



# Standard Specification for Door Fittings, for Watertight /Gastight /Airtight, Weathertight, and Non-Tight Doors, for Marine Use<sup>1</sup>

This standard is issued under the fixed designation F1073; 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 specification covers the principal design and type of material for manufacturing fittings for watertight/gastight/airtight, weathertight, and non-tight doors, for marine use. Note that “gastight” is commercial terminology which also means “airtight” in naval terminology.

1.2 The fittings are intended for use on all doors for marine use, except joiner and expanded metal doors.

## 2. Referenced Documents

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

- A36/A36M Specification for Carbon Structural Steel
- A240/A240M Specification for Chromium and Chromium-Nickel Stainless Steel Plate, Sheet, and Strip for Pressure Vessels and for General Applications
- A276 Specification for Stainless Steel Bars and Shapes
- A563 Specification for Carbon and Alloy Steel Nuts
- A668/A668M Specification for Steel Forgings, Carbon and Alloy, for General Industrial Use
- B140/B140M Specification for Copper-Zinc-Lead (Red Brass or Hardware Bronze) Rod, Bar, and Shapes
- B210 Specification for Aluminum and Aluminum-Alloy Drawn Seamless Tubes

### 2.2 Military Standards:<sup>3</sup>

- MIL-P-24441 Epoxy-Polyamide Paint
- MIL-P-17578A Packing Material, Plastic (for Dogs for Watertight Closures) (Symbol 1425)
- MIL-C-81706 Coating, Aluminum and Aluminum Alloys
- DOD-STD-2138 Metal Sprayed Coating Systems for Corrosion Protection

<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 F25.03 on Outfitting and Deck Machinery.

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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 Standardization Documents Order Desk, DODSSP, Bldg. 4, Section D, 700 Robbins Ave., Philadelphia, PA 19111-5098, <http://www.dodssp.daps.mil>.

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

QQ-C-390 Copper Alloy Castings

TT-E-490 Enamel-Silicone Alkyd Copolymer, Semi-gloss, Exterior

### 2.4 ANSI Standard:

A2.6 Standard for Fire Tests of Window Assemblies<sup>4</sup>

### 2.5 AISI Standard:

316 Low Alloy Stainless Steel (Cres 316)<sup>5</sup>

## 3. Classification

3.1 The dogs and hinges shall be classified as given in Table 1.

## 4. Ordering Information

4.1 Ordering for fittings shall be indicated on the purchase order prepared for doors, with reference to this specification noted.

4.2 When ordering fittings, indicate the following:

- 4.2.1 Type,
- 4.2.2 Quantity,
- 4.2.3 Marking (see Section 8), and

4.3 Inspection and acceptance of fittings shall be agreed upon between the purchaser and the supplier.

## 5. Materials and Manufacture

5.1 The material shall be as specified in Tables 2-4.

5.2 All securing screws and fasteners shall be of stainless steel, Type 316.

5.3 All glazing in portlights of fire door shall meet ANSI A2.6.

## 6. Construction, Shape, and Dimensions

6.1 The construction, shape, and dimensions for dogs and hinges shall be as shown in Figs. 1-9.

6.2 Door dogs shall be supplied with hold-open clips.

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

<sup>5</sup> Available from American Iron and Steel Institute (AISI), 1140 Connecticut Ave., NW, Suite 705, Washington, DC 20036, <http://www.steel.org>.

**TABLE 1 Classification of Dogs and Hinges**

Type	Description
<i>Dog:</i>	
A	Fitted to door
B	Fitted to door frame
<i>Hinge:</i>	
A	With clenched pin
B	With clenched pin secured with cotter pin

**TABLE 2 Material for Door Dogs**

Component		Mild Steel	Aluminum	Glass-Reinforced Plastic
Number	Item			
1	Handle interior	Specification <b>A668/A668M</b>	Specification <b>A668/A668M</b>	Specification <b>A668/A668M</b>
2	Handle exterior	Specification <b>A668/A668M</b>	Specification <b>A668/A668M</b>	Specification <b>A668/A668M</b>
3	Jam nut	Specification <b>A563</b>	Specification <b>A563</b>	Specification <b>A276</b>
4	Spring washer	steel commercial	AISI (316)	AISI (316)
5	Washer	steel commercial	steel commercial	steel commercial
6	Dog sleeve	Specification <b>A36/A36M</b>	Specification <b>B210 (AL-5086)</b>	Specification <b>B210 (AL 5086)</b>
7	Bushing	oil impregnated bronze	oil impregnated bronze	oil impregnated bronze
8	Packing	MIL-P-17578A	MIL-P-17578A	MIL-P-17578A
9	Packing gland	MIL-P-17578A	MIL-P-17578A	MIL-P-17578A
10	Grease fitting	Specification <b>B140/B140M</b>	Specification <b>B140/B140M</b>	Specification <b>B140/B140M</b>
11	Wedge	QQ-C-390	Specification <b>B210</b>	QQ-C-390

**TABLE 3 Material for Door Hinges**

Component		Mild Steel	Aluminum	Glass-Reinforced Plastic
Number	Item			
1	Piece to frame	Specification <b>A36/A36M</b>	Specification <b>A240/A240M</b>	Specification <b>A240/A240M</b>
2	Piece to door	Specification <b>A36/A36M</b>	Specification <b>A240/A240M</b>	Specification <b>A240/A240M</b>
3	Clenched pin	corrosion-resistant steel (316)	corrosion-resistant steel (316)	corrosion-resistant steel (316)
4	Washer	corrosion-resistant steel (commercial)	corrosion-resistant steel (commercial)	corrosion-resistant steel (commercial)
5	Cotter pin	corrosion-resistant steel (commercial)	corrosion-resistant steel (commercial)	corrosion-resistant steel (commercial)

**TABLE 4 Material for Miscellaneous Fittings Door Material**

Component		Mild Steel	Aluminum	Glass-Reinforced Plastic
Number	Item			
1	Port light	Specification <b>A240/A240M</b>	Specification <b>A240/A240M</b>	Specification <b>A240/A240M</b>
2	Label plate	Specification <b>A240/A240M</b>	Specification <b>A240/A240M</b>	Specification <b>A240/A240M</b>
3	Hasp and eye	Specification <b>A276</b>	Specification <b>A276</b>	Specification <b>A276</b>
4	Hold back hook	Specification <b>A276</b>	Specification <b>A276</b>	Specification <b>A276</b>
5	Grab handle	Specification <b>A276</b>	Specification <b>A276</b>	Specification <b>A276</b>

## 7. Workmanship, Finish, and Appearance

7.1 All materials shall have a smooth finish.

7.2 Pretreatment and priming of door fittings shall be as follows:

7.2.1 Mild steel fittings shall be abrasive blasted to “near white” metal and coated with inorganic zinc silicate at 1.5 to 3.0 mils.

7.2.2 Steel fittings, secured on doors, shall be welded to steel; whereas aluminum fittings when secured to aluminum or glass-reinforced plastic doors, shall be welded or bolted into position.

7.2.3 Nonferrous fittings shall be either riveted or bolted to aluminum, steel or glass-reinforced plastic doors, or combination thereof.

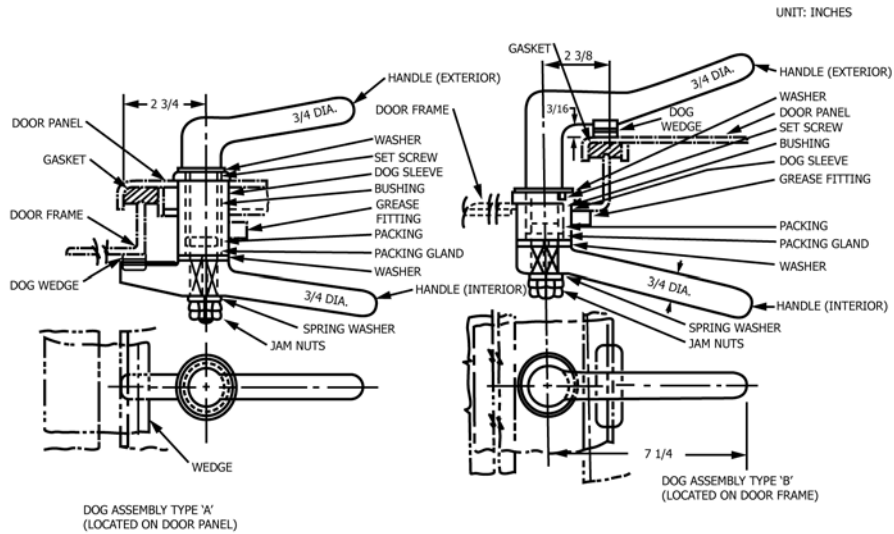
7.2.4 Where different metals are to be used, insulation shall be used between them, in way of contact, to prevent galvanic action.

## 8. Product Marking

8.1 Each fitting shall be marked with its purchase order number and shall indicate the type of fitting, left hand or right hand. The marking shall be applied on a waterproof tag and attached to the fitting.

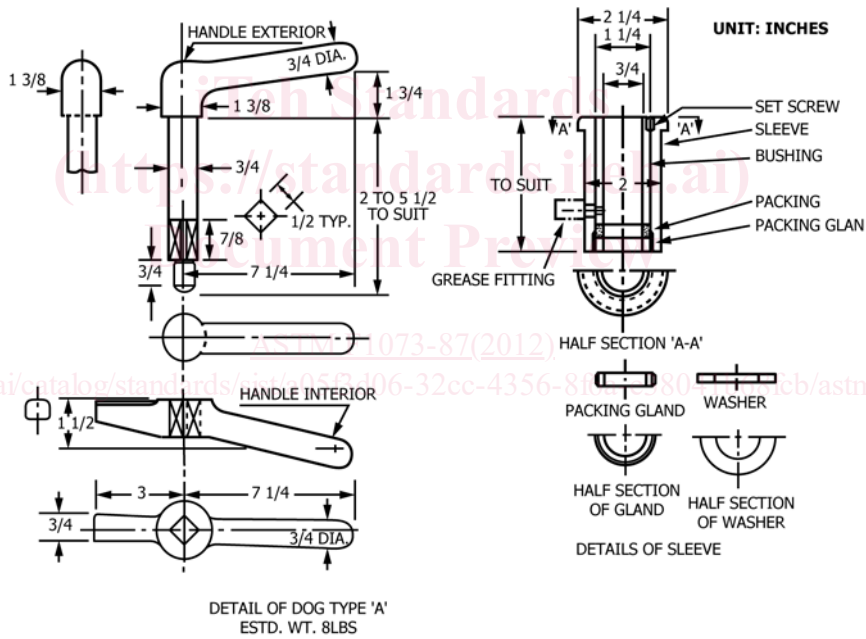
## 9. Keywords

9.1 airtight; door fittings; doors; gastight; marine; non-tight; ship; tightness integrity; watertight; weathertight



1 in. = 25.4 mm  
2.2 lb = 1 kg

FIG. 1 Watertight, Airtight, and Weathertight Door Dog Assembly (Estimated Weight 8 lb)



1 in. = 25.4 mm  
2.2 lb = 1 kg

FIG. 2 Dog Details