

PPP-F-685b

May 1, 1967

SUPERSEDING

Fed. Spec. PPP-F-685a

June 18, 1963

FEDERAL SPECIFICATION

FRESH FRUITS AND VEGETABLES: PACKAGING, PACKING, AND MARKING OF

This specification was approved by the Commissioner, Federal Supply Service, General Services Administration, for the use of all Federal agencies.

1. SCOPE

1.1 This specification covers the packaging, packing, and marking requirements for shipment of fresh fruits and vegetables to overseas destinations.

2. APPLICABLE DOCUMENTS

2.1 Specifications and standards. The following specifications and standards, of the issues in effect on date of invitation for bids or request for proposal, form a part of the specification to the extent specified herein:

Federal Specifications:

PPP-B-585—Boxes, Wood, Wirebound.

PPP-B-636—Box, Fiberboard.

PPP-F-320—Fiberboard: Corrugated and Solid, Sheet Stock (Container Grades), and Cut Shapes.

(Activities outside the Federal Government may obtain copies of Federal Specifications, Standards, and Handbooks as outlined under General Information in the Index of Federal Specifications and Standards and at the prices indicated in the Index. The Index, which includes cumulative monthly supplements as issued, is for sale on a subscription basis by the Superintendent of Documents, U. S. Government Printing Office, Washington, D. C. 20402.

(Single copies of this specification and other product specifications required by activities outside the Federal Government for bidding purposes are available without charge at the General Services Administration Regional Offices in Boston, New York, Washington, D. C., Atlanta, Chicago, Kansas City, Mo., Fort Worth, Denver, San Francisco, Los Angeles, and Auburn, Wash.

(Federal Government activities may obtain copies of Federal Specifications, Standards, and Handbooks and the Index of Federal Specifications and Standards from established distribution points in their agencies.)

Military Standard:

MIL-STD-105—Sampling Procedures and Tables for Inspection by Attributes.

(Copies of Military Specifications and Standards required by contractors in connection with specific procurement functions should be obtained from the procuring activity or as directed by the contracting officer.)

2.2 Other publications. The following documents form a part of this specification to the extent specified herein. Unless otherwise indicated, the issue in effect on date of invitation for bids or request for proposal shall apply.

Governmental:

U. S. Department of Health, Education and Welfare

Federal Food, Drug, and Cosmetic Act and Regulations Promulgated Thereunder.

(Application for copies should be addressed to the Superintendent of Documents, U. S. Government Printing Office, Washington, D. C. 20402.)

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Nongovernmental:Uniform Freight Classification:

Freight Container Tariffs 1, 2, 4, and Southern Freight Tariff Bureau Container and Loading Rules Tariff 823 Specifications of Standard Containers and Loading Rules for Fruits Fresh and Vegetables, Fresh or Green (Not Cold Packed or Frozen).

(Application for copies of Freight Container Tariffs 1, 2, and 4 should be addressed to W. T. Jamison, Agent, 516 West Jackson Boulevard, Chicago, Illinois 60606. Application for copies of Container and Loading Rules Tariff 823 should be addressed to W. E. Hock, Tariff Publishing Office, 101 Marietta Street, Atlanta, Georgia 30303.)

Technical Association of the Pulp and Paper Industry Publications:

T410—Basis Weight of Paper and Paperboard.

(Copies of TAPPI testing methods and recommended practices and specifications may be obtained from the Technical Association of the Pulp and Paper Industry, 360 Lexington Avenue, New York, New York 10017.)

American Society for Testing Materials:

Book of Standards

(Application for copies should be addressed to the American Society for Testing Materials, 1916 Race Street, Philadelphia, Pennsylvania 19103.)

3. REQUIREMENTS

3.1 Packaging, level B. Level B packaging shall be in accordance with the following requirements, as applicable:

(a) Grapes shall be protected by the use of clean sawdust of the type commercially used for the product.

(b) Lettuce, with wrapper leaves removed, shall be packaged in a new, gusseted, polyethylene bag with the opening 8 inches by 4 inches and a depth of 15 inches. The bag shall be made from nominal 0.00125-inch thick low density polyethylene film and shall be perforated with two 1/4-inch holes placed diametrically opposite each other at approximately the center. The bag shall be closed by folding the top over the head. Alternatively, the trimmed head shall be wrapped in nominal 0.00025-inch thick oriented polystyrene which shall be heat shrunk around the head so that it shall cling tightly to the surface and completely cover the head.

(c) Celery shall be packaged in perforated, gusseted, polyethylene bags in accordance with the above, except that the depth of the bag shall be 21 inches.

(d) Carrots shall be packaged in a new perforated polyethylene bag of suitable size to contain 5 pounds of the product. The bag shall be made from nominal 0.002-inch thick low density polyethylene film. Alternatively, the carrots shall be packed directly into the shipping container.

(e) When specified (see 6.1), citrus fruits, apples, pears, and tomatoes shall be packaged individually in a commercial type wrapper which effects a snug fit around each individual item and which shows not less than 1/4 twist.

3.2 Packing, level B. The product shall be packed in accordance with 3.2.1, 3.2.2, or 3.2.3, as specified (see 6.1).

3.2.1 Freight Container Tariff Containers. When specified (see 6.1 and 6.2), the container shall be in accordance with the Freight Container Tariff applicable to the state in which the product is grown except that baskets, hampers, bags, and drums shall not be used. When the Freight Container Tariffs include a wax and chemical treated fiberboard box in the choice of fiberboard containers, the wax and chemical treated fiberboard container shall be used. The treated container shall be tested in accordance with Rule 27 of Freight Container Tariff 1-H. Assembly and closing of all fiberboard containers shall be accomplished with metal staples.

3.2.2 Fiberboard box. When specified (see 6.1 and 6.3), not more than 50 pounds of product shall be packed into a fiberboard box constructed in accordance with 3.2.2.1 or 3.2.2.2.

3.2.2.1 The shipping container shall be a full telescope, half slotted box constructed of fiberboard complying with type CF, class domestic, variety SW, grade 275, of PPP-F-320. The fiberboard used in construction of the box shall be A or C flute and shall consist of a 33-pound corrugated member between 69-pound kraft facings (see 1.1.4). After assembly, the box in knockdown condition, shall be completely impregnated (not coated only) with a suitable formulation of resins and waxes to produce a fiberboard having a puncture resistance of 400 when dry and 320 when wet when tested in accordance with 4.4.1. The congealing point of the impregnating compound shall be not less than 151 degrees F. when tested in accordance with 4.4.3. After impregnation, the weight of the fiberboard shall have been increased by not less than 45 percent when tested in accordance with 4.4.2. Finally, assembly of each half shall be accomplished by stapling.

3.2.2.1.1 Ventilation. When specified in the contract or order, the fiberboard shipping container shall be provided with slots or holes in at least two side panels or two end panels. When slots are used, two vertical slots shall be provided in each side panel; one or two slots shall be provided in each end panel. When holes are used, two to five holes shall be provided in each side panel; two to four holes shall be provided in each end panel. Slots shall be $\frac{1}{4}$ inch to $\frac{3}{4}$ inch wide and 2 inches to 3 inches long. Holes shall be $\frac{3}{4}$ inch to $1\frac{1}{4}$ inches in diameter. When hand holes are provided, they shall be 1 inch to $1\frac{1}{2}$ inches in width and $3\frac{1}{2}$ inches to 4 inches in length. Ventilation openings may be omitted from box faces containing hand holes. Slots and holes in the bottom and top sections of the shipping container shall be positioned so that they coincide, and shall be located not less than 2 inches from any vertical score line.

3.2.2.2 The shipping container shall be a fiberboard box, constructed and reinforced in accordance with style FTC, V2s, of PPP-B-636, except that taping of seams and joints is not required. When specified in the contract or order, the shipping container shall be provided with slots or holes in accordance with 3.2.2.1.1.

3.2.3 Wirebound box. When specified (see 6.1 and 6.3) not more than 50 pounds of the product shall be packed into a wood wirebound box constructed in accordance with the applicable Freight Container Tariff, except that face boards and end boards shall be not less than $\frac{1}{8}$ inch thick. Boxes for bulk apple packs and tomato packs shall be lined on all faces with minimum 0.012 inch thick slotted paperboard, with slots coinciding with the openings between face boards and end boards.

3.3 Labeling and marking.

3.3.1 Labeling. Any commercial labeling that complies with Federal Food, Drug, and Cosmetic Act and Regulations Promulgated Thereunder is acceptable.

3.3.2 Marking. Shipping containers shall be marked in accordance with the contract or purchase order.

4. QUALITY ASSURANCE PROVISIONS

4.1 Responsibility for inspection. Unless otherwise specified in the contract or purchase order, the supplier is responsible for the performance of all inspection requirements as specified herein. Except as otherwise specified, the supplier may utilize his own facilities or any commercial laboratory acceptable to the Government. The Government reserves the right to perform any of the inspections set forth in the specification where such inspections are deemed necessary to assure that supplies and services conform to prescribed requirements.

4.1.1 Certificate of compliance. Where Certificates of Compliance are submitted, the Government reserves the right to check test such items to determine the validity of the certification.

4.1.2 Sampling for inspection. Sampling for inspection shall be performed in accordance with the provisions set forth in MIL-STD-105, except where otherwise indicated.

4.2.1 Component and material inspection. In accordance with 4.1 above, components and materials shall be inspected and tested in accordance with all the requirements of referenced specifications, drawings, and standards, unless otherwise excluded, amended, modified, or qualified in this specification or applicable purchase document.

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4.2.1.1 Examination of components and materials. Examination shall be in accordance with table 1. Failure to meet the requirement shall be cause for rejection of the component or material lot.

TABLE 1. Examination of component or material

Component	Sample unit	Lot size expressed in	Inspection level	Characteristics	Results reported	Test ref. & rqmts. para.
Polyethylene bags	One bag	Bags	S-2	Thickness	Nearest 0.00001	3.1 (b)
Polystyrene wrapper	One wrapper	Wrappers	S-2	Thickness	Nearest 0.00001	3.1 (b)
Polyethylene bag	One bag	Bags	S-2	Thickness	Nearest 0.00001	3.1 (d)
Paperboard	12 inch x 12 inch	Sheets	S-2	Thickness	0.00001	3.2.3
Corrugated member ¹	12 x 12 inch piece	Sq. yd. of material	S-2	Basis weight	Nearest lb. per 1000 sq. ft.	4.4.4. & 3.2.2.1
Kraft facings ¹	12 x 12 inch piece	Sq. yd. of material	S-2	Basis weight	Nearest lb. per 1000 sq. ft.	4.4.4 & 3.2.2.1
Impregnated fiberboard ¹	12 x 12 inch piece	Boxes	S-2	Puncture resistance (wet & dry)	Nearest unit	4.4.1, 4.4.2 & 3.2.2.1
				Basis wt. after impregnation	Nearest lb. per ream	4.4.4
Impregnating compound ¹	4 ounces	Pounds	—	Congealing point	Nearest degree F.	4.4.3 & 3.2.2.1

¹ In lieu of test, a certificate of compliance will be acceptable for this examination.

4.2.1.2 Examination of fiberboard container. When the fiberboard container is to be constructed in accordance with the requirements of 3.2.2.1, examination shall be in accordance with the applicable inspection criteria of PPP-B-636.

4.2.1.3 Examination of wirebound container. When the wirebound container is to be constructed in accordance with the Freight Container Tariff, examination shall be in accordance with the applicable inspection criteria of PPP-B-585.

4.3 Inspection of the end item.

4.3.1 Examination of end item for packaging, packing, and marking. The end item shall be examined for packaging, packing, and marking in accordance with the classification of defects set forth in tables III and IV. The sample unit shall be one package or one marked and filled shipping container as applicable. The lot shall be expressed in terms of packages or shipping container as applicable. The lot shall be expressed in terms of packages or shipping containers for this examination. The inspection levels and acceptable quality levels (AQLs) shall be as indicated in 4.3.1.1.

4.3.1.1 Inspection levels and acceptable equality levels (AQLs) for examinations. The inspection levels for determining sample size and the AQLs expressed in defects per 100 units (DIU) shall be as shown in table II.

TABLE II. Inspection levels and acceptable quality levels (AQLs)

Examination table	Inspection level	AQL	
		Major	Total
III	S-4	2.5	10.0
IV	S-3	2.5	

TABLE III. Examination of filled and sealed package

Examine	Defect	Category	
		Major	Minor
Package	Not type specified for product being packaged (see 3.1).	101	
	Dirty or otherwise contaminated.	102	
Bag	Not size specified.		201
	Perforation missing, not placed as specified or incorrect size and quantity.	103	
	Closure not as specified.		202
Wrapper (when specified)	Missing.	104	
	Does not completely encase product.	105	
	Not heat shrunk and does not cling tightly to product (when heat shrunk wrapper is specified.)	106	
	Not snug fit around individual item.		203
	Less than 1/2 twist.		204

TABLE IV. Examination for packing and marking

Examine	Defect	Category	
		Major	Minor
Shipping container	Not type or size specified.	101	
Fiberboard	Slots or holes missing when specified.	102	
	Incorrect size placement or number of holes or slots.	103	
	Not waxed or chemically treated.	104	
Wirebound	Liner missing when specified.	105	
	Liner not slotted as specified.	106	
Workmanship	Containers damaged or contaminated making them unsuitable for shipping.	107	
Net weight	Net weight of contents more than specified (see 3.2.2 and 3.2.3).	108	
Marking	Omitted, incomplete, incorrect, illegible, of improper size, location, sequence or method of application.	109	

4.3.1.2 Examination of shipping containers. When shipping containers are required to be in accordance with PPP-B-636, examination for closure and reinforcing shall be in accordance with the appendix of that specification.

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4.4 Tests.

4.4.1 Puncture strength test. Board samples cut from sound, undamaged, and unprinted portions of the impregnated boxes, and which have been conditioned in accordance with 4.4.1.1 or 4.4.1.2, as applicable shall be tested in accordance with ASTM D781.

4.4.1.1 Conditioning of board for dry tests. For dry tests, the board shall be conditioned at 70° F. $\pm 3.5^\circ$ F. and 50 percent ± 2 percent relative humidity for not less than 21 hours immediately preceding the test.

4.4.1.2 Conditioning of board for wet tests. For wet tests, the board shall be immersed for 24 hours in fresh tap water maintained at 70° $\pm 5^\circ$ F. The water shall have a pH value between 5.5 and 8.0 and shall be drawn fresh for each batch of samples. The sample shall be 6 inches by 10 inches and the open end of the flutes shall be along the 10 inch dimension. The board shall be submerged in a vertical position with the 10 inch dimension parallel to the surface of the water. Before testing, excess water shall be wiped from the surface of the board and shall be shaken from the flutes.

4.4.2 Weight of fiberboard. Specimens measuring 12 inches by 12 inches shall be cut from the long panel of the box and conditioned in accordance with 4.4.1.1. The specimens shall be weighed to the nearest 0.001 pound. The specimen weight multiplied by 1000 shall be the basis weight.

4.4.3 Congealing point. The congealing point shall be determined in accordance with ASTM D398.

4.4.4 Basis weight of paper. Basis weight of paper shall be determined by the Technical Association of the Pulp and Paper Industry Method T410.

5. PREPARATION FOR DELIVERY

5.1 Not applicable.

6. NOTES

6.1 Ordering data. Purchasers should select the preferred options permitted herein and include the following information in procurement documents:

- (a) Title, number, and date of this specification.
- (b) Method of packing required (see 3.2.1, 3.2.2, 3.2.3, 6.2, and 6.3).
- (c) When carrots are to be packaged in polyethylene (see 3.1.(d)).
- (d) When individual fruits are to be packaged in individual wrappers (see 3.1.(e)).

6.2 Packing specified in 3.2.1 is intended for overseas shipment to destinations which have commercial docking and handling facilities.

6.3 Packing specified in 3.2.2 and 3.2.3 is intended for overseas shipments when commercial docking and handling facilities are not available at destination.

MILITARY CUSTODIANS:

Army—GL
Navy—SA
Air Force—45

Preparing activity:

Army—GL

CIVIL AGENCIES INTEREST:

GSA
ACR

Review activity:

Army—SM

Review and user information is current as of the date of this document. For future coordination of changes to this document, draft circulation should be based on the information in the current Federal Supply Classification Listing of DOD Documents.

Orders for this publication are to be placed with General Services Administration, acting as an agent for the Superintendent of Documents. See section 2 of this specification to obtain extra copies and other documents referenced herein. Price 5 cents each.

