



Standard Specification for Forged or Rolled Alloy-Steel Pipe Flanges, Forged Fittings, and Valves and Parts for High-Temperature Service¹

This standard is issued under the fixed designation A 182/A 182M; 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 specification² covers forged low alloy and stainless steel piping components for use in pressure systems. Included are flanges, fittings, valves, and similar parts to specified dimensions or to dimensional standards such as the ASME specifications that are referenced in Section 2.

1.2 For bars and products machined directly from bar, refer to Specifications A 479/A 479M and A 739, for the similar grades available in those specifications. Products made to this specification are limited to a maximum weight of 10 000 lb [4540 kg]. For larger products and products for other applications, refer to Specification A 336 for the similar grades available in that specification.

1.3 Several grades of low alloy steels and ferritic, martensitic, austenitic, and ferritic-austenitic stainless steels are included in this specification. Selection will depend upon design and service requirements.

1.4 Supplementary requirements are provided for use when additional testing or inspection is desired. These shall apply only when specified individually by the purchaser 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 the 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 the referenced documents listed in Specification A 961, the following list of standards apply to this specification.

2.2 *ASTM Standards:*

A 234/A 234M Specification for Piping Fittings of Wrought Carbon Steel and Alloy Steel for Moderate and Elevated Temperatures³

A 262 Practices for Detecting Susceptibility to Intergranular Attack in Austenitic Stainless Steels⁴

A 336/A 336M Specification for Alloy Steel Forgings for Pressure and High-Temperature Parts⁵

A 370 Test Methods and Definitions for Mechanical Testing of Steel Products⁴

A 403/A 403M Specification for Wrought Austenitic Stainless Steel Piping Fittings³

A 479/A 479M Specification for Stainless Steel Bars and Shapes for Use in Boilers and Other Pressure Vessels⁴

A 484/A 484M Specification for General Requirements for Stainless Steel Bars, Billets, and Forgings⁴

A 739 Specification for Steel Bars, Alloy, Hot-Wrought, for Elevated Temperature or Pressure-Containing Parts, or Both⁵

A 763 Practices for Detecting Susceptibility to Intergranular Attack in Ferritic Stainless Steels⁴

A 788 Specification for Steel Forgings, General Requirements⁵

A 961 Specification for Common Requirements for Steel Flanges, Forged Fittings, Valves, and Parts for Piping Applications³

E 112 Test Methods for Determining the Average Grain Size⁶

E 340 Test Method for Macroetching Metals and Alloys⁶

2.3 *ASME Boiler and Pressure Vessel Codes:*⁷

Section IX Welding Qualifications

SFA-5.4 Specification for Corrosion-Resisting Chromium and Chromium-Nickel Steel Covered Welding Electrodes

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.

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² For ASME Boiler and Pressure Vessel Code applications see related Specification SA-182 in Section II of that Code.

³ *Annual Book of ASTM Standards*, Vol 01.01.

⁴ *Annual Book of ASTM Standards*, Vol 01.03.

⁵ *Annual Book of ASTM Standards*, Vol 01.05.

⁶ *Annual Book of ASTM Standards*, Vol 03.01.

⁷ Available from American Society of Mechanical Engineers, Three Park Avenue, New York, NY 10016-5990.

