



Standard Specification for Austenitic Chromium-Nickel-Silicon Alloy Steel Seamless and Welded Pipe¹

This standard is issued under the fixed designation A 954; 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 seamless and straight-seam welded austenitic steel pipe intended for high-temperature and general corrosive service, having a specified minimum chromium content of less than 10.50 %.

1.2 Appendix X1 lists the dimensions of welded and seamless stainless steel pipe as shown in ANSI B36.19. Pipe having other dimensions may be furnished provided such pipe complies with all other requirements of this specification.

1.3 The values stated in either inch-pound units or SI units are to be regarded separately as standard. 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. Unless the order specifies the applicable “M” specification designation (SI units), the material shall be furnished in inch-pound units.

2. Referenced Documents

2.1 ASTM Standards:

A 370 Test Methods and Definitions for Mechanical Testing of Steel Products²

A 450/A450M Specification for General Requirements for Carbon, Ferritic Alloy, and Austenitic Alloy Steel Tubes³

A 530/A530M Specification for General Requirements for Specialized Carbon and Alloy Steel Pipe³

E 112 Test Methods for Determining the Average Grain Size⁴

E 381 Method of Macroetch Testing, Inspection, and Rating Steel Products, Comprising Bars, Billets, Blooms, and Forgings⁴

E 527 Practice for Numbering Metals and Alloys (UNS)³

2.2 ANSI Standards:⁵

B1.20.1 Pipe Threads, General Purpose

B36.10 Welded and Seamless Wrought Steel Pipe

B36.19 Stainless Steel Pipe

2.3 AWS Standard:⁶

A5.9 Corrosion-Resisting Chromium and Chromium-Nickel Steel Welding Rods and Electrodes

2.4 SAE Standard:⁷

SAE J1086 Practice for Numbering Metals and Alloys (UNS)

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 (austenitic steel pipe),

3.1.3 Process (seamless or welded),

3.1.4 Grade (Table 1),

3.1.5 Size (NPS or outside diameter and schedule number or average wall thickness),

3.1.6 Length (specific or random) (Section 10),

3.1.7 End finish (Section on Ends of Specification A 530/A 530M),

3.1.8 Optional requirements,

3.1.9 Test report required (Certification Section of Specification A 530/A 530M),

3.1.10 Specification number, and

3.1.11 Special requirements or any supplementary requirements selected, or both.

4. General Requirements

4.1 Material furnished under this specification shall conform to the applicable requirements of the current edition of Specification A 530/A 530M unless otherwise provided herein.

5. Materials and Manufacture

5.1 Manufacture:

5.1.1 The pipe shall be made by the seamless or an automatic welding process, without addition of filler metal in the welding operation.

5.1.2 Welded pipe NPS 14 and smaller shall have a single longitudinal weld. Welded pipe of a size larger than NPS 14

¹ This specification is under the jurisdiction of ASTM Committee A-1 on Steel, Stainless Steel, and Related Alloys and is the direct responsibility of Subcommittee A01.10 on Steel Tubing.

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² Annual Book of ASTM Standards, Vol 01.03.

³ Annual Book of ASTM Standards, Vol 01.01.

⁴ Annual Book of ASTM Standards, Vol 03.01.

⁵ Available from American National Standards Institute, 11 W. 42nd St., 11th Floor, New York, NY 10036.

⁶ Available from the American Welding Society, 550 N.W. LeJeune Rd., Miami, FL 33135.

⁷ Available from Society of Automotive Engineers, 400 Commonwealth Drive, Warrendale, PA 15096.