



Designation: D 642 – 9400

Standard Test Method for Determining Compressive Resistance of Shipping Containers, Components, and Unit Loads¹

This standard is issued under the fixed designation D 642; 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.

This standard has been approved for use by agencies of the Department of Defense.

1. Scope

1.1 This test method covers compression tests on shipping containers (for example, boxes and drums) or components, or both. Shipping containers may be tested with or without contents. The procedure may be used for measuring the ability of the container to resist external compressive loads applied to its faces, to diagonally opposite edges, or to corners (Fig. 1 and Fig. 2). This test method covers testing of multiple containers or unit loads, in addition to individual shipping containers, components, materials, or combination thereof.

1.2 The test method of applying load may be used to compare the characteristics of a given design of container with a standard, or to compare the characteristics of containers differing in construction.

1.3 This test method is related to TAPPI T804, which is similar for fixed platen machines but does not recognize swivel platen machines. This test method fulfills the requirements of International Organization for Standardization (ISO) Test Methods 2874 and 2872, Method 12048. The ISO standards may not meet the requirements for this test method.

1.4 *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 and health practices and determine the applicability of regulatory limitations prior to use.*

2. Referenced Documents

2.1 ASTM Standards:

¹ This test method is under the jurisdiction of ASTM Committee D10 on Packaging, and is the direct responsibility of Subcommittee D10.22 on Handling and Transportation.

Current edition approved June 15, 1994; Oct. 10, 2000. Published August 1994; November 2000. Originally published as D 642 – 41 T. Last previous edition D 642 – 904.