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Standard Specification for Wrought High-Strength Low-Alloy Steel Butt-Welding Fittings[1]

This standard is issued under the fixed designation A 860/A 860M; 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 wrought high-strength low-alloy steel butt-welding fittings of seamless and electric fusion-welded construction covered by the latest revisions of ANSI B16.9, ANSI 16.28, and MSS-SP-75. Butt-welding fittings differing from these ANSI and MSS standards shall be furnished in accordance with Supplementary Requirement S9. These fittings are for use in high-pressure gas and oil transmission and distribution systems.

1.2 Optional supplementary requirements are provided for fittings when a greater degree of examination is desired. One or more of the supplementary requirements may be specified in the order.

1.3 This specification does not cover cast-welding fittings or fittings machined from castings.

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 this specification. Unless the order specifies the applicable "M" specification designation (SI units), the material shall be furnished to inch-pound units.

2. Referenced Documents

2.1 *ASTM Standards:*

A 370 Test Methods and Definitions for Mechanical Testing of Steel Products[2]

A 530/A 530 M Specification for General Requirements for Specialized Carbon and Alloy Steel Pipe[2]

A 751 Test Methods, Practices, and Terminology for Chemical Analysis of Steel Products[2]

E 165 Test Method for Liquid Penetrant Examination[3]

E 709 Practice for Magnetic Particle Examination[3]

2.2 *ANSI Standards:*

B16.9 Steel Butt-Welding Fittings[4]

B16.28 Wrought Steel Butt-Welding Short Radius Elbows and Returns[4]

2.3 *AWS Standard:*

AWS 5.18 Specification for Carbon Steel Metals for Gas Shielded Arc Welding[5]

2.4 *ASME Boiler and Pressure Vessel Code:*[6]

Section V, Nondestructive Examination

Section VIII, Division 1, Pressure Vessels

Section IX, Welding Qualifications

2.5 *MSS Standards:*

MSS-SP-25 Standard Marking System for Valves, Fittings, Flanges and Unions[7]

MSS-SP-75 Specification for High Test Wrought Butt-Welding Fittings[7]

2.6 *ASNT Standard:*

SNT-TC-1A(1984) Recommended Practice for Nondestructive Testing Personnel Qualification and Certification[8]

3. Ordering Information

3.1 Orders for material under this specification shall include the following information:

3.1.1 Quantity, number of fittings of each kind,

3.1.2 Description of fitting and nominal dimensions (standard or special),

3.1.3 Grade Symbol,

3.1.4 Construction, seamless or welded (unless seamless or welded construction is specified by the purchaser either may be furnished at the option of the supplier),

3.1.5 Supplementary requirements, if any,

3.1.6 Specification designation and year of issue,

3.1.7 Additional requirements, if any (see 17.6), and

3.1.8 Requirements for certification of test report.

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[1] This specification is under the jurisdiction of ASTM Committee A-1 on Steel, Stainless Steel, and Related Alloysand is the direct responsibility of Subcommittee A01.22on Steel Forgings and Wrought Fittings for Piping Applications and Bolting Materials for Piping and Special Purpose Applications.

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

[3] *Annual Book of ASTM Standards*, Vol 03.03.

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

[5] Available from American Welding Society, 550 N. W. Lajeune Rd., Miami, FL 33135.

[6] Available from American Society of Mechanical Engineers, 345 E. 47th St., New York, NY 10017.

[7] Available from Manufacturers' Standardization Society of the Valve and Fittings Industry, 1815 N. Fort Meyer Drive, Arlington, VA 22209.

[8] Available from American Society for Nondestructive Testing, 4153 Arlingate Plaza, P.O. Box 28518, Columbus, OH 43228-0518.