



Standard Specification for Crates, Wood, Open and Covered¹

This standard is issued under the fixed designation D 6039/D6039M; 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 This specification covers five types and two styles of open and one type, and one style of covered wood crates designed for net loads not exceeding 4000 lb [1814 kg]. Open crates are suitable for shipment of items, which are not readily susceptible to damage from outside forces, and which require only limited protection against the elements.

1.2 If environmental protection is necessary, use of a shroud or a covered crate should be considered. With the exception of Type III, Style B crates, the crates included in this specification are for use in domestic and overseas shipment of net loads not over 4000 lb [1814 kg]. Use shall be confined to items falling within the dimensions and weight limitations of the types and grades specified in Table 1.

1.3 In general, Style A crates have heavier components and are to withstand rather severe handling and multiple shipments (heavy-duty), while Style B crates should be confined to handling and shipping that impose only light to moderate hazards on the container (light-duty). Types I, IV, and V crates are general purpose types; Type II crates are designed for items such as ladders, tubing, extrusions, or wallboard which do not require blocking, bracing, or cushioning; and Type III, Style B crates are designed for such self-supporting material as channels, angles, or other structural members where the container serves only as a means for more convenient stacking and handling.

1.4 The values stated in either inch-pound or SI units shall be regarded separately as standard. The values stated in each system may not be exact equivalents; therefore, each system must be used independently of the other, without combining values in any way.

1.5 *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.*

1.6 If the use of other construction methods or techniques is acceptable and permitted (see 5.1.13), the resulting packaging

systems shall be of equal or better performance than would result from the use of these specified materials and procedures. The appropriate distribution cycle specified in Practice D 4169 can be used to develop comparative procedures and criteria.

2. Referenced Documents

2.1 ASTM Standards:

- D 996 Terminology of Packaging and Distribution Environments²
- D 1990 Practice for Establishing Allowable Properties for Visually-Graded Dimension Lumber from In-Grade Tests of Full-Size Specimens³
- D 3951 Practice for Commercial Packaging²
- 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 6199 Practice for Quality of Wood Members of Containers and Pallets²
- F 1667 Specification for Driven Fasteners: Nails, Staples and Spikes³

2.2 ASME/ANSI Standards:

- A208.1 Mat-Formed Wood Particleboard⁴
- B18.2.1 Square and Hex Bolts and Screws Inch Series⁴
- B18.5 Round Head Bolts (Inch Series)⁴
- B18.22.1 (B18.22M) Plain Washers⁴

2.3 APA Standard:

- PRP-108 Performance Standards and Policies for Structural-Use Panels⁵

2.4 National Motor Freight Traffic Association Standard: National Motor Freight Classification⁶

2.5 Uniform Classification Committee Standard: Uniform Freight Classification⁷

² Annual Book of ASTM Standards, Vol 15.09.

³ Annual Book of ASTM Standards, Vol 01.08.

⁴ Available from the American Society of Mechanical Engineers, United Engineering Center, 345 East 47th St., New York, NY 10017.

⁵ Available from the Engineered Wood Assoc., P.O. Box 11700, Tacoma, WA 98411-0700.

⁶ Available from the American Trucking Association, Inc., Traffic Department, 2200 Mill Rd., Alexandria, VA 22314.

⁷ Available from the Uniform Classification Committee, Tariff Publishing Officer, Room 1106, 222 South Riverside Plaza, Chicago, IL 60606.

¹ This specification is under the jurisdiction of ASTM Committee D10 on Packaging and is the direct responsibility of Subcommittee D10.26 on Shipping Containers, Crates, Pallets, Skids, and Related Structures.

Current edition approved Oct. 10, 2002. Published December 2002. Originally approved in 1996. Last previous edition approved in 1996 as D 6039/D 6039M-96.