

INCH-POUND

A-A-20184

November 19, 1993

COMMERCIAL ITEM DESCRIPTION

COFFEE, INSTANT

The U.S. Department of Agriculture has authorized the use of this Commercial Item Description in preference to Federal Specification HHH-C-575.

This Commercial Item Description (CID) covers instant coffee, packed in commercially acceptable containers, suitable for use by the Federal Government.

Salient characteristics.

The instant coffee shall conform to the following types and styles as specified in the solicitation, contract, or purchase order.

Types.

- Type I - Spray dried, powdered
- Type II - Spray dried, agglomerated
- Type III - Freeze dried

Styles.

- Style A - Regular
- Style B - Decaffeinated

The roasted and ground coffee from which the instant coffees are derived shall be made from coffee received in the raw or green bean state. Raw or green coffee beans are defined as the naked dried coffee seed commercially (no less than Grade 8 as measured by the procedure of the FDA Technical Bulletin No. 5 - Microanalytical Procedures Manual, Chapter V, 1984.) free from external layers (skin, pulp, husk, mucilage, parchment, and silver skin). The blends

Beneficial comments, recommendations, additions, deletions, clarifications, etc., and any data which may improve this document should be sent to:
Commander, U.S. Army Natick Research, Development, and Engineering Center,
ATTN: SATNC-WTP, Natick, MA 01760-5018.

FSC 8955

DISTRIBUTION STATEMENT A. Approved for public release; distribution is unlimited.

A-A-20184

shall be of such growth or growths and grade as to produce an end product cup quality free of Rioy or other objectionable flavors.

The coffee beans shall be processed using concentrating, and either spray or freeze drying. Unless otherwise specified by the contracting officer, processing shall be performed domestically.

When specified, coffee shall be decaffeinated using Good Manufacturing Practice, and following Food, Drug, and Cosmetic Act Guidelines. Decaffeinated coffee shall have a maximum 0.3 percent caffeine. The instant coffee shall have not more than 2.5 milligrams of coffee sediment on disk, when compared to sediment disk 3 (See Analytical requirements, Sediment Test Method).

When rehydrated by the addition of water at a temperature between 185°F (85°C) to just below the boiling point, all types shall produce a cup of coffee that has the characteristic flavor and aroma of high quality instant coffee. The prepared beverage shall be practically free from Rioy, caramelized, burnt, straw-like, fermented, musty, or any other objectionable flavor or odor.

Type I shall be a spray dried powder and shall be a high quality coffee. Regular style coffee shall have a minimum caffeine content of 3.2 percent on a dry weight basis. The spray dried powder shall have a maximum 3.0 percent moisture.

Type II spray dried particles shall be agglomerated with steam to form a granular appearing product. Regular style coffee shall have a minimum caffeine content of 3.2 percent on a dry weight basis. The spray dried granules shall have a maximum 5.0 percent moisture.

Type III freeze dried soluble coffee shall be a high quality coffee processed mainly by sublimation during drying. The extract shall be frozen and then freeze dried in a low temperature vacuum system by sublimation from the ice crystal structure to remove most of the water. Regular style freeze dried coffee shall have a minimum caffeine content of 2.2 percent. The freeze dried coffee shall have a maximum 2.6 percent moisture. When specified for Department of Defense procurements, the Type III coffee shall be screened to a particle size meeting the following requirements:

<u>U.S. Standard sieve size</u>	<u>Percent retained</u>
8	0
12	20 maximum
40	80 ± 15
Pan	15 maximum

A-A-20184

Analytical requirements.

Chemical analyses shall be made in accordance with the specified source.

<u>Test</u>	<u>Source</u>	<u>Method</u>
Moisture <u>1/</u>	Official Methods of Analysis of the AOAC Chapter: Coffee and Tea	979.12
Caffeine	Official Methods of Analysis of the AOAC Chapter: Coffee and Tea	930.08
Sediment <u>2/</u>	7 CFR 58 Subpart T, Paragraph 58.2729 - United States Sediment Standards for Milk and Milk Products	

Particle size 3/

1/ Temperature during drying shall be 140° to 158°F (60° to 70°C) under a pressure of 3.9 inches to 5.9 inches (9.906 to 14.986 cm) Hg.

2/ The procedure to determine the amount of sediment on disk shall be as follows:

Weigh 5.0 grams of instant coffee into a clean 250 mL beaker. Add 200 mL of 185 - 212°F (85 - 100°C) distilled water. Stir until coffee is completely dissolved. Filter the hot coffee through a sediment filtering apparatus (See note below.) The coffee solution shall not be less than 140°F (60°C) at the time of filtration. The filtering apparatus shall hold 1-1/4 inch (3.175 cm) sediment disc and have an effective filtering area with a 1-1/8 inch (2.8575 cm) diameter. The 1-1/8 inch (2.8575 cm) diameter filtering area must be unobstructed except for a wire screen or wire screen and perforated plate support for filter disc, and constructed so that no sample being filtered can bypass the filtering material. Rinse the beaker and the sediment tester with 185°F (85°C) distilled water (not to exceed 200 mL) so as to transfer all sediment to the surface of the filter material and to rinse out all of the soluble coffee from the filter. Carefully remove the filter containing the sediment from apparatus and air dry the filter. Compare the dried filter with the photographs of the United States Sediment Standards for Milk and Milk Products (7 CFR 58.2729 - prepared in cooperation with the U.S. Food and Drug Administration and the American Public Health Association).

NOTE: The sediment testing apparatus used in performing the sediment test is a Model KL Sediment tester, available from The Sediment Testing Equipment and Supply Company, 7366 North Greenview Avenue, Chicago, Illinois 60626, or its equivalent. The filter material used can also be obtained from the same

A-A-20184

company or Lintine Brand, available from Filter Fabrics, 814 E. Jefferson Avenue, Goshen, Indiana 46526, or their equivalent.

3/ When required, the procedure for determining the particle size of the Type III product shall be as follows:

Assemble sieves and collecting pan in the following order from top to bottom; U.S. Standard Sieve No. 8, No. 12, No. 40, and pan. Place the weighed contents (to nearest gram) of a sample package on the top sieve and attach lid. Place assembly in a Ro-tap or equivalent mechanical shaking device and shake for 1 minute, in a room in which the relative humidity does not exceed 40 percent. Weigh product remaining on each sieve and in the collecting pan respectively. Calculate results in percentage and report results to nearest 1 percent.

Contractor's certification.

By submitting an offer, the contractor certifies that the product offered meets the specified salient characteristics and requirements of this CID; conforms to the producer's own specifications and standards, including product characteristics, manufacturing procedures, quality control procedures, and storage and handling practices; has a national or regional distribution from storage facilities located within the United States, its territories, or possessions; and is sold on the commercial market. The Government reserves the right to determine proof of such conformance prior to the first delivery from point of origin and any time thereafter, up to and including delivery at final destination, as may be necessary to determine conformance with the provisions of the contract.

Regulatory requirements.

The delivered product shall comply with all applicable Federal and State mandatory requirements and regulations relating to the preparation, packaging, labeling, storage, distribution, and sales of the product within the commercial marketplace. Delivered product shall conform in every respect to the provisions of the Federal Food, Drug, and Cosmetic Act and regulations promulgated thereunder.

Quality assurance.

When the solicitation, contract, or purchase order requires that product quality or acceptability or both be determined, the Processed Products Branch (PPB), Fruit and Vegetable Division, Agricultural Marketing Service, U.S. Department of Agriculture, shall be the certifying activity and shall make the determination in accordance with applicable PPB procedures. The product shall be examined or analyzed or both in accordance with applicable provisions in the CID, and when applicable, the United States Standards for Condition of Food Containers.

A-A-20184

Preservation, packaging, packing, labeling, and marking.

The coffee shall be preserved, packaged, packed, labeled, and cases marked in accordance with good commercial practice. Commercial labeling and packaging, as may be augmented by the solicitation, contract, or purchase order, shall be acceptable. Shipping containers shall comply with the National Motor Freight Classification or Uniform Freight Classification, as applicable.

For Department of Defense procurements (Only).

Bid sample approval. Unless otherwise specified, 32 duplicate individual samples each of the Type I or III product in envelopes that the contractor proposes to furnish, packaged in accordance with the document requirements, shall be submitted to the contracting officer who will forward them to the U.S. Army Natick Research, Development, and Engineering Center, (ATTN: SATNC-WTP), Natick, MA 01760-5018 for bid sample evaluation. Twelve duplicate envelopes of product shall be submitted to the contracting officer, and shall be used as approved reference samples for determining the acceptability of deliveries, as concerns palatability. Bid samples must meet all document requirements prior to being submitted for evaluation of palatability and overall appearance. The approval of any bid sample for palatability and overall appearance will not constitute approval of the sample as meeting the other requirements of this document.

Examination of net weight of individual serving coffee.

The individual serving envelopes shall be examined for the net weight defect listed in Table II. The sampling plan shall be as indicated by Table I.

TABLE I. **Sampling plan for net weight examination for individual serving coffee**

Lot size (individual serving envelopes)	Sample size (envelopes)	Defect category Minor	
		<u>Accept</u>	<u>Reject</u>
0 to 1,200	20	1	2
1,201 to 10,000	32	2	3
10,001 to 35,000	50	3	4
35,001 to 500,000	80	5	6
500,001 and over	125	7	8

A-A-20184

TABLE II. Net weight defect for individual serving coffee

Category	Defect
<u>Minor</u>	
201	Less than 2.1 grams in individual serving envelope (applicable to Type I) <u>1/</u>
202	Less than 1.6 grams in individual serving envelope (applicable to Type III) <u>2/</u>

1/ The lot shall be rejected if the sample average net weight is less than 2.2 grams.

2/ The lot shall be rejected if the sample average net weight is less than 1.7 grams.

Examination of individual serving envelope. The individual serving envelope of coffee shall be inspected in accordance with the sampling plan as indicated by Table III. The individual serving envelope shall be examined for the defects listed in Table IV. Samples shall be selected at random.

TABLE III. Sampling plan for examination of individual serving coffee

Lot size (individual serving envelopes)	Sample size (envelopes)	Defect category Major	
		<u>Accept</u>	<u>Reject</u>
1,200 or less	32	1	2
1,201 to 3,200	50	2	3
3,201 to 10,000	80	3	4
10,001 to 35,000	125	5	6
35,001 to 150,000	200	7	8
150,001 to 500,000	315	10	11
500,001 or more	500	14	15

A-A-20184

TABLE IV. Individual serving coffee defects

Category	Defect
<u>Major</u>	
101	Tear, hole, or open seal in envelope.
102	Envelope material(s) not as specified.
103	Envelope not sealed or closed as specified.
104	Individual envelopes that stick together and that tear when separated.

Examination for count of individual serving envelopes for shipment to MRE ration assembler.

Five shipping containers shall be selected at random from the lot and the contents shall be counted. The lot shall be rejected if the sample average count is less than specified. Alternatively, any method which will ensure compliance with specified requirements will be acceptable.

Intermediate package examination of individual serving coffee for Tray Pack Meal Module.

Five shipping containers shall be selected at random from the lot. Five intermediate packages shall be selected at random from each shipping container. The intermediate packages shall be examined for compliance to requirements for closure and number of individual serving envelopes per intermediate package. Any nonconformance shall be cause for rejection of the lot.

The following requirements are applicable when specified by the contracting officer.

A. Commercial packaging.

- (1) Individual serving envelope. A net weight of 2.2 grams of Type I product or 1.7 grams of Type III 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 0.00035 inch (0.000889 cm) 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 on an anvil prior to filling. The filled and sealed envelope shall have dimensions of not more than 3-1/2 inches

A-A-20184

(8.89 cm) in length, 2-1/2 inches (6.35 cm) in width, and 1/8 inch (0.3175 cm) in thickness. The seals shall be a minimum 1/8 inch (0.3175 cm) in width.

- (2) Multi-serve pouch. A net weight of 8 ounces (226.796 g) of Type III product shall be unit packed into a pouch commercially used for the product. The pouch shall be constructed of heat-sealable, laminated material, one lamina of which shall be aluminum foil. Each pouch shall be securely closed by heat sealing.

B. Intermediate packing.

- (1) Individual serving envelopes for Tray Pack Meal Module. When procured as a component of the Tray Pack Meal Module, nine envelopes of Type III product, unit packed in accordance with A-1 above, shall be packed in a close fitting bag made from clear, food grade polyethylene film having minimum thickness of 0.003 inches (0.00762 cm). Closure shall be accomplished by folding the open end of the bag down over the body of the bag and taping.
- (2) Multi-serve pouches. Twenty-four 8-ounce (226.796 g) multi-serve pouches of Type III product, unit packed in accordance with A-2 above, shall be packed in a snug-fitting fiberboard box. Each box shall be securely closed.

C. Commercial packing.

- (1) For shipment of individual serving envelopes to ration assembler. One thousand or two thousand envelopes of Type I or Type III, unit packed in accordance with A-1 above shall be packed in a manner to ensure carrier acceptance and safe delivery at destination at the lowest transportation rate for such supplies. Containers shall comply with the National Motor Freight Classification or Uniform Freight Classification, as applicable.
- (2) For shipment of individual serving envelopes to Tray Pack Meal Module ration assembler. Not more than 30 pounds (13.608 kg) of Type III product, intermediate packed in bags in accordance with B-1 above, shall be packed in a manner to ensure carrier acceptance and safe delivery at destination at the lowest transportation rate for such supplies. Containers shall comply with the National Motor Freight Classification or Uniform Freight Classification, as applicable.
- (3) Multi-serve pouches. Two intermediate boxes (24 pounds)(10.886 kg), packed as specified in B-2 above, shall be packed in a manner to ensure carrier acceptance and safe delivery at destination at the lowest transportation rate for such supplies. Containers shall

A-A-20184

comply with the National Motor Freight Classification or Uniform Freight Classification, as applicable.

- D. Export packaging. Export packaging shall be as specified in A-2.
- E. Export packing. Forty-eight 8-ounce (226.796 g) pouches of Type III product, intermediate packed as specified in B-2, shall be packed in a snug-fitting fiberboard box, constructed, closed, and reinforced in accordance with Style RSC, Grade V3c, V3s, or V4s of PPP-B-636.
- F. Unit loads (commercial and export). Shipping containers shall be arranged in unit loads in accordance with MIL-L-35078. When unit loads are strapped, strapping shall be limited to nonmetallic strapping, except for Type II, Class F loads.
- G. Labeling (commercial and export). Commercial labeling shall be acceptable.
- H. Marking (commercial and export). Marking of shipping containers and unit loads shall be in accordance with MIL-STD-129.

Notes.

Purchasers shall specify:

- Types.
- Styles.
- When processing may not be performed domestically.
- When testing for Type III particle size is required.
- When bid samples are required.

Sources of documents.

Sources of information for nongovernmental documents are as follows:

Copies of the National Motor Freight Classification may be obtained from:

National Motor Freight Traffic Association, Inc., Agent
National Motor Freight Classification
American Trucking Associations, Inc., Traffic Department
2200 Mill Road
Alexandria, VA 22314

A-A-20184

Copies of the Uniform Freight Classification may be obtained from:

Uniform Classification Committee, Agent
Uniform Freight Classification
Uniform Classification Committee, Suite 1120
222 South Riverside Plaza
Chicago, IL 60606

Copies of the Official Methods of Analysis of the AOAC and copies of the FDA Technical Bulletin No. 5 - Microanalytical Procedures Manual, Chapter V, 1984, may be obtained from:

AOAC International
2200 Wilson Boulevard
Suite 400
Arlington, VA 22201-3301

Sources of information for governmental documents are as follows:

Applicable provisions of the Federal Food, Drug, and Cosmetic Act are contained in 21 CFR Parts 1 to 199. This three-volume set may be purchased from:

Superintendent of Documents
U.S. Government Printing Office
Washington, DC 20402-0001

Credit Card (MasterCard or Visa) purchases may be made by calling the Superintendent of Documents on (202) 783-3238.

Copies of United States Sediment Standards for Milk and Milk Products (7 CFR 58.2729) and copies of photographs of the sediment standards may be obtained from:

Dairy Standardization Branch
Dairy Division
Agricultural Marketing Service
U.S. Department of Agriculture
Room 2750, South Building
P.O. Box 96456
Washington, DC 20090-6456

A-A-20184

Copies of the United States Standards for Condition of Food Containers are available from:

Chairperson
Condition of Container Committee
Agricultural Marketing Service
U.S. Department of Agriculture
Room 2506, South Building
P.O. Box 96456
Washington, DC 20090-6456

Civil agencies and other interested parties may obtain copies of this CID from:

General Services Administration
Specifications Unit (3FB-WS)
7th and D Streets, SW, Room 6654
Washington, DC 20407

Military activities should submit requests for copies of this CID to:

Standardization Documents Order Desk
Building 4, Section D
700 Robbins Avenue
Philadelphia, PA 19111-5094

Comments and suggestions.

Comments and suggestions regarding this CID should be addressed to:

U.S. Army Natick Research,
Development, and Engineering Center
ATTN: SATNC-WTP
Natick, MA 01760-5018

MILITARY INTERESTS:

Custodians

Army - GL
Navy - SA
Air Force - 50

Review Activities

Army - MD, QM
Navy - MC
DLA - SS

CIVIL AGENCY COORDINATING ACTIVITIES:

DOJ - BOP
HHS - FDA, NIH, IHS
USDA - FV
VA - OSS

PREPARING ACTIVITY:

Army - GL
(Project 8955-0059)