

PKG & QAP
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SUPERSEDING
A-A-20177D
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SECTION C

This document covers candy and chocolate confections packaged in a flexible pouch for use by the Department of Defense as a component of operational rations.

C-1 ITEM DESCRIPTION

**PACKAGING REQUIREMENTS AND QUALITY ASSURANCE PROVISIONS FOR
CID A-A-20177E CANDY AND CHOCOLATE CONFECTIONS**

Types, styles, flavors, flavor styles.

| | |
|------------------|-------------------------------------------------------|
| Type II - | Toffee, chocolate flavored |
| Style A - | Roll |
| Style B - | Cube |
| Type III - | Toffee |
| Flavor 2 - | With walnuts |
| Type IV - | Hard candy |
| Style A - | Square or rectangular fruit tablets 28.35g (1 oz bar) |
| Style B - | Square fruit tablets 45.4g (1.6 oz bar) |
| Type VI - | Pan coated candy |
| Style A - | Disks |
| Flavor 1 - | Milk chocolate, plain |
| Flavor 2 - | Fruit flavored |
| Flavor Style a - | Original |
| Flavor Style b - | Berry |
| Flavor Style c - | Tropical |
| Flavor Style d - | Sour |
| Flavor 4 - | Peanut butter, plain |
| Flavor 5 - | Cinnamon |
| Style B - | Oval/Round |
| Flavor 1 - | Milk chocolate with peanuts |
| Flavor 2 - | Dark chocolate covered coffee beans |
| Style C - | Flat bottom tear drop |
| Flavor 1 - | Milk chocolate, plain |

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| | |
|-------------|---------------------------------------------|
| Type VIII - | Starch jelly candy, assorted flavors |
| Type IX - | Peanut bar |
| Type X - | Licorice style candy |
| Style B - | Bite size |
| Flavor 1 - | Cherry |
| Type XI - | Mint candy |
| Style B - | Rings |
| Flavor 1 | Wintergreen |
| Flavor 2 | Peppermint |
| Type XII - | Caffeinated Mints |
| Style A - | Round tablets |
| Flavor 1 - | Peppermint |
| Style B - | Round tablets, sugar free (21 CFR § 101.60) |
| Flavor 1 - | Peppermint |

Packages.

- Package A - Meal, Cold Weather (MCW)
- Package B - Food Packet, Long Range Patrol (LRP)
- Package C - Meal, Ready-To-Eat™ (MRE™)
- Package D - Arctic Supplement (ARC Sup)
- Package E - Unitized Group Ration™ (UGR™)-Heat & Serve™ (UGR-H&S™)
- Package J - First Strike Ration® (FSR®)
- Package K - Unitized Group Ration™-Express™ (UGR-E™)

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 Packaging Requirements and Quality Assurance Provisions. 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

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

D. Analytical and microbiological requirements. For all types specified, the analytical and microbiological requirements and procedures and testing shall be in accordance with A-A-20177E.

SECTION D

D-1 PACKAGING

A. Packaging. Candy shall be packaged in commercial packaging. For Types II, III, and XI, candy shall be overwrapped in a preformed or form-fill-seal barrier pouch. Type II, Style A shall have 2 individually packaged rolls overwrapped in a barrier pouch. Type II, Style B or Type III shall have 5 individually packaged pieces overwrapped in a barrier pouch. Type VIII shall have the commercial package overwrapped in a barrier pouch. Type XI shall have 9 individually packaged pieces, individually packaged in a moisture-proof transparent material, overwrapped in a barrier pouch.

(1) Preformed pouches.

a. Pouch material. The preformed pouch shall be fabricated from 0.002 inch thick ionomer or polyethylene film laminated or extrusion coated to 0.00035 inch thick aluminum foil which is then laminated to 0.0005 inch thick polyester. Tolerances for thickness of plastic films shall be plus or minus 20 percent and tolerance for foil layer shall be plus or minus 10 percent. 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 packages B through K, the complete exterior surface of the

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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 inches wide by 7-1/4 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 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-6,B(1)a. Alternatively, the pouch shall exhibit no rupture or seal separation greater than 1/16 inch or seal separation that reduces the effective closure seal width to less than 1/16 inch when tested for internal pressure resistance as specified in E-6,B,(1)c. A tear nick, notch or serrations shall be provided to facilitate opening of the filled and sealed pouch. A 1/8 inch wide lip may be incorporated at the open end of the pouch.

c. Pouch filling and sealing. The product shall be inserted into the pouch. The closure seal width shall be a minimum of 1/8 inch. 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-6,B(1)b. Alternatively, the filled and sealed pouch shall exhibit no rupture or seal separation greater than 1/16 inch or seal separation that reduces the effective closure seal width to less than 1/16 inch when tested for internal pressure resistance as specified in E-6,B(1)c.

(2) Horizontal form-fill-seal pouches.

a. Pouch material. The horizontal form-fill-seal pouch shall consist of a formed tray-shaped body with a flat sheet, heat sealable cover or a tray-shaped body with a tray-shaped heat sealable cover. The tray-shaped body and the tray-shaped cover shall be fabricated from a 3-ply flexible laminate barrier material consisting of, from outside to inside, 0.0009 inch thick oriented polypropylene bonded to 0.0007 inch thick aluminum foil with 10 pounds per ream pigmented polyethylene or adhesive and bonding the opposite side of the aluminum foil to 0.003 inch thick ionomer or a blend of not less than 50 percent linear low density polyethylene and polyethylene. The linear low density polyethylene portion of the blend shall be the copolymer of ethylene and octene-1 having a melt index range of 0.8 to 1.2 g/10 minutes in accordance with ASTM D 1238, Standard Test Method for Melt Flow Rates of Thermoplastics by Extrusion Plastometer and a density range of 0.918 to 0.922 g/cc

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in accordance with ASTM D 1505, Standard Test Method for Density of Plastics by the Density-Gradient Technique. Alternatively, 0.0005 inch thick polyester may be used in place of the oriented polypropylene as the outer ply of the laminate. The flat sheet cover shall be made of the same 3-ply laminate as specified for the tray-shaped body except the aluminum foil thickness may be 0.00035 inch. Tolerances for thickness of plastic films shall be plus or minus 20 percent and tolerance for the foil layer shall be plus or minus 10 percent. The color requirements of the exterior (oriented polypropylene or polyester side) of the laminate shall be as specified in D-1,A(1),a. 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 any odor or flavor to the product.

b. Pouch construction. The tray-shaped body and the tray-shaped cover shall be formed by drawing the flexible laminate material into an appropriately shaped cavity. The flat cover shall be in the form of a flat sheet of the barrier material taken from roll stock. As specified in D-1,A, product shall be placed into the tray-shaped body of the pouch. Pouch closure shall be effected by heat sealing together the cover and body along the entire pouch perimeter. The closure seal width shall be a minimum of 1/8 inch. The closure seal 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-6,B,(1)b. Alternatively, the filled and sealed pouch shall exhibit no rupture or seal separation greater than 1/16 inch or seal separation that reduces the effective closure seal width to less than 1/16 inch when tested for internal pressure resistance as specified in E-6,B,(1)c. ~~The maximum outside dimensions of the sealed pouch shall be 6 inches wide by 7-1/4 inches long.~~ **The dimensions of the pouches shall accommodate the commercially packaged candy(ies).** The closure seal width shall be a minimum of 1/8 inch. A tear nick, notch, or serrations shall be provided to facilitate opening of the filled and sealed pouch. The sealed pouches shall not show any evidence of material degradation, aluminum stress cracking, delamination or foreign odor. Heat seals shall be free of occluded matter. Seals shall be free of impression or design on the seal surface that would conceal or impair visual detection of seal defects.

Comment [MTF1]: Natick case ES11-071 (DSCP-SS-11-40756), change 03, 16 May 11, Section D-1, A, 2(b), sentence 8, line 12, delete "The maximum outside dimensions of the sealed pouch shall be 6 inches wide by 7-1/4 inches long."; insert new sentence: "The dimensions of the pouches shall accommodate the commercially packaged candy(ies)."

B. Packaging for Type XII, Style B. Candy shall be packaged in a commercial barrier pouch. The pouch shall be made from a heat-sealable, laminated material, one lamina of which shall be a minimum of 0.00025 inch thick aluminum foil. The filled and sealed pouch shall have dimensions of not more than 2-1/2 inches wide by 4-1/2 inches long. The seals shall be free of foldover wrinkles or entrapped matter that reduces the effective seal width to less than 1/16 inch. The seals shall be a minimum 1/8 inch in width. A tear nick, notch or

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serrations shall be provided to facilitate opening of the filled and sealed pouch. The sealed pouch shall not leak when tested in accordance with E-6,B(2). Alternatively, a commercial blister package with a foil film backing may be used. The filled and sealed blister package shall have dimensions of not more than 1-3/4 inches wide by 3-3/4 inches long.

D-2 LABELING

A. Pouches. Each pouch shall be correctly and legibly labeled. Printing ink shall be permanent black ink or other dark contrasting color which is free of carcinogenic elements. The label shall contain the following information:

- (1) Name and flavor of product (letters not less than 1/8 inch high)
- (2) Ingredients
- (3) Date 1/
- (4) Net Weight 2/
- (5) Name and address of packer
- (6) "Nutrition Facts" label in accordance with the Nutrition Labeling and Education Act (NLEA) and all applicable FDA regulations 2/

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, 14 February 2010 would be coded as 0045. The Julian day code shall represent the day the product was packaged into the pouch.

2/ Shall appear on the commercial package or the barrier pouch, as applicable.

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-L of ASTM D 5118/5118M, 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 closed in accordance with ASTM D 1974, Standard Practice for Methods of Closing, Sealing, and Reinforcing Fiberboard Boxes.

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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

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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 01760-5018

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

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

E-5 QUALITY ASSURANCE PROVISIONS (PRODUCT)

A. Product examination. The finished product shall be examined for compliance with the performance requirements specified in A-A-20177E and Section C of the Packaging Requirements and Quality Assurance Provisions document utilizing the double sampling plans indicated in ANSI/ASQ Z1.4. The lot size shall be expressed in pouches or packages. The sample unit shall be the contents of one pouch or package. 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.

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TABLE I. Product defects 1/ 2/

| Category | | Defect |
|----------|-------|--------------------------------------------------------------------------------------------------------------------------------------------------|
| Major | Minor | |
| | | <u>General</u> |
| 101 | | Product not type or not style or not flavor or not flavor style as specified. |
| | 201 | Candy or chocolate confection adheres to wrapper. |
| | | <u>Type II, Toffee, chocolate flavored</u> |
| 102 | | Candy not a semi-sweet chocolate or not a caramel odor or flavor. |
| | 202 | Candy not a dark brown color. |
| | 203 | Candy does not have a smooth outside surface. |
| | | <u>Type II, Style A, Toffee, chocolate flavored, Roll</u> |
| | 204 | Two rolls not individually packaged with a minimum net weight of 28 grams (1.0 ounce). |
| | 205 | Candy not chewy or does not have a grainy interior. |
| | | <u>Type II, Style B, Toffee, chocolate flavored, Cube</u> |
| | 206 | Five pieces not individually packaged with a minimum net weight of 40 grams (1.4 ounces). |
| | 207 | Candy not soft or not a chewy texture or does not have a grainy interior. |
| | 208 | Candy not a cube or dimensions not (1 inch by 1 inch by 1/2 inch \pm 1/8 inch). |
| | | <u>Type III, Flavor 2, Toffee, with walnuts, Cube</u> |
| 103 | | Candy not a medium to dark brown cube (1 inch by 1 inch by 1/2 inch \pm 1/8 inch) with light tan walnut bits uniformly distributed throughout. |
| 104 | | Candy not a slight maple caramel odor or not a sweet, slight caramel, maple, walnut, vanilla flavor. |

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TABLE I. Product defects 1/ 2/ - Continued

| Category | Defect |
|--------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <u>Major</u> | <u>Minor</u> |
| | 209 Five pieces not individually packaged with a minimum net weight of 40 grams (1.4 ounces). |
| | 210 Candy not soft or not chewy with semi-firm walnut bits. |
| | 211 Candy does not have a smooth exterior or does not have a grainy interior. |
| 105 | <u>Type IV, Hard candy, fruit tablets</u> Candy not a variety of fruit flavored tablets. |
| 106 | Candy not a slightly sweet, fruity odor or not a sweet, fruity flavor. |
| | 212 Style A candy not individually wrapped or not overwrapped in units of ten to form a bar. |
| | 213 Style B candy not individually wrapped or not overwrapped in units of ten to form a bar. |
| | 214 Candy not hard. |
| 107 | <u>Type VI, Pan coated candy, General</u> Pan coated candy easily crushed or broken or candy coating not of sufficient hardness to prevent crushing or cracking. |
| | 215 Candy shell does not have a high gloss. 3/ |
| | 216 Pan coated candy colors are not vibrant or are mottled. |
| | 217 Pan coated candy exhibit excessive seepage of material through the coating. |
| | 218 Pan coated candy coating exhibits pits, holes, or cracks. |

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TABLE I. Product defects 1/ 2/ - Continued

| Category | Defect | |
|--------------|--------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <u>Major</u> | <u>Minor</u> | |
| | 219 | For style A, pan coated candy disks do not resemble a double-convex lens shape. |
| 108 | | <u>Type VI, Style A, Flavor 1, Pan coated candy, Disks, Milk chocolate, plain</u> Candy coating not sweet or candy center not a slightly sweet milk chocolate odor or flavor. |
| | 220 | Candy not at least five different colors of loose disks. |
| 109 | | <u>Type VI, Style A, Flavor 2, Pan coated candy, Disks, Fruit flavored, General</u> Candy not a sweet, fruity odor or flavor, as applicable. |
| | 221 | Candy center not firm or not chewy. |
| | 222 | Candy center hard or brittle. |
| | 223 | Candy not at least five various flavors or colors of loose disks. |
| 110 | | <u>Type VI, Style A, Flavor 2, Flavor Style d, Pan coated candy, Disks, Fruit flavored, Sour</u> Candy not a mild to moderately sweet, or not sour or not fruit odor or flavor. |
| | 224 | Disks do not have an evenly distributed coating of fine sugar. |
| 111 | | <u>Type VI, Style A, Flavor 4, Pan coated candy, Disks, Peanut butter, plain</u> Candy coating not sweet or candy center not a peanut butter odor or flavor. |
| 112 | | Candy not a peanut butter center or not covered with a thin candy shell. |
| | 225 | Candy not at least three different colors of uniformly shaped loose disks. |

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TABLE I. Product defects 1/ 2/ - Continued

| Category | | Defect |
|--------------|--------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <u>Major</u> | <u>Minor</u> | |
| 113 | | <u>Type VI, Style A, Flavor 5, Pan coated candy, Disks, Cinnamon</u> Candy not a hot cinnamon/cinnamic, sweet flavor. |
| 114 | | Candy center not hard or not covered with a hard candy shell. |
| 115 | | Candy not uniformly shaped or not a red color. |
| | 226 | Candy not uniformly shaped loose disks. |
| 116 | | <u>Type VI, Style B, Flavor 1, Pan coated candy, Oval/Round, Milk chocolate with peanuts</u> Candy center not a roasted peanut coated with chocolate or not covered with a thin candy shell. |
| 117 | | Candy not a slightly sweet, milk chocolate, peanut odor or flavor. |
| | 227 | Candy not at least five different colors. |
| 118 | | <u>Type VI, Style B, Flavor 2, Pan coated candy, Oval/Round, Dark chocolate covered coffee beans</u> Candy not a roasted coffee bean coated with dark chocolate or not covered with a pan coated thin candy shell. |
| 119 | | Candy dark chocolate coating not a slightly sweet dark chocolate odor or flavor. |
| 120 | | Candy coffee bean center not a rich, slightly bitter roasted coffee bean odor or flavor. |
| | 228 | Candy shell not a glossy sheen. |
| | 229 | Candy coffee bean center hard or not crunchy. |
| | 230 | Candy not a minimum net weight of 28 grams (1.0 ounce). |

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TABLE I. Product defects 1/ 2/ - Continued

| Category | | Defect |
|--------------|--------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <u>Major</u> | <u>Minor</u> | |
| 121 | | <u>Type VI, Style C, Pan coated candy, Flat bottom tear drop</u> Candy not a milk chocolate center covered by a thin candy shell. |
| 122 | | Candy coating not sweet flavor or candy center not a milk chocolate odor or flavor. |
| | 231 | Candy not at least five various colors of loose flat bottom tear drops. |
| 123 | | <u>Type VIII, Starch jelly candy, assorted flavors</u> Five piece package does not contain at least four of the following flavors: orange, lemon, lime, cherry, pineapple, grape. |
| | 232 | Candy not sanded. |
| | 233 | Candy not five pieces laid end to end overwrapped to form a bar. |
| 124 | | <u>Type IX, Peanut bar</u> Candy bar not a fresh peanut flavor or odor. |
| 125 | | Candy bar less than 40 percent by weight of peanuts. |
| 126 | | Candy bar not hard or not glossy or not a golden color. |
| | 234 | Candy bar not overwrapped to form a bar. |
| 127 | | <u>Type X, Style B, Flavor 1, Cherry, Licorice style candy</u> Candy not a sweet cherry odor or flavor. |
| | 235 | Candy color not red. |
| | 236 | Candy dimensions not (3/4 inch by 5/8 inch ± 1/8 inch). |
| | 237 | Candy not glossy or does not have a soft chewy texture. <u>Type XI, Style B, Mint candy, Rings</u> |

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TABLE I. Product defects 1/ 2/ - Continued

| Category | | Defect |
|--------------|--------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <u>Major</u> | <u>Minor</u> | |
| 128 | | Candy does not have a hole in the center. |
| 129 | | Candy does not have sweet mint odor or flavor characteristic of the flavor specified. |
| | 238 | Candy not firm or candy is hard or is brittle. |
| | 239 | Candy not individually packaged in a moisture-proof transparent material. |
| | 240 | Nine candies not a minimum net weight of 32 grams. |
| 130 | | <u>Type XII, Style A, Caffeinated mints, Round tablets</u> Candy not a sweet mint odor or flavor. |
| | 241 | Candy not flat or not intact. |
| | 242 | Candy diameter greater than 13 millimeters (0.5 inches). |
| | 243 | Candy not white in color. |
| | 244 | Candy texture not a hard initial bite or break, or shatters when chewing. |
| | 245 | Candy not 10 to 12 tablets. |
| 131 | | <u>Type XII, Style B, Caffeinated mints, Round tablets, sugar free</u> Candy does not have a strong peppermint odor or flavor or does not have a sweet flavor. |
| | 246 | Candy not white in color. |
| | 247 | Candy not intact. |
| | 248 | Candy texture not hard or does not dissolve slowly in the mouth. |
| | 249 | Candy individual net weight per piece not 1.8 grams (0.06 ounces). |

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TABLE I. Product defects 1/ 2/ - Continued

| Category | | Defect |
|--------------|--------------|-----------------------------------------------------------------------------------------------|
| <u>Major</u> | <u>Minor</u> | |
| | 250 | Candy diameter greater than 16 mm (0.6 inches). |
| | 251 | Nine gram (0.31 ounces) package not 5 tablets or 11 gram (0.38 ounces) package not 6 tablets. |

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/ For Type VI, Style A, Flavor 2, Flavor style d, Candy shell does not have a high gloss shall not be scored as a defect due to disks having an evenly distributed coating of fine sugar.

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 hedonic scale to be considered acceptable.

(2) Net weight examination.

a. Commercially packaged product. The net weight shall be verified with the label on the commercial package. Product not conforming to the net weight requirement as specified in A-A-20177E shall be cause for rejection of the lot.

b. Commercially packaged product overwrapped in a barrier pouch. The net weight of the filled and sealed pouches shall be determined by weighing each sample unit on a suitable scale tared with a representative empty pouch. Results shall be reported to the nearest 0.1 ounce or to the nearest 1 gram as applicable.

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(3) Analytical and microbiological testing. For all candy types specified, the following condition applies for analytical and microbiological testing:

a. For prepackaged product received from a supplier and is not further processed, the contractor will furnish a Certificate of Conformance (CoC) that the product meets all analytical and microbiological requirements. No additional testing is required. If the product is received in bulk and repackaged, analytical and microbiological requirements and procedures and testing shall be in accordance with A-A-20177E.

b. Salmonella content of Type VI, Style A, Flavor 4 shall be verified with a CoC.

c. Caffeine content of Type XII, Style B, Flavor 1 shall be verified with a producer's Certificate of Analysis (CoA).

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

A. Packaging.

(1) Pouch material certification. The pouch material shall be tested for these characteristics. A CoC may be accepted as evidence that the characteristics conform to the specified requirements.

| <u>Characteristic</u> | <u>Requirement paragraph</u> | <u>Test procedure</u> |
|----------------------------------------------------|------------------------------|-----------------------|
| Thickness of films for laminated material | D-1,A(1)a and D-1,A(2)a | ASTM D 2103 <u>1/</u> |
| Aluminum foil thickness | D-1,A(1)a and D-1,A(2)a | ASTM B 479 <u>2/</u> |
| 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 | FED-STD-595 <u>3/</u> |

1/ ASTM D 2103 Standard Specification for Polyethylene Film and Sheeting

2/ ASTM B 479 Standard Specification for Annealed Aluminum and Aluminum-Alloy Foil for Flexible Barrier, Food Contact, and Other Applications

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

(2) Unfilled preformed pouch certification. A CoC 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,B(1),a.

(3) Barrier pouch certification. For barrier pouch for Type XII, Style B, all material, construction and sealing requirements shall be verified by a CoC.

(4) Filled and sealed pouch examination. The filled and sealed pouches shall be examined for the defects listed in table II. The lot size shall be expressed in pouches. The sample unit shall be one pouch. The inspection level shall be I and the AQL, expressed in terms of defects per hundred units, shall be 0.65 for major defects and 2.5 for minor defects.

TABLE II. Filled and sealed pouch defects 1/

| Category | | Defect |
|--------------|--------------|-------------------------------------------------------------------------------------------------------------------|
| <u>Major</u> | <u>Minor</u> | |
| 101 | | Tear or 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 | | Not packaged as specified. |
| 108 | | Presence of stress cracks in the aluminum foil. 6/ 7/ |
| 109 | | Filled and sealed package for Type XII, Style B candy leaks. |

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| 201 | Label missing or incorrect or illegible. |
| 202 | Tear nick or notch or serrations missing or does not facilitate opening. |
| 203 | Seal width less than 1/8 inch but greater than 1/16 inch. |
| 204 | Presence of delamination. <u>3/</u> |
-

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.

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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).

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.

6/ Applicable to form-fill-seal pouches only.

7/ The initial examination shall be a visual examination of the closed package. Any suspected visual evidence of stress cracks in the aluminum foil (streaks, breaks, or other disruptions in the laminated film) shall be verified by the following physical examination. To examine for stress cracks, the inside surface of both tray-shaped bodies shall be placed over a light source and the outside surface observed for the passage of light. Observation of light through the pouch material in the form of a curved or straight line greater than 2 mm in length shall be evidence of the presence of stress cracks. Observation of light through the pouch material in the form of a curved or straight line 2 mm in length or smaller or of a single pinpoint shall be considered a pinhole. Observation of ten or more pinholes per pouch shall be evidence of material degradation.

B. Methods of inspection.

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(1) 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, Standard Test Method for Seal Strength of Flexible Barrier Materials. The lot size shall be expressed in pouches. The sample unit shall be one unfilled pouch. 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 classified as a major defect and 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 unit shall be one pouch. 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. 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 classified as a major defect and 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. The lot size shall be expressed in pouches. The sample unit shall be one pouch. 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

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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 II, footnote 2/) shall be considered a test failure. Any test failure shall be classified as a major defect and shall be cause for rejection of the lot.

(2) Leakage test. For Type XII, Style B candy, filled and sealed pouches shall be tested by placing them in a dry desiccator, or similar apparatus, and subjecting them to a vacuum of 26 inches of mercury (atmospheric pressure is 29.9 inches of mercury) for 30 seconds. Any pouch that does not swell to form a tightly distended pouch having at least one distorted edge during the test shall be recorded as a leaker. After vacuum testing, the pouches shall be visually inspected for evidence of delamination and for seal separation. Any leakage, any delamination, or any seal separation of more than 1/16 inch from the product edge of any seal shall be recorded as a major defect. This test is not applicable for blister packages.

C. Packing.

(1) Shipping container and marking examination. The filled and sealed shipping containers shall be examined for the defects listed in table III below. The lot size shall be expressed in shipping containers. The sample unit shall be one shipping container fully packed. The inspection level shall be S-3 and the AQL, expressed in terms of defects per hundred units, shall be 4.0 for major defects and 10.0 for total defects.

TABLE III. Shipping container and marking defects

| Category | | Defect |
|--------------|--------------|--------------------------------------------|
| <u>Major</u> | <u>Minor</u> | |
| 101 | | Marking missing or incorrect or illegible. |
| 102 | | Inadequate workmanship. 1/ |
| | 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.

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SECTION J REFERENCE DOCUMENTS

Unless otherwise specified, the issues of these documents are those active on the date of the solicitation or contract.

DSCP FORMS

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

FEDERAL STANDARD

FED-STD-595 Colors Used in Government Procurement

NON-GOVERNMENTAL STANDARDS

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

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

ASTM INTERNATIONAL www.astm.org

| | |
|--------|---------------------------------------------------------------------------------------------------------------------------------|
| B 479 | Standard Specification for Annealed Aluminum and Aluminum-Alloy Foil for Flexible Barrier, Food Contact, and Other Applications |
| D 1238 | Standard Test Method for Melt Flow Rates of Thermoplastics by Extrusion Plastometer |
| D 1505 | Standard Test Method for Density of Plastics by the Density-Gradient Technique |

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| D 1974 | Standard Practice for Methods of Closing, Sealing, and Reinforcing Fiberboard Boxes |
| D 2103 | Standard Specification for Polyethylene Film and Sheeting |
| D 4727/D 4727M | Standard Specification for Corrugated and Solid Fiberboard Sheet Stock (Container Grade) and Cut Shapes |
| D 5118/D 5118M | Standard Practice for Fabrication of Fiberboard Shipping Boxes |
| F 88 | Standard Test Method for Seal Strength of Flexible Barrier Materials |

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For DLA Troop Support - Subsistence Website Posting

RDNS-CFF

16 May 2011

TO: DLA Troop Support- Subsistence DSCP-FTRE

SUBJECT: ES11-071 (DSCP-SS-11-40756); Request change to overwrapped candy in Packaging Requirements and Quality Assurance Provisions (PKG & QAP) for CID A-A-20177E Candy and Chocolate Confections; PKG & QAP for CID A-A-20298B Beef and Turkey Snacks, Cured; for use in Meal, Ready-to-Eat™

Date received: 12 April 2011

Date due: 27 April 2011

Date extended: 16 May 2011

Date replied: 16 May 2011

1. The request from the contractor to use the same packaging statement that is in PKG & QAP for A-A-20298B Beef and Turkey Snacks, Cured, Section D-1, A, 2(b) has been evaluated and Natick concurs to change the PKG & QAP for CID A-A-20177E Candy and Chocolate Confections.
2. As specified in the beef snacks document, the dimensions of the overwrap pouch should be predicated on the size of the item being packaged, which packaging equipment provides the best economic approach (as best determined by the assembler); and whether the menu assembly packing process is impacted by the candy package dimensions (also best determined by the assembler).
3. Natick submits the following change to PKG & QAP CID A-A-20177E for all current, pending and future procurements until the document is formally amended or revised:
 - a. Section D-1, A, 2(b), sentence 8, line 12, delete "The maximum outside dimensions of the sealed pouch shall be 6 inches wide by 7-1/4 inches long.", and insert new sentence: "The dimensions of the pouches shall accommodate the commercially packaged candy(ies)."
4. Attached is Change 03, PKG & QAP CID A-A-20177E, dated 16 May 2011 with changes highlighted.