



Standard Practice for Methods of Closing, Sealing, and Reinforcing Fiberboard Boxes¹

This standard is issued under the fixed designation D 1974; 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 practice describes several methods for closing, sealing, and reinforcing fiberboard (solid and corrugated, excluding triple wall) shipping boxes used for shipment. One or several methods listed in this practice may be referenced in regulations, specifications, or contracts. (See Appendix for cross reference).

1.2 This practice is intended to be workable in both inch-pound units and SI units. Unit conversions are intended to be functional but are not necessarily exact; this should not significantly affect the performance of the closing, sealing, or reinforcing methods. Descriptions in inch-pound and SI units are considered interchangeable in this practice.

NOTE 1—All references to this standard should be made by closure number.

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

2. Referenced Documents

2.1 ASTM Standards:

- D 644 Test Method for Moisture Content of Paper and Paperboard by Oven Drying²
- D 951 Test Method for Water Resistance of Shipping Containers by Spray Method²
- D 996 Terminology of Packaging and Distribution Environments²
- D 3654 Test Method for Holding Power of Pressure-Sensitive Tapes²
- D 3759 Test Method for Tensile Strength and Elongation of Pressure-Sensitive Tapes²
- D 3950 Specification for Strapping, Nonmetallic (and Joining Methods)²

- D 3953 Specification for Strapping, Flat Steel and Seals²
- D 4169 Practice for Performance Testing of Shipping Containers and Systems²
- D 4675 Guide for Selection and Use of Flat Strapping Materials²
- D 4727/D4727M Specification for Corrugated and Solid Fiberboard Sheet Stock (Container Grade) and Cut Shapes²
- D 5118 Practice for Fabrication of Fiberboard Shipping Boxes²
- D 5330 Specification for Pressure-Sensitive Tape, Packaging, Filament Reinforced²
- D 5486 Specification for Pressure Sensitive Tape for Packaging, Box Closure and Sealing²
- D 5570 Test Method for the Water Resistance of Tape and Adhesives Used as a Box Closure²
- D 5749 Specification for Reinforced and Plain Gummed Tape for Sealing and Securing²
- F 592 Terminology of Collated and Cohered Fasteners and Their Application Tools³
- 2.2 *U.S. Government Documents:*⁴
 - MMM-A-250 Adhesive, Water Resistant (For Closure of Fiberboard Boxes)
- 2.3 *Other Standards:*
 - International Fiberboard Case Code⁵

NOTE 2—FEFCO⁵ established a code of box styles to facilitate international trade. The box codes consist of four-digit numbers; for example, a regular slotted container was assigned the code 0201.

3. Terminology

3.1 General definitions for packaging and distribution environments are found in Terminology D 996.

3.2 Definitions:

3.2.1 *crown*—staple end opposite staple point, connecting both staple legs and providing bearing area (F 592).

¹ This practice is under the jurisdiction of ASTM Committee D-10 on Packaging and is the direct responsibility of Subcommittee D10.27 on Paper and Paperboard. Current edition approved April 10, 1998. Published March 1999. Originally published as D 1974 – 91. Last previous edition D 1974 – 94a.

² *Annual Book of ASTM Standards*, Vol 15.09.

³ *Annual Book of ASTM Standards*, Vol 15.08.

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

⁵ International Fiberboard Case Code, European Federation of Manufacturers of Corrugated Board (FEFCO), 37 rue d'Amsterdam, 75008, Paris, France, 874-63-76.