

SECTION C

This document covers breakfast skillet (hash browns and scrambled eggs mixed with pork sausage, peppers and onions), cooked, dehydrated, packaged in a brickpack pouch or boil-in-bag (BIB) for use by the Department of Defense as a component of operational rations.

C-1 ITEM DESCRIPTION

PCR-B-053, BREAKFAST SKILLET (HASH BROWNS AND SCRAMBLED EGGS MIXED WITH PORK SAUSAGE, PEPPERS AND ONIONS), COOKED, DEHYDRATED, PACKAGED IN A BRICKPACK POUCH OR BOIL-IN-BAG (BIB), SHELF STABLE

Packages and styles.

- Package A - Meal, Cold Weather (MCW)
- Package B - Food Packet, Long Range Patrol (LRP)
 - Style I - Brickpack Pouch

- Package E - Unitized Group Ration™ (UGR™)-Heat & Serve™ (UGR-H&S™)
 - Style II - Boil-In-Bag (BIB)

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 noncomparable to the product standard, the contractor shall submit a replacement FA or PDM for approval. In any event, all product produced must meet all requirements of this document including product standard comparability.

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

C. Dehydrated product.

(1) Appearance.

a. General. The finished product shall be a mixture of cooked hash brown pieces, cooked egg pieces, cooked pork sausage pieces, green and red pepper dices, and onion pieces that has been dehydrated. The finished product shall be free from foreign materials.

b. Hash browns. The cooked and dehydrated hash browns shall be pieces and shall have an off-white to golden-brown exterior and off-white interior color.

c. Eggs. The cooked and dehydrated eggs shall be pieces and shall be a medium-yellow color.

d. Pork sausage. The cooked and dehydrated pork sausage shall be pieces and shall be a light to medium-brown color.

e. Vegetables. The cooked, dehydrated green pepper shall be dices and shall be a green color. The cooked, dehydrated red pepper shall be dices and shall be an orange to reddish-orange color. The cooked, dehydrated onion shall be pieces and shall be an off-white to white color.

(2) Odor. The packaged food shall have a smoked, cooked dehydrated eggs, and cooked pork sausage odor. The packaged food shall be free from foreign odors.

(3) Texture. The product shall be dehydrated.

D. Net weight.

(1) Package A and B, Style I. No individual pouch shall have a net weight of less than 3.2 ounces (90 grams).

(2) Package E, Style II. The average net weight of the BIB product shall be not less than 25.3 ounces (716 grams). The net weight of an individual BIB shall be not less than 24.4 ounces (691 grams).

E. Rehydrated product. The product shall rehydrate readily within ten minutes.

(1) Appearance.

a. General. The rehydrated product shall be a mixture of cooked hash brown pieces, cooked egg pieces, cooked pork sausage pieces, green and red pepper dices, and onion pieces typical of a product that has been frozen and reheated. The rehydrated product shall be free from foreign materials.

b. Hash browns. The cooked, rehydrated hash browns shall be pieces and shall be an off-white color.

c. Eggs. The cooked, rehydrated eggs shall be pieces and shall be a light to medium-yellow color.

d. Pork sausage. The cooked, rehydrated pork sausage shall be pieces and shall be 1/4 to 3/4 inch in length. The pork sausage shall be a light to medium-brown color. The pork sausage shall be practically free of bone or bone fragments, cartilage, coarse connective tissue, tendons or ligaments, and glandular material.

e. Vegetables. The cooked, rehydrated green pepper shall be dices and shall be a green color. The cooked, rehydrated red pepper shall be dices and shall be an orange to reddish-orange color. The cooked, rehydrated onion shall be pieces and shall be an off-white color.

(2) Odor and flavor. The rehydrated product shall have a smoked odor and flavor and an odor and flavor characteristic of frozen and reheated cooked hash browns, cooked eggs, cooked pork sausage, with green and red peppers, and onions. The packaged food shall be free from foreign odors and flavors.

(3) Texture.

a. General. The product shall be fully rehydrated.

b. Hash browns. The hash browns shall be moist and tender.

c. Eggs. The eggs shall be moist and tender and may be slightly spongy.

d. Pork sausage. The pork sausage shall be moist and tender.

e. Vegetables. The green and red peppers and onions shall be soft and tender.

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

G. Analytical requirements.

(1) Protein. The protein content shall be not less than 12.0 percent.

(2) Fat. The fat content shall be not greater than 35.0 percent.

(3) Sodium. The sodium content shall be not greater than 1200 mg per 100 grams.

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

H. Microbiological requirements.

(1) Aerobic plate count. The aerobic plate count shall be not greater than 75,000 per gram in four of five samples and not greater than 150,000 per gram in any individual sample.

(2) E. coli count. *Eschericia coli* shall have less than 10 Colony Forming Units (CFU) per gram or less than 3 Most Probable Number (MPN) per gram, where findings indicate zero colonies (CFU) per plate or zero tube producing gas for MPN.

(3) Salmonella. The *Salmonella* test shall be negative for each of five pouches or BIBS tested per production lot.

I. BIB filling and sealing.

(1) Style II, BIB. The product shall be packaged into the BIB and then into the barrier pouch within 96 hours from drying. If the product cannot be packaged within 96 hours, then the remaining product shall be adequately protected from moisture and oxygen by either holding under a nitrogen atmosphere with 2.0 percent or less oxygen, or under a vacuum of at least 27 inches of mercury (27 Hg). If vacuum is used, it shall be broken with nitrogen. Product may be held for a period not to exceed 30 days prior to packaging into BIBs.

C-3 MISCELLANEOUS INFORMATION

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

A. Ingredients. Hash Browns (potatoes, contains one or more of the following [canola oil, corn oil, cottonseed oil, palm oil, soybean oil, sunflower oil], salt, dehydrated potato, enriched bleached flour [wheat flour, niacin, iron, thiamin mononitrate, riboflavin, folic acid], potassium sorbate [to maintain freshness], natural flavoring, disodium dihydrogen pyrophosphate [to promote color retention], dextrose), precooked Eggs (whole eggs, egg yolks, nonfat dry milk, modified corn starch, corn oil, salt, yeast extract, sunflower oil, smoke flavor, xanthan gum), pork Sausage ([pork, salt, spices, sugar], textured vegetable protein [soy flour, salt]), red and green bell peppers, chopped onions.

SECTION D

D-1 PACKAGING

A. Packaging.

(1) Style I, Brickpack pouch. A net weight of 3.2 ounces (90 grams) of dehydrated product shall be filled into pouches in accordance with the PACKAGING REQUIREMENTS AND QUALITY ASSURANCE PROVISIONS FOR PRODUCT IN A BRICKPACK POUCH.

(2) Style II, BIB. A net weight of 25.3 ounces (716 grams) of dehydrated product shall be filled into each of five (5) BIBs in accordance with the PACKAGING REQUIREMENTS AND QUALITY ASSURANCE PROVISIONS FOR PRODUCT IN A BOIL-IN-BAG (BIB).

D-2 LABELING

A. Labeling.

(1) Style I, Brickpack pouch. Each pouch shall be labeled in accordance with the PACKAGING REQUIREMENTS AND QUALITY ASSURANCE PROVISIONS FOR PRODUCT IN A BRICKPACK POUCH.

(2) Style II, BIB. Each BIB shall be labeled in accordance with this section and in the PACKAGING REQUIREMENTS AND QUALITY ASSURANCE PROVISIONS FOR PRODUCT IN A BOIL-IN-BAG (BIB).

The following instructions shall be printed on the BIB:

YIELD: Serves 10 portions of approximately 1 cup each.

PREPARATION: Shake BIB to settle contents. Open cap. Support BIB on flat surface. Add about 60 ounces (7-1/2 cups) of potable water to fill line. Replace cap. Shake BIB until contents are rehydrated. Knead if necessary. If level of breakfast skillet is below fill line, add more water.

WARNING: Do not heat BIB in oven.

Rehydrated breakfast skillet should be used within one hour unless refrigerated for use within 24 hours.

COOKING

IN WATER: Place rehydrated closed BIB in boiling water. Simmer gently 35 minutes or until breakfast skillet is hot. Avoid overcooking (BIB may show evidence of bulging).

TO TRANSPORT AFTER HEATING: Either insert BIB into an insulated food container or empty cooked breakfast skillet into an insulated food container to protect during transport.

CAUTION: Use care when opening as pressure may have been generated within the BIB.

TO OPEN: Cut bottom of BIB with clean knife.

Note: The font tested by Natick was Microsoft Helvetica. The font used shall be similarly clear/easy to read as Helvetica. The recommended font sizes are as follows: 22 for the product name, 14 for “yield” and “cooking/heating.” If an additional note is required on the label, such as “fluff before serving,” it should also be in font size 14. All other information should be in font size 9.

(3) The product shall be formulated and labeled in accordance with all USDA labeling regulations and policies. The pouches and BIBs shall be labeled with the following product name.

**BREAKFAST SKILLET (HASH BROWNS AND SCRAMBLED EGGS
MIXED WITH PORK SAUSAGE, PEPPERS AND ONIONS) COOKED, DEHYDRATED**

D-3 PACKING

A. Packing.

(1) Style I, Brickpack pouch. Packing for shipment to ration assembler shall be in accordance with the PACKAGING REQUIREMENTS AND QUALITY ASSURANCE PROVISIONS FOR PRODUCT IN A BRICKPACK POUCH.

(2) Style II, BIB. Packing for shipment to ration assembler shall be in accordance with the PACKAGING REQUIREMENTS AND QUALITY ASSURANCE PROVISIONS FOR PRODUCT IN A BOIL-IN-BAG (BIB).

D-4 UNITIZATION

A. Unit loads.

(1) Style II, BIB. Unit loads shall be in accordance with the PACKAGING REQUIREMENTS AND QUALITY ASSURANCE PROVISIONS FOR PRODUCT IN A BOIL-IN-BAG (BIB).

D-5 MARKING

A. Marking.

(1) Style I, Brickpack pouch. Marking of shipping containers shall be in accordance with the PACKAGING REQUIREMENTS AND QUALITY ASSURANCE PROVISIONS FOR PRODUCT IN A BRICKPACK POUCH.

(2) Style II, BIB. Marking of shipping containers shall be in accordance with the PACKAGING REQUIREMENTS AND QUALITY ASSURANCE PROVISIONS FOR PRODUCT IN A BOIL-IN-BAG (BIB).

SECTION E INSPECTION AND ACCEPTANCE

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

A. Definitions.

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

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

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

B. Classification of inspections. 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 appearance, odor, flavor, and texture. Any failure to conform to the performance requirements or any appearance or palatability failure shall be cause for rejection of the lot. The approved first article or product demonstration model shall be used as the product standard for periodic review evaluations. All food components that are inspected by the USDA shall be subject to periodic review sampling and evaluation. The USDA shall select sample units during production of contracts and submit them to the following address for evaluation:

US Army Research, Development and Engineering Command
Natick Soldier Research, Development and Engineering Center
RDNS-CFF
15 Kansas Street
Natick, MA 01760-5056

a. Style I, Brickpack pouch. One lot shall be randomly selected during each calendar month of production or as otherwise specified in the contract. Three (3) sample units shall be randomly selected from that one production lot. The three (3) sample units shall be shipped to Natick within five (5) working days from the end of the production month from which they are randomly selected and upon completion of all USDA inspection requirements. The sample units will be evaluated for overall quality against the current first article or product demonstration model.

b. Style II, BIB. One lot shall be randomly selected during each calendar month of production or as otherwise specified in the contract. The sample unit shall be one paperboard carton or barrier pouch containing BIBs of breakfast skillet. Two (2) sample units shall be randomly selected from that one production lot. The two (2) sample units shall be shipped to Natick within five (5) working days from the end of the production month from which they are randomly selected and upon completion of all USDA inspection requirements. The sample units will be evaluated for overall quality against the current first article or product demonstration model.

(2) Conformance inspection.

a. Style I, Brickpack pouch. Conformance inspection shall include the examinations/tests and the methods of inspection cited in this section and in PACKAGING REQUIREMENTS AND QUALITY ASSURANCE PROVISIONS FOR PRODUCT IN A BRICKPACK POUCH.

b. Style II, BIB. Conformance inspection shall include the examinations/tests and the methods of inspection cited in this section and in PACKAGING REQUIREMENTS AND QUALITY ASSURANCE PROVISIONS FOR PRODUCT IN A BOIL-IN-BAG (BIB).

E-5 QUALITY ASSURANCE PROVISIONS (PRODUCT)

A. Product examination.

(1) Style I, Brickpack pouch. The finished product shall be examined for compliance with the performance requirements specified in Section C of this Performance-based Contract Requirements document utilizing the double sampling plans indicated in ANSI/ASQ Z1.4. The lot size shall be expressed in pouches. The sample unit shall be the contents of one 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.

(2) Style II, BIB. The finished product shall be examined for compliance with the performance requirements specified in Section C of this Performance-based Contract Requirements document utilizing the double sampling plans indicated in ANSI/ASQ Z1.4. The lot size shall be expressed in BIBs. The sample unit shall be the contents of one BIB. 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 6.5 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>Dehydrated product</u>
		<u>Appearance</u>
101		Product not a mixture of cooked hash brown pieces, cooked egg pieces, cooked pork sausage pieces, green and red pepper dices, and onion pieces that has been dehydrated.
102		Not style as specified.
	201	Cooked, dehydrated hash browns not pieces or do not have an off-white to golden-brown exterior or do not have an off-white interior color.
	202	Cooked, dehydrated eggs not pieces or not a medium-yellow color.
	203	Cooked, dehydrated pork sausage not pieces or not a light to medium-brown color.
	204	Cooked, dehydrated green pepper not dices or not a green color.
	205	Cooked, dehydrated red pepper not dices or not an orange to reddish-orange color.
	206	Cooked, dehydrated onion not pieces or not an off-white to white color.
		<u>Odor</u>
103		Product does not have a smoked, cooked dehydrated eggs, and cooked pork sausage odor.
		<u>Texture</u>
	207	Product not dehydrated.

TABLE I. Product defects 1/ 2/ - Continued

Category		Defect
<u>Major</u>	<u>Minor</u>	
		<u>Net weight</u>
		<u>Package A and B, Style I, MCW and LRP, brickpack pouch</u>
	208	Net weight of an individual pouch less than 3.2 ounces (90 grams).
		<u>Package E, Style II, UGR-H&S™, BIB</u>
	209	Net weight of an individual BIB less than 24.4 ounces (691 grams). <u>3/</u>
		<u>Rehydrated product 4/</u>
		<u>Appearance</u>
104		Product not a mixture of cooked hash brown pieces, cooked egg pieces, cooked pork sausage pieces, green and red pepper dices, and onion pieces typical of a product that has been frozen and reheated.
105		Bone or bone fragment measuring more than 0.3 inch in any dimension.
	210	Total weight of cartilage, coarse connective tissue, tendons or ligaments, and glandular material more than 0.2 ounce for Style I or more than 2.0 ounces for Style II.
	211	Cooked, rehydrated hash browns not pieces or not an off-white color.
	212	Cooked, rehydrated eggs not pieces or not a light to medium-yellow color.
	213	Cooked, rehydrated pork sausage not pieces or not 1/4 to 3/4 inch in length.
	214	Pork sausage not a light to medium-brown color.
	215	Cooked, rehydrated green pepper not dices or not a green color.

TABLE I. Product defects 1/ 2/ - Continued

<u>Category</u>		<u>Defect</u>
<u>Major</u>	<u>Minor</u>	
	216	Cooked, rehydrated red pepper not dices or not an orange to reddish-orange color.
	217	Cooked, rehydrated onion not pieces or not an off-white color.
		<u>Odor and flavor</u>
106		Rehydrated product does not have a smoked odor or flavor or does not have an odor or flavor characteristic of frozen and reheated cooked hash browns, cooked eggs, cooked pork sausage with green and red peppers, and onions.
		<u>Texture</u>
	218	Product not fully rehydrated.
	219	Hash browns not moist or not tender.
	220	Eggs not moist or not tender.
	221	Pork sausage not moist or not tender.
	222	Green and red peppers and onions not soft or not tender.

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, stale, musty or moldy shall be cause for rejection of the lot. Foreign flavor is not applicable to dehydrated product.

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. Palatability not applicable to dehydrated product.

3/ Sample average net weight less than 25.3 ounces (716 grams) shall be cause for rejection of the lot.

4/ Prior to conducting the rehydrated product examination, the breakfast skillet shall be rehydrated per pouch or BIB instructions. Product that does not rehydrate within ten minutes shall be cause for rejection of the lot.

B. Methods of inspection.

(1) Shelf life. The contractor shall provide a Certificate of Conformance that the product has a 36 month shelf life when stored at 80°F. Government verification may include storage for 6 months at 100°F or 36 months at 80°F. Upon completion of either storage period, the product will be subjected to a sensory evaluation panel for appearance and palatability and must receive an overall score of 5 or higher based on a 9 point quality scale to be considered acceptable.

(2) Net weight. The net weight of the filled and sealed pouches or BIBs shall be determined by weighing each sample unit on a suitable scale tared with a representative empty pouch or BIB. Results shall be reported to the nearest 0.1 ounce or to the nearest 1 gram.

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

<u>Test</u>	<u>Method Number</u>
Protein	988.05, 992.15
Fat	985.15, 991.36, 2007.04 or 2008.06
Sodium	985.35, 984.27
Moisture	927.05, 985.14, 2008.06

Test results for the protein, fat, and moisture shall be reported to the nearest 0.1 percent. Test results for sodium shall be reported to the nearest 1 milligram per 100 grams. Government verification will be conducted through actual testing by a Government laboratory. Any result not conforming to the analytical requirement shall be cause for rejection of the lot

(4) Microbiological testing. Five filled and sealed pouches or BIBs shall be selected at random from the lot regardless of lot size. The product shall be individually tested for microbiological levels in accordance with the Official Methods of Analysis (OMA) of AOAC International or the Food and Drug Administration (FDA) Bacteriological Analytical Manual (BAM). Any result not conforming to the microbiological requirements shall be cause for rejection of the lot.

<u>Test</u>	<u>Method Number</u>
Aerobic plate count	966.23, 966.24, 989.10 or 990.12
<i>E. coli</i>	966.24, 991.14, 992.30 or BAM Ch. 4 sections C & F
<i>Salmonella</i>	967.26, 967.28, 986.35, 991.13, 994.04, 996.08, 2000.06 (b), 2003.09, 2004.03

NOTE: The following condition applies for *Salmonella* and microbiological testing: USDA *Salmonella* and additional microbiological testing is required for each end item lot and shall be the basis for lot acceptance with respect to *Salmonella* and other microbiological testing requirements.

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

(1) Style I, Brickpack pouch. Inspection for packaging, labeling, packing, and marking shall be in accordance with the PACKAGING REQUIREMENTS AND QUALITY ASSURANCE PROVISIONS FOR PRODUCT IN A BRICKPACK POUCH.

(2) Style II, BIB. Inspection for packaging, labeling, packing, and marking shall be in accordance with the PACKAGING REQUIREMENTS AND QUALITY ASSURANCE PROVISIONS FOR PRODUCT IN A BOIL-IN-BAG (BIB).

SECTION J REFERENCE DOCUMENTS

Unless otherwise specified, the applicable version of these documents is that which is active on the date of the solicitation or contract.

SPECIFICATIONS

PACKAGING REQUIREMENTS AND QUALITY ASSURANCE PROVISIONS
FOR PRODUCT IN A BRICKPACK POUCH

PACKAGING REQUIREMENTS AND QUALITY ASSURANCE PROVISIONS
FOR PRODUCT IN A BOIL-IN-BAG (BIB)

GOVERNMENT PUBLICATIONS

FOOD AND DRUG ADMINISTRATION Bacteriological Analytical Manual (BAM)
www.fda.gov/Food/ScienceResearch/LaboratoryMethods/BacteriologicalAnalyticalManualBAM/default.htm

NON-GOVERNMENTAL STANDARDS

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

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

AOAC INTERNATIONAL www.aoac.org

Official Methods of Analysis (OMA) of the AOAC International