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Manually Handled Collapsible Reusable Plastic Containers for Handling of Fruits and Vegetables

Developed and approved by the ASABE Food and Processing Engineering Division. Approved as an ASABE standard October 2011; approved as an American National Standard November 2011; reaffirmed January 2016.

Keywords: Box, Container, Design, Handling, Returnable, Reusable, RPC, Storage, Transportation

1 Purpose

This standard provides uniform design and performance specifications for a manually handled collapsible reusable plastic container for handling fresh horticultural produce during postharvest processing, storage and transportation.

2 Normative References

The following referenced documents are indispensable for the application of this document. For dated references, only the edition cited applies unless noted. For undated references, the latest approved edition of the referenced document (including any amendments) applies.

ASTM D880, Standard Test Method for Impact Testing for Shipping Containers and Systems

ASTM D996, Standard Terminology of Packaging and Distribution Environments

ASTM D999, Standard Test Methods for Vibration Testing of Shipping Containers

ASTM D4003, Standard Test Methods for Programmable Horizontal Impact Test for Shipping Containers and Systems

ASTM D4169, Standard Practice for Performance Testing of Shipping Containers and Systems

ASTM D4728, Standard Test Method for Random Vibration Testing of Shipping Containers

ASTM D5276, Standard Test Method for Drop Test of Loaded Containers by Free Fall

ASTM D5277, Standard Test Method for Performing Programmed Horizontal Impacts Using an Inclined Impact Tester

ASTM D5487, Test Method for Simulated Drop of Loaded Containers by Shock Machines

ASTM D6055, Standard Test Methods for Mechanical Handling of Unitized Loads and Large Shipping Cases and Crates

ASTM D6179, Standard Test Methods for Rough Handling of Unitized Loads and Large Shipping Cases and Crates

3 Definitions

3.1 See ASTM D996, Standard Terminology of Packaging and Distribution Environments, for additional definitions.

3.2 container: a non-specific term for a receptacle capable of maintaining many horticultural products together and protecting them from external forces

3.3 dimensions: in packaging, the measurements of length, width (or diameter), and depth or height of **containers**, expressed in that order; it should be stated as “inside” or “outside”

3.4 dynamic load: an imposed force in motion; that is, one that may vary in magnitude, sense, and direction

3.5 face: in packaging, any one of the plane surfaces of a container

3.6 load: (1) the force in weight units applied to a body; (2) the weight of the contents of a **container** or transportation device; (3) a qualitative term denoting the contents of a container

3.7 loading: the act of placing a load on or in; to load a truck, a vessel, or a test specimen

3.8 pallet: horizontal platform device used as a base for assembling, storing, handling, and transporting materials and products in a unit load

3.9 palletized load: a load made up of articles, loose or in containers placed on pallets or skids

3.10 returnable container: a shipping container of any material designed to be used for more than one shipment

3.11 reusable container: a shipping container and storage container designed for reuse without impairment of its protective functions

3.12 shipping container: a container that is sufficiently strong to be used in commerce for packing, storing, and shipping commodities

3.13 reusable: intended to be used for its original purpose one or more times in an available program established by, but not limited to, manufacturers, distributors, or retailers

4 Dimensions

4.1 Outside dimensions are specified for length, width, and height. Collapsed container height is also specified. These dimensions shall not be exceeded by bulge or deflection from container loading or by overfilling.

4.2 One rectangular cross section container is specified that gives a projected area (footprint) with the outside dimensions shown. Two collapsed container heights are specified. Five overall heights are specified.

4.2.1 The rectangular container shall have outside dimensions equal to 600 × 400 mm (23.62 × 15.75 in.).

4.2.2 The collapsed container height shall be 35.6 mm (1.40 in.) or 53.1 mm (2.09 in.).

4.2.3 The outside height shall be 127 mm (5.00 in.) or 182 mm (7.17 in.) or 203 mm (7.99 in.) or 268 mm (10.55 in.) or 310 mm (12.55 in.).