

SECTION C

This document covers chewing gum 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-20175B CHEWING GUM

Type, size, class, and flavors.

- Type I - Tablet
- Size B - Regular
- Class 1 - Regular
- Class 2 - Sugarfree
- Flavor a - Peppermint
- Flavor b - Spearmint
- Flavor c - Cinnamon

Packages.

- Package A - Meal, Cold Weather (MCW)
- Package B - Food Packet, Long Range Patrol (LRP)
- Package C - Meal, Ready-To-Eat (MRE)
- Package F - Food Packet Survival, Aircraft, Life Raft

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 the 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

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 requirements.

(1) Xylitol content. The xylitol content of two pieces of gum for Type I, Size B, Class 2, Flavor A or C shall be 1.7 grams minimum to 2.2 grams maximum.

C-3 MISCELLANEOUS INFORMATION

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

A. Ingredients.

(1) Type I, Size B, Class 2, Flavor a. Ingredients may be as follows: xylitol, sorbitol, gum base, mannitol, maltitol syrup, natural and artificial flavors, soy lecithin, gum arabic, titanium dioxide color, aspartame (contains phenylalanine), acesulfame K, beeswax, shellac, carnauba wax, BHT (to preserve freshness).

(2) Type I, Size B, Class 2, Flavor c. Ingredients may be as follows: xylitol, sorbitol, gum base, mannitol, maltitol syrup, natural and artificial flavors, soy lecithin, gum arabic, titanium dioxide color, aspartame (contains phenylalanine), acesulfame K, red #40, beeswax, shellac, carnauba wax, BHT (to preserve freshness).

SECTION D

D-1 PACKAGING

A. Packaging. The packaging requirements refer to all flavors, types and classes of product. Two tablets shall be packaged in a plastic wrapper or a paperboard box in accordance with good commercial practice.

D-2 LABELING

A. Labeling. Labeling of product shall be in accordance with good commercial practice.

D-3 PACKING

A. Packing for shipment to ration assembler. Not more than 40 pounds of product shall be packed in a fiberboard box constructed and closed in accordance with style RSC-L, class domestic, variety SW, grade 200 of ASTM D 5118/D 5118M-95 (2001), Standard Practice for Fabrication of Fiberboard Shipping Boxes. Each container shall be securely closed in accordance with ASTM D 1974-98 (2003), Standard Practice for Methods of Closing, Sealing and Reinforcing Fiberboard Boxes.

D-4 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/ASQC Z1.4-1993, Sampling Procedures and Tables for Inspection by Attributes, are required. Unless otherwise specified, Single Sampling Plans indicated in ANSI/ASQC Z1.4-1993 will be utilized. When required, the manufacturer shall provide the certificate(s) of conformance to the appropriate inspection activity. Certificate(s) of conformance not provided shall be cause for rejection of the lot.

A. Definitions.

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

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

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

B. Classification of inspections. The inspection requirements specified herein are classified as follows:

(1) Product standard inspection. The first article or product demonstration model shall be inspected in accordance with the provisions of this document and evaluated for overall appearance and palatability. Any failure to conform to the performance requirements or any appearance or palatability failure, shall be cause for rejection of the lot. The approved first article or product demonstration model shall be used as the product standard for periodic review evaluations. All food components that are inspected by the USDA shall be subject to periodic review sampling and evaluation. The USDA shall select sample units during production of contracts and submit them to the following address for evaluation:

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

One lot shall be randomly selected during each calendar month of production. Twelve (12) sample units of each item produced shall be randomly selected from that one production lot. The twelve (12) 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 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 in A-A-20175B and specified in Section C of the Packaging Requirements and Quality Assurance Provisions 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

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.

TABLE I. Product defects 1/ 2/ 3/

Category		Defect
<u>Major</u>	<u>Minor</u>	<u>General</u>
101		Product not type, size, class, and flavor as specified.
102		Product not fresh.
		<u>Appearance</u>
	201	Appearance and color not as specified.
	202	Candy coating does not completely cover the centers.
	203	Candy coating has pits, cracks or is discolored.
		<u>Flavor</u>
103		Flavor not as specified.
		<u>Texture</u>
104		Texture sticky, grainy, flabby or stringy.
		<u>Weight</u>
	204	Net weight for product less than label statement.

1/ Presence of any foreign materials such as, but not limited to dirt, insect parts, hair, glass, wood, metal, or mold, or 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.

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/ Xylitol content of gum shall be verified with a producer's certificate of analysis.

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°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. The net weight shall be verified with certificate of conformance. Product not conforming to the net weight requirement as specified in A-A-20175B shall be cause for rejection of the lot.

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

A. Packaging and labeling.

(1) Filled and sealed package examination. The filled and sealed packages shall be examined for the defects listed in table II. The sample size shall be expressed in packages. The sample unit shall be one package. 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 package defects 1/

Category		Defect
<u>Major</u>	Minor	
101		Tear, hole or open seal.
102		Not two tablets of gum per package.
103		Gum not packaged in plastic wrapper or a paperboard box.
104		Unclean.
105		Package has foreign odor.
	201	Label is missing, incorrect, or illegible

1/ Any evidence of rodent or insect infestation 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
<u>Major</u>	<u>Minor</u>	
101		Marking omitted, incorrect, illegible, or improper size, location sequence or method of application..
102		Inadequate workmanship. <u>1/</u>
	201	More than 40 pounds of product.

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

SECTION J REFERENCE DOCUMENTS

DSCP FORMS

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

NON-GOVERNMENTAL STANDARDS

AMERICAN SOCIETY FOR QUALITY (ASQ)

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

ASTM International

D1974-98 (2003) Standard Practice for Methods of Closing,
Sealing, and Reinforcing Fiberboard Boxes

D5118/D5118M-95 (2001) Standard Practice for Fabrication of
Fiberboard Shipping Boxes