



Designation: B900 – 16 (Reapproved 2022)

## Standard Practice for Packaging of Copper and Copper Alloy Mill Products for U.S. Government Agencies<sup>1</sup>

This standard is issued under the fixed designation B900; 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 ( $\epsilon$ ) indicates an editorial change since the last revision or reapproval.

### 1. Scope\*

1.1 This practice establishes requirements for packaging, packing, and marking intended to ensure proper and safe storage and transportation of copper and copper alloy mill products, both foreign and domestic, for direct shipment to government activities or shipment processed at a military activity or agency. This practice details the materials, methods, containers, and procedures for the preparation for shipment of copper and copper alloy mill products. Mill products wherein copper is the basic metal are within the scope of this practice. Commercial packaging establishes the minimum requirements that apply unless Level A or B packing is specified (see 6.1).

1.2 *Units*—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.

1.3 *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 to 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:<sup>2</sup>

B846 Terminology for Copper and Copper Alloys

D143 Test Methods for Small Clear Specimens of Timber  
D779 Test Method for Determining the Water Vapor Resistance of Sheet Materials in Contact with Liquid Water by the Dry Indicator Method  
D828 Test Method for Tensile Properties of Paper and Paperboard Using Constant-Rate-of-Elongation Apparatus  
D1974/D1974M Practice for Methods of Closing, Sealing, and Reinforcing Fiberboard Boxes  
D3951 Practice for Commercial Packaging  
D4444 Test Method for Laboratory Standardization and Calibration of Hand-Held Moisture Meters  
D5118/D5118M Practice for Fabrication of Fiberboard Shipping Boxes  
D5168 Practice for Fabrication and Closure of Triple-Wall Corrugated Fiberboard Containers  
D5330/D5330M Specification for Pressure-Sensitive Tape for Packaging, Filament-Reinforced  
D6251/D6251M Specification for Wood-Cleated Panelboard Shipping Boxes  
D6254/D6254M Specification for Wirebound Pallet-Type Wood Boxes  
F1667 Specification for Driven Fasteners: Nails, Spikes, and Staples

#### 2.2 ANSI Standard:<sup>3</sup>

ANSI/ASQC Z1.4 Sampling Procedures and Tables for Inspection by Attributes

#### 2.3 Federal Specifications:<sup>4</sup>

A-A-55057 Panels, Wood/Wood Based: Construction and Decorative  
PPP-B-585 Boxes, Wood, Wirebound  
PPP-B-621 Boxes, Wood, Nailed and Lock-Corner  
PPP-B-1055 Barrier Material, Waterproof, Flexible  
PPP-D-705 Drum: Metal Shipping, Steel, (Over 12 and Under 55 Gallon)  
PPP-D-723 Drums, Fiber  
PPP-D-729 Drums: Metal, 55-Gallon (for Shipment of Non-corrosive Material)

<sup>1</sup> This practice is under the jurisdiction of ASTM Committee B05 on Copper and Copper Alloys and is the direct responsibility of Subcommittee B05.91 on Editorial and Publications.

Current edition approved Oct. 1, 2022. Published October 2022. Originally approved in 1999. Last previous edition approved in 2016 as B900 – 16. DOI: 10.1520/B0900-16R22.

<sup>2</sup> For referenced ASTM standards, visit the ASTM website, [www.astm.org](http://www.astm.org), or contact ASTM Customer Service at [service@astm.org](mailto:service@astm.org). For *Annual Book of ASTM Standards* volume information, refer to the standard's Document Summary page on the ASTM website.

<sup>3</sup> Available from American National Standards Institute (ANSI), 25 W. 43rd St., 4th Floor, New York, NY 10036, <http://www.ansi.org>.

<sup>4</sup> Available from DLA Document Services, Building 4/D, 700 Robbins Ave., Philadelphia, PA 19111-5094, <http://quicksearch.dla.mil>.

\*A Summary of Changes section appears at the end of this standard



## 2.4 *Military Standards*:<sup>4</sup>

**MIL-STD-129** Military Marking for Shipment and Storage

**MIL-STD-147** Palletized Unit Loads

## 3. Terminology

3.1 For definitions of terms related to copper and copper alloys, refer to Terminology **B846**.

### 3.2 *Definitions of Terms Specific to This Standard*:

3.2.1 *deckboard*, *n*—piece or pieces of lumber fastened at right angles to the stringers or skids of a pallet to form a load-bearing surface.

3.2.2 *gross weight*, *n*—the bare-item weight and the weight of all packaging and packing materials.

3.2.3 *interleaving*, *n*—the protective material placed between two adjacent pieces of metal.

3.2.4 *net weight*, *n*—the bare-item weight.

3.2.5 *nominal*, *adj*—the rough-sawn, commercial size designation for lumber common to the industry.

3.2.6 *packing*; *Level A*—the protection required to meet the most severe worldwide shipment, handling, and storage conditions.

3.2.6.1 *Discussion*—A Level A package must be capable of protecting material from effects of direct exposure to extremes of climate, terrain, and operational transportation environments.

3.2.7 *packing*; *Level B*—the protection required to meet moderate worldwide shipment, handling, and storage conditions.

3.2.7.1 *Discussion*—A Level B package must be capable of protecting material not directly exposed to extremes of climate, terrain, and operational transportation environments.

3.2.8 *packaging*; *commercial*—although not specifically defined by any government regulation or instruction, commercial packaging (preservation and packing) is understood to be those practices by manufacturers and contractors to protect and identify material and items packaged for retail and wholesale distribution purposes.

3.2.8.1 *Discussion*—Practice **D3951** provides guidance in the application of commercial packaging.

3.2.8.2 *Discussion*—It has been determined by joint DoD instructions that commercial, also in some areas addressed as industrial, packaging should only be used or specified when such packaging is known to satisfy the DoD needs. Such use should be determined before a contract for supplies is awarded or within the life cycle of the contract when substantial savings to the government may result. Commercial (industrial) packaging should not be specified where multiple shipments and handlings are anticipated or desired.

3.2.9 *skid*, *n*—one of a pair or series of parallel wood runners affixed to the underside of boxes, crates, or an item allowing entry of truck forks, or to facilitate sliding.

3.2.10 *sound woods*, *n*—wood free of any form of decay, incipient or advanced, and from insert holes.

3.2.11 *stringer*, *n*—a wooden member fastened at right angles to the load-bearing members of a pallet or the deckboard of a platform.

3.2.12 *sulfate paper*, *n*—wood-pulp paper made by the sulfate process.

## 4. Significance and Use

4.1 This practice is applicable to packaging of copper alloy mill products for shipment to agencies of the U.S. government.

4.2 It establishes packaging of rod, bar, shapes, plate, sheet, strip, foil, wire, flat wire, rolled bar, forgings, pipe, and tube products.

## 5. Classification

5.1 Shipping containers, for Levels A and B packing (see **7.6** and **7.8**), having common characteristics are as follows:

5.1.1 *Category 1*—Boxes, nailed wood, wire-bound wood, wood-cleated plywood, and wood cleated, veneer, paper overlaid (see **7.6.1**).

5.1.2 *Category 2*—Fiberand metal drums (see **7.6.2**).

5.1.3 *Category 3*—Pallets and pallet boxes (see **7.6.3**).

5.1.4 *Category 4*—Skidded lifts (see **7.6.4**).

5.1.5 *Category 5*—Hand bundles (see **7.6.5**).

5.1.6 *Category 6*—Secured lifts (without skids) (master bundles) (see **7.6.6**).

5.1.7 *Category 7*—Reels and spools (see **7.6.7**).

5.1.8 *Category 8*—Fiberboard boxes (see **7.6.8**).

5.1.9 *Category 9*—Special containers (see **7.6.9**).

## 6. Ordering Information

6.1 Orders for products shall specify the following packaging information:

6.1.1 ASTM designation and year of issue.

6.1.2 Fiberboard box, if other than Class 1 (see **7.6.8**).

6.1.3 Level of packaging and level of packing if other than commercial (see **7.4** and **7.6.9.1**).

6.1.4 Maximum gross weight of container (see **7.6.1.6 – 7.6.1.8**, **7.6.3** and **7.6.4**).

6.1.5 When palletized drums are required (see **7.8.2.7**).

6.1.6 When bare welding rod in wire form is required in fiber drums (see **7.8.2.7**).

6.1.7 When cores fitted with slinger ring attachment are required for shafting (see **7.8.2.7**).

6.1.8 When coiled wire is required in lighter or heavier net weight (see **7.8.2.7**).

6.1.9 When saddles are required (see **7.8.3.1**).

6.1.10 Special marking required (see **7.9**).

## 7. Detailed Requirements

7.1 *Options*—Unless otherwise specified, packaging and packing requirements selection shall be at the option of the contractor.

7.2 *Packaging and Packing Materials*—Materials not covered by applicable specifications or not specifically described herein shall be of the best commercial quality and suitable for the purpose intended.

7.2.1 *Packaging*—The use of packaging materials shall be in accordance with **7.8**.

### 7.3 *Level A*:

7.3.1 *Waterproof Barrier Materials*—The material shall consist of 100 % sulfate paper suitably coated or laminated to