QAP&PKG for A-A-20078B
29 October 2003
SUPERSEDING
QAP for A-A-20078A
14 June 1999

QUALITY ASSURANCE AND PROVISIONS PACKAGING REQUIREMENTS FOR CID A-A-20078B, JELLY, FRUIT

SECTION C

C-1 ITEM DESCRIPTION

Types.

Type I – Standardized. Prepared from a single variety of fruit juice ingredients.

Kinds.

Kind A - Apple
Kind L - Grape

Grades.

Grade A

Unless otherwise specified, the following applies to all types and kinds:

Each component is consumed by combat personnel under worldwide environmental extremes as part of an operational ration which is the sole source of nutritional intake.

C-2 PERFORMANCE REQUIREMENTS

A. Product standard. A sample shall be subjected to first article or product demonstration model inspection as applicable, in accordance with the tests and inspections of Section E of the Quality Assurance Provisions and Packaging Requirements.

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

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

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

E. Net weight. The net weight of one serving of product shall be 1 ounce.

SECTION D

D-1 PACKAGING

A. Packaging. One ounce of jelly shall be packaged in a preformed barrier pouch as described below.

1. Pouch material. The preformed pouches shall be fabricated from 0.002 inch thick polyolefin film laminated or extrusion coated to 0.00035 inch thick aluminum foil which is then laminated to 0.0005 inch thick polyester. The three plies shall be laminated with the polyester on the exterior of the pouch. The polyolefin layer of bag material shall be suitably formulated for hot fill or post-fill processing. All tolerances for thickness of pouch materials shall be plus or minus 20 percent. The complete exterior surface of the pouch shall be uniformly colored in the range of 34079 through 34087 or 24052 through 24087 or 30045 through 30118 (excluding 31109) or 10045 of FED-STD-595. The material shall show no evidence of delamination, degradation, or foreign odor when heat-sealed or fabricated into pouches. The material shall be suitably formulated for food packaging and shall not impart an odor or flavor to the product.

2. Pouch construction. The pouch shall be a flat style preformed pouch having maximum inside dimensions of 2-7/8 inches wide by 5-3/8 inches long. The pouch shall be made by heat sealing three edges with 3/8 inch (-1/8 inch, +3/16 inch) wide seals. The heat seals shall be made in a manner that will assure hermetic seals. The side and bottom seals shall have an average seal strength of not less than 6 pounds per inch of width and no individual specimen shall have a seal strength of less than 5 pounds per inch of width when tested as specified in E-5,A,(3),(a). A tear nick or tear notch shall be made in one or both side seals to facilitate easy opening of the filled and sealed pouch. A 1/8 inch (± 1/16 inch) wide lip may be incorporated at the open end of the pouch to facilitate opening and filling of the pouch.

3. Pouch filling and sealing. A net weight of one ounce of jelly shall be filled into the pouch and the filled pouch shall be sealed. 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. The average seal strength shall be not less than 6 pounds per inch of width and no individual specimen shall have a seal strength of less than 5 pounds per inch of width when tested as specified in E-5,A,(3),(b).

D-2 LABELING

A. Pouches. Each pouch shall be clearly printed with permanent black ink or other, dark, contrasting color which is free of carcinogenic elements or ingredients. The information shall be located on the body of the pouch not closer than 1/16 inch to any seal. If a non-contact type printer is used, the information may be located anywhere on the pouch (in one complete print),

except the closure seal area. The label shall contain the following information:

(1) Product name (letters not less than 1/8 to 7/16 inch block letters)
(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, 17 February, 1998 would be coded as 8048. 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 flat in layers in a fiberboard shipping container constructed in accordance with style RSC-L, class domestic, variety SW, grade 200 of ASTM D 5118, Standard Practice for Fabrication of Fiberboard Shipping Boxes. Each container shall be securely closed in accordance with ASTM D 1974, Standard Practice for Methods of Closing, Sealing, and Reinforcing Fiberboard Shipping Containers.

D-4 MARKING

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

SECTION E INSPECTION AND ACCEPTANCE

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.

E-5 PACKAGING AND PACKING MATERIALS

Quality Assurance Provisions.

The following quality assurance criteria, utilizing ANSI/ASQC Z1.4-1993, Sampling Procedures and Tables for Inspection by Attributes, are required.

A. Packaging.

(1) Pouch material certification. Material listed below may be accepted on the basis of a contractor's certification of conformance to the indicated requirements. In addition, compliance to the requirements for inside pouch dimensions and dimensions of manufacturer's seals may be verified by certificate of conformance.

Requirement	Requirement paragraph	Test procedure
Thickness of films for laminated material	D-1,A.1.	A machinists' micrometer may be used
Aluminum foil thickness	D-1,A.1.	As specified in ASTM B 479 1/
Laminated material identification and construction	D-1,A.1.	Laboratory evaluation
Color of laminated material	D-1,A.1.	Visual evaluation

1/ ASTM B 479, Specification for Annealed Aluminum Foil For Flexible Barrier Application

(2) Filled and sealed pouch examination. The filled and sealed pouches shall be examined for the defects listed in table I. The lot size shall be expressed in pouches. The sample unit shall be one pouch. The inspection level shall be I and the acceptable quality level (AQL), expressed in terms of defects per hundred units, shall be 0.65 for major defects and 4.0 for minor defects.

TABLE I. Filled and sealed pouch defects 1/

Category		Defect
Major	Minor	
101		Tear, hole, or open seal.
102		Unclean pouch. 2/

TABLE I. Filled and sealed pouch defects 1/ (cont'd)

Category		Defect
Major	Minor	
103		Presence of delamination. 3/
104		Seal width less than 1/16 inch. 4/
105		Pouch has foreign odor.
106		Any impression or design on the heat seal surfaces which conceals or impairs visual detection of seal defects. 5/
	201	Label smudges, is missing, incorrect, or illegible.
	202	Tear nick, notch or serrations missing or does not facilitate easy opening.
	203	Seal width less than 1/8 inch but greater than 1/16 inch.
	204	Presence of delamination. 3/

1/ Any evidence of rodent or insect infestation 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 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.

3/ Delamination defect classification:

Major - Delamination of the outer ply in the pouch seal area that can be propagated to expose aluminum foil at the food product edge of the pouch after manual flexing of the delaminated area. To flex, the delaminated area shall be held between the thumb and forefinger of each hand with both thumbs and forefingers touching each other. The delaminated area shall then be rapidly flexed 10 times by rotating both hands in alternating clockwise-counterclockwise directions. Care shall be exercised when flexing delaminated areas near the tear notches to avoid tearing the pouch material. After flexing, the separated outer ply shall be grasped between thumb and forefinger and gently lifted toward the food product edge of the seal or if

the separated area is too small to be held between thumb and forefinger, a number two stylus shall be inserted into the delaminated area and a gentle lifting force applied against the outer ply. If separation of the outer ply can be made to extend to the product edge of the seal with no discernible resistance to the gentle lifting, the delamination shall be classified as a major defect. Additionally, spot delamination of the outer ply in the body of the pouch that is able to be propagated beyond its initial borders is also a major defect. To determine if the laminated area is a defect, use the following procedure: Mark the outside edges of the delaminated area using a bold permanent marking pen. Open the pouch and remove the contents. Cut the pouch transversely not closer than 1/4 inch (± 1/16 inch) from the delaminated area. The pouch shall be flexed in the area in question using the procedure described above. Any propagation of the delaminated area, as evidenced by the delaminated area exceeding the limits of the outlined borders, shall be classified as a major defect.

Minor - Minor delamination of the outer ply in the pouch seal area is acceptable and shall not be classified as a minor defect unless it extends to within 1/16 inch of the food product edge of the seal. All other minor outer ply delamination in the pouch seal area or isolated spots of delamination in the body of the pouch that do not propagate when flexed as described above shall be classified as minor defects.

4/ 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.

5/ 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.

(3) Seal testing. The pouch seals shall be tested for seal strength as required in a, b, or c, as applicable.

(a) Unfilled preformed pouch seal testing. The seals of the unfilled preformed pouch 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 size shall be the number of pouches indicated by inspection level S-1. Three adjacent 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 three specimens cut from that side. Any average seal strength of less than 6 pounds per inch of width or any test specimen with a seal strength of less than 5 pounds per inch of width shall be cause rejection of the lot.

(b) Pouch closure seal testing. The closure seals of the pouches shall be tested for seal strength in accordance with ASTM F 88. The lot size shall be expressed in pouches. The sample size shall be the number of pouches indicated by inspection level S-1. For the closure seal on preformed bags, three adjacent specimens shall be cut from the closure seal of each pouch in

the sample. For the form-fill-seal pouches, three adjacent 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 average seal strength of less than 6 pounds per inch of width or any test specimen with a seal strength of less than 5 pounds per inch of width shall be cause for rejection of the lot.

(c) Internal pressure test. The internal pressure resistance shall be determined by pressurizing the pouches while they are restrained between two rigid plates spaced 1/2 ± 1/16 inch apart. 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 I, footnote 4/) shall be considered a test failure. Any test failure shall be cause for rejection of the lot.

B. Packing.

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

Major: National stock number, item description, contract number, name and address of producer, or date of pack missing, incorrect or illegible
Container not properly closed
Components missing, damaged, or not as specified

Minor: Other required markings missing, incorrect, or illegible
More than 40 pounds of product

E-6 QUALITY ASSURANCE PROVISIONS (PRODUCT)

A. 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 Quality Assurance Provisions and Packaging Requirements 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.

(2) Conformance inspection. Conformance inspection shall include the product examination and the methods of inspection cited in this section.

B. Product examination. The finished product shall be examined for compliance with the performance requirements specified in Section C of this Quality Assurance Provisions and Packaging Requirements utilizing the single 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-2. The presence of foreign material, such as, but not limited to, dirt, insect parts, hair, wood, glass, or metal, or foreign odors and flavors, such as, but not limited to, stale, rancid, musty or moldy shall be cause for rejection of the lot. 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.

C. Methods of inspection.

(1) Commercial sterility. Commercial sterility shall be determined by verification review of the processing authority records. It has been found that the following processing parameters ensure product sterility: Interior surfaces of pouch exposed to a temperature of 160°F for 60 seconds or any equivalent treatment such as 170°F for 6 seconds, 180°F for 0.6 seconds, or by post-fill processing (i.e., pasteurization).

(2) Shelf life. The contractor shall provide a certificate of conformance that the product has a 3 year 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 shall be verified with the label on the package. Product not conforming to the net weight requirement in Section C of this supplement shall be cause for rejection of the lot~~.

"(3) Net weight. 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. Any individual net weight of less than 0.9 ounces shall be classified as a minor defect. The lot size shall be expressed in pouches. The sample unit shall be one filled and sealed pouch. The inspection level shall be S-3 and the AQL, expressed in terms of defects per hundred units, shall be 2.5. The results shall be reported to the nearest 0.1 ounce."

SECTION J REFERENCE DOCUMENTS

DPSC FORM

DPSC FORM 3556 Marking Instructions for Shipping Cases, Sacks and Palletized/Containerized Loads of Perishable and Semiperishable Subsistence, May 96

FEDERAL STANDARD

FED-STD-595 - Colors Used in Government Procurement

NON-GOVERNMENTAL STANDARDS

AMERICAN SOCIETY FOR QUALITY CONTROL (ASQC)

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

AMERICAN SOCIETY FOR TESTING AND MATERIALS (ASTM)

B 479 - Specification for Annealed Aluminum Foil For Flexible Barrier Application

D 1238 - Flow Rates of Thermoplastics by Extrusion Plastometer

D 1505 - Density of Plastics by Density Gradient Technique

D 1974 - Standard Practice for Methods of Closing, Sealing, and Reinforcing Fiberboard Shipping Containers

D 5118 - Standard Practice for Fabrication of Fiberboard Shipping Boxes

F 88 - Seal Strength of Flexible Barrier Materials

QAP&PKG for A-A-20078B
29 October 2003
SUPERSEDING
QAP for A-A-20078A
14 June 1999

TO: DSCP-HRAC (Anthony/4477)

Subject: ES 04-005; Technical Inquiry; PKG&QAP for A-A-20078B Jelly, Fruit; Portion Pac and USDA; MRE 24 contract; Clarify net weight requirement

Date recvd: 23 Oct 03
Date due: ASAP
Date replied: 29 Oct 03

1. Both vendor and USDA requested clarification on the 1 ounce requirement stated in the Packaging requirements and quality assurance provisions (PKG&QAP) for the jelly. Portion Pac claims the criteria cited is too tight and does not have a variation in the net weight range. They state that the previous contract which cited MIL-C-44068B (Cheese Spread+Peanut butter+Jams+Preserves) allowed for variation.

2. A review of the files has determined that:

(a) The former spread document allowed for a range on the jelly portion of a sample being less than 0.9 ounces would be classified as a minor defect. It also specified that each sample unit be weighed with specific sampling plans and acceptable quality levels (AQLs). And that if the sample average net weight is less than 1.0 ounce, the lot would be rejected.
(b) When the new jelly CID was developed to replace the MIL-C-44068B, Natick provided a PKG&QAP for the CID in 1999. At that time, the industry was trying to reduce inspection costs and USDA was trying to reduce labor spent on time consuming tasks of weighing lots of samples. It was agreed between industry and USDA and Natick at an R&DA IPT meeting that for various commercial components, the net weight procedure could be simplified in verifying on the net weight of the labeled product, rather than weighing each sample. This would free up time for the inspector to do other tasks and reduce inspection costs. The PKG&QAP was set up to reflect this new verification method. Now the USDA only had to spot check the pouches and verify the weight on the label.
(c) From 1999 to present, no engineering support cases for net weight problems have been received by Natick for jelly; only technical problems involving pectin amount or brix.
(d) The newer PKG&QAP for other components now cite a double sampling plan and allow for a tolerance on the net weight scored as a minor defect. When the jelly PKG&QAP is revised with a full coordination next year, it will reflect this new criteria.

3. In order for DSCP to procure jelly for the pending MRE 24 contract, Natick requests DSCP implement the change cited below for the QAP&PKG for the A-A-20078B document for all pending and future procurements until the document are formally amended or revised:

(a) In Sec E-6, C (3) Net weight: delete entirely and insert:

"(3) Net weight. 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. Any individual net weight of less than 0.9 ounces shall be classified as a minor defect. The lot size shall be expressed in pouches. The sample unit shall be one filled and sealed pouch. The inspection level shall be S-3 and the AQL, expressed in terms of defects per hundred units, shall be 2.5. The results shall be reported to the nearest 0.1 ounce."

4. The highlighted document file is attached with this message.

1 attachment

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