NOTICE: This standard has either been superseded and replaced by a new version or withdrawn.
Contact ASTM International (www.astm.org) for the latest information

Designation: F 821/F 821M – 01

An American National Standard

Standard Specification for Domestic Use Doors and Frames, Steel, Interior, Marine[1]

This standard is issued under the fixed designation F 821/F 821M; 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 construction of standard and custom-built interior steel doors and frames for ships including U.S. Coast Guard certificated vessels with domestic routes.

1.2 Doors and frames are to be hollow metal construction with the door insulated for sound or fire.

1.3 The doors are intended for use in staterooms, lavatories, passageways, and other areas protected from weather.

1.4 The values stated in either inch-pound units or SI units are to be regarded separately as standard. Within the text, the SI units are shown in brackets. The values stated in each system are not exact equivalents; therefore, each system must be used independently of the other.

2. Referenced Documents

2.1 *ASTM Standards:*

A 240/A 240M Specification for Heat-Resisting Chromium and Chromium-Nickel Stainless Steel Plate, Sheet, and Strip for Pressure Vessels[2]

A 582/A 582M Specification for Free-Machining Stainless Steel Bars[3]

A 1008/A 1008M Specification for Steel, Sheet, Cold-Rolled, Carbon, Structural, High-Strength Low-Alloy and High-Strength Low-Alloy with Improved Formability[2]

E 136 Test Method for Behavior of Materials in a Vertical Tube Furnace at 750°C[4]

2.2 *Code of Federal Regulations (CFR) Title 46—Shipping:*

Subchapter D—Tank Vessels, Subpart 32.57—Structural Fire Protection[5]

Subchapter H—Passenger Vessels, Subpart 72.05—Structural Fire Protection[5]

Subchapter I—Cargo and Miscellaneous Vessels, Subpart 92.07—Structural Fire Protection[5]

Subchapter T—Small Passenger Vessels, Subpart 177.300—Hull Structure[5]

Subchapter U—Oceanographic Vessels, Subpart 190.07—Structural Fire Protection[5]

Structural Insulations, Subpart 164.007[5]

Structural Insulations, Subpart 164.107[5]

Noncombustible Materials for Merchant Vessels, Subpart 164.009[5]

Noncombustible Materials, Subpart 164.109[5]

2.3 *Builders Hardware Manufacturers Association, Inc.:*

A 156.18 Materials and Finishes[6]

2.4 *U.S. Public Health Service:*

Publication No. 393, Handbook on Sanitation of Vessel Construction[7]

3. Terminology

3.1 *Definitions of Terms Specific to This Standard:*

3.1.1 *hands of doors*—a term used to describe a door from the outside or key side of the door.

3.1.2 *right-hand regular door*—a door having hinges on the right side when swinging door away from the individual opening it.

3.1.3 *left-hand regular door*—a door having hinges on the left side when swinging door away from the individual opening it.

3.1.4 *right-hand reverse bevel door*—a door having hinges on right side when swinging door towards the individual opening it.

3.1.5 *left-hand reverse bevel door*—a door having hinges on left side when swinging door towards the individual opening it.

3.1.6 *face plates*—the exterior metal skins that enclose the internal supporting structure of the door.

3.1.7 *latch*—a device normally installed in the vertical edge of door, opposite hinge edge, that when latched retains door in closed position.

---

[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.

Current edition approved Oct. 10, 2001. Published December 2001. Originally published as F 821 – 83. Last revision F 821 – 95.

[2] *Annual Book of ASTM Standards*, Vol 01.03.

[3] *Annual Book of ASTM Standards*, Vol 01.05.

[4] *Annual Book of ASTM Standards*, Vol 04.07.

[5] Available from the Superintendent of Documents, U.S. Government Printing Office, Washington, DC 20402.

[6] Available from BHMA, Inc., 355 Lexington Ave., 17th Floor, New York, NY 10017.

[7] Available from United States Public Health Services, Division of Engineering Services, Parklawn Library, Room 1315, 5600 Fishers Lane, Rockville, MD 20857, Attention: Ms. Bonnie Scott.

Copyright © ASTM International, 100 Barr Harbor Drive, PO Box C700, West Conshohocken, PA 19428-2959, United States.

Documents
Document Sharing Hub

Full document details: ASTM F821/F821M-01

3.1.8 *throw*—the extension, or reach, of the latch bolt. This throw is measured from latch face plate to extreme outer edge of latch bolt with latch bolt in fully extended position.

3.1.9 *padlock eye*—a means for securing door in closed position by the use of a padlock.

4. Classification

4.1 Classes of doors and frames shall be as indicated in the ordering information. (See Annex A1 for definition of various class divisions.)

4.1.1 Class A-O for installation in Class A-O divisions.

4.1.2 Class A for installation in Class A-15, A-30, and A-60 divisions.

4.1.3 Class B for installation in Class B divisions.

4.1.4 Class C for installation in Class C divisions.

4.2 Doors and frames shall be of the following types as indicated in ordering information.

4.2.1 Type I standard doors are of the following widths. Height and details shall conform to Tables 1-6 and Figs. 1-3.

Size 1—22-in. (559-mm) clear jamb width
Size 2—24-in. (610-mm) clear jamb width
Size 3—26-in. (660-mm) clear jamb width
Size 4—30-in. (762-mm) clear jamb width
Size 5—36-in. (914-mm) clear jamb width

4.2.2 Type II doors conforming generally to specifications but requiring special requirements as indicated in the ordering information (see also 6.7.9).

4.2.3 Type III double doors using two of Type I doors.

4.2.4 Type IV double doors using two of Type II doors.

NOTE 1—Door widths are *approximately* 1¼ in. (approximately 32 mm) greater than clear jamb width.

5. Ordering Information

5.1 Orders for items under this specification shall include the following information by the purchaser:

5.1.1 Class A-O, A, B, or C.

5.1.2 Type, hand, clear jamb width, and sill height.

5.1.3 Options such as vent grills, louvers, vision lights, and hose ports.

5.1.4 Hardware, sill caps, lock sets, latches, door closers, and hold backs if other than manufacturer's standard. Master keying of door locks will not be provided unless required and defined by ordering documents. Instead, each door lock will be keyed differently.

5.1.5 Color chip and desired painting specifications or other commercial designation for final finish. If not specified, doors will have manufacturer's prime coat applied.

TABLE 2 Class A-O and A Sill Details

Sill Height (*H*)		Maximum Door Undercut (*G*)	
in.	mm	in.	mm
0	0	½ max above finished floor	13 max above finished floor
1½	38	½	13
6[A]	152	½	13

[A] Max coaming height under sill is 5 in. (127 mm).

5.1.6 For Type II and III doors, sizes and any other supplementary requirements.

5.1.7 *Sill Heights*—0 in. (0 mm), 1½ in. (38 mm), or 6 in. (152 mm). See Figs. 1-3.

5.1.8 Cut out for light switch; if not requested in ordering data, no provisions will be made.

6. Materials and Manufacture

6.1 For typical design, see Figs. 1-3.

6.2 Steel for doors and frames shall be cold-rolled sheet, commercial quality in accordance with Specification A 1008/A 1008M. Other materials shall be as indicated.

6.3 Class A-O Doors (See Fig. 1 and Table 1 and Table 2):

6.3.1 Door shall be 1¾-in. (45-mm) thick hollow steel with 0.055-in. (1.4-mm) minimum face plates or equivalent metal construction.

6.3.2 Doors shall have a latch with a minimum throw of ¾ in. (19 mm).

6.3.3 Door frames shall be of steel with a nominal thickness of 0.055 in. (1.4 mm) and shall be installed so that any flame penetration would be through at least two thicknesses of 0.055 in. (1.4 mm) or equivalent.

6.3.4 Door frames shall provide a stop of ⅝ in. (16 mm) minimum at the sides and top.

6.3.5 For undercut at bottom of door, see Fig. 1 and Table 2.

6.3.6 Doors other than those that are normally locked shall be self closing and capable of closing against a 3½° list.

6.3.7 Doors shall be insulated with sufficient noncombustible fibrous insulation to sound dampen the door adequately. This insulation shall be selected from those listed under Section 164.007, Structural Insulations, or Section 164.009, Noncombustible Materials.

6.3.8 *Options for Class A-O and A Doors*:

6.3.8.1 Vision lights may be installed using wire-inserted glass of not more than 100 in.^{2} (645 cm^2) in size.

6.3.8.2 An escape panel of 16- by 18-in. (406- by 457-mm) minimum size in lower half of door.

TABLE 1 Class A-O and Class A Door Dimension Table of Dimensions—Door

Designation		in.	mm
Thickness	*A*	1¾	45
Clear height from structural deck	*B*	78½	1994
Clear height from finished deck	*C*	approximately 78	approximately 1981
Height from structural deck to center line of vision light	*D*	64	1626
Height from structural deck to center line of cutout for switch	*E*	48	1219
Height from structural deck to center line of knob	*F*	38	965
Undercut	*G*	see Table 2	see Table 2
Sill height	*H*	see Table 2	see Table 2

AVA Documents
Document Sharing Hub

Full document details: ASTM F821/F821M-01