SECTION C

This document covers soluble coffee packaged 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-20184C COFFEE, SOLUBLE

Types, style, and packs.

Types.

Type II – Spray dried, agglomerated
Type III – Freeze dried

Style.

Style A – Regular

Packs.

Pack 1 – Four-sided seal envelope

Pack 2 – Lap or fin seal package

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 document. The approved sample shall serve as the product standard. Should the contractor at any time plan to or actually produce the product using different raw material or process methodologies from the approved product standard, which result in a product noncomparable to the product standard, the contractor shall submit a replacement FA or PDM for 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. Dry product.

(1) Appearance. The packaged product shall be free from foreign materials.

(2) Net weight. The net weight shall be not less than 1.5 grams.

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. Analytical requirements and physical tests. For all types specified, the sediment, particle size, caffeine, and moisture requirements, procedures, and testing shall be in accordance with A-A-20184C.

SECTION D

D-1 PACKAGING

A. Packaging.

(1) Four-sided seal individual serving envelope. A net weight of 1.5 grams product shall be unit packed into an envelope. The envelope shall be made from a heat-sealable, laminated material, one lamina of which shall be a minimum of 0.00035 inch thick aluminum foil. The envelope shall be heat sealed on all four edges or on three edges with the fourth edge being formed by folding the material prior to filling. The filled and sealed envelope shall have dimensions of not more than 3-1/2 inches long by 2-1/2 inches wide. The seals shall be a minimum 1/8 inch in width. A tear nick, notch, or 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(1).

(2) Lap or fin seal individual serving package. A net weight of 1.5 grams of product shall be unit packed into a lap or fin seal package. The lap or fin seal package shall be a heat-sealable, laminated material, one lamina of which shall be a minimum of 0.00035 inch thick aluminum foil. The package shall be heat sealed with a length-wise lap or fin seal and heat sealed at each end. The filled and sealed package shall have dimensions of not more than 4-3/4 inches long by 7/8 inches wide. All seals shall be a minimum of 1/8 inch in width. A tear

nick, notch, or 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(1).

D-2 LABELING

A. Envelopes or packages. Each envelope or package 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 of product (letters not less than 1/8 inch high)
(2) Ingredients
(3) Date 1/
(4) Net weight
(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.

(7) Directions:
Allow water just chemically purified to stand 30 minutes before adding product. Add product to 6 ounces (1/4 canteen cup) of hot or cold water and stir.

1/ Each envelope or package 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 2015 would be coded as 5045. The Julian day code shall represent the day the product was packaged into the envelope or package.

NOTE: Commercial graphics (colors, design, and labeling) shall be submitted to the Contracting Officer for review and approval and to US Army Research, Development and Engineering Command Natick Soldier Research, Development and Engineering Center (RDNS-SEC-F) for review.

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 D5118/D5118M, Standard Practice for Fabrication of Fiberboard Shipping Boxes. The fiberboard shall conform to type CF, class D, variety SW, burst grade 200 or ECT grade 32 of ASTM D4727/D4727M, Standard Specification for Corrugated and Solid Fiberboard Sheet Stock (Container Grade)

and Cut Shapes. Each box shall be closed in accordance with ASTM D1974/1974M, Standard Practice for Methods of Closing, Sealing, and Reinforcing Fiberboard Boxes.

D-5 MARKING

A. Shipping containers. Shipping containers shall be marked in accordance with DLA Troop Support 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/ASQZ1.4 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 appearance, odor, flavor, and texture. Any failure to conform to the performance requirements or any appearance or palatability failure shall be cause for rejection of the lot.

(2) Periodic review evaluation. 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 Research, Development and Engineering Center
RDNS-SEC-F
15 Kansas Street
Natick, MA 01760-5056

One lot shall be randomly selected during each calendar month of production or as otherwise specified in the contract. Three (3) sample units shall be randomly selected from that one production lot. The three (3) sample units shall be shipped to Natick within five (5) working days from the end of the production month from which they are randomly selected and upon completion of all USDA inspection requirements. The sample units will be evaluated for overall quality against the current first article or product demonstration model.

(3) Conformance inspection. Conformance inspection shall include the examinations/tests and 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-20184C 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 envelopes or packages. The sample unit shall be the contents of one envelope 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.

TABLE I. Product defects 1/ 2/

Category	Defect

Major	Minor	
101		Product not type or not style or not pack as specified.
		Dry product
		Appearance
	201	Product does not have a granular appearance.
		Texture
	202	Product not free flowing.
	203	Presence of lumps which do not compress with light pressure.
		Net weight
	204	Net weight less than 1.5 grams.
		Hydrated product 3/
		Appearance
102		Product not smooth or not free of discernible lumps or sediment.
	205	Product does not fully dissolve in hot or cold water with constant stirring and show no evidence of undissolved floating particles.
	206	Product not a brownish-black coffee color.
		Flavor and odor
103		Product does not have a characteristic coffee flavor or odor.

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. Palatability is not applicable to dry product.

3/ Prior to conducting the hydrated product examination, the product shall be hydrated per label instructions. Product that does not fully dissolve within 2 minutes with constant stirring 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 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 quality scale to be considered acceptable.

(2) Net weight. The net weight of the filled and sealed envelopes or packages shall be determined by weighing each sample on a suitable scale tared with a representative empty envelope or package. Results shall be reported to the nearest 0.1 gram.

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

A. Packaging and labeling.

(1) Envelope or package material certification. Conformance to envelope material requirements shall be determined by Certificate of Conformance.

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

Category		Defect
Major	Minor	
101		Tear or hole or open seal.

102		Seal width less than 1/16 inch. 2/
103		Seal separation. 2/
104		Presence of delamination. 3/
105		Envelope not heat sealed with minimum 1/8 inch wide seals.
106		Unclean envelope or package. 4/
107		Leakage. 5/
	201	Envelopes or packages exceed maximum dimensions.
	202	Label missing or incorrect or illegible.
	203	Presence of delamination. 3/
	204	Tear nick or notch or serrations missing or does not facilitate opening.
108		Envelope or package has foreign odor.

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 package seal area that can be propagated to expose inner barrier film at the food product edge of the package 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 package 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 package 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 package and remove the contents. Cut the package transversely not closer than 1/4 inch (±1/16 inch) from the delaminated area. The package 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 package 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 package seal area or isolated spots of delamination in the body of the package 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 package damage (for example, glass, metal filings) or generally detracts from the clean appearance of the package. The following examples shall not be classified as defects for unclean:

a. Foreign matter which presents no health hazard or potential package damage and which can be readily removed by gently shaking the package or by gently brushing the package with a clean dry cloth.

b. Dried product that affects less than 1/8 of the total surface area of one package face (localized and aggregate).

5/ Examine envelopes or packages after removal from leakage test apparatus.

B. Methods of Inspection.

(1) Leakage test. The filled and sealed envelopes or packages shall be tested by placing them in a dry desiccator, or similar apparatus, and subjecting them to a vacuum of minimum 20 inches of mercury (atmospheric pressure is 29.9 inches of mercury) for 30

seconds. Any envelope or package that does not swell to form a tightly distended package having at least one distorted edge during the test shall be recorded as a leaker. After vacuum testing, the envelopes or packages 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.

C. Packing.

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

SECTION J REFERENCE DOCUMENTS

Unless otherwise specified, the applicable version of these documents is that which is active on the date of the solicitation or contract.

DLA Troop Support Form

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

NON-GOVERNMENTAL STANDARDS

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

ANSI/ASQZ1.4	Sampling Procedures and Tables for Inspection by Attributes

ASTM International www.astm.org

D1974/D1974M	Standard Practice for Methods of Closing, Sealing, and Reinforcing Fiberboard Boxes
D4727/D4727M	Standard Specification for Corrugated and Solid Fiberboard Sheet Stock (Container Grade) and Cut Shapes
D5118/D5118M	Standard Practice for Fabrication of Fiberboard Shipping Boxes