

## **SECTION C**

This document covers spices and spice blends packaged in an envelope 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-20001B SPICES AND SPICE BLENDS**

Types, classes, forms, seasoning blends.

Type I – Spices

Class Z – Pepper, Red

Form 3 – Crushed

Type II – Spice Blends

Class D – Seasoning Blend, Salt Free

Blend (1) – With herbs and citrus

Class E – Barbecue Seasoning

Class M – Pizza Seasoning

### **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. Odor and flavor. Type II, Class D, Blend (1), seasoning blend, salt free, with herbs and citrus shall have a slight pungency, with a garlic and pepper odor and flavor with mild herbs and citrus scent.

D. Texture. Type I, Class Z, Form 3, crushed red pepper and Type II, Class E, barbecue seasoning shall be dry and free-flowing.

E. Net weight.

(1) Net weight of one serving of Type I, Class Z, Form 3, crushed red pepper shall be not less than 1.0 gram.

(2) Net weight of one serving of Type II, Class D, Blend (1), seasoning blend, salt free, with herbs and citrus shall be not less than 0.6 gram.

(3) Net weight of one serving of Type II, Class E, barbecue seasoning shall be not less than 0.7 gram.

(4) Net weight of one serving of Type II, Class M, pizza seasoning shall be not less than 0.7 gram.

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

G. Analytical Requirements. For all types specified, the moisture, pass through particle size, and sieve number requirements and procedures and testing shall be in accordance with A-A-20001B.

## **SECTION D**

### **D-1 PACKAGING**

A. Packaging. Not less than 1.0 gram crushed red pepper, or not less than 0.7 gram of barbecue seasoning, or not less than 0.7 gram of pizza seasoning shall be filled into an envelope having maximum outside dimensions of 2 1/2 inches long by 2 inches wide. Not less than 0.6 gram of seasoning blend shall be filled into an envelope having maximum outside dimensions of 2 1/2 inches long by 1 1/2 inches wide. The envelope shall be made from a heat sealable barrier material, one layer of which is a minimum of 0.00035 inch thick aluminum foil. All four edges of the envelope shall be heat-sealed or on three edges with the fourth edge being formed by folding the material prior to filling. The seal width shall be a minimum of 1/8 inch. The sealed envelope shall exhibit no leakage when examined in accordance with E-6,B(1). There shall be no crushed, misshapen or unclean envelopes.

## **D-2 LABELING**

A. Labeling. Each envelope shall be correctly and legibly labeled. Printing ink shall 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
- (5) Name and address of packer

1/ Each envelope 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 2016 would be coded as 6045. The Julian day code shall represent the day the product was packaged into the envelope.

## **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/D1974M, 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/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 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. Six (6) sample units shall be randomly selected from that one production lot. The six (6) 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-20001B and Section C of this 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. The sample unit shall be the contents of one envelope. 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
<u>Major</u>	<u>Minor</u>	
		<u>Appearance</u>
101		Product not type or not class or not form or not seasoning blend as specified.
102		Type I, Class Z, Form 3, crushed red pepper not derived from dried, cut, red, ripe fruit of <i>Capsicum annum L.</i>
	201	Type I, Class Z, Form 3, crushed red pepper not red or not with a yellow seed color.
	202	Type I, Class Z, Form 3, crushed red pepper not a flake-like appearance.
	203	Type II, Class D, Blend (1) seasoning blend, salt free, with herbs and citrus not a mixture of small particles which are black, dark brown, green, orange, dark red or tan in color.
	204	Type II, Class E, barbecue seasoning not a reddish-brown powder.
	205	Type II, Class M, pizza seasoning not a blend of herbs with prominent red or green flakes.

TABLE I. Product defects 1/ 2/ - Continued

Category		Defect
<u>Major</u>	<u>Minor</u>	
		<u>Odor and flavor</u>
103		Type I, Class Z, Form 3, crushed red pepper does not possess a pungent odor.
104		Type I, Class Z, Form 3, crushed red pepper does not have a characteristic hot flavor.
105		Type II, Class D, Blend (1) seasoning blend, salt free, with herbs and citrus does not have a slight pungency, with a garlic and pepper odor or flavor with mild herbs and citrus scent.
106		Type II, Class E, barbecue seasoning does not possess a spicy or salty or slightly sweet flavor or not with a hint of garlic, onion, and hickory smoke.
107		Type II, Class M, pizza seasoning does not possess a cheesy medium pungent flavor or odor or not with hints of garlic or onion or Italian herbs.
		<u>Texture</u>
	206	Type I, Class Z, Form 3, crushed red pepper not dry or not free-flowing.
	207	Type II, Class D, Blend (1) seasoning blend, salt free, with herbs and citrus not free-flowing or not granular.
	208	Type II, Class E, barbecue seasoning not dry or not free-flowing.
	209	Type II, Class M, pizza seasoning not dry or not free-flowing.
		<u>Net weight</u>
	210	Net weight of one serving of Type I, Class Z, Form 3, crushed red pepper less than 1.0 gram.
	211	Net weight of one serving of Type II, Class D, Blend (1), seasoning blend, salt free, with herbs and citrus less than 0.6 gram.

TABLE I. Product defects 1/ 2/ - Continued

Category		Defect
<u>Major</u>	<u>Minor</u>	
	212	Net weight of one serving of Type II, Class E, barbecue seasoning less than 0.7 gram.
	213	Net weight of one serving of Type II, Class M, pizza seasoning less than 0.7 gram.

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.

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 shall be determined by weighing each sample on a suitable scale tared with a representative empty envelope. 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 material certification. Conformance to envelope material requirements shall be determined by a Certificate of Conformance (CoC).

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

Category		Defect
<u>Major</u>	<u>Minor</u>	
101		Tear or hole or open seal or sifter. <u>2/</u>
102		Envelopes exceed maximum length and width as specified.
103		Seal separation. <u>3/</u>
104		Delamination. <u>3/</u>
105		Envelope not heat sealed on all four edges or on three edges with the fourth edge being formed by folding the material prior to filling with minimum 1/8 inch wide seals.
106		Unclean envelope.
107		Envelope has foreign odor.
108		Seal width less than 1/8 inch. <u>4/</u>
	201	Label missing or incorrect or illegible.
	202	Envelope crushed or misshapen.

1/ Any evidence of rodent or insect infestation shall be cause for rejection of the lot.

2/ A sifter is an envelope which loses any amount of contents when shaken vigorously.

3/ Examine envelope after removal from leakage test apparatus.

4/ The effective closure seal is defined as any uncontaminated, fusion bonded, continuous path, minimum 1/8 inch wide, from side seal to side seal that produces a hermetically sealed envelope.

B. Methods of inspection.

(1) Leakage test. The filled and sealed envelopes 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 envelope 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 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 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
<u>Major</u>	<u>Minor</u>	
101		Marking missing or incorrect or illegible.
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**

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
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NON-GOVERNMENTAL STANDARDS

AMERICAN SOCIETY FOR QUALITY (ASQ) [www.asq.org](http://www.asq.org)

ANSI/ASQ Z1.4	Sampling Procedures and Tables for Inspection by Attributes
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ASTM INTERNATIONAL [www.astm.org](http://www.astm.org)

D1974/D1974M	Standard Practice for Methods of Closing, Sealing, and Reinforcing Fiberboard Boxes
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D4727/D4727M	Standard Specification for Corrugated and Solid Fiberboard Sheet Stock (Container Grade) and Cut Shapes
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D5118/D 5118M	Standard Practice for Fabrication of Fiberboard Shipping Boxes
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