SECTION C

C-1 ITEM DESCRIPTION

QUALITY ASSURANCE PROVISIONS AND PACKAGING REQUIREMENTS FOR CID A-A-20297, SOUP, NOODLE, RAMEN, INSTANT **7 January 2000**

Types.

Type I, Style A, Flavor 1 – Beef, Packaged in a Preformed Pouch
Type I, Style A, Flavor 2 – Chicken, Packaged in a Preformed Pouch

Packages.

Package A - Meal, Cold Weather (MCW)
Package B – Food Packet, Long Range Patrol (LRP)

Each component is consumed by combat personnel under worldwide environmental extremes as part of an operational ration, and is a 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 this Quality Assurance Provisions and Packaging Requirements document.

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

C. Reconstituted product. The dehydrated product shall fully rehydrate within 3 to 5 minutes.

D. Net weight. The net weight of one pouch shall be not less than 64 grams.

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

SECTION D

D-1 PACKAGING

A. Packaging. The type I, style A instant Ramen noodle soup for each flavor 1 or 2, as specified, shall be packed in a preformed barrier pouch as described below. The pouch is intended to be used as a unit pack and a rehydrating pouch for the instant noodle soup.

(1) Preformed pouches.

a. Pouch material. The preformed pouch shall be fabricated from 0.0035 inch thick linear low density polyethylene sealant layer laminated or extrusion coated to 0.00035 inch thick aluminum foil which is then bonded with 10 pounds per ream low density polyethylene to 0.0006 inch thick biaxally oriented nylon. The three plies shall be laminated with the nylon on the exterior of the pouch. All tolerances for thickness of pouch material shall be plus or minus 20 percent. The structure shall be approved for food contact with the addition of near boiling water. 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. For package A (MCW), the complete exterior surface of the pouch shall be colored white overall with a color in the range of 37778 through 37886 of FED-STD-595, Colors Used in Government Procurement. For package B (LRP), the complete exterior surface of the pouch shall be uniformly colored in the range of 20219, 30219, 30227, 30279, 30313, 30324, or 30450 of FED-STD-595.

b. Pouch construction. The pouch shall be a flat style preformed pouch having maximum inside dimensions of 5 3/8 inches wide by 8 1/8 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 7 pounds per inch of width and no individual specimen shall have a seal strength of less than 6 pounds per inch of width when tested as specified in E-6,A,(4),a. Alternatively, peelable 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 or greater than 14 pounds per inch of width when tested as specified in E-6,A,(4),a. A tear notch shall be provided on one outside edge or two opposite outside edges of the pouch to facilitate 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.

c. Pouch filling and sealing. One flavor of instant Ramen soup shall be filled into the pouch and the filled pouch shall be sealed with a minimum 1/8 inch wide heat seal. 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 7 pounds per inch of width and no individual specimen shall have a seal strength of less than 6 pounds per inch of width when tested as specified in E-6,A,(4),b. Alternatively, peelable 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 or greater than 14 pounds per inch of width when tested as specified in E-6,A,(4),a.

D-2 LABELING

A. Pouches. Each pouch shall be clearly printed or stamped, in a manner that does not damage the pouch, 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) Name and flavor of soup (letters not less than 1/8 inch high)
(2) Directions: ADD 8 OUNCES OF HOT WATER (ABOUT 1/3 canteen cup) TO POUCH, STIR, WAIT ABOUT 5 MINUTES. HOT WATER MAY BE ADDED IN STAGES TO KEEP FOOD HOT.
(3) Ingredients
(4) Date 1/
(5) Net Weight
(6) Contractor's name and address
(7) "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, February 17, 1999 would be coded as 9048. The Julian day code shall represent the day the product was packaged into the pouch.

B. Pouches with peelable seals shall be clearly printed with the following information not closer than ¼ inch from the closure seal:

PEELABE SEAL (letters not less than 1/8 inch high)

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. When metal fasteners are used in the box manufacturer's joint or set-up, the fasteners on the inside shall be covered with tape to protect the contents from mechanical damage.

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

The following quality assurance criteria, utilizing ANSI/ASQC Z1.4-1993, Sampling Procedures and Tables for Inspection by Attributes, are required. When required, the manufacturer shall be required to 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 Quality Assurance Provisions and Packaging Requirements 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.

(2) Conformance inspection. Conformance inspection shall include the product examination 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 the Quality Assurance Provisions and Packaging 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 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/ 3/

Category		Defect
Major	Minor	
		Dehydrated product Appearance
	201	Soup base flavoring mix color not medium dark brown for beef flavor or not medium dark yellow for chicken flavor.
	202	Soup base flavoring mix not free flowing.
		Weight
101		Dry Ramen noodles less than 86 percent of weight.

102		Dehydrated ingredients (vegetables, meat, etc.) less than 2 percent by weight.
	203	Net weight of an individual pouch less than 64 grams.
		Rehydrated product Appearance 4/
103		Ramen noodles not slightly curly or lightly colored.
104		Broth has lumps or undissolved particles.
	204	Broth not clear to semi opaque.
	205	Vegetables not bright in color.
	206	When applicable, textured soy protein not small meat-like pieces.
	207	When applicable, textured soy protein not medium brown color for beef flavor or not medium yellow color for chicken flavor.
		Odor and flavor
105		The packaged food does not have an odor or flavor of beef or chicken.
		Texture
106		Ramen noodles not soft or not elastic.
107		Ramen noodles are mushy.
	208	Vegetables not fully rehydrated or not slightly soft or tender.
	209	When applicable, textured soy protein pieces do not have tender meat-like texture.

1/ The presence of any foreign material such as but not limited to, dirt, insect parts, hair, wood, glass, metal, or mold or the presence of 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. 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 is not applicable to dehydrated product.

3/ The enriched wheat flour shall be verified with the statement of ingredients on the label.

4/ Prior to conducting the rehydrated product examination, the instant Ramen noodle soup shall be reconstituted with 8 ounces of boiling water. Product that does not rehydrate within 3 to 5 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 3 year shelf life when stored at 80^0F. Government verification may include storage for 6 months at 100^0F or 36 months at 80^0F. 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.

(2) 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 1 gram.

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

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 and D-1,A,(2),a	As specified in ASTM D 2103 1/
Aluminum foil thickness	D-1,A,(1),a and D-1,A,(2),a	As specified in ASTM B 479 2/
Laminated material identification and construction	D-1,A,(1),a and D-1,A,(2),a	Laboratory evaluation
Color of laminated material	D-1,A,(1),a and D-1,A,(2),a	Visual evaluation by FED-STD-595 3/

1/ ASTM D 2103 Specification for Polyethylene Film and Sheeting

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

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

(2) Unfilled preformed pouch certification. A certification of conformance may be accepted as evidence that unfilled pouches conform to the requirements specified in D-1,A,(1) a and b. When deemed necessary by the USDA, testing of the unfilled preformed pouches for seal strength shall be as specified in E-6,A,(4),a.

(3) 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 acceptable quality level (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
Major	Minor	
101		Tear, hole, or open seal.
102		Seal width less than 1/16 inch. 2/
103		Presence of delamination. 3/
104		Unclean pouch. 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/
107		Peelable pouch does not open where indicated.
	201	Label smudges, is missing, incorrect, or illegible.
	202	Tear notch missing or does not facilitate 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/ 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/ 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/ 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.

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.

(4) Seal testing. The pouch seals shall be tested for seal strength as required in a or b, 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. When testing the end seal of the pouch, one of the three specimens shall be cut from the center of the seal incorporating the folded fin seal juncture of the heat seal. For heat seals, any average seal strength of less than 7 pounds per linear inch or any test specimen with a seal strength of less than 6 pounds per linear inch shall be cause for rejection of the lot. For peelable heat seals, any average seal strength of less than 6 pounds per linear inch or any test specimen with seal strength of less than 5 pounds per linear inch or greater than 14 pounds per linear inch shall be cause for 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 pouches, three adjacent specimens shall be cut from the closure seal of each pouch in the sample. One of the three specimens shall be cut from the center of the seal incorporating the folded fin seal juncture of the heat seal. 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. For heat seals, any average seal strength of less than 7 pounds per linear inch or any test specimen with a seal strength of less than 6 pounds per linear inch shall be cause for rejection of the lot. For peelable heat seals, any average seal strength of less than 6 pounds per linear inch or any test specimen with seal strength of less than 5 pounds per linear inch or greater than 14 pounds per linear inch shall be cause for rejection of the lot.

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 defects

Category		Defect
Major	Minor	
101		National stock number, item description, contract number, name and address of producer, or date of pack missing, incorrect, or illegible.
102		Container not closed properly.
103		Components missing, damaged, or not as specified.
	201	Other required markings missing, incorrect, or illegible.
	202	More than 40 pounds of product.

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

D 2103 - Specification for Polyethylene Film and Sheeting

D 5118 - Standard Practice for Fabrication of Fiberboard Shipping Boxes

F 88 - Seal Strength of Flexible Barrier Materials

AMSSB-RCF—F(N)(Friel/4261) 8 December 2000

TO: DSCP-HRAC(D.Anthony/4477) DDC01-034

SUBJECT: Document Changes for Quality Assurance Provisions and Packaging Requirements for A-A-20297 Soup, Instant, Noodle, Ramen

1. References:

a. AMSSB-RCF—F(N)(Friel) to DSCP-HRAC(D.Anthony), dated 4 December 2000, SUBJECT: Request for Specification Change, Contract SPO300-00-D-Z107, MCW: Clarification of letter dated November 13, 2000 requesting deletion of Spec requirement of D-2-A, print 1/16” from seal; DSCP Case No. 1-R-035-00 (ES01-013)

b. AMSSB-RCF—F(N)(Friel)to DSCP-HRAC(D.Anthony), dated 20 November 2000, SUBJECT: Request for Specification change, Contract SPO300-00-D-Z107; MCW, Soup, Instant, Noodle, Ramen, A-A-20297; DSCP Case #1-R-035-00 (ES01-010)

3. Natick recommends the following changes for the subject document for all current, pending and future procurements until the document is formally amended or revised:

a. Section D-2, A., make the following changes:

(1) sentence 1, line 1, after “does not”, insert “conceal or impair visual examination of heat seals or”;

(2) delete sentences 2 and 3, insert new sentences: “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.”

b. Section D-3, A., sentence 1, delete “flat in layers”

DONALD A. HAMLIN
Team Leader
Food Engineering Services Team
Combat Feeding Program

ES REQUIRED MFriel

CF:

Alyward	H. Richardson
Loveridge	A. Boies
Richards	Salerno
Valvano	M.Malason
Sherman	D.Anthony
A.Konrady	J.Lecollier
M.Konrady	D.Kavanagh
Hoffman	C.Galligan
Beward	D.Arthur
Wagner	A.Lowry