



Designation: E784 – 89 (Reapproved 2017)

## Standard Specification for Clamps, Utility, Laboratory, and Holders, Buret and Clamp<sup>1</sup>

This standard is issued under the fixed designation E784; 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 clamps and clamp holders for use in securing laboratory apparatus to support stands.

1.2 The values stated in SI units are to be regarded as the standard. The values given in parentheses are for information only.

### 2. Referenced Documents

#### 2.1 ASTM Standards:<sup>2</sup>

A48/A48M Specification for Gray Iron Castings  
A276 Specification for Stainless Steel Bars and Shapes  
B30 Specification for Copper Alloys in Ingot Form  
B85 Specification for Aluminum-Alloy Die Castings  
B86 Specification for Zinc and Zinc-Aluminum (ZA) Alloy Foundry and Die Castings  
B139/B139M Specification for Phosphor Bronze Rod, Bar, and Shapes  
B247 Specification for Aluminum and Aluminum-Alloy Die Forgings, Hand Forgings, and Rolled Ring Forgings

#### 2.2 Federal Specifications:<sup>3</sup>

UU-P-553 Paper, Wrapping, Tissue  
PPP-B-566 Boxes, Folding, Paper  
PPP-B-601 Box, Wood, Cleated-Plywood  
PPP-B-621 Box, Wood, Nailed and Lock Corner  
PPP-B-636 Box, Shipping, Fiberboard  
PPP-B-676 Boxes, Setup  
PPP-F-320 Fiberboard, Corrugated and Solid, Sheet Stock (Container Grade) and Cut Shapes

#### 2.3 Federal Standard:<sup>3</sup>

Fed. Std. No. 123 Marking for Shipment (Civil Agencies)

#### 2.4 Military Specifications:<sup>3</sup>

MIL-P-116 Methods of Preservation-Packaging

MIL-STD-1188 Commercial Packaging of Supplies and Equipment

2.5 Military Standard:<sup>3</sup>

MIL-STD-105 Sampling Procedures and Tables for Inspection by Attributes

### 3. Classification

3.1 *Types, Sizes, and Classes*—The clamp and clamp holders covered by this specification shall be of the types, classes, and sizes as specified in 3.2 – 3.6 (see S3.1).

#### 3.2 Type I—Clamp holders:

3.2.1 Class 1—Fixed jaw.

3.2.2 Class 2—Swivel jaw.

3.2.3 Class 3—All position jaw.

#### 3.3 Type II—Two-pronged clamps:

3.3.1 Class 1—Fixed, with holder.

3.3.1.1 Size 1—Small clamp expands to 38 mm (1½ in.).

3.3.1.2 Size 2—Large clamp expands to 64 mm (2½ in.).

3.3.2 Class 2—Swivel with holder.

3.3.2.1 Size 1—Small clamp expands to 38 mm (1½ in.).

3.3.2.2 Size 2—Large clamp expands to 64 mm (2½ in.).

3.3.3 Class 3—Swivel, duplex.

#### 3.4 Type III—Extension clamps:

3.4.1 Class 1—Two-pronged.

3.4.1.1 Size 1—Small clamp expands to 38 mm (1½ in.).

3.4.1.2 Size 2—Large clamp expands to 64 mm (2½ in.).

3.4.2 Class 2—Three-pronged.

3.4.2.1 Size 1—Small clamp expands to 25 mm (1 in.).

3.4.2.2 Size 2—Large clamp expands to 98 mm (3⅞ in.).

3.4.3 Class 3—Universal.

3.4.3.1 Size 1—Small clamp expands to 51 mm (2 in.).

3.4.3.2 Size 2—Large clamp expands to 76 mm (3 in.).

#### 3.5 Type IV—Thermometer clamp, swivel with holder.

#### 3.6 Type V—Clamp, double buret holder.

### 4. Materials

4.1 *Base Metal*—Clamps and clamp holders shall be manufactured from aluminum-base alloy, zinc-base alloy, or cast iron. Aluminum base alloy metal shall conform to alloy number A380 of Specification B85. Zinc-base alloy shall conform to AG 40A of Specification B86. Cast iron shall conform to Specification A48/A48M, Class 20.

<sup>1</sup> This specification is under the jurisdiction of ASTM Committee E41 on Laboratory Apparatus and is the direct responsibility of Subcommittee E41.01 on Laboratory Ware and Supplies.

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<sup>2</sup> 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.

<sup>3</sup> Available from Naval Publications and Forms Center, 5801 Tabor Ave., Philadelphia, PA 19120.