



**Designation: F 991 - 86**

**NOTICE:** This standard has either been superseded and replaced by a new version or discontinued.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

AMERICAN SOCIETY FOR TESTING AND MATERIALS  
1916 Race St., Philadelphia, Pa. 19103

Reprinted from the Annual Book of ASTM Standards, Copyright ASTM  
If not listed in the current combined index, will appear in the next edition.

## Standard Specification for DOCKING/DRAIN PLUG AND BOSS ASSEMBLIES<sup>1</sup>

This standard is issued under the fixed designation F 991; 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 provides design, construction, and purchasing criteria for docking/drain plug and boss assemblies.

1.2 Assemblies are intended for installation in shell, rudder, and tank bottom plate from  $\frac{5}{16}$  through  $1\frac{1}{2}$  in.

1.3 Assemblies shall be installed at the lowest point of a tank or rudder for draining during dry docking or cleaning of tanks.

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

### 2. Referenced Documents

#### 2.1 ASTM Standard:

B 164 Specification for Nickel-Copper Alloy Rod and Bar<sup>2</sup>

#### 2.2 Other Documents:

ABS Rules for Building and Classing Steel Vessels<sup>3</sup>

ANSI B2.1 Standard Pipe Threads Except Dryseal<sup>4</sup>

### 3. Classification

3.1 Docking plugs and bosses shall be classified as follows:

3.1.1 *Type I*—Docking plug and bosses for plating from  $\frac{5}{16}$  to  $\frac{3}{8}$  in. (see Fig. 1).

3.1.2 *Type II*—Docking plug and bosses for plating greater than  $\frac{3}{8}$  to  $1\frac{1}{2}$  in. (see Fig. 2).

### 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 Optional nonstandard materials.

### 5. Materials and Manufacture

#### 5.1 Materials:

5.1.1 *Boss*—ABS Grade A or B, plate or bar.

5.1.2 *Plug*—Specification B 164 rod or bar.

5.1.3 Other materials may be substituted to suit hull construction as approved by regulatory bodies.

#### 5.2 Manufacture:

5.2.1 Plugs and bosses shall be machined.

5.2.2 Threads shall be in accordance with ANSI B2.1.

### 6. Dimensions and Tolerances

6.1 Dimensions shall be as indicated in Figs. 1 and 2.

6.2 Tolerance shall be  $\pm\frac{1}{16}$  in.

6.3 Weight shall be as follows:

	Type I	Type II
Boss	3.5 lb	12.4 lb
Plug	0.8 lb	1.4 lb
Total	4.3 lb	13.8 lb

### 7. Installation

7.1 All welding shall be the standards of the rules for building and classing of steel vessels (ABS).

7.2 Threads shall be adequately protected during installation.

<sup>1</sup> This specification is under the jurisdiction of ASTM Committee F-25 on Shipbuilding and is the direct responsibility of Subcommittee F25.04 on Hull Structure.

Current edition approved March 27, 1986. Published June 1986.

<sup>2</sup> Annual Book of ASTM Standards, Vol 02.04.

<sup>3</sup> Available from American Bureau of Shipping, 45 Eisenhower Dr., Paramus, NJ 07652.

<sup>4</sup> Available from American National Standards Institute, 1430 Broadway, New York, NY 10018.