

SECTION C

This document covers thermostabilized brisket entrée (gravy with seasoned beef brisket slices) in a flexible pouch for use by the Department of Defense as a component of operational rations.

C-1 ITEM DESCRIPTION

PCR-B-050, BRISKET ENTRÉE (GRAVY WITH SEASONED BEEF BRISKET SLICES), PACKAGED IN A FLEXIBLE POUCH, SHELF STABLE

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. Commercial sterility. The packaged food shall be processed until commercially sterile.

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

D. Appearance.

(1) General. The finished product shall be brisket entrée (gravy with seasoned beef brisket slices). The finished product shall be free from foreign materials.

(2) Beef. The beef brisket slices shall be produced from boneless whole muscle beef brisket in accordance with North American Meat Processors Association (NAMP) Item No. 120 with 1/8 inch maximum thickness of surface fat. Chunking and forming shall not be allowed. The beef brisket slices may be of random length and width and shall be produced by equipment with settings that result in slices 1/4 inch in thickness and not less than 1 inch in length. The packaged food shall be practically free of bone or bone fragments, cartilage, coarse connective tissue, tendons or ligaments, and glandular material. The finished product shall contain a minimum of 5 intact slices with minimum dimensions of 1 inch in length by

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1/2 inch in width throughout the slice. The beef brisket slices shall have a medium brown, cooked beef color with dark brown edges.

(3) Gravy. The gravy shall be a medium brown color and shall be semi-opaque and glossy. The gravy shall be free flowing and moderately thick.

E. Odor and flavor. The packaged food shall have a cooked beef with a moderate beef gravy odor and flavor. The packaged food shall be free from foreign odors and flavors.

F. Texture.

(1) Beef. The beef shall be moist and tender. The beef shall be not tough and not rubbery.

(2) Gravy. The gravy shall be smooth and moderately thick.

G. Net weight. The average net weight of the pouched product shall be not less than 8.0 ounces (227 grams). No individual pouch shall have a net weight of less than 7.5 ounces (213 grams).

H. Drained weight. The average drained weight of beef brisket shall be not less than 3.0 ounces (85 grams). The drained weight of the beef brisket in an individual pouch shall be not less than 2.5 ounces (71 grams).

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

J. Analytical requirements.

(1) Fat content. The fat content shall be not greater than 8.5 percent.

(2) Salt content. The salt content shall be not less than 1.2 percent and shall be not greater than 2.0 percent.

C-3 MISCELLANEOUS INFORMATION

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

A. Ingredients. Seasoned roasted braised beef brisket and modified food starch product (beef, water, concentrated beef stock [with salt], dextrose, salt, modified food starch, sodium

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phosphate, caramel color, spice extractives), water, beef gravy base (modified food starch, corn oil, salt, roasted beef and sirloin, hydrolyzed soy and corn protein and wheat gluten, roasted onion and garlic, onion powder, caramel color, margarine, [vegetable oil blend {partially hydrogenated soybean and cottonseed oil}], cultured skim milk, salt, vegetable mono- and diglycerides and soy lecithin {emulsifiers}, colored with beta-carotene, vitamin A palmitate added], garlic powder, sugar, potato flour, brown sugar, maltodextrin [from corn], corn starch, black pepper, yeast extract, disodium inosinate/disodium guanylate, grill flavor [wheat germ, natural flavor, corn syrup solids], flavorings, potassium sorbate, canola oil, thiamin hydrochloride, sesame oil).

Note: Beef brisket in gravy produced by Rastelli Global, Swedsboro, NJ was used in the development of this product.

B. Bostwick consistometer. The viscosity of the post-retort beef brisket and gravy is 4.0 cm at 170°F for 15 seconds.

SECTION D

D-1 PACKAGING

Product shall be filled into pouches and sealed in accordance with MIL-PRF-44073, Packaging of Food in Flexible Pouches, Type I, Style 1.

D-2 LABELING

A. Pouches. Each pouch shall be correctly and legibly labeled. Printing ink shall be permanent black ink or any other contrasting color, which is free of carcinogenic elements. Prior to thermal processing of the pouches, the product name, lot number and filling equipment number shall be applied. All other marking may be applied before or after thermal processing.

(1) Product name (not less than 1/8 inch high). Commonly used abbreviations may be used.

(2) Pouch code includes: 1/

Lot Number
Filling equipment identification number
Official establishment number (Optional)
Retort identification number and Retort cook number (Optional)
Time stamp (hour and minute of filling/sealing of operation)

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1/ The lot number shall be expressed as a four digit Julian code. The first digit shall indicate the year of production and the next three digits shall indicate the day of the year (Example, 14 February 2008 would be coded as 8045). The Julian code shall represent the day the product was packaged into the pouch and processed. Sublotting (when used) shall be represented by an alpha character immediately following the four digit Julian code. Following the four digit Julian code and the alpha character (when used), the other required code information shall be printed in the sequence as listed above.

(3) USDA official inspection legend for the packer's plant 1/

1/ May be placed on the paperboard sleeve if labeled under USDA/FSIS supervision as an identification service.

B. Paperboard sleeves.

(1) The sleeves shall be clearly printed on one of the panels with permanent black ink as follows: 1/

Product name (7/32 to 9/32 inch block letters)
Ingredients
Net weight
Name and address of packer
"Nutrition Facts" label in accordance with the Nutrition Labeling and Education Act (NLEA) and all applicable USDA regulations

1/ With contracting officer approval, this information may be printed on the pouch in lieu of the paperboard sleeve.

(2) The product shall be formulated and labeled in accordance with all USDA labeling regulations and policies. The sleeves (or pouches, as applicable) shall be labeled with the following product name.

BRISKET ENTRÉE (GRAVY WITH SEASONED BEEF BRISKET SLICES)

D-3 PACKING

A. Packing. Not more than 40 pounds of product shall be packed in a fiberboard shipping box constructed in accordance with style RSC of ASTM D 5118/D 5118M, Standard Practice for Fabrication of Fiberboard Shipping Boxes. The fiberboard shall conform to type CF, class D, variety SW, grade 200 of ASTM D 4727/D 4727M, Standard Specification for Corrugated and Solid Fiberboard Sheet Stock (Container Grade) and Cut Shapes. Each box shall be

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securely closed in accordance with ASTM D 1974, Standard Practice for Methods of Closing, Sealing, and Reinforcing Fiberboard Boxes.

D-5 MARKING

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

SECTION E INSPECTION AND ACCEPTANCE

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

A. Definitions.

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

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

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

B. Classification of inspections. 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

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production of contracts and submit them to the following address for evaluation:

US Army Research, Development, and Engineering Command
 Natick Soldier Research, Development, and Engineering Center
 AMSRD-NSR-CF-F
 15 Kansas Street
 Natick, MA 01760-5018

One lot shall be randomly selected during each calendar month of production. Six (6) sample units of each item produced shall be randomly selected from that one production lot. The six (6) sample units shall be shipped to Natick within five working days from the end of the production month and upon completion of all USDA inspection requirements. The sample units will be evaluated for the characteristics of appearance, odor, flavor, texture, and overall quality.

(2) Conformance inspection. Conformance inspection shall include the examinations/tests and methods of inspection cited in this section and in section 4 of MIL-PRF-44073.

E-5 QUALITY ASSURANCE PROVISIONS (PRODUCT)

A. Product examination. The finished product shall be examined for compliance with the performance requirements specified in Section C of this Performance-based Contract Requirements document utilizing the double sampling plans indicated in ANSI/ASQ Z1.4. The lot size shall be expressed in pouches. The sample unit shall be the contents of one 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. For drained weight inspection, a separate set of pouches shall be selected from the lot using the same sampling criteria as above. The pouches shall be immersed in not less than 140°F water for 10 minutes prior to conducting the product examination and the drained weight inspection.

TABLE I. Product defects 1/ 2/ 3/

Category	Defect
<u>Major</u>	<u>Minor</u>
	<u>Appearance</u>
101	Product not brisket entrée (gravy with seasoned beef brisket slices).
102	Bone or bone fragment measuring more than 0.3 inch in any dimension.

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TABLE I. Product defects 1/ 2/ 3/ - Continued

<u>Category</u>	<u>Defect</u>
<u>Major</u>	<u>Minor</u>
	201 Total weight of cartilage, coarse connective tissue, tendons or ligaments, and glandular material more than 0.35 ounce.
	202 Product does not contain a minimum of 5 intact slices with minimum dimensions of 1 inch in length by 1/2 inch in width throughout the slice.
	203 Beef brisket slices not a medium brown, cooked beef color with dark brown edges.
	204 Gravy not a medium brown color.
	205 Gravy not semi-opaque or not glossy.
	206 Gravy not free flowing or not moderately thick.
	<u>Odor and flavor</u>
103	Product not a cooked beef with a moderate beef gravy odor or flavor.
	<u>Texture</u>
	207 Beef not moist or not tender.
	208 Beef tough or rubbery.
	209 Gravy not smooth or not moderately thick.
	<u>Net weight</u>
	210 Net weight of an individual pouch less than 7.5 ounces (213 grams). <u>4/</u>
	<u>Drained weight</u>
	211 Drained weight of beef brisket in an individual pouch less than 2.5 ounces (71 grams). <u>5/</u>

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- 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.
- 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/ Equipment settings and the requirement that beef brisket slices be produced from boneless whole muscle beef brisket in accordance with NAMP Item No. 120 shall be verified by a Certificate of Conformance.
- 4/ Sample average net weight less than 8.0 ounces (227 grams) shall be cause for rejection of the lot.
- 5/ Sample average drained weight for beef brisket less than 3.0 ounces (85 grams) shall be cause for rejection of the lot.

B. Methods of inspection.

(1) Commercial sterility. Testing for commercial sterility shall be in accordance with MIL-PRF-44073.

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

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

(4) Drained weight. ~~The pouch contents shall be poured into a flat-bottom container. A minimum of three times the volume of the pouch of not less than 140°F water shall be added to the container so as to cover the contents. The contents and water shall be gently agitated so as to liquefy rendered fat and to remove the gravy. The contents shall then be poured into a U.S. Standard No. 7 sieve in a manner that will distribute the product over the sieve. The sieve area shall be such that the distributed product does not completely cover all the openings of the sieve. The sieve shall be tilted at such an angle to assure complete drainage of liquid from the product. Drain product for two minutes before determining the~~

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~~drained weight by subtracting the sieve tare weight from the gross weight. The drained weight shall be reported to the nearest 0.1 ounce or to the nearest 1 gram.~~ Use a U.S. Standard No. 7 sieve for the drained weight examination. Heat all the pouches at the same time for 10 minutes in hot water. 1/ Pour the contents of the pouch into a flat-bottom container and repeatedly add hot water until all of the product has been removed from the pouch. 1/ Additional hot water may be added to the flat-bottom container so as to cover all of the contents. 1/ The mixture shall be gently agitated so as to liquefy rendered fat without breaking the product. 2/ The mixture shall not sit for greater than two minutes. The contents shall then be poured into the sieve in a manner that will distribute the product over the sieve without breaking up the product. The sieve area shall be such that the distributed product does not completely cover all the openings of the sieve. The sieve shall be tilted at an angle from 30 to 45 degrees to ensure complete drainage of liquid from the product. Drain product for two minutes. Place the sieve and its contents onto the scale and tare the scale to zero. Remove the beef brisket from the sieve by turning the sieve upside down and dumping the product. Place the sieve back on the scale and record the weight as a positive number. This value is the drained weight of the beef brisket. When necessary, rinse the screen before performing the next drained weight exam. The drained weight shall be reported to the nearest 0.1 ounce or to the nearest 1 gram. 3/

1/ Water temperature shall be not less than 140°F and not greater than 165°F.

2/ Additional hot water may be required for completely removing sauce and liquefying rendered fat.

3/ The initial unit of measurement shall be maintained throughout the exam (example: if ounce is used, the unit of measurement shall remain as ounces throughout the exam).

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

<u>Test</u>	<u>Method Number</u>
Fat	985.15
Salt	935.47

Test results shall be reported to the nearest 0.1 percent. Government verification will be conducted through actual testing by a Government laboratory. Any nonconforming results shall be cause for rejection of the lot.

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

A. Packaging.

(1) Pouch material testing. The pouch material shall be examined for the characteristics listed in table I of MIL-PRF-44073 for Type I. The lot size, sample unit, and inspection level criteria for each of the test characteristics are listed below. Any test failure shall be classified as a major defect and shall be cause for rejection of the lot.

Characteristic	Lot size expressed in	Sample unit	Inspection level
Oxygen transmission rate	yards	1/2 yard	S-1
Water vapor transmission rate	yards	1/2 yard	S-1
Camouflage	yards	1/2 yard	S-1
Thermal processing	pouches	1 pouch	S-2
Low temperature	pouches	1 pouch	S-2
High temperature	pouches	1 pouch	S-2
Directional tear	pouches	1 pouch	S-3

(2) Filled and sealed pouch testing. The filled and sealed thermoprocessed or hot-fill processed pouches shall be examined for the characteristics listed in table I of MIL-PRF-44073 for Type I. The lot size, sample unit, and inspection level criteria for each of the test characteristics are listed below. Any test failure shall be classified as a major defect and shall be cause for rejection of the lot.

Characteristic	Lot size expressed in	Sample unit	Inspection level
Residual gas volume	pouches	1 pouch	S-2
Internal pressure	pouches	1 pouch	S-2 <u>1/</u>

1/ When a three-seal tester is used, a separate set of samples is required for testing of the closure seal.

(3) Pouch examination. The pouches shall be examined for the defects listed in table II of MIL-PRF-44073 for Type I. The lot size shall be expressed in pouches. The sample unit shall be one thermal processed pouch. The inspection level shall be I and the AQL, expressed in terms of defects per hundred units, shall be 0.65 for major A defects, 2.5 for major B defects, and 4.0 for minor defects. Two hundred sample units shall be examined for critical defects. The finding of any critical defect shall be cause for rejection of the lot.

(4) Sleeve examination. The sleeves shall be examined for the defects listed in table III of MIL-PRF-44073 for Type I. The lot size shall be expressed in units of sleeves. The

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sample unit shall be one sleeve. The inspection level shall be S-3 and the AQL, expressed in terms of defects per hundred units, shall be 0.65 for major defects and 2.5 for minor defects.

B. Packing.

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

Category		Defect
<u>Major</u>	<u>Minor</u>	
101		Marking missing or incorrect or illegible.
102		Inadequate workmanship. <u>1/</u>
	201	More than 40 pounds of product.

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

SECTION J REFERENCE DOCUMENTS

GOVERNMENT DOCUMENTS

U.S. DEPARTMENT OF AGRICULTURE (USDA)

Institutional Meat Purchase Specifications (IMPS) For Fresh Beef Products Series 100

DSCP FORMS

DSCP FORM 3556 Marking Instructions for Boxes, Sacks, and Unit Loads of
Perishable and Semiperishable Subsistence

MILITARY SPECIFICATIONS

MIL-PRF-44073 Packaging of Food in Flexible Pouches

NON-GOVERNMENTAL STANDARDS

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

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

ASTM INTERNATIONAL www.astm.org

D 1974-98 (2003) Standard Practice for Methods of Closing, Sealing,
and Reinforcing Fiberboard Boxes

D 4727/D 4727M-07 Standard Specification for Corrugated and Solid
Fiberboard Sheet Stock (Container Grade) and Cut
Shapes

D 5118/D 5118M-05ae1 Standard Practice for Fabrication of Fiberboard
Shipping Boxes

AOAC INTERNATIONAL www.aoac.org

Official Methods of Analysis (OMA) of AOAC International