



Designation: D6055 – 96 (Reapproved 2019)

Standard Test Methods for Mechanical Handling of Unitized Loads and Large Shipping Cases and Crates¹

This standard is issued under the fixed designation D6055; the number immediately following the designation indicates the year of original adoption or, in the case of revision, the year of last revision. A number in parentheses indicates the year of last reapproval. A superscript epsilon (ϵ) indicates an editorial change since the last revision or reapproval.

1. Scope

1.1 These test methods are suitable for testing the integrity of unitized loads and large cases and crates, but not individual drums or palletized drums, as well as the ability of the contents to endure normal handling, using standard mechanical handling equipment. Not all of the test methods are applicable to all products containers and loads. These test methods are applicable to common means of material handling, including pull pack, clamp truck, and spade lift-type handling equipment as follows:

1.1.1 *Test Method A—Fork Truck Handling*—For testing the ability of the shipping unit to withstand repeated handlings by this test method.

1.1.2 *Test Method B—Spade Lift Test*—For lifting by spade lift attachment to determine the ability of the handling flap of the case or shipping unit to withstand repeated lifting and handling by this test method.

1.1.3 *Test Method C—Clamp Handling Test*—For lifting by hydraulic clamp attachment, to determine the ability of the shipping unit to withstand squeeze clamp handling consisting of repeated side compression and lifting.

1.1.4 *Test Method D—Push-Pull Handling Test*—For testing the ability of a unitized load on a slip-sheet to withstand repeated handling by this test method.

1.1.5 *Test Method E—Grabhook Test*—For lifting by grabhooks to determine the ability of the shipping unit to withstand the horizontal pressures of grabhooks.

1.1.6 *Test Method F—Sling Tests*—For lifting by wire rope, cable, or woven fiber slings to determine the ability of the shipping unit to withstand the compression of slings.

1.2 Additional Test Methods:

1.2.1 Additional test methods that apply to mechanical handling and rough handling tests of unitized loads and large cases and crates include incline impact tests, described in Test Method [D880](#); horizontal impact tests, described in Test Method [D4003](#).

¹ These test methods are under the jurisdiction of ASTM Committee [D10](#) on Packaging and are the direct responsibility of Subcommittee [D10.21](#) on Shipping Containers and Systems - Application of Performance Test Methods.

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1.2.2 Practice [D4169](#) provides a series of options for selecting and running performance tests on all types of shipping containers and systems.

1.3 *This standard does not purport to address all of the safety concerns, if any, associated with its use. It is the responsibility of the user of this standard to establish appropriate safety, health, and environmental practices and determine the applicability of regulatory limitations prior to use.*

1.4 *This international standard was developed in accordance with internationally recognized principles on standardization established in the Decision on Principles for the Development of International Standards, Guides and Recommendations issued by the World Trade Organization Technical Barriers to Trade (TBT) Committee.*

2. Referenced Documents

2.1 ASTM Standards:²

[D880](#) Test Method for Impact Testing for Shipping Containers and Systems

[D996](#) Terminology of Packaging and Distribution Environments

[D4003](#) Test Methods for Programmable Horizontal Impact Test for Shipping Containers and Systems

[D4169](#) Practice for Performance Testing of Shipping Containers and Systems

[D4332](#) Practice for Conditioning Containers, Packages, or Packaging Components for Testing

3. Terminology

3.1 *Definitions*—General terms in these test methods are defined in Terminology [D996](#).

3.2 Definitions of Terms Specific to This Standard:

3.2.1 *clamp lift attachment*—a lift truck attachment used for clamp handling products packaged in flat-sided packages.

3.2.2 *forklift attachment*—a lift truck attachment used to handle large unitized or palletized loads.

² For referenced ASTM standards, visit the ASTM website, www.astm.org, or contact ASTM Customer Service at service@astm.org. For *Annual Book of ASTM Standards* volume information, refer to the standard's Document Summary page on the ASTM website.