



Standard Specification for Docking/Drain Plug and Boss Assemblies [Metric]¹

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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 8 through 38 mm.

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

1.4 The values stated in SI units are to be regarded as the standard.

2. Referenced Documents

2.1 *ASTM Standards*:²

[B164 Specification for Nickel-Copper Alloy Rod, Bar, and Wire](#)

2.2 *Other Documents*:

[ABS Rules for Building and Classing Steel Vessels](#)³

[ANSI B2.1 Standard Pipe Threads Except Dryseal](#)⁴

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 8 to 15 mm (see [Fig. 1](#)).

3.1.2 *Type II*—Docking plug and bosses for plating greater than 15 to 38 mm (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 (See [Section 3](#)).

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² For referenced ASTM standards, visit the ASTM website, www.astm.org, or contact ASTM Customer Service at service@astm.org. For *Annual Book of ASTM Standards* volume information, refer to the standard's Document Summary page on the ASTM website.

³ Available from American Bureau of Shipping (ABS), ABS Plaza, 16855 Northchase Dr., Houston, TX 77060, <http://www.eagle.org>.

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

4.1.3 Optional nonstandard materials.

5. Materials and Manufacture

5.1 *Materials*:

5.1.1 *Boss*—ABS Grade plate or bar; shall be same or compatible with the parent plate in either mild or high strength steel.

5.1.2 *Plug*—Specification [B164](#) rod or bar.

5.1.3 Other materials for the plug 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 [Fig. 1](#) and [Fig. 2](#).

6.2 Tolerance shall be ± 1.5 mm.

6.3 Mass shall be as follows:

	Type I	Type II
Boss	1.6 kg	5.7 kg
Plug	0.6 kg	1.0 kg
Total	2.2 kg	6.7 kg

7. Installation

7.1 All welding shall be to the standards of the Rules for Building and Classing of Steel Vessels (ABS).

7.2 Threads shall be adequately protected during installation.

7.3 Fill plug face with portland cement or other suitable compound and finish flush with face of boss.

7.4 Boss shall be inserted so that drain grooves run forward and aft.

7.5 Plugs shall not be installed near large structural discontinuities.

7.6 Adjacent shell plating weld joint preparation shall be as required to ensure full penetration.

8. Keywords

8.1 boss assemblies; docking/drain plug; drydocking; rudder; shell; tank bottom plate