



## Standard Specification for Valve Label Plates<sup>1</sup>

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### 1. Scope

1.1 This specification covers the materials, dimensions, inscription, and methods of inscribing for shipboard valve label plates.

1.2 Fasteners shall be ordered separately and are not included in this specification.

1.3 The values stated in inch-pound units are to be regarded as standard.

### 2. Referenced Documents

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

**A167** Specification for Stainless and Heat-Resisting Chromium-Nickel Steel Plate, Sheet, and Strip

**B36/B36M** Specification for Brass Plate, Sheet, Strip, and Rolled Bar

**B209** Specification for Aluminum and Aluminum-Alloy Sheet and Plate

**B580** Specification for Anodic Oxide Coatings on Aluminum

**D709** Specification for Laminated Thermosetting Materials

#### 2.2 Other Documents:

American Bureau of Shipping Rules for Building and

Classing Steel Vessels<sup>3</sup>  
ANSI Y1.1 Abbreviations<sup>4</sup>

### 3. Classification

3.1 Label plates shall be classified by type, grade, class, size, and letter size in accordance with material and method of inscribing, method of attachment, thickness of sheet, strip, or plate, dimensions, and letter size to be used.

<sup>1</sup> This specification is under the jurisdiction of ASTM Committee F25 on Ships and Marine Technology and is the direct responsibility of Subcommittee F25.11 on Machinery and Piping Systems.

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<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 Bureau of Shipping (ABS), ABS Plaza, 16855 Northchase Dr., Houston, TX 77060, <http://www.eagle.org>.

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

#### 3.2 Types and Materials:

3.2.1 *Type I*—Anodized aluminum, engraved.

3.2.2 *Type II*—Anodized aluminum, metal photo.

3.2.3 *Type III*—Stainless steel, engraved.

3.2.4 *Type IV*—Brass, engraved.

3.2.5 *Type V*—Plastic, engraved.

#### 3.3 Grades and Methods of Attachment:

3.3.1 *Grade A*—Adhesive on metal bracket (backing plate) (Sizes A through J).

3.3.2 *Grade B*—Metal strapping or screw (Sizes A through J).

3.3.3 *Grade C*—Welding (Sizes A through J) See also the American Bureau of Shipping Standards.

3.3.4 *Grade D*—Secured by handwheel nut (Sizes K through R).

3.3.5 *Grade E*—Connection to valve stem, bonnet, or flange (Size S).

#### 3.4 Class and Thickness:

3.4.1 *Class 1*— $\frac{1}{8}$  in.

3.4.2 *Class 2*—16 gage.

3.4.3 *Class 3*—20 gage.

3.4.4 *Class 4*—24 gage.

3.5 *Size and Dimensions:* (length by width) or (outside diameter (OD) by inside diameter (ID)).

3.5.1 *Size A*—Rectangular 2 by  $\frac{7}{8}$  in.

3.5.2 *Size B*—Rectangular 2 by  $1\frac{1}{2}$  in.

3.5.3 *Size C*—Rectangular 3 by  $\frac{7}{8}$  in.

3.5.4 *Size D*—Rectangular 3 by  $1\frac{1}{2}$  in.

3.5.5 *Size E*—Rectangular 3 by  $2\frac{1}{4}$  in.

3.5.6 *Size F*—Rectangular 4 by  $\frac{7}{8}$  in.

3.5.7 *Size G*—Rectangular 4 by  $1\frac{1}{2}$  in.

3.5.8 *Size H*—Rectangular 4 by  $2\frac{1}{4}$  in.

3.5.9 *Size J*—Rectangular 4 by  $3\frac{1}{4}$  in.

3.5.10 *Size K*—Circular  $1\frac{3}{16}$  by  $\frac{5}{16}$  in.

3.5.11 *Size L*—Circular  $1\frac{1}{2}$  by  $\frac{5}{16}$  in.

3.5.12 *Size M*—Circular  $1\frac{3}{4}$  by  $\frac{3}{8}$  in.

3.5.13 *Size N*—Circular 2 by  $\frac{3}{8}$  in.

3.5.14 *Size P*—Circular  $2\frac{3}{4}$  by  $\frac{7}{16}$  in.

3.5.15 *Size R*—Circular 3 by  $\frac{9}{16}$  in.

3.5.16 *Size S*—Rectangular, 5 by  $1\frac{1}{2}$  in. with  $\frac{5}{8}$ -in. diameter hole (see Fig. 3). (To be used with Type 3, Grade E only).

#### 3.6 Letter Size:

3.6.1 *Letter Size 1*— $\frac{5}{16}$ -in. letter, approximately three letters per inch.

3.6.2 *Letter Size 2*— $\frac{1}{4}$ -in. letter, approximately four letters per inch.

3.6.3 *Letter Size 3*— $\frac{3}{16}$ -in. letter, approximately five letters per inch.

3.6.4 *Letter Size 4*— $\frac{1}{8}$ -in. letter, approximately eight letters per inch.

#### 4. Ordering Information

4.1 Orders for material under this specification shall include the following:

4.1.1 ASTM Designation and year of issue.

4.1.2 Type.

4.1.3 Grade.

4.1.4 Class.

4.1.5 Size.

4.1.6 Letter size.

4.1.7 Color of lettering (if other than default color black, standard red words, or white when plastic is used).

4.1.8 Inscription (as to be put on label).

4.1.9 Optional characteristics

4.1.9.1 A first option is to indicate “to suit” instead of a size of plate when ordering and the engraver will fit the plate to suit the applicable requirements.

4.1.9.2 A second option is to indicate “to suit” instead of a letter size when ordering and the engraver will fit the lettering (minimum of  $\frac{1}{8}$ -in. letter size) onto the plate size chosen.

4.1.9.3 When nonstandard colors are needed for the label plates, the purchaser should specify.

4.1.9.4 When a letter style other than gothic lettering or arabic numerals is required, the purchaser should specify.

#### 5. Materials and Manufacture

##### 5.1 Materials:

5.1.1 Stainless steel, Specification **A167**, Type 316.

5.1.2 Brass, Specification **B36/B36M**, UNSC 26000.

5.1.3 Aluminum, Specification **B209**, Alloy 5052.

5.1.4 Plastic, Specification **D709**, Grade ES.

5.1.5 Spar varnish.

##### 5.2 Manufacture:

5.2.1 Holes shall not be provided in rectangular plates unless the method of attachment (grade) is Grade B. In this case approximately  $\frac{1}{2}$ -in. left and right margins shall be provided.

5.2.2 Edges of label plates shall be smooth.

5.2.3 Letters (engraved or metal photo), except as noted in **6.4**, shall be black and the background natural. When plastic label plates are used, the core (lettering) shall be white and the outer layer (background) shall be black.

5.2.4 When sea valve label plates are used, or when cautionary words such as “Danger” and “Warning” or fuel words are part of the inscription, the lettering (engraved or metal photo) shall be red and the background natural. When plastic label plates are used, the core of the plate (lettering) shall be white and the outer layer (background) shall be red.

5.2.5 The front of aluminum label plates shall be coated with moisture-resistant spar varnish.

5.2.6 Engraved plates shall be engraved to a minimum depth of 0.008 in. When plastic label plates are used, the depth of engraving shall be sufficient to ensure uniform penetration of the top layer.

5.2.7 A symmetrical and well-balanced arrangement of letters and lines shall be attained with maximum legibility.

5.2.8 Gothic lettering and arabic numerals shall be used unless specified otherwise.

5.2.9 For circular label plates, a  $\frac{1}{16}$ -in. border shall be used when plates are under 2 in. in outside diameter; otherwise, a  $\frac{1}{8}$ -in. border shall be used.

5.2.10 Aluminum plates shall be coated in accordance with Specification **B580**.

#### 6. General Requirements

6.1 Inscription on label plates shall include the system identification number, valve identification number, and the function of the valve. The pressure in line, where the line is coming from or going to, or both, may be included along with any other pertinent information.

6.2 When using label plates without backing, the minimum thickness shall be 20 gage.

6.3 Exterior label plates shall be stainless steel with a minimum thickness of 16 gage (SST gage, 0.0595 in.) except as noted in **6.4**.

6.4 Exterior label plates for valve deck access boxes shall be a minimum of  $\frac{1}{8}$ -in. thickness attached by seal welding as close as possible to the terminal. Label plate material shall be compatible with the deck or bulkhead material.

6.5 Label plates shall be located to ensure maximum visibility.

6.6 When a valve is installed behind an access panel or above a ceiling, an additional label plate shall be installed where normally visible as well as a label plate on the valve itself.

6.7 When using the stainless steel Grade D label plate, the plate shall be attached to the valve stem, bonnet, or flange bolt as appropriate.

6.8 Abbreviations shall be in accordance with ANSI Y1.1.

6.9 The use of 24-gage metal is limited to the use where anodized aluminum is used as the label metal and the method of attachment is Grade A. The metal bracket can be shaped such as Size S.

6.10 When circular label plates are used, it is the purchaser’s responsibility to choose title lengths and letter sizes such that the engraving will not be hidden by any valve components.

6.11 Adhesive-backed plates shall not be used on curved surfaces, surfaces not solid, or where the temperature could exceed 250°F.

6.12 Electrically insulated material shall be used as a backing when metal label plates are attached to bare valves or piping to prevent electrolytic corrosion between dissimilar metals.