



Standard Specification for Carbon and Ferritic Alloy Steel Forged and Bored Pipe for High-Temperature Service¹

This standard is issued under the fixed designation A 369/A 369M; 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 specification² covers heavy-wall carbon and alloy steel pipe (Note 1) made from turned and bored forgings and is intended for high-temperature service. Pipe ordered under this specification shall be suitable for bending and other forming operations and for fusion welding. Selection will depend on design, service conditions, mechanical properties and high-temperature characteristics.

NOTE 1—The use of the word “pipe” throughout the several sections of this specification is used in the broad sense and intended to mean pipe headers, or leads.

NOTE 2—The dimensionless designator NPS (nominal pipe size) has been substituted in this standard for such traditional terms as “nominal diameter,” “size,” and “nominal size.”

1.2 Several grades of ferritic steels are covered. Their compositions are given in Table 1.

1.3 Supplementary requirements (S1 to S6) of an optional nature are provided. These supplementary requirements call for additional tests to be made, and when desired shall be so stated in the order, together with the number of such tests required.

1.4 The values stated in either inch-pound units or SI units are to be regarded separately as standard. Within the text, the SI units are shown in brackets. The values stated in each system are not exact equivalents; therefore, each system must be used independently of the other. Combining values from the two systems may result in nonconformance with the specification. The inch-pound units shall apply unless the “M” designation of this specification is specified in the order.

2. Referenced Documents

2.1 ASTM Standards:

A 999/A 999M Specification for General Requirements for Alloy and Stainless Steel Pipe³

E 290 Test Method for Semi-Guided Bend Test for Ductility of Metallic Materials⁴

¹ This specification is under the jurisdiction of ASTM Committee A01 on Steel, Stainless Steel and Related Alloys, and is the direct responsibility of Subcommittee A01.10 on Stainless and Alloy Steel Tubular Products.

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² For ASME Boiler and Pressure Vessel Code applications see related Specification SA-369 in Section II of that Code.

³ *Annual Book of ASTM Standards*, Vol 01.01.

⁴ *Annual Book of ASTM Standards*, Vol 03.01.

E 381 Method of Macroetch Testing Steel Bars, Billets, Blooms, and Forgings⁴

2.2 ASME Boiler and Pressure Vessel Code: Section 1X Welding Qualifications⁵

2.3 ANSI Standard:

B 46.1 Surface Texture⁶

3. Ordering Information

3.1 Orders for material to this specification should include the following, as required, to describe the desired material adequately:

3.1.1 Quantity (feet, centimetres, or number of lengths),

3.1.2 Name of material (forged and bored pipe),

3.1.3 Grade (Table 1),

3.1.4 Size (inside diameter and minimum wall thickness),

3.1.5 Length (Permissible Variations in Length Section of Specification A 999/A 999M),

3.1.6 End finish (13),

3.1.7 Optional requirements (Sections 8, Supplementary Requirements S1 to S6; 13.2),

3.1.8 Test report required (Certification Section of Specification A 999/A 999M),

3.1.9 Specification designation, and

3.1.10 Special requirements or exceptions to this specification.

4. General Requirements

4.1 Material furnished under this specification shall conform to the applicable requirements of the current edition of Specification A 999/A 999M, unless otherwise provided herein.

5. Materials and Manufacture

5.1 Discard:

5.1.1 A sufficient discard shall be made from each ingot to secure freedom from injurious defects. The steel shall have a homogeneous structure.

5.2 Manufacture:

5.2.1 Material for forging shall consist of ingots or of blooms, billets, or solid-rolled bars forged or rolled from an

⁵ Available from ASME International, Three Park Avenue, New York, NY 10016-5990.

⁶ Available from American National Standards Institute, 11 West 42nd St., 13th Floor, New York, NY 10036.