



Designation: A 814/A 814M – 01a3

An American National Standard

Standard Specification for Cold-Worked Welded Austenitic Stainless Steel Pipe¹

This standard is issued under the fixed designation A 814/A 814M; 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 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.

Current edition approved ~~Sept. Apr.~~ 10, 2001³. Published ~~December 2001~~, May 2003. Originally published as A 814 – 83, approved in 1983. Last previous edition approved in 2001 as A 814/A 814M – 01a.

1. Scope *

1.1 This specification covers two classes of flanged and cold-bending quality cold-worked straight-seam single or double welded austenitic steel pipe intended for high-temperature and general corrosive services.

NOTE 1—When the impact test criterion for a low-temperature service would be 15 ft·lbf [20 J] energy absorption or 15 mils [0.38 mm] lateral expansion, some of the austenitic stainless steel grades covered by this specification are accepted by certain pressure vessel or piping codes without the necessity of making the actual test. For example, Grades 304, 304L, and 347 are accepted by the ASME Pressure Vessel Code, Section VIII Division 1, and by the Chemical Plant and Refinery Piping Code, ANSI B31.3 for service at temperatures as low as –425°F [–250°C] without qualification by impact tests. Other AISI stainless steel grades are usually accepted for service temperatures as low as –325°F [–200°C] without impact testing. Impact testing may, under certain circumstances, be required. For example, materials with chromium or nickel content outside the AISI ranges, and for material with carbon content exceeding 0.10 %, are required to be impact tested under the rules of ASME Section VIII Division 1 when service temperatures are lower than –50°F [–45°C].

1.2 Grades TP304H, TP304N, TP316H, TP316N, TP321H, TP347H, and TP348H are modifications of Grades TP304, TP316, TP321, TP347, and TP348, and are intended for high-temperature service.

1.3 Two classes of pipe are covered as follows:

1.3.1 Class SW—Pipe, single-welded with no addition of filler metal and

1.3.2 Class DW—Pipe, double-welded with no addition of filler metal.

1.4 Optional supplementary requirements are provided for pipe where a greater degree of testing is desired. These supplementary requirements call for additional tests to be made and, when desired, one or more of these may be specified in the order.

1.5 Table 1 lists the dimensions of cold-worked single- or double-welded stainless steel pipe. Pipe having other dimensions may be furnished provided such pipe complies with all other requirements of this specification.

1.6 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 262 Practices for Detecting Susceptibility to Intergranular Attack in Austenitic Stainless Steels²

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

A 480/A 480M Specification for General Requirements for Flat-Rolled Stainless and Heat-Resisting Steel Plate, Sheet, and Strip²

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

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

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

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.

*A Summary of Changes section appears at the end of this standard.