |
| Beef Stroganoff with Noodles | PCR-B-016 | 2 |
| Chicken and Rice | PCR-C-025 | 5 |
| Chicken, Spicy Oriental with Rice | PCR-C-026 | 1 |
| Chili Macaroni with Beef | PCR-C-073 | 3 |

TABLE I. Components (cont'd)

| Component | Reference | Menu |
|---|---|---|
| Egg, Scrambled | PCR-E-001 | |
| Scrambled Eggs and Bacon Pieces | Type II | 11 |
| Scrambled Eggs with Cheese, Western Style | Type III | 10, 12 |
| Rice and Chicken, Mexican Style | PCR-R-011 | 9 |
| Seafood Chowder | PCR-S-017 | 6 |
| Spaghetti with Meat Sauce | PCR-S-008 | 8 |
| Turkey Tetrazzini | PCR-T-002 | 4 |
| Starches | | |
| Cereals, Rolled Oats, Instant, Apples and Cinnamon, Maple and Brown Sugar, Cinnamon and Spice, or Strawberries and Cream, Regular | A-A-20090 E, Type III Flavor B, C, E or F, Style 1 | 11, 12 1/ |
| Granola, with Milk and Blueberries | PCR-G-003, Type I | 10 |
| Snacks and Candy | | |
| Cakes and Brownies, and Muffin Tops | PCR-C-007C | 7 1/ |
| Cakes or Brownies | Type I or II, All Flavors | |
| Candy and Chocolate Confections | A-A-20177D, Pack. A or B | |
| Pan Coated Candy | Type VI | |
| Disks, Chocolate, Plain | Shape A, Flavor 1 | 8 |
| Oval/Round, Chocolate with Peanuts | Shape B, Flavor 1 | 3 |
| ~~Starch Jelly Candy,~~ | ~~Type VIII~~ | ~~2, 12~~ |
| Cheese Spread, Cheddar, Plain, with Jalapeno Peppers, or with Bacon | PCR-C-039, Type I, II, or III | 3, 4 1/ |
| Chocolate Sports Bar, Chocolate | PCR-C-004A, Flavor I | 2, 10 |
| Cookies, Regular, Fig Bar, Soft and Chewy, Individual Serving | A-A-20295C, Type I, Style P, Bake Type b, Class 1, | 1, 11 |
| Cookies, Regular, Shortbread, Plain, Crisp, Individual Serving | A-A-20295C, Type I, Style A Flav 1, Bake Type a, Class 1 | 1, 6, 9 |
| Cookies, Oatmeal, and Brownies, Chocolate Covered, Cookie | MIL-C-44072C, Type II | 5, 7 |

**Comment [EP1]:** ES12-062 (DSCP-SS-12-84452), change 06, 9 Oct 12 - p. 2, C-2, A(1). TABLE I. Components, - Continued, delete "Starch Jelly Candy, Type VIII, Menus 2, 12"

**Comment [EP2]:** Follow-up to ES12-032 (DSCP-SS-12-85704), change 06, 9 Oct 12 - p. 2, C-2, A(1). TABLE I. Components, - Continued, under "Cookies, Regular, Shortbread, Plain, Crisp, Individuel Serving, A-A-20295C, Type I, Style A", insert Menu "1," before Menus 6, 9

TABLE I. Components (cont'd)

| Component | Reference | Menu |
|---|---|---|
| Crackers, Fortified, Plain or Vegetable | PCR-C-037, Type I or II | 3, 4, 6, 8 1/ |
| Dessert Bar, | PCR-D-004 | |
| Mocha | Flavor I | 4 |
| Chocolate Banana Nut | Flavor III | 9 |
| First Strike™ Bar | PCR-F-001 | 5 |
| Cran-Raspberry, Regular | Flavor III, Style A | |
| Fruits, Osmotically Dried | A-A-20299A | 2, 9 |
| Sliced Cranberries, Not Fortified | Type VII, Fortification a | |
| ~~Ice Cream Sandwich, Freeze Dehydrated~~ | ~~PCR-I-002~~ | ~~1~~ |
| ~~Cookies and Cream~~ | ~~Flavor I~~ | |
| Nut and Fruit Mix | PCR-N-003 | |
| Nut and Raisin Mix | Type I | 8, 11 |
| Nuts with Raw Sunflower Kernels, Infused Fruit | Type III | 2, 6 |
| Nuts, Shelled, Roasted | A-A-20164C | 6, 9, 12 |
| Almonds (Unblanched), Flavored (Smoked) | Type IX, Style A | |
| Peanut Butter and Peanut Spread | A-A-20328A, Style II | 8 |
| Peanut Spread, Regular, Smooth, Stabilized, Chocolate, Fortified | Class A, Texture 1, Type a Flavor 2, Fortification b | |
| Snack Foods | A-A-20195C | |
| Filled Pretzels, Cheddar or Nacho Cheese | Type II, Style F, Flavor 1, 2 | 10 1/ |
| Toasted Corn Kernels, Plain, Salted | Type VI, Flavor 1 | 3, 5, 7 |
| Toaster Pastries, Shelf Stable, Regular Frosted Brown Sugar Cinnamon, Not Fortified, Rectangular, Single Serving | A-A-20211B, Type I, Style B, Flavor 3, Fort. ~~a~~ b, Shape I, Servings (a) | 12 |

**Comment [EP3]:** ES12-062(DSCP-SS-12-84452), change 06 , 9 Oct 12 - p. 3, C-2, A(1). TABLE I. Components, - Continued, under "Fruits, Osmotically Dried, A-A-20299A," insert Menu "2," before Menu 9

**Comment [EP4]:** Follow-up to ES12-032(DSCP-SS-12-85704), change 06, 9 Oct 12 - p. 3, C-2, A(1). TABLE I. Components, - Continued, delete "Ice Cream Sandwich, Freeze Dehydrated, Cookies and Cream, PCR-I-002, Flavor I, Menu 1"

**Comment [EP5]:** ES12-062(DSCP-SS-12-84452), change 06, 9 Oct 12 - p. 3, C-2, A(1). TABLE I. Components, - Continued, under "Nuts, Shelled, Roasted, Almonds (Unblanched), Flavored (Smoked), A-A-20164C, Type IX, Style A", insert Menu ", 12" after Menus 6, 9

TABLE I. Components (cont'd)

| Component | Reference | Menu |
|---|---|---|
| Beverages | | |
| Beverage Base, Powdered | A-A-20098D | |
| Sweetened with Nutritive Sweetener, | Type II | |
| Flat interlocking closure pouch | Design B | |
| Orange, Fortified with Vitamin Premix | Flavor 1, Formulation c | 4,10,11 |
| Lemon, Lime, Lemon-Lime, Grape or Cherry | Flavor 2, 3, 4, 5 or 6 | 1, 2, 6, |
| Fortified with Ascorbic Acid and Enhanced | Formulation d | 7, 9 1/ |
| With Maltodextrin | | |
| Beverage Base, Powdered | A-A-20098D | 8 |
| Sweetened with Non-Nutritive Sweetener | Type III | |
| Lap or Fin Seal Pouch | Design D | |
| Lemonade or Raspberry, Not fortified | Flavor 8 or 13, Formulat. a | |
| Cocoa Beverage Powder, Fortified | PCR-C-041 | 10, 11 |
| Flat Interlocking Closure Pouch | Design B | |
| Dairyshake Powder, Fortified with Calcium and | PCR-D-002A | 1, 12 |
| Vitamin D, 100 grams | | 1/ |
| Vanilla, Chocolate, Strawberry or | Flavors I, II, III or IV | |
| Strawberry Banana | | |
| Flat Interlocking Closure Pouch | Design B | |
| Drink Mixes, Coffee (Unflavored and Flavored), | A-A-20336A, Type V, | 3, 4, 5 |
| Flavored Instant Cappuccino, Regular, French | Style A, | 1/ |
| Vanilla, Mocha or Irish Cream | Flavors 1, 2 or 4 | |
| Flat Interlocking Closure Pouch | Design B | |
| Other | | |
| Fork, Knife and Spoon, Picnic, Plastic, High | A-A-3109B, Type IV, | All |
| Impact, Spoon, MRE, 7-inch, Brown | Item 13 | |

1/ An equal quantity of at least three flavors of oatmeal (menus 11, 12), three flavors of cakes (menu 7), two flavors of cheese (menus 3, 4), two flavors of crackers (menus 3, 4, 6), two flavors of filled pretzels (menu 10), three flavors of beverage base, carbohydrate fortified (menus 1, 2, 6, 7, 9), two flavors of dairyshake (menus 1, 12), and two flavors of cappuccino (menus 3, 4, 5) will be procured and distributed in as uniform a manner as possible.

(2) Accessory packet components. The components for the accessory packet assembly shall be as specified in Table II.

TABLE II. Accessory Packet Components

| Component | Reference | Packet |
|---|---|---|
| Coffee, Instant, Freeze Dried, Regular | A-A-20184B, Type III, Style A | All |
| Creamer, Non-Dairy, Dry | A-A-20043B | All |
| Sugar, White, Granulated | A-A-20135C, Type I, Style A, 1/7 oz. | All |
| Chewing Gum, Tablet, Regular | A-A-20175C, Type I, Size B | All |
| Without Caffeine, Sugarfree | Style (1), Class 3 | |
| Peppermint or Cinnamon 1/ | Flavor a or c | |
| Hot Sauce, Extra Hot 4x | A-A-20097E, Type II, 1/8 fl. oz. | All 2/ |
| Salt, Iodized | Sodium Chloride Monograph, 4 gram | LRP |
| Hand Cleaner (Pre-Moistened Towelette) | A-A-461B, Type II | All |
| Toilet Tissue | A-A-59594, Style I, Type A, | |
| 2 Packets | Class 1, Size a | LRP |
| 1 Packet | | MCW |
| Matches, Paper, 20 Splint Book | A-A-59489A, Type I, Class B | All |

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

2/ Alternatively, hot sauce may be packed loose in the meal bag.

(3) Menu contents. The menu contents shall be as specified in Table III.

TABLE III. Menu Contents

**Menu #1**

Spicy Oriental Chicken with Rice
Fig Bar
~~Ice Cream Sandwich~~ Shortbread Cookies
Dairyshake 1/
Beverage, carbo fortified (formul. d) 1/
Accessory Pack
Spoon

**Menu #2**

Beef Stroganoff with Noodles
Chocolate Sports Bar
~~Starch Jelly Candy~~ Dried Cranberries
Nut and Fruit Mix, Type III
Beverage, carbo fortified (formul. d) 1/
Accessory Pack
Spoon

**Menu #3**

Chili Macaroni
Crackers 1/
Cheese Spread 1/
Toasted Corn Kernels
Chocolate Peanut Pan Coated Disks
Cappuccino 1/
Accessory Pack
Spoon

**Menu #4**

Turkey Tetrazzini
Dessert Bar, Mocha
Crackers 1/
Cheese Spread 1/
Beverage Base, Orange (formul. c)
Cappuccino 1/
Accessory Pack
Spoon

**Menu #5**

Chicken & Rice
Chocolate Covered Cookies
Toasted Corn Kernels
First Strike™ Bar, Cran-Raspberry
Cappuccino 1/
Accessory Pack
Spoon

**Menu #6**

Seafood Chowder
Shortbread Cookies
Smoked Almonds
Nut and Fruit Mix, Type III
Crackers 1/
Beverage, carbo fortified (formul. d) 1/
Accessory Pack
Spoon

**Comment [EP6]:** Follow-up to ES12-032(DSCP-SS-12-85704), change 06, 9 Oct 12 - . p. 6, C-2, A(3). TABLE III. Menu Contents, delete "Ice Cream Sandwich"; insert "Shortbread Cookies"

**Comment [EP7]:** ES12-062(DSCP-SS-12-84452), change 06, 9 Oct 12 - p. 6, C-2, A(3). TABLE III. Menu Contents, delete "Starch Jelly Candy"; insert "Dried Cranberries"

TABLE III. Menu Contents (cont'd)

| **Menu #7** | **Menu #8** |
|---|---|
| Beef Stew | Spaghetti with Meat Sauce |
| Cake 1/ | Nut and Fruit Mix, Type I |
| Toasted Corn Kernels | Chocolate Peanut Spread |
| Chocolate Covered Cookies | Crackers 1/ |
| Beverage, carbo fortified (formul. d) 1/ | Chocolate Disks, Pan Coated |
| Accessory Pack | Sugar Free Beverage |
| Spoon | Accessory Pack |
| | Spoon |
| **Menu #9** | **Menu #10** |
| Rice and Chicken, Mexican | Scrambled Eggs with Cheese, Western style |
| Shortbread Cookies | Granola with Blueberries |
| Smoked Almonds | Chocolate Sports Bar |
| Dried Cranberries | Filled Pretzels 1/ |
| Dessert Bar, Chocolate Banana Nut | Beverage Base, Orange (formul. c) |
| Beverage, carbo fortified (formul. d) 1/ | Cocoa Beverage Powder |
| Accessory Pack | Accessory Pack |
| Spoon | Spoon |
| **Menu #11** | **Menu #12** |
| Scrambled Eggs with Bacon | Scrambled Eggs with Cheese, Western Style |
| Oatmeal, Flavored 1/ | Oatmeal, Flavored 1/ |
| Nut and Fruit Mix, Type I | Toaster Pastry |
| Fig Bar | ~~Starch Jelly Candy~~ Smoked Almonds |
| Beverage Base, Orange | Dairyshake 1/ |
| Cocoa Beverage Powder (formul. c) | Cocoa Beverage Powder |
| Accessory Pack | Accessory Pack |
| Spoon | Spoon |

**Comment [EP8]:** ES12-062 (DSCP-SS-12-84452), change 06, 9 Oct 12 - p. 7, C-2, A(3). TABLE III. Menu Contents, delete "Starch Jelly Candy"; insert "Smoked Almonds"

1/ An equal quantity of at least three flavors of oatmeal (menus 11, 12), three flavors of cakes (menu 7), two flavors of cheese (menus 3, 4), two flavors of crackers (menus 3, 4, 6), two flavors of filled pretzels (menu 10), three flavors of beverage base, carbohydrate fortified (menus 1, 2, 6, 7, 9), two flavors of dairyshake (menus 1, 12), and two flavors of cappuccino (menus 3, 4, 5) will be procured and distributed in as uniform a manner as possible.

## SECTION D

### D-1 PACKAGING

A. Components.

(1) Components. Packaging of components shall be in a tan material, as appropriate, and as cited in the component document. Candy shall be overpacked in a barrier pouch.

(2) Meal bag. The meal bag shall be made from food grade, low density polyethylene (LDPE) tubing or tubing made from a blend of food grade, low density polyethylene (LDPE) and linear-low density polyethylene (LLDPE). Additives may be used in order to improve sealability, peelability, tear resistance or other attributes provided all additives are food grade and are certified by the FDA as approved for food contact. Polyethylene shall have a minimum thickness of 0.010 inch. Inside dimensions of the bag shall not exceed 8-1/8 x 12-1/2 inches. The color of the bag for LRP shall conform to number 20219, 30219, 30227, 30279, 30313, 30324 or 30450 of FED-STD-595, Colors Used in Government Procurement. The color of the meal bag for MCW shall conform to number 37778 to 37886 of FED-STD-595. One seal shall be a minimum 1/8 inch wide, continuous, peelable seal that forms a hermetic closure. The seal shall be designed with an inverted “V” shaped peel indicator along the seal path. There shall be a minimum of 1/2 inch between the apex of the “V” and the end of the bag. The seal strength of the peelable seal shall be not less than 4 pounds per inch of width and shall be not greater than 10 pounds per inch of width. Alternative bag construction, bag materials, and material thicknesses may be used provided that the alternative method can be demonstrated to meet or exceed the requirements of this document and military abuse testing and controlled pest testing. Samples may be submitted to the contracting officer to be qualified on a case by case basis.

(3) Accessory packet. The accessory packet shall be a preformed packet or a form-fill-seal packet. Dimensions shall be sufficient to contain all components. Seals shall be a minimum 1/8 inch wide. A tear nick, notch or serrations shall be provided to facilitate opening the filled and sealed pouch. The average seal strength of the packet 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 packet shall exhibit no rupture or seal separation greater than 1/16 inch or seal separation that reduces the effective seal width to less than 1/16 inch when tested for internal pressure resistance as specified in E,D,(1),a. The packet 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/m$^2$/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 material shall show no evidence of delamination, degradation, or foreign odor when heat sealed or fabricated into pouches. The exterior color of the packet shall be clear or tan.

(4) 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 1100 days at 80°F as pivot point.

B. Assembly.

(1) Meal assembly. Each applicable component for each meal as described in Table III shall be inserted in a meal bag. The bag shall be closed with a heat seal not less than 1/8 inch wide. The closure seal shall have an average seal strength of not less than 4 pounds per inch of width with no individual specimen test result less than 3 pounds per inch of width. The sealed meal bag shall not show any evidence of foreign odor.

(2) Accessory packet assembly. One of each applicable component as described in Table II shall be inserted in a packet. For a preformed packet, 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 packet, 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 sealed accessory packets shall not show any evidence of material degradation or delamination from packet fabrication, forming, or heat sealing. The average seal strength of the packet 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 as specified in E,D,(1),c.

## D-2 LABELING

A. Meal bag. Each meal bag shall be printed on at least one face in dark contrasting colored permanent ink with the information contained in Figures 1 and 2.

B. Accessory packet. Accessory packet, if not of clear material, shall be printed on one side in dark contrasting colored permanent ink:

ACCESSORY PACKET

## D-3 PACKING

A. Packing. Twelve meals 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 and 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 Center has found that solid fiberboard shipping container material consisting of two outer facings of 90 pound 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 “MEAL, COLD WEATHER” or “FOOD PACKET, LONG RANGE PATROL” in letters not less than 1-1/4 inches high.

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

**ACR-M-001A**
**<u>3 June 2008</u>**
**Superseding**
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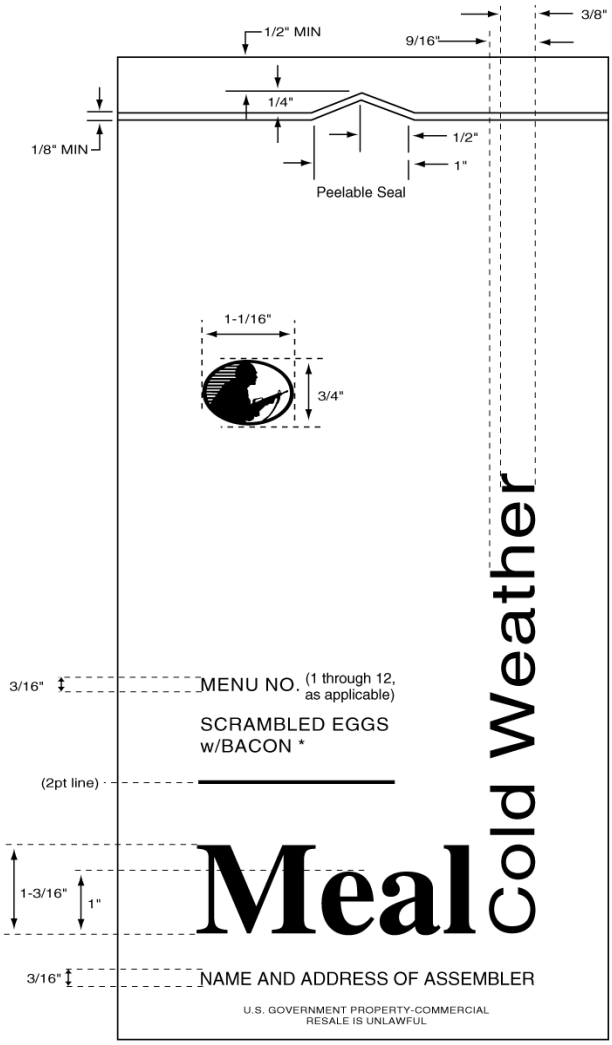


FIGURE 1. GRAPHIC DESIGN AND LETTERING HEIGHT **

* Name of applicable entree component as listed in table I component column

** A tolerance of plus or minus 1/16 inch is applicable to letter height requirements

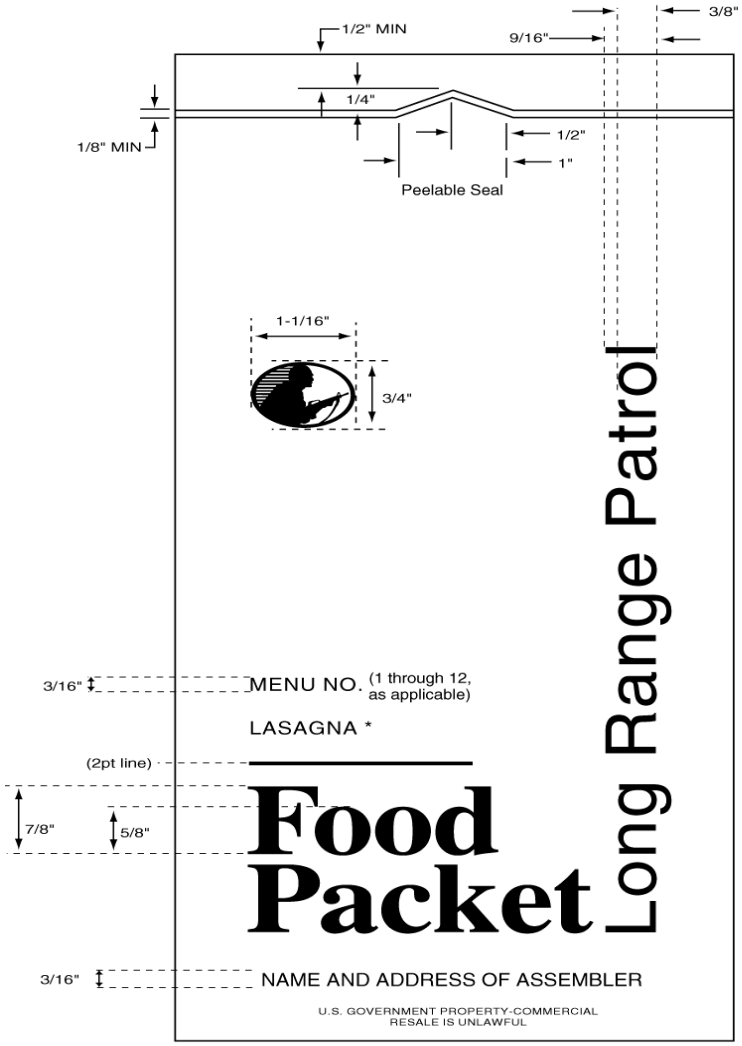


FIGURE 2. GRAPHIC DESIGN AND LETTERING HEIGHT **

* Name of applicable entree component as listed in table I component column

** A tolerance of plus or minus 1/16 inch is applicable to letter height requirements

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

| Requirement | Requirement para | Test procedure |
|---|---|---|
| Thickness of meal bag | D-1,A,(2) | ASTM D 2103 1/ |
| Color of meal bag and accessory packet | D-1,A,(2) and D-1,A,(3) | Visual evaluation and FED-STD-595, as applicable 2/ |
| Water vapor transmission rate | D-1,A,(3) | ASTM F 372, ASTM E 96 or Method 3030, FED-STD-101 3/ |

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

2/ FED-STD-595 Colors Used in Government Procurement

3/ ASTM E 96 Standard Test Methods for Water Vapor Transmission of Materials
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) 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. Accessory packet defects

| Category | | Defect |
|---|---|---|
| Major | Minor | |
| 101 | | Not clean. 1/ |
| | 201 | Seal width less than 1/16 inch. 2/ |
| | 202 | Tear nick, notch or serrations missing or does not facilitate opening. |
| | 203 | Tear or hole or open seal. |
| | 204 | Evidence of delamination, when applicable. |
| | 205 | Labeling, when applicable, missing or incorrect or illegible. |
| | 206 | Missing or unserviceable component. |
| | 207 | Plastic shrink film missing from around screw cap of hot sauce bottle or hot sauce bottle leaking, as applicable. |
| | 208 | Foreign odor. |

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.

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.

(3) Assembled meal bag examination. The filled and sealed meal bags shall be externally inspected and then opened and the components inspected for the defects listed in Table V. The lot size shall be expressed in bags. The sample unit shall be one bag. 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 V. Assembled meal bag defects

| Category | | | Defect |
|---|---|---|---|
| Critical | Major | Minor | |
| 1 | | | Tear or hole or puncture in cheese spread. |
| 2 | | | Swollen cheese spread pouch. |
| | 101 | | Menu component missing or incorrect assortment for menu package. 1/ |
| | 102 | | Not clean, the meal bag or any of the outer packaging of its contents. 2/ |
| | 103 | | Foreign odor. |
| | 104 | | Labeling missing or incorrect or illegible. |
| | 106 | | Loss of vacuum in vacuum packaged components. 3/ |
| | 107 | | Crushed or broken component. 4/ |
| | 108 | | Broken spoon. |
| | 109 | | Tear or hole or open seal in component packages. |
| | 110 | | Candy not in barrier pouch. |
| | 111 | | Swollen peanut butter pouch. |

TABLE V. Assembled meal bag defects (cont'd)

| Category | | | Defect |
|---|---|---|---|
| Critical | Major | Minor | |
| | | 201 | Tear or hole or open seal in meal bag. |
| | | 202 | Tear or hole or open seal in accessory packet bag. |
| | | 203 | Inverted "V" shaped peel indicator missing or not located as specified. |
| | | 205 | Plastic shrink film missing from around screw cap of hot sauce bottle or hot sauce bottle leaking, as applicable. |
| | | 206 | Labeling graphics of meal bag not correct. |

1/ A missing entrée shall be cause for rejection of the lot.

2/ 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.

3/ When vacuum retention cannot be determined visually by obvious cling of the bag walls to the contents, retention shall be verified by testing as specified in the Packaging Requirements and Quality Assurance Provisions for Dehydrated Product in a Brickpack Pouch.

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

D. Methods of inspection.

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

a. Unfilled preformed accessory packet pouch. The seals of the unfilled preformed pouches for the 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 as 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 cause for rejection of the lot.

b. Unfilled meal bag. The seals of the unfilled meal bags shall be tested for seal strength in accordance with ASTM F 88. The lot size shall be expressed in bags. The sample unit shall be one bag. The sample size shall be the number of bags indicated by inspection level S-1. Three specimens shall be cut from the sealed end of each bag in the sample. Samples shall not be taken from the inverted "V" peel initiation. Any specimen with a seal strength less than 4 pounds per inch of width or greater than 10 pounds per inch of width shall be cause for rejection of the lot.

c. Accessory packet pouch closure. The closure seals of the pouches for the 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 as 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 cause for rejection of the lot.

d. Meal bag closure. The closure seals of the meal bags shall be tested for seal strength in accordance with ASTM F 88. The lot size shall be expressed in bags. The sample unit shall be one bag. The sample size shall be the number of bags indicated by inspection level S-1. Three specimens shall be cut from the closure seal of each bag in the sample. The average seal strength shall be calculated by averaging the three test specimens cut from that seal (the sample unit). Any test specimen result less than 3 pounds per inch of width shall be cause for rejection of the lot. Any average seal strength of less than 4 pounds per inch of width shall be cause for rejection of the lot.

(2) Unfilled meal bag and unfilled preformed accessory packet pouch seal certification. A certificate of conformance may be accepted as evidence that unfilled bags or pouches conform to the seal strength requirements specified in D-1,A,(2) and (3). When deemed necessary, seal testing of the unfilled bags or pouches shall be as specified in E,D,(1), a and b.

E. Packing.

(1) Shipping container examination. The filled and closed shipping container shall be examined for the defects listed in Table VI. 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 VI. Shipping container defects

| Category | | Defect |
|---|---|---|
| Major | Minor | |
| 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. 1/ |
| 104 | | Missing meal. 2/ |
| 105 | | Not one of each menu specified. |
| | 201 | Meal bag graphics do not coincide with specified design. |
| | 202 | Time-temperature indicator missing or not located as specified. |

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

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 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 as 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.

**ACR-M-001A**
**3 June 2008**
**Superseding**
**ACR-M-001**
**9 July 1999**
**W/CHANGE 06 9 October 2012**

## 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 of Semiperishable Subsistence Item |
| DSCP FORM 3556 | Marking Instructions for Shipping Cases, Sacks, and Unit Loads of Perishable and Semiperishable Subsistence |

FEDERAL STANDARD

| | |
|---|---|
| FED-STD-101 | Test Procedures for Packaging Materials |
| FED-STD-595 | Colors Used in Government Procurement |

NON-GOVERNMENTAL STANDARDS

AMERICAN SOCIETY FOR QUALITY CONTROL (ASQC) www.aoc.org

| | |
|---|---|
| ANSI/ASQ Z1. | 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 2103 | Standard Specification for Polyethylene Film and Sheeting |
| D 4727/D 4727M | Standard Specification for Corrugated and Solid Fiberboard Sheet Stock (Container Grade) and Cut Shape |
| D 5118/D 5118M | Standard Practice for Fabrication of Fiberboard Shipping Boxes |
| E 96/E 96M | Standard Test Methods for Water Vapor Transmission of 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 |

AOAC INTERNATIONAL www.aoac.org

Official Methods of Analysis of the AOAC International

# For DLA Website Posting

RDNS-CFF 9 October 2012

TO: DLA-FTRE

SUBJECT: ES12-062 (DSCP-SS-12-84452); Substitution request and Document changes; ACR-M-001A, Meal Cold Weather/Food Packet Long Range Patrol, Combined Ration, Assembly Requirements; find substitute for Candy and Chocolate Confections, Type VIII, Starch Jelly Candy, PKG&QAP A-A-20177E, in Menus 2 and 12; Contract SPM3S1-10-D-Z103, Vendor

Date received: 20 September 2012
Date due: 20 October 2012
Date replied: 9 October 2012

1. Natick received an Engineering Support Case from DLA Troop Support requesting a substitution for Starch Jelly Candy for use in the Meal, Cold Weather and Food Packet, Long Range Patrol (MCW/LRP).

2. Vendor has been unable to source a domestic Starch Jelly Candy for use in the MCW/LRP. The Ferrara Candy Company previously supplied the Starch Jelly Candy, aka “Chuckles” to Vendor, but has since moved the production of Chuckles to Mexico. Ferrara Candy Company, based out of Mexico, is not on the Veterinary Commands approved establishment list for the Military.

3. Natick recommends that Dried Cranberries replace the Starch Jelly Candy in Menu 2 and that Smoked Almonds replace the Starch Jelly Candy in Menu 12 of ACR-M-001A. Natick submits the following changes to ACR-M-001A, Meal Cold Weather/Food Packet Long Range Patrol, Combined Ration, Assembly Requirements:

NOTE: Changes made to the attached Change 06, ACR-M-001A, Meal Cold Weather/Food Packet Long Range Patrol, Combined Ration, Assembly Requirements document, dated 9 Oct 2012 also includes changes made for Follow up to ES12-032 (DSCP-SS-12-85704); Substitution request and Document changes; ACR-M-001A, Meal Cold Weather/Food Packet Long Range Patrol, Combined Ration, Assembly Requirements; substitute Cookies, Packaged in a Flexible Pouch, Shelf Stable, Type I, Style A, Flavor 1, Short Bread Cookies, PKG & QAP 20295B in Menu 1 for the Type I, Ice Cream Sandwich, Freeze Dehydrated,

Packaged in a Flexible Pouch, Shelf Stable, PCR-I-002

a. p. 2, C-2, A(1). TABLE I. Components, - Continued, delete “Starch Jelly Candy, Type VIII, Menus 2, 12”

b. p. 2, C-2, A(1). TABLE I. Components, - Continued, under “Cookies, Regular, Shortbread, Plain, Crisp, Individuel Serving, A-A-20295C,Type I, Style A”, insert Menu “1,” before Menus 6, 9

c. p. 3, C-2, A(1). TABLE I. Components, - Continued, under “Fruits, Osmotically Dried, A-A-20299A,” insert Menu “2,” before Menu 9

d. p. 3, C-2, A(1). TABLE I. Components, - Continued, delete “Ice Cream Sandwich, Freeze Dehydrated, Cookies and Cream, PCR-I-002, Flavor I, Menu 1”

e. p. 3, C-2, A(1). TABLE I. Components, - Continued, under “Nuts, Shelled, Roasted, Almonds (Unblanched), Flavored (Smoked), A-A-20164C, Type IX, Style A”, insert Menu “, 12” after Menus 6, 9

f. p. 6, C-2, A(3). TABLE III. Menu Contents, delete “Ice Cream Sandwich”; insert “Shortbread Cookies”

g. p. 6, C-2, A(3). TABLE III. Menu Contents, delete “Starch Jelly Candy”; insert “Dried Cranberries”

h. p. 7, C-2, A(3). TABLE III. Menu Contents, delete “Starch Jelly Candy”; insert “Smoked Almonds”

4. These changes will not have a negative impact on the nutritional content of the MCW/LRP menus.

5. The Service Representatives were contacted and their replies were:

Army - Concurs with Natick
Marine Corps - Concurs with Natick

6. Attached is Change 06, ACR-M-001A, Meal Cold Weather/Food Packet Long Range Patrol, Combined Ration, Assembly Requirements, dated 9 Oct 2012 with changes highlighted.