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An American National Standard

Standard Specification for Line-Blind Valves for Marine Applications[1]

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1. Scope

1.1 This specification provides the minimum requirements for design fabrication, pressure rating, and testing for line-blind valves.

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.

1.3 The following safety hazards caveat pertains only to the test methods portion, Section 5, of this specification: *This standard does not purport to address all of the safety concerns, if any, associated with its use. It is the responsibility of the user of this standard to establish appropriate safety and health practices and determine the applicability of regulatory limitations prior to use.*

2. Referenced Documents

2.1 *ASTM Standards:*[2]

A53/A53M Specification for Pipe, Steel, Black and Hot-Dipped, Zinc-Coated, Welded and Seamless

2.2 *ANSI Standards:*

B16.5 Pipe Flanges and Flanged Fittings, Steel-Nickel Alloy and Other Special Alloys[3]

B31.1 Power Piping[3]

2.3 *MSS Standards:*

SP-6 Finish for Contact Faces of Pipe Flanges and Connecting End Flanges of Valves and Fittings[4]

SP-25 Marking System for Valves, Fittings, Flanges, and Unions[4]

SP-55 Quality Standard for Steel Castings for Valves, Flanges and Fittings, and Other Piping Components (Visual Method)[4]

2.4 *ASME Standard:*

ASME Boiler and Pressure Vessel Code, Sections II, VIII, IX [5]

3. Descriptions of Terms Specific to This Standard

3.1 *blank*—a solid one-piece circular unit inserted into a pipeline to prevent flow.

3.2 *line-blind valve*—an assembly consisting of a spectacle plate, bolting, and body, the purpose of which is to provide a convenient means to align a piping system to an open or positively closed configuration. The assembly is designed to provide a simplified method of changing over the flow control spectacle plate without the necessity of plate removal from the valve body.

3.3 *spectacle plate, (also spectacle blind)*—a figure-eight-shaped unit with one end open for flow and the other solid to prevent flow.

4. Materials and Manufacture

4.1 *Materials*:

4.1.1 Materials for spectacle plates, bolting, and body shall be those contained in ASME Section II. For the purpose of stress calculations, ASME Section VIII values shall be used.

4.1.2 All welding shall be done with procedures and welders qualified in accordance with ASME Section IX and 80 % weld efficiency factor shall be used.

4.1.3 All castings shall be visually inspected and acceptable in accordance with MSS-SP-55.

4.2 *Manufacture*:

4.2.1 The spectacle plate shall be designed in accordance with ANSI B31.1, Paragraph 104.5.3.

4.2.2 The calculations of 4.2.3 and 4.2.4 shall ensure that a line blind is designed for the gasket material, of all that can be used with the line blind being designed, that imposes the most critical bolt-load conditions as a result of its gasket factor, *m*, and gasket or joint-contact-surface unit seating load, *y*.

4.2.3 The bolting shall be either of the following:

4.2.3.1 Modify the external loads in accordance with Section 6 as determined using ASME Section VIII, Division 1, Appendix 2.

4.2.3.2 The equivalent in cross section to that of ANSI B16.5 flange bolting of equivalent nominal size and pressure.

[1] This specification is under the jurisdiction of ASTM Committee F25 on Ships and Marine Technology and is the direct responsibility of Subcommittee F25.11 on Machinery and Piping Systems.

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

[4] Available from Manufacturers Standardization Society of the Valve and Fittings Industry (MSS), 127 Park St., NE, Vienna, VA 22180-4602.

[5] Available from American Society of Mechanical Engineers (ASME), ASME International Headquarters, Three Park Ave., New York, NY 10016-5990.