Designation: A 338 – 84 (Reapproved 2004)

Standard Specification for Malleable Iron Flanges, Pipe Fittings, and Valve Parts for Railroad, Marine, and Other Heavy Duty Service at Temperatures Up to 650°F (345°C)[1]

This standard is issued under the fixed designation A 338; 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 malleable iron flanges, pipe fittings, and valve parts, including parts to be assembled for use in railroad, marine, and other heavy duty service applications where fittings furnished in accordance with American National Standard for Malleable Iron Threaded Fittings, Class 150 and 300 (ANSI B16.3) are not considered adequate.

1.2 Service shall include up to 650°F (345°C).[2]

2. Referenced Documents

2.1 *ASTM Standards:* [3]

A 47 Specification for Ferritic Malleable Iron Castings

A 153 Specification for Zinc Coating (Hot-Dip) on Iron and Steel Hardware

2.2 *American National Standards:*[4]

B 2.1 Pipe Threads

B 16.3 Malleable Iron Threaded Fittings, Class 150 and 300

2.3 *Other Standards:*

Hand Book H28, Section VI, Screw-Thread Standards for Federal Services, 1944[5]

SP-25-1936 Standard Marking System for Valves, Fittings, Flanges, and Unions[6]

3. Process

3.1 The castings shall be made in accordance with Specification A 47.

4. Materials and Manufacture

4.1 The sizes, shapes, and dimensions of the fittings, covered by ANSI B16.3 shall conform to the requirements therein specified.

4.2 Screwed pipe fittings, unions, union fittings, and globe and angle valves that are covered by the various standards and recommended practices as issued by the Association of American Railroads shall conform to the requirements therein specified.

4.3 All pipe threads, unless otherwise specified, shall be in accordance with ANSI B2.1. (Standards for pipe threads are also available in Section VI of Screw-Thread Standards for Federal Services.)

4.4 Zinc coatings on fittings which are required to be galvanized by the hot-dip process shall conform to the requirements for Class A castings as prescribed in Specification A 153, except on surfaces where it is the practice to machine after galvanizing.

5. Manufacture Control and Records

5.1 The iron shall be produced under constant control of chemical composition and physical properties. Records of the chemical composition of the iron and of the physical properties of the test specimens shall be systematically made and maintained.

6. Tests

6.1 Tests shall be made when required by the specifications listed herein.

7. Certification

7.1 The manufacturer shall be prepared to certify, upon request of the purchaser, that his product conforms to the requirements of this specification.

8. Product Marking

8.1 The castings shall be marked with the manufacturer's name or trademark.

8.2 Malleable iron products conforming to the standards of the Manufacturers Standardization Society of the Valve and Fittings Industry shall be marked in accordance with SP-25-1936 of that Society. Malleable iron products furnished in

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[1] This specification is under the jurisdiction of ASTM Committee A04 on Iron Castings and is the direct responsibility of Subcommittee A04.02 on Malleable and Ductile Iron Castings.

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[2] Based on Marshall, L. C., and Sommer, G. F., "Stress Rupture Properties of Malleable Iron at Elevated Temperatures," *Proceedings*, ASTM International, Vol 58, 1958, p. 733.

[3] 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.

[4] Available from American National Standards Institute (ANSI), 25 W. 43rd St., 4th Floor, New York, NY 10036.

[5] Available from National Institute of Standards and Technology (NIST), 100 Bureau Dr., Stop 3460, Gaithersburg, MD 20899-3460.

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

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accordance with the standards issued by the American Standards Association or by the Association of American Railroads shall be marked as specified in the respective standards.

9. Keywords

9.1 flanges; heavy duty service; malleable iron; marine service; pipe fittings; railroad service; valve parts

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