



Standard Specification for Wrought Austenitic Stainless Steel Piping Fittings¹

This standard is issued under the fixed designation A 403/A 403M; 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.

This standard has been approved for use by agencies of the Department of Defense.

1. Scope

1.1 This specification covers wrought stainless steel fittings for pressure piping applications.²

1.2 Several grades of austenitic stainless steel alloys are included in this specification. Grades are designated with a prefix, WP or CR, based on the applicable ASME or MSS dimensional and rating standards, respectively.

1.3 For each of the WP stainless grades, several classes of fittings are covered, to indicate whether seamless or welded construction was utilized. Class designations are also utilized to indicate the nondestructive test method and extent of nondestructive examination (NDE). Table 1 is a general summary of the fitting classes applicable to all WP grades of stainless steel covered by this specification. There are no classes for the CR grades. Specific requirements are covered elsewhere.

1.4 This specification is expressed in both inch-pound units and in SI units. However, unless the order specifies the applicable “M” specification designation (SI units), the material shall be furnished to inch-pound units.

1.5 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.

1.6 This specification does not apply to cast steel fittings. Austenitic stainless steel castings are covered in Specifications A 351/A 351M, A 743/A 743M, and A 744/A 744M.

2. Referenced Documents

2.1 ASTM Standards:

A 262 Practices for Detecting Susceptibility to Intergranular Attack in Austenitic Stainless Steels³

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 A01.22 on Steel Forgings and Wrought Fittings for Piping Applications and Bolting Materials for Piping and Special Purpose Applications.

Current edition approved Sept. 10, 2000. Published November 2000. Originally published as A 403 – 56 T. Last previous edition A 403/A 403M – 00a.

² For ASME Boiler and Pressure Vessel Code applications see related Specification SA-403 in Section II of that Code.

³ Annual Book of ASTM Standards, Vol 01.03.

TABLE 1 Fitting Classes for WP Grades

Class	Construction	Nondestructive Examination
S	Seamless	None
W	Welded	Radiography or Ultrasonic
WX	Welded	Radiography
WU	Welded	Ultrasonic

A 351/A 351M Specification for Castings, Austenitic, Austenitic-Ferritic (Duplex), for Pressure Containing Parts⁴

A 370 Test Methods and Definitions for Mechanical Testing of Steel Products³

A 388/A 388M Practice for Ultrasonic Examination of Heavy Steel Forgings⁵

A 480/A 480M Specification for General Requirements for Flat-Rolled Stainless and Heat-Resisting Steel Plate, Sheet, and Strip³

A 743/A 743M Specification for Castings, Iron-Chromium, Iron-Chromium-Nickel, Corrosion Resistant, for General Application⁴

A 744/A 744M Specification for Castings, Iron-Chromium-Nickel, Corrosion Resistant for Severe Service⁴

A 751 Test Methods, Practices, and Terminology for Chemical Analysis of Steel Products³

A 960 Specification for Common Requirements for Wrought Steel Piping Fittings

E 112 Test Methods for Determining the Average Grain Size⁶

E 165 Test Method for Liquid Penetrant Examination⁷

2.2 ASME Standards:

ASME B16.9 Factory-Made Wrought Steel Butt-Welding Fittings⁸

ASME B16.11 Forged Steel Fittings, Socket-Welding and Threaded⁸

ASME B16.28 Wrought Steel Butt-Welding Short Radius Elbows and Returns⁸

⁴ Annual Book of ASTM Standards, Vol 01.02.

⁵ Annual Book of ASTM Standards, Vol 01.05.

⁶ Annual Book of ASTM Standards, Vol 03.01.

⁷ Annual Book of ASTM Standards, Vol 03.03.

⁸ Available from ASME International, Three Park Avenue, New York, NY 10016-5990.