Designation: A 774/A 774M – 02

Standard Specification for As-Welded Wrought Austenitic Stainless Steel Fittings for General Corrosive Service at Low and Moderate Temperatures[1]

This standard is issued under the fixed designation A 774/A 774M; 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 five grades of as-welded, wrought austenitic stainless steel fittings for low-pressure piping and intended for low and moderate temperatures and general corrosive service. Users should note that certain corrosive conditions may restrict the use of one or more grades. For applications requiring a product that requires heat treatment or full pressure rating, refer to Specification A 403/A 403M. The term "fittings" applies to butt and socket welding parts such as 45° and 90° elbows, tees, reducers, wyes, laterals, crosses, and stub ends.

1.2 This specification covers as-welded fittings 3 through 48 in. [75 through 1225 mm] in outside diameter and in nominal wall thicknesses 0.062 through 0.500 in. [1.6 through 12.7 mm]. Table 1 and Table 2 list the common diameters and nominal thicknesses of fittings in this specification.

1.3 This specification does not apply to cast fittings. Cast austenitic steel fittings are covered by Specification A 351/A 351M.

1.4 Optional supplementary requirements are provided for fittings where a greater degree of examination is desired. These supplementary requirements call for additional tests. When desired, one or more of these may be specified in the order.

1.5 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.

1.6 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.

2. Referenced Documents

2.1 In addition to those reference documents listed in Specification A 960, the following list of standards apply to this specification:

2.2 *ASTM Standards:*

A 240/A 240M Specification for Chromium and Chromium-Nickel Stainless Steel Plate, Sheet, and Strip for Pressure Vessels and for General Applications[2]

A 351/A 351M Specification for Castings, Austenitic, Austenistic-Ferritic (Duplex), for Pressure-Containing Parts[3]

A 403/A 403M Specification for Wrought Austenitic Stainless Steel Piping Fittings[4]

A 960 Specification for Common Requirements for Wrought Steel Piping Fittings[4]

E 527 Practice for Numbering Metals and Alloys (UNS)[4]

2.3 *ASME Standard:*

Section IX, Welding Qualtifications, ASME Boiler and Pressure Vessel Code[5]

2.4 *MSS Standard:*

SP 43 Wrought Stainless Steel Butt Welding Fittings[6]

2.5 *AWS Standards:*

A5.4 Corrosion-Resisting Chromium and Chromium-Nickel Steel Covered Welding Electrodes[7]

A5.9 Corrosion-Resisting Chromium and Chromium-Nickel Steel Welding Rods and Bare Electrodes[7]

2.6 *SAE Standard:*

J1086 Unified Numbering System for Metals and Alloys[8]

[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 Mar. 10, 2002. Published May 2002. Originally published as A 774 – 80. Last previous edition A 774/A 774M – 00.

[2] *Annual Book of ASTM Standards*, Vol 01.03.

[3] *Annual Book of ASTM Standards*, Vol 01.02.

[4] *Annual Book of ASTM Standards*, Vol 01.01.

[5] Available from American Society of Mechanical Engineers (ASME International), Three Park Ave., New York, NY 10016-5990.

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

[7] Available from American Welding Society, 550 NW LeJeune Rd., Miami, FL 33126.

[8] Available from Society of Automotive Engineers, 400 Commonwealth Dr., Warrendale, PA 15096-0001.

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

Copyright © ASTM International, 100 Barr Harbor Drive, PO Box C700, West Conshohocken, PA 19428-2959, United States.