



Designation: ~~D6253~~—16 D6253 – 24

Standard Practice for Treatment and/or Marking of Wood Packaging Materials¹

This standard is issued under the fixed designation D6253; 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 practice covers the development of recommended treatment, or marking practices, or both, for wood packaging materials (WPM) and aids in identifying WPM as to phytosanitary treatment, intended service cycles, repair, the specific specification used to manufacture or recycle, and other user designated characteristics.

1.2 This practice identifies WPM treated, or marked, or both in accordance with industry, government, or international recognized standards.

1.3 The values stated in inch-pound units are to be regarded as standard. The values given in parentheses are mathematical conversions to SI units that are provided for information only and are not considered standard.

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

1.5 *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.*

<https://standards.iteh.ai/catalog/standards/astm/b1780994-4d28-4493-975c-fcfff7ab33bb/astm-d6253-24>

2. Referenced Documents

2.1 ASTM Standards:²

- D996 Terminology of Packaging and Distribution Environments
- D6039/D6039M Specification for Open and Covered Wood Crates
- D6251/D6251M Specification for Wood-Cleated Panelboard Shipping Boxes
- D6254/D6254M Specification for Wirebound Pallet-Type Wood Boxes
- D6255/D6255M Specification for Steel or Aluminum Slotted Angle Crates
- D6256/D6256M Specification for Wood-Cleated Shipping Boxes with Skidded, Load-Bearing Bases
- D6573/D6573M Specification for General Purpose Wirebound Shipping Boxes

2.2 MHIA Standard:³

- MHIA MH1–2005 Pallets, Slip Sheets, and Other Bases for Unit Loads

¹ This practice is under the jurisdiction of ASTM Committee D10 on Packaging and is the direct responsibility of Subcommittee D10.12 on Shipping Containers, Crates, Pallets, Skids and Related Structures.

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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.

³ Available from Material Handling Industry of America (MHIA), 8720 Red Oak Blvd., Suite 201, Charlotte, NC 28217–3992, <http://www.mhia.org>.

2.3 ~~AWPA Standards: Military Standard⁴:~~

~~P8-03, MIL-DTL-2427 Standard for Oil-Borne Preservatives Detail Specification, Box, Ammunition Packaging: Wood, Nailed
P9-03, Standards for Solvents and Formulations for Organic Preservative Systems⁴~~

2.4 ~~NFPA Standard: Standard⁵:~~

~~NFPA 704, Standard System for Identification of Hazards of Materials for Emergency Response~~

2.5 ~~International Standard: Standard⁶:~~

~~International Standards for Phytosanitary Measures (ISPM) Publication No. 15, Regulation of Wood Packaging Material in International Trade~~

3. Terminology

3.1 *Definitions*—General definitions for the packaging and distribution environments are found in Terminology **D996**.

3.2 *Definitions of Terms Specific to This Standard:*

3.2.1 *certifying or inspection agency, n*—a qualified independent agency providing an audit service to verify the manufacturer or recycler has complied with government or industry-recognized programs.

3.2.2 *dielectric heat treatment (DH), n*—heating of WPM using dielectric heating in accordance with a specific time-temperature schedule that achieves a minimum wood core temperature of 60°C for a minimum of 1 continuous minute.

3.2.3 *heat treatment (HT), n*—heating of WPM using a conventional steam or dry kiln heat chamber in accordance with a specific time-temperature schedule that achieves a minimum wood core temperature of 56°C for a minimum of 30 continuous minutes.

3.2.4 *intended service cycle, n*—a marking applied to a materials handling pallet to identify a multiple-use or single-use pallet (see **3.2.7** and **3.2.5**).

3.2.5 *single-use (S) pallets, n*—intended for use in shipping only one unit load (also known as expendable or single-trip pallets) (see **Table 1**).

3.2.6 *methyl bromide (MB) fumigation, n*—fumigation of WPM with methyl bromide using an approved fumigation schedule.

3.2.7 *multiple-use (M) pallets, n*—intended for reuse in shipping unit loads (also known as a reusable or multi-trip pallets) (see **Table 1**).

3.2.8 *quality mark, n*—see *treatment mark*.

3.2.9 *phytosanitary treatment, n*—officially authorized procedure for the killing or removal of pests or rendering pests infertile.

3.2.10 *repaired-pallet (R), n*—describes a pallet with original components replaced or modified (see **Table 1**).

3.2.11 *sulfuryl fluoride (SF) fumigation, n*—fumigation of WPM with sulfuryl fluoride using approved fumigation schedule.

TABLE 1 Pallet Intended Service Cycle Identification^A

Letter Designation	Explanation
S	Single-use pallet
M	Multiple-use pallet
R	Repaired pallet

^A This information may be found in MHIA MH1–2015.

⁴ Available from American Wood Protection Association (AWPA), P.O. Box 361784, Birmingham, AL 35236-1784, <http://www.awpa.com>. Document Automation and Production Service, Building 4/D, 700 Robbins Avenue, Philadelphia, PA 19111-5094, <http://assist.daps.dla.mil/quicksearch>.

⁵ Available from National Fire Protection Association (NFPA), 1 Batterymarch Park, Quincy, MA 02269-9101.

⁶ Available from the International Plant Protection Convention, www.ippc.int.

3.2.12 *treatment mark, n*—an official stamp or brand, internationally recognized, applied to a regulated article to attest its phytosanitary status.

3.2.13 *wood packaging material (WPM), n*—wood or wood products (excluding paper products) used in supporting, protecting or carrying a consignment. It covers wood packaging such as pallets, skids, containers, crates, boxes, packing blocks, drums, cases, load boards, pallet collars, and dunnage.

4. Significance and Use

4.1 This practice establishes the criteria to treat, or mark, or both WPM with permanent identification for the phytosanitary treatment, or intended service cycle, or both, repair, specification used, and other designated characteristics.

4.2 The marking of the WPM shall be performed after ensuring the material complies with the applicable specification.

5. Summary of Practice for Phytosanitary Treatment and Marking of WPM

5.1 Treatment or quality marking of WPM shall conform to the enforcement regulations and policy of the American Lumber Standard Committee (ALSC) WPM Program and ISPM 15.

5.2 Treatment or quality mark must meet the requirements of acceptable marks in ISPM 15 (see Fig. 1 and Fig. 2) and should include the following:

5.2.1 IPPC logo,

5.2.2 Two-letter US abbreviation, which must be separated by a hyphen from the producer/treatment provider code,

5.2.3 Unique number assigned by an inspection agency to the facility,

5.2.4 ~~HT or MB~~HT, DH, MB, or SF abbreviation, and

5.2.5 Inspection agency logo.

5.3 Irrespective of the type of treatment applied, wood packaging material must be made of debarked wood. Any number of visually separate and clearly distinct small pieces of bark may remain if they are:

5.3.1 Less than 3 cm in width (regardless of the length), or

5.3.2 Greater than 3 cm in width, with the total surface area of an individual piece of bark less than 50 cm².

6. Summary of Practice for Marking of Wood Pallets

6.1 Marking of pallets shall conform to a published industry, government or international standard, as applicable.

6.1.1 The following divisions under this section, detail the marking (see Fig. 3) information to be applied to the pallet. Each identification will be separated by a space or mark. The location of the marking information is at the discretion of the pallet manufacturer.

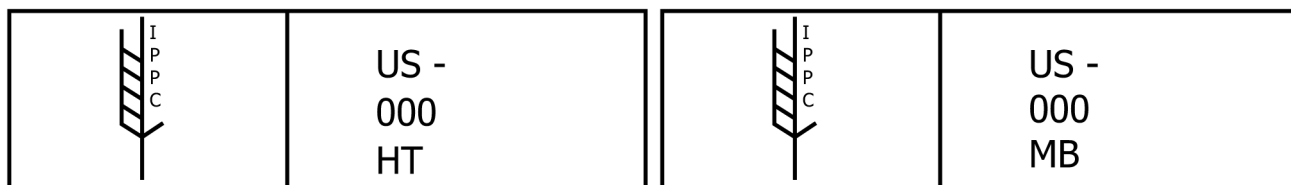


FIG. 1 US Treatment Mark Examples



FIG. 2 US Treatment Mark Alternate Example (Typically Used with Pallets)

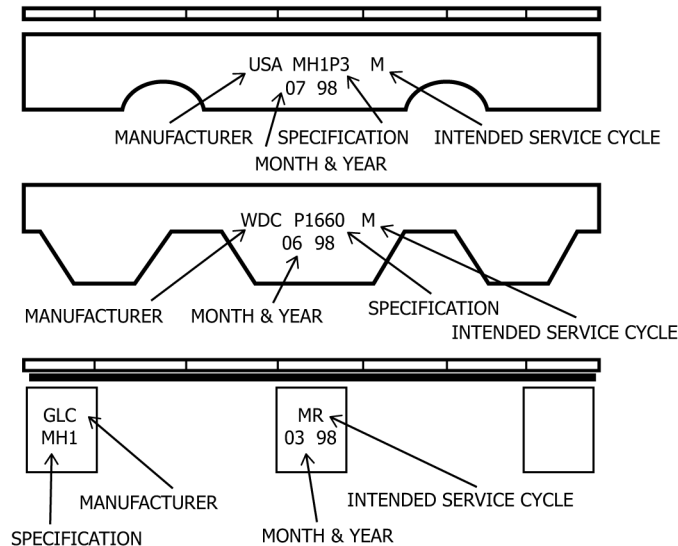


FIG. 3 Marking Requirements (Location of Markings Optional)

6.1.1.1 The manufacturer, recycling or leasing company, or any identification code shall be applied to the pallet, for example, ABC, 123, FP, CHEP, PECO.

6.1.1.2 A marking identifying the industry, government or international specification (when applicable) followed during fabrication shall be applied to the pallet. The marking identifying the specification of conformance shall be coded, for example, GMA75, NNP71C, MH1, SPEQ.

6.1.1.3 The month and year of manufacture and repair shall be marked, for example, 10 94, 05 94, 01 95, 01 201, 02 210.

6.1.1.4 The intended service cycles identification code shall be applied, for example, M, S, R.

6.1.2 The following additional information may be included in the marking of pallets by the direction of the manufacturer, recycling company, or owner of the pallet.

6.1.2.1 The load rating of the pallet, for example, 2000 lb, 0953 kg.

6.1.2.2 The ownership of the pallet, for example, USA, ATT, CHEP.

6.1.2.3 The certifying agency mark, for example, TP, TPS.

6.1.2.4 Identify the materials used in the construction of pallets that exhibit health, flammability, or reactivity risk factors in accordance with the NFPA Hazard rating index, for example 1.B, 1.Y, 2.R (see Table 2).

6.2 *Marking Materials*—Any specification process, or material used in the marking application, or both, shall be durable enough to be readable for the duration of the pallet’s expected service life.

7. Requirements for Marking of Government Wood Containers

7.1 *Panelboard Container Identification*—Unless otherwise specified, each panelboard container shall be marked with the following information and arranged in the following pattern as closely as possible:

**TABLE 2 Pallet Material Hazard Rating Index
(Location is Optional)**

Rating	Health (Blue)	Flammability (Red)	Reactivity (Yellow)
0	No Hazard	Does not burn	Stable
1	Exposure causes slight skin irritation	Must be preheated to burn flash point 200°F or above; non hazardous atmosphere	No violent chemical change; unstable in heat
2	Long term exposure causes temporary incapacity	Flash point above 100°F; produces no hazards to atmosphere	Unstable and violently changes chemically; but no detonation
3	Short exposure, serious temporary injury	Easily ignited at ambient flash point at or below 73°F. Produces hazardous atmosphere	Will detonate with strong initiation
4	Short exposure causes death	Spontaneous ignition resulting in hazardous atmosphere	Detonate at ambient temperature

7.1.1 Conforms to **D6251/D6251M** or **D6256/D6256M** specification,

7.1.2 ~~Box~~ Container type, class, and style,

7.1.3 ~~Box~~ Container manufacturer's name and address,

7.1.4 Maximum contents weight (lb, kg, or both), and

7.1.5 Load type.

7.1.6 *Modification*—When required, to designate that the box is in accordance with the specification requirements except for modification authorized in a contract or order.

7.1.7 *Preservative Treatment Identification*—All Treatment A and B boxes shall be annotated based on their preservative treatment. ~~The Treatment identifications will be in accordance with those referenced by MIL-DTL-2427. For examples, the letters PA for oxine copper preservative, PB for zinc naphthenate preservative, and PC for copper naphthenate aqueous copper 8-quinolinolate and PC+ for aqueous copper naphthenate + didecyl dimethyl ammonium chloride preservative treatment.~~

7.1.8 ~~Export~~ Phytosanitation Treatment Requirements—See Section 5.

7.2 ~~Container Specification—Panelboard Container Specification Marking~~—Container specification shall be marked with the following information (see Fig. 4):

7.2.1 Type,

7.2.2 Class,

7.2.3 Style,

7.2.4 Wood ~~treatment~~, treatment as identified in [7.1.7](#),

7.2.5 Load,

7.2.6 Assembly,

7.2.7 Length,

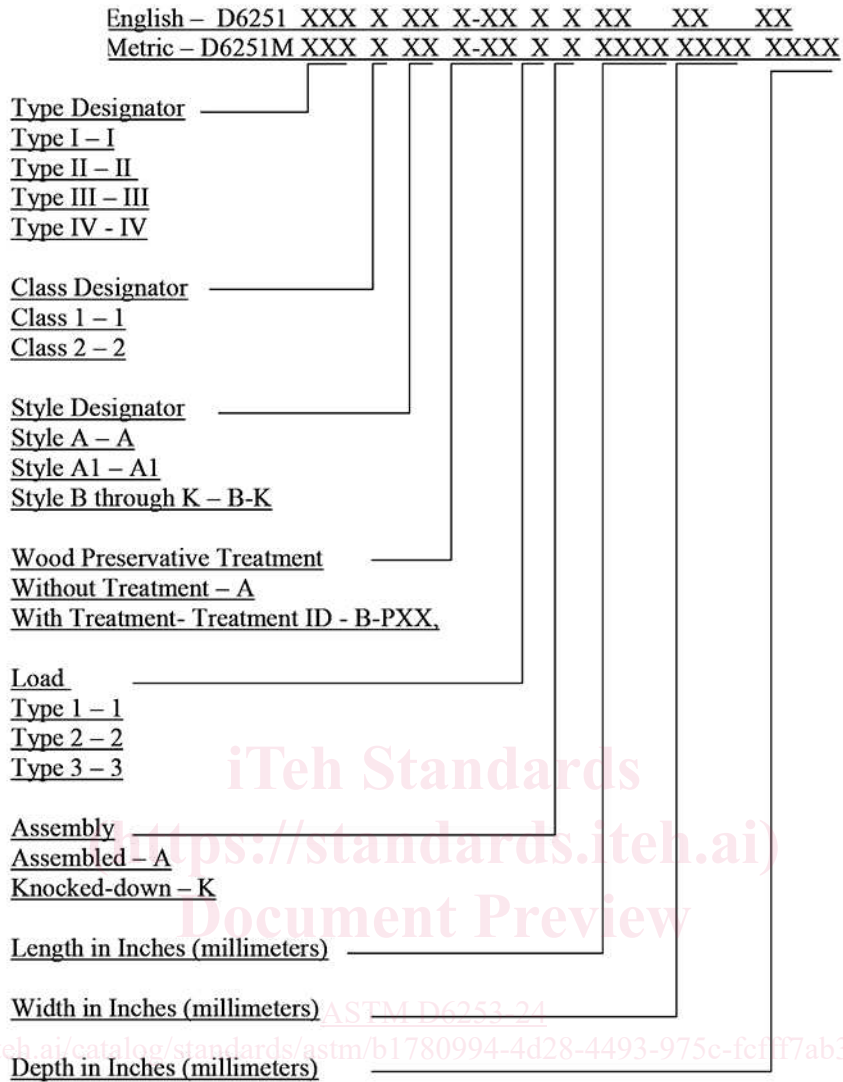


FIG. 4 Panelboard Container Specification Format

7.2.8 Width, and

7.2.9 Depth.

7.2.10 ~~Box~~Container sizes shall be in terms of the inside ~~box~~ dimensions and shall be cited in sequence of length, width, and depth. The box inside length and width shall be the assembled box cleats inside dimensions with a depth with + $\frac{1}{8}$ -in. (3-mm) tolerance. The inside depth specified shall be the distance from the top of the pallet deck boards to the underside in./-0in. (+3-mm/-0-mm) tolerance. The measurement locations shall be in accordance with the identified specifications Construction Dimensions paragraph (for example Specification **D6251/D6251M** of the assembled box top Paragraph 7.5 or Specification **D6256/D6256M** cleat with a Paragraph 7.1, $\frac{1}{4}$ -in. (6-mm) tolerance. The inside width normally will be greater than the length.

7.2.11 All markings shall be permanent, legible, and shall be limited to 15 in.² (9677 mm²) in area and shall be located in a lower corner of one side panel in letters and numerals approximately $\frac{5}{16}$ in. (8 mm) high. The specification number shall be in letters approximately $\frac{3}{4}$ in. (19 mm) high. When letters and numerals are indented, the indentation shall be not more than $\frac{1}{16}$ in. (2 mm) below the wood surface.

7.3 Wood Container Marking Examples: