Designation: F 1196 – 94 (Reapproved 2000)

An American National Standard

Standard Specification for Sliding Watertight Door Assemblies[1]

This standard is issued under the fixed designation F 1196; 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 design, manufacture, and testing of sliding watertight door assemblies intended to ensure the watertight integrity of personnel access openings in watertight bulkheads.

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

2. Referenced Documents

2.1 *ASTM Standards:*

A 36/A 36M Specification for Carbon Structural Steel[2]

F 1197 Specification for Sliding Watertight Door Control Systems[3]

2.2 *Military Specification:*

MIL-S-901 Shock Test, H.I. (High Impact); Shipboard Machinery, Equipment and Systems, Requirements for[4]

2.3 *American Bureau of Shipping:*

Rules for Building and Classing Steel Vessels[5]

2.4 *Code of Federal Regulations:*[6]

Title 46, Part 159.010, Independent Laboratory: Acceptance, Listing and Termination

Title 46, Part 163.001, Doors, Watertight, Sliding (and Door Controls), for Merchant Vessels

2.5 *International Maritime Organization (IMO):*

Assembly Resolution A.517(13), Recommendation on Fire Test Procedures for" A," "B," and "F" Class Divisions[7]

3. Terminology

3.1 *Definitions:*

3.1.1 *door assembly*—a door panel and its associated panel stiffening.

3.1.2 *frame assembly*—a rigid frame designed to be attached to a watertight bulkhead. The guide tracks necessary to ensure proper door and frame alignment are also included as part of the frame assembly.

3.1.3 *horizontal sliding watertight door*—a sliding watertight door that opens and closes with a horizontal movement.

3.1.4 *opening hand*—the direction in which a horizontal sliding watertight door opens. A left-hand opening door opens to the left when viewed from the side of the bulkhead on which the door assembly is located. A right-hand opening door opens to the right when viewed from the side of the bulkhead on which the door assembly is located.

3.1.5 *pressure head*—the pressure which a sliding watertight door assembly is designed to withstand. For a door located below the bulkhead deck, it is equivalent to the pressure exerted by a column of water the height of which is equal to the vertical distance from the bulkhead deck to the door sill in its installed location. For a door located above the bulkhead deck, it is equivalent to the pressure exerted by the maximum head of water for its location, as determined in the damage stability calculations.

3.1.6 *sliding watertight door assembly*—a steel door assembly and a steel frame assembly fitted with a replaceable interface between the two that ensures watertightness between door and frame at the design pressure head.

3.1.7 *vertical sliding watertight door*—a sliding watertight door that opens and closes with a vertical movement.

4. Classification

4.1 Sliding watertight doors consist of four types:

4.1.1 *Type IA*—Horizontal doors that conform to the sizes specified in Table 1 as illustrated in Fig. 1.

4.1.2 *Type IB*—Vertical doors that conform to the sizes specified in Table 2 as illustrated in Fig. 2.

4.1.3 *Type IIA*—Horizontal doors that conform generally to the requirements of this specification, but that necessitate special requirements as indicated in Section 5.

4.1.4 *Type IIB*—Vertical doors that conform generally to the requirements of this specification, but that necessitate special requirements as indicated in Section 5.

4.2 Watertight doors consist of three classes:

NOTE 1—These classifications are in agreement with those defined and accepted by the International Convention for the Safety of Life at Sea (SOLAS), regulatory bodies, and classification societies.

4.2.1 *Class 1*—Doors that are hinged and dogged. This

[1] This specification is under the jurisdiction of Committee F-25 on Ships and Marine Technology and is the direct responsibility of Subcommittee F25.03 on Outfitting.

Current edition approved Oct. 15, 1994. Published December 1994. Originally published as F 1196 – 89. Last previous edition F 1196 – 89.

[2] *Annual Book of ASTM Standards*, Vol 01.04.

[3] *Annual Book of ASTM Standards*, Vol 01.07.

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

[5] Available from American Bureau of Shipping, ABS Plaza, 16855 Northchase Dr., Houston, TX 77060.

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

[7] Available from the International Maritime Organization, 4 Albert Embankment, London, SE1 7SR UK.

TABLE 1 Type IA Door Dimensions

Size	Door Size	A, in.[A]	B, in.	C, in.	D, in.	E, in.	F, in.
1	2 ft. 2 in. by 5 ft. 6 in.	26	66	64	76	17	78
2	2 ft. 6 in. by 5 ft. 0 in.	30	60	72	84	16	72
3	2 ft. 6 in. by 6 ft. 0 in.	30	72	72	84	18	84
4	3 ft. 0 in. by 5 ft. 6 in.	36	66	84	96	18	78

[A] 1 in. = 25.4 mm.

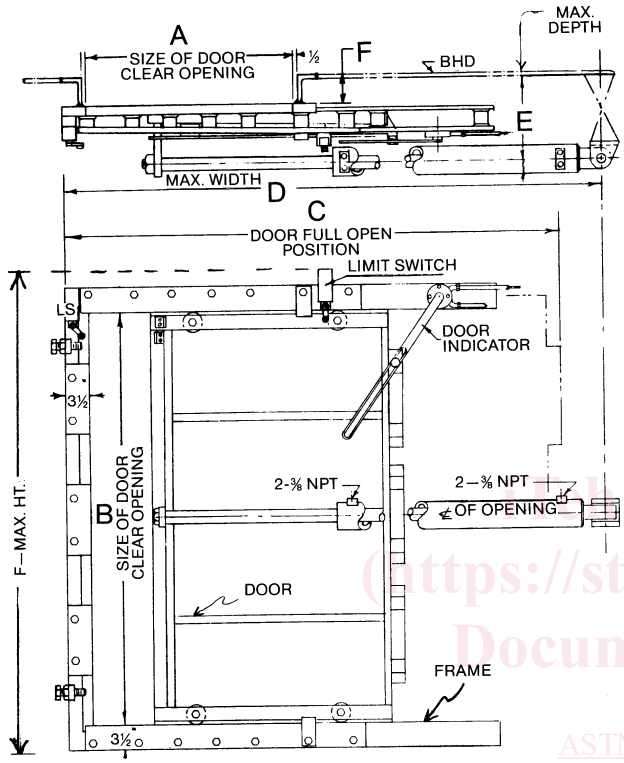

FIG. 1 Type IA Door and Frame

TABLE 2 Type IB Door Dimensions

Size	Door Size	A, in.[A]	B, in.	C, in.	D, in.	E, in.
1	2 ft. 2 in. by 5 ft. 6 in.	26	66	142	155	17
2	2 ft. 6 in. by 5 ft. 0 in.	30	60	130	143	16
3	2 ft. 6 in. by 6 ft. 0 in.	30	72	154	167	18
4	3 ft. 0 in. by 5 ft. 6 in.	36	66	142	155	18

[A] 1 in. = 25.4 mm.

specification is not applicable to this class of door.

4.2.2 *Class 2*—Sliding doors that are operable both locally and remotely by hand gear.

4.2.3 *Class 3*—Sliding doors that are operable both locally and remotely by hand and by power.

5. Ordering Information

5.1 The following shall be specified when ordering:

5.1.1 Quantity,

5.1.2 Type,

5.1.3 Class,

5.1.4 Size,

5.1.5 Opening hand,

5.1.6 Door and frame material,

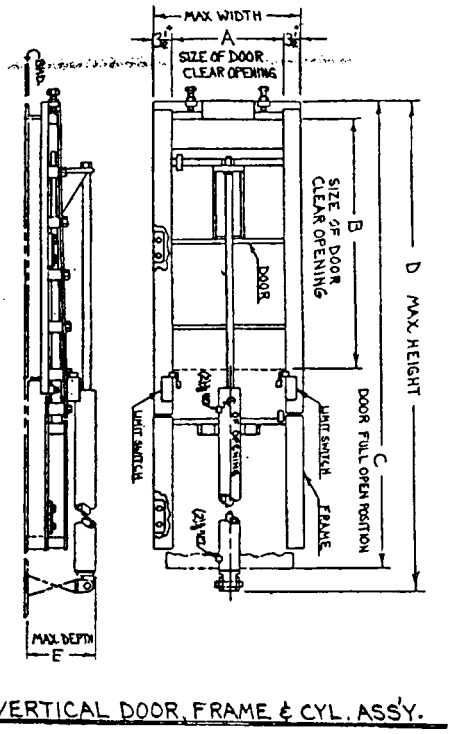

FIG. 2 Type IB Door and Frame

5.1.7 Pressure head (if other than standard),

5.1.8 Supplementary requirements (if any),

5.1.9 Additional requirements as contracted by the manufacturer and purchaser, and

5.1.10 ASTM specification designation.

6. Design

6.1 Sliding watertight door assemblies shall be designed to maintain watertightness within the limits set forth in this specification. Doors shall be designed to open and close within the limitations specified in Specification F 1197.

6.2 Assemblies shall be of substantial and rigid construction to ensure that doors can be closed under the design pressure head.

6.3 There shall be a replaceable interface between the door and frame assemblies, such as a brass rubbing strip or resilient gasket, to ensure watertightness between door and frame at the design pressure head.

6.3.1 The replaceable interface may be incorporated into the door assembly, the frame assembly, or both.

6.3.2 Assemblies shall be designed and constructed so as to be capable of preventing the passage of smoke and flame, and heat when specified by the purchaser, to the end of the 1-h standard fire test described by IMO Assembly Resolution A.517(13) to at least the same degree as the adjacent bulkhead. A fire test is not required if the assembly design incorporates details that have been demonstrated to prevent the passage of smoke and flame.

6.3.3 Assembles shall be designed in such a manner that the replaceable interface will be protected from damage when the door is in the open position.

6.4 Sliding watertight door assemblies shall be designed to