



Standard Specification for Door Fittings, for Watertight /Gastight /Airtight, Weathertight, and Non-Tight Doors, for Marine Use¹

This standard is issued under the fixed designation F 1073; 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 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:

- A 36/A36M Specification for Carbon Structural Steel²
- A 240/A 240M Specification for Heat-Resisting Chromium and Chromium-Nickel Stainless Steel Plate, Sheet, and Strip for Pressure Vessels³
- A 276 Specification for Stainless and Heat-Resisting Steel Bars and Shapes⁴
- A 563 Specification for Carbon and Alloy Steel Nuts⁵
- A 668 Specification for Steel Forgings, Carbon and Alloy, for General Industrial Use⁴
- B 140/B 140M Specification for Copper-Zinc-Lead Red Brass or Hardware Bronze Rod, Bar and Shapes⁶
- B 210 Specification for Aluminum and Aluminum-Alloy Drawn Seamless Tubes⁷

2.2 Military Standards:

- MIL-P-24441 Epoxy-Polyamide Paint⁸
- MIL-P-17578A Packing Material, Plastic (for Dogs for Watertight Closures) (Symbol 1425)⁸
- MIL-C-81706 Coating, Aluminum and Aluminum Alloys⁸
- DOD-STD-2138 Metal Sprayed Coating Systems for Corrosion Protection⁸

2.3 Federal Specifications:

QQ-C-390 Copper Alloy Castings⁸

TT-E-490 Enamel-Silicone Alkyd Copolymer, Semi-gloss, Exterior⁸

2.4 ANSI Standard:

A2.6 Standard for Fire Tests of Window Assemblies⁹

2.5 AISI Standard:

316 Low Alloy Stainless Steel (Cres 316)¹⁰

3. Classification

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

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

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.

¹ 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.

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² Annual Book of ASTM Standards, Vol 01.04.

³ Annual Book of ASTM Standards, Vol 01.03.

⁴ Annual Book of ASTM Standards, Vol 01.05.

⁵ Annual Book of ASTM Standards, Vol 15.08.

⁶ Annual Book of ASTM Standards, Vol 02.01.

⁷ Annual Book of ASTM Standards, Vol 02.02.

⁸ Available from Standardization Documents Order Desk, Bldg. 4 Section D, 700 Robbins Ave., Philadelphia, PA 19111-5094, Attn: NPODS.

⁹ Available from American National Standards Institute, 25 W. 43rd St., 4th Floor, New York, NY 10036.

¹⁰ Available from American Iron and Steel Institute, 1101 17th St., NW, Suite 1300, Washington, DC 20036.

TABLE 2 Material for Door Dogs

Component		Mild Steel	Aluminum	Glass-Reinforced Plastic
Number	Item			
1	Handle interior	Specification A 668	Specification A 668	Specification A 668
2	Handle exterior	Specification A 668	Specification A 668	Specification A 668
3	Jam nut	Specification A 563	Specification A 563	Specification A 276
4	Spring washer	steel commercial	AISI (316)	AISI (316)
5	Washer	steel commercial	steel commercial	steel commercial
6	Dog sleeve	Specification A 36/A 36M	Specification B 210 (AL-5086)	Specification B 210 (AL 5086)
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 140/B 140M	Specification B 140/B 140M	Specification B 140/B 140M
11	Wedge	QQ-C-390	Specification B 210	QQ-C-390

TABLE 3 Material for Door Hinges

Component		Mild Steel	Aluminum	Glass-Reinforced Plastic
Number	Item			
1	Piece to frame	Specification A 36/A 36M	Specification A 240/A 240M	Specification A 240/A 240M
2	Piece to door	Specification A 36/A 36M	Specification A 240/A 240M	Specification A 240/A 240M
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 A 240/A 240M	Specification A 240/A 240M	Specification A 240/A 240M
2	Label plate	Specification A 240/A 240M	Specification A 240/A 240M	Specification A 240/A 240M
3	Hasp and eye	Specification A 276	Specification A 276	Specification A 276
4	Hold back hook	Specification A 276	Specification A 276	Specification A 276
5	Grab handle	Specification A 276	Specification A 276	Specification A 276

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.

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.

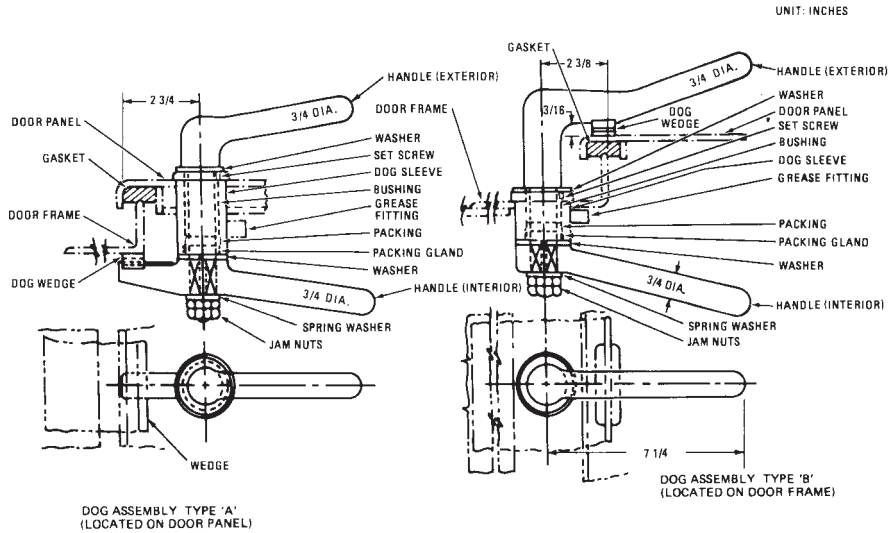
7.2.4 Where different metals are to be used, insulation shall be used between them, in way of contact, to prevent galvanic action.

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.

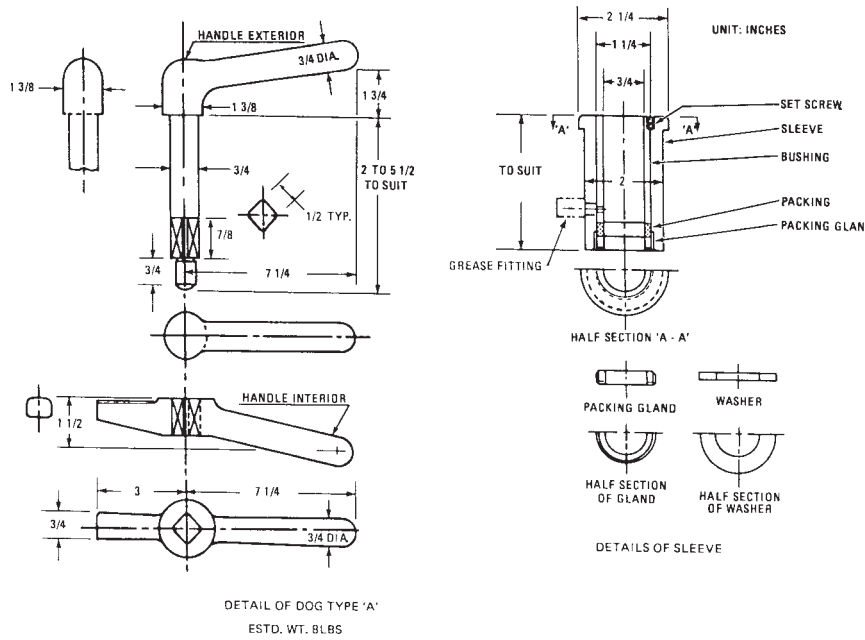
9. Keywords

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



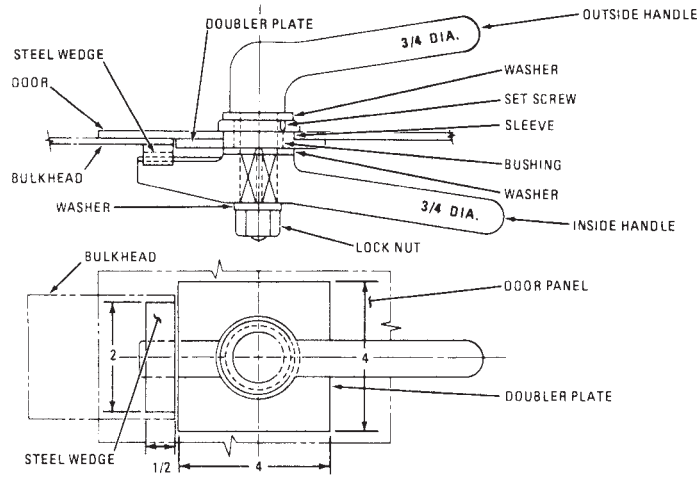
NOTE—1 in. = 25.4 mm.
2.2 lb = 1 kg.

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



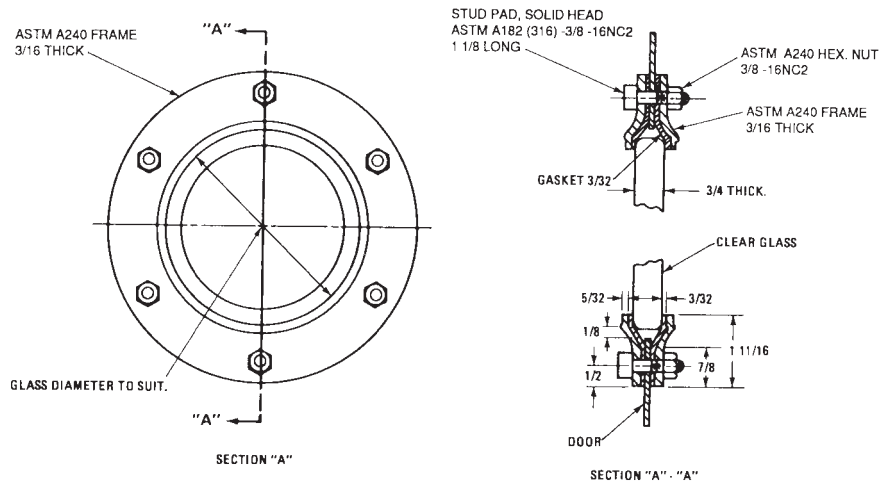
NOTE—1 in. = 25.4 mm.
2.2 lb = 1 kg.

FIG. 2 Dog Details



NOTE—1 in. = 25.4 mm.
2.2 lb = 1 kg.

FIG. 3 Dog Assembly for Non-Tight Doors (Estimated Weight 8 lb)

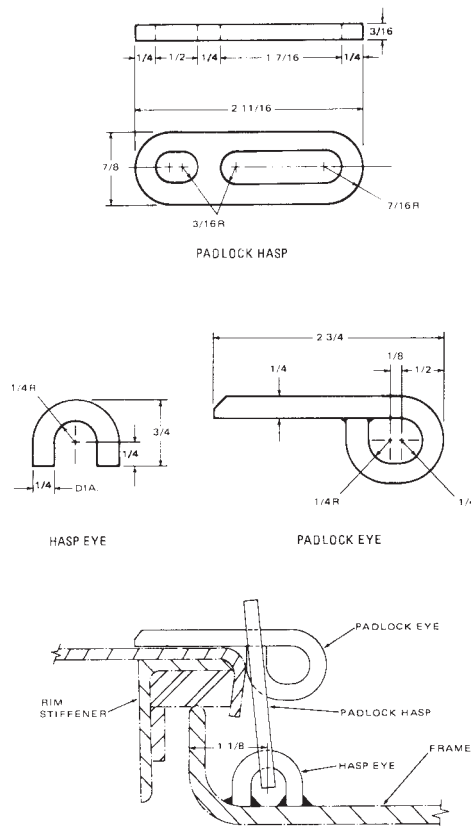


ESTD. WT. 1 1/2 LB. WITHOUT GLASS

NOTE—1 in. = 25.4 mm.

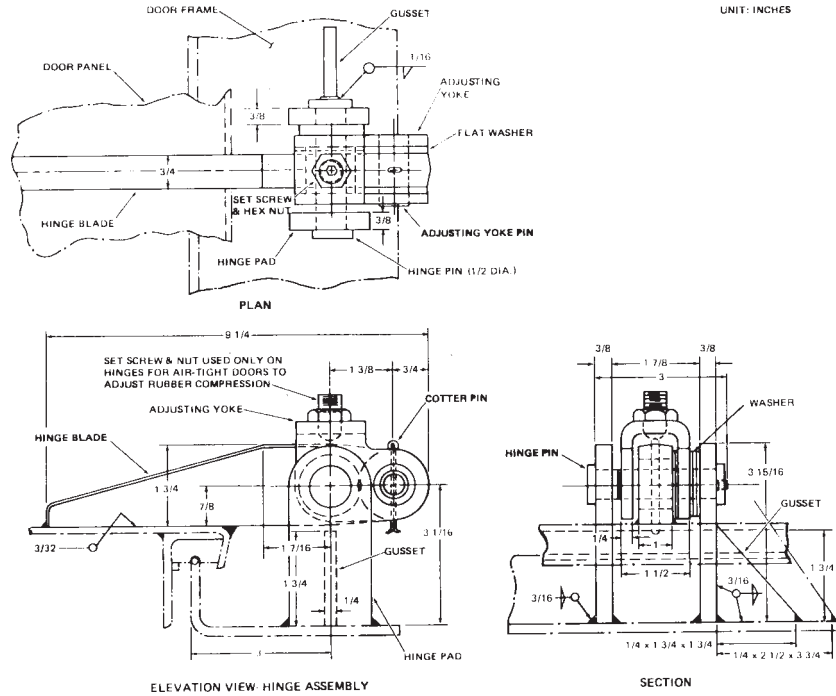
FIG. 7 Frame Assembly Fixed Light

UNIT: INCHES



NOTE—1 in. = 25.4 mm.

FIG. 8 Hasp and Eye Assembly "A"



NOTE—1 in. = 25.4 mm.

FIG. 9 Hinge Assembly for Aluminum Doors

SUPPLEMENTARY REQUIREMENTS

The following supplementary requirement shall apply only when specified by the contract or order.

S1. Painting

S1.1 Pretreatment and priming of mild steel door components shall consist of metal spray coating in accordance with DOD-STD-2138, Type II on both sides before assembly.

S1.2 Aluminum door components shall be treated with a chemical conversion coating MIL-C-81706, followed with a

second coat of epoxy polyamide primer (formula 150 of MIL-P-24441) alkyd haze gray (TT-E-490) or equal. Coating to be applied before assembly, following surface preparation, in accordance with the manufacturer's instructions.

S1.3 Special heat resisting gaskets, in accordance with MIL-P-17578A, are to be used.

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