

SECTION C

This document covers a carbohydrate energy bar packed in a commercial package for use by the Department of Defense as a supplement to operational rations.

C-1 ITEM DESCRIPTION

PCR-B-014 BAR, CARBOHYDRATE ENERGY, PACKAGED IN A FLEXIBLE POUCH

Types and Flavors

Type I - Crisp Bar

Flavor A – Chocolate
Flavor B – Oatmeal Raisin

Type II - Dense Bar

Flavor A – Chocolate
Flavor B – Oatmeal Raisin

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 bar shall meet the minimum shelf life requirement of 24 months at 80°F.

C. Appearance. The packaged bar shall be free from foreign materials. Bar shall not be crushed or broken.

(1) Type I, Flavor A. The chocolate bar shall have a medium dark brown color, irregular to slightly rough flat surfaces, rectangular in shape, and a slightly glossy exterior. The interior shall be of a uniform medium-dark brown color with a compact pale crisp rice structure.

(2) Type I, Flavor B. The oatmeal raisin bar shall have a light to medium tan color with noticeable spice particles, irregular to slightly flat surfaces, and a slightly glossy exterior. The interior shall be of a uniform light to medium tan color with visible raisin pieces and a compact pale crisp rice structure.

(3) Type II, Flavor A. The chocolate bar shall have a medium to dark brown color with a smooth to slightly rough glossy exterior. The interior shall be of a uniform brown color with a dense and slightly porous structure.

(4) Type II, Flavor B. The oatmeal raisin bar shall have a light tan color with a smooth to slightly rough glossy exterior. The interior shall be of a uniform tan color with a dense and slightly porous structure that includes a mixture of small pieces of lighter and darker crisped grain particulates.

D. Odor and flavor. The bar shall be free from foreign odors and flavors.

(1) Type I, Flavor A. The bar shall have a sweet chocolate odor and flavor, with a mild grainy flavor.

(2) Type I, Flavor B. The bar shall have a sweet cinnamon, oatmeal and raisin odor and flavor, with a mild grainy flavor.

(3) Type II, Flavor A. The bar shall have a sweet chocolate odor and flavor, with a mild grainy flavor.

(4) Type II, Flavor B. The bar shall have a mild cinnamon, oatmeal and raisin odor. The bar shall have a sweet cinnamon, oatmeal and raisin flavor, with a mild grainy flavor.

E. Texture.

(1) Type I. The bar shall be compact, slightly chewy, moderately firm and crispy.

(2) Type II. The bar shall be chewy, moderately firm and slightly grainy.

F. Size. The bar shall have maximum dimensions of 4-3/4 by 2 inches.

G. Net weight. The net weight of an individual bar shall be not less than 2.3 ounces (65 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) Moisture content. The moisture content for Type I bar shall be not greater than 7.5 percent. The moisture content for Type II bar shall be not greater than 9.8 percent.

(2) Nutrient content.

a. Protein content. The protein content shall be not greater than 10 grams.

b. Calorie content. The Type I bar shall have not less than 250 calories. The Type II bar shall have not less than 220 calories.

c. Carbohydrate content. The individual bar shall contain not less than 45 grams of carbohydrates.

C-3 MISCELLANEOUS INFORMATION

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

A. Ingredients. Ingredients may be as follows:

(1) Type I, Flavor A: Crisp rice (rice barley malt, sugar, salt), glucose syrup, dextrose, sugar, whole grain rolled oats, milk chocolate chips (sugar, chocolate liquor, dried whole milk, cocoa butter, soy lecithin, vanilla extract), sorbitol, soy nuggets (soy protein isolate, rice flour, barley malt, salt), sunflower oil, fructose-glucose syrup, glycerin, cocoa (processed with alkali), whey protein concentrate, nonfat dry milk, soy protein isolate, barley malt extract, rolled wheat, salt, soy lecithin.

(2) Type I, Flavor B: Crisp rice (rice barley malt, sugar, salt), dextrose, sugar, glucose syrup, raisins, sunflower oil, sorbitol, soy nuggets (soy protein isolate, rice flour, barley malt, salt), glycerin, whey protein concentrate, nonfat dry milk, soy protein isolate, fructose-glucose syrup, natural flavors, barley malt extract, cinnamon, salt, rolled wheat, soy lecithin, caramel color.

(3) Type II, Flavor A: High fructose corn syrup with grape and pear concentrate, oat bran, maltodextrin (complex carbohydrate), milk protein (lactose removed), cocoa powder, (natural process), brown rice, natural flavors (No MSG), glycerin, unsweetened chocolate.

(4) Type II, Flavor B: High fructose corn syrup with grape and pear concentrate, maltodextrin, raisins, milk protein isolate, whole oats, oat bran, rice crisps (milled rice, rice bran), brown rice, almond butter, glycerin, natural flavors, spices.

B. Additional ingredients or vitamins. Vitamin fortification and alternative or additional ingredients are acceptable provided performance requirements are met.

SECTION D

D-1 PACKAGING

A. Packaging. Each bar shall be packaged in a pouch constructed from barrier material. Dimensions of the pouch shall be sufficient to contain the bar. The heat seals shall be made in a manner that will assure hermetic seals. 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. A tear notch or serrated edges shall be provided on one or more outside edges of the pouch. A lip may be incorporated in the open end of the pouch.

D-2 LABELING

A. Pouches. Each pouch shall be clearly printed or stamped, in a manner that does not conceal or impair visual examination of heat seals or damage the pouch, with permanent black ink or other, dark, contrasting color which is free of carcinogenic elements. Pre-printed information, information printed prior to sealing or information printed by non-contact type printing equipment may be located anywhere on the pouch (in one complete print). Information printed subsequent to sealing by contact type printing equipment may be located anywhere on the pouch, except the closure seal area. 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
- (5) Contractor's name and address
- (6) "Nutrition Facts" label in accordance with the Nutrition Labeling and Education Act (NLEA) and all applicable FDA/USDA 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, 15 July 2003 would be coded as 3196. 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 D5118/D5118M-95, Standard Practice for Fabrication of Fiberboard Shipping Boxes. Each container shall be securely closed in accordance with ASTM D1974-98, Standard Practice for Methods of Closing, Sealing, and Reinforcing Fiberboard Boxes.

D-4 MARKING

A. Shipping containers. Shipping containers shall be marked in accordance with DSCP FORM 3556, Marking Instructions for Shipping Cases, Sacks and Palletized/Containerized Loads of Perishable and Semiperishable Subsistence.

SECTION E INSPECTION AND ACCEPTANCE

The following quality assurance criteria, utilizing ANSI/ASQC Z1.4-1993, Sampling Procedures and Tables for Inspection by Attributes, are required. Unless otherwise specified, Single Sampling Plans indicated in ANSI/ASQC Z1.4-1993 will be utilized. When required, the manufacturer shall provide the certificate(s) of conformance to the appropriate inspection activity. Certificate(s) of conformance not provided shall be cause for rejection of the lot.

A. Definitions.

(1) Critical defect. A critical defect is a defect that judgment and experience indicate would result in hazardous or unsafe conditions for individuals using, maintaining, or depending on the item; or a defect that judgment and experience indicate is likely to prevent the performance of the major end item, i.e., the consumption of the ration.

(2) Major defect. A major defect is a defect, other than critical, which is likely to result in failure, or to reduce materially the usability of the unit of product for its intended purpose.

(3) Minor defect. A minor defect is a defect that is not likely to reduce materially the usability of the unit of product for its intended purpose, or is a departure from established standards having little bearing on the effective use or operation of the unit.

B. Classification of inspections. The inspection requirements specified herein are classified as follows:

(1) Product standard inspection. The first article or product demonstration model shall be inspected in accordance with the provisions of this document and evaluated for overall appearance and palatability. Any failure to conform to the performance requirements or any appearance or palatability failure, shall be cause for rejection of the lot. The approved first article or product demonstration model shall be used as the product standard for periodic review evaluations. All food components that are inspected by the USDA shall be subject to periodic review sampling and evaluation. The USDA shall select sample units during production of contracts and submit them to the following address for evaluation:

US Army Soldier & Biological Chemical Command
Soldiers System Ctr., Natick Soldier Center
Attn: AMSSB-RCF-F(N)
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/ASQC Z1.4 - 1993. The lot size shall be expressed in pouches. The sample unit shall be the contents of one pouch. The inspection level shall be S-3 and the acceptable quality level (AQL), expressed in terms of defects per hundred units, shall be 1.5 for major defects and 4.0 for minor defects. Defects and defect classifications are listed in Table I.

TABLE I. Product defects 1/ 2/

Category		Defect
<u>Major</u>	<u>Minor</u>	
		<u>General</u>
101		Bar not type or flavor specified.
102		Bar crushed or broken. <u>3/</u>
	201	Net weight of an individual bar less than 2.3 ounces (65 grams).
	202	Bar dimensions exceed 4-3/4 by 2 inches.
		<u>Type I, Flavor A</u>
	203	Product not a medium dark brown color, or not irregular to slightly rough flat surfaces, or not a slightly rough exterior.
	204	Interior not a uniform medium-dark brown color with a compact pale crisp rice structure.
103		Odor or flavor not a sweet chocolate with a mild grainy flavor.
	205	Not compact, not slightly chewy, not moderately firm or not crispy.
		<u>Type I, Flavor B</u>
	206	Product not a light to medium tan color with noticeable spice particles or not irregular to slightly rough flat surfaces, or not a slightly glossy exterior.
	207	Interior not a uniform light to medium tan color with visible raisin pieces and a compact pale crisp rice structure.
104		Odor or flavor not a sweet cinnamon, oatmeal and raisin with mild grainy flavor.
	208	Not compact, not slightly chewy, not moderately firm or not crispy.

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

Category		Defect
<u>Major</u>	<u>Minor</u>	
		<u>Type II, Flavor A</u>
	209	Product not a medium to dark brown color or not a smooth to slightly glossy exterior.
	210	Interior not a uniform dark brown color with a dense and slightly porous structure.
105		Odor or flavor not a sweet chocolate with a mild grainy flavor.
	211	Not chewy, not moderately firm or not slightly grainy.
		<u>Type II, Flavor B</u>
	212	Product not a light tan color or not a smooth to slightly glossy exterior.
	213	Interior not a uniform tan color with a dense and slightly porous structure that includes a mixture of small pieces of lighter and darker crisped grain particulates.
107		Odor not a mild cinnamon, oatmeal and raisin odor.
106		Flavor not a sweet cinnamon, oatmeal and raisin with mild grainy flavor.
	214	Not chewy, not moderately firm or not slightly grainy.

1/ Presence of any foreign materials such as, but not limited to dirt, insect parts, hair, glass, wood, or metal, or any foreign odors or flavors such as, but not limited to burnt, scorched, rancid, sour or stale shall be cause for rejection of the lot.

2/ Finished product not equal to or better than the approved product standard in palatability and overall appearance shall be cause for rejection of the lot.

3/ More than 1/4 of bar crushed, or more than three broken pieces.

C. Methods of inspection.

(1) Shelf life. The contractor shall provide a certificate of conformance that the product has a 2 year shelf life when stored at 80°F. Government verification may include storage for 24 months at 80°F. Upon completion of 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 examination. The net weight of the filled and sealed pouches 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 0.1 ounce (3 grams).

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

<u>Test</u>	<u>Method Number</u>
Moisture	945.43

Test results shall be reported to the nearest 0.1 percent for moisture. Verification will be conducted through actual testing by a Government laboratory. Any result not conforming to the analytical requirements shall be cause for rejection of the lot.

(4) Nutrient content. The protein, calorie, and carbohydrate contents shall be verified by the NLEA “Nutrition Facts” label. Product not conforming to the requirements as specified in Section C of this document shall be cause for rejection of the lot.

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

A. Packaging.

(1) 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
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<u>Major</u>	<u>Minor</u>	
101		Tear, hole, or open seal.
102		Seal width less than 1/16 inch. <u>2/</u>
103		Unclean pouch. <u>3/</u>
104		Pouch has foreign odor.
105		Any impression or design on the heat seal surfaces which conceals or impairs visual detection of seal defects. <u>4/</u>
106		Not packaged as specified.
	201	Label missing, incorrect, or illegible.
	202	Tear notch or serrations missing.

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/ 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).

c. Water spots.

4/ 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.

B. 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 omitted, incorrect, illegible, or improper size, location sequence or method of application.
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 Shipping Cases, Sacks and Palletized/Containerized Loads of Perishable and Semiperishable Subsistence

NON-GOVERNMENTAL STANDARDS

AMERICAN SOCIETY FOR QUALITY (ASQ)

ANSI/ASQCZ1.4-1993 Sampling Procedures and Tables for Inspection by Attributes

ASTM INTERNATIONAL

D1974-98 Standard Practice for Methods of Closing, Sealing, and Reinforcing Fiberboard Boxes

PCR-B-014
15 July 2003

D5118/D5118M-95 (2001) Standard Practice for Fabrication of Fiberboard Shipping
Boxes

AOAC INTERNATIONAL

Official Methods of Analysis of the AOAC International (OMA)