



Standard Specification for Plastic-Lined Ferrous Metal Pipe, Fittings, and Flanges¹

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1. Scope*

1.1 This specification covers factory-made plastic-lined ferrous metal pipe, fittings, and flanges intended primarily for conveying corrosive fluids. Requirements for materials, workmanship, dimensions, design, fabrication, working pressure and temperatures, test methods, qualification requirements, and markings are included.

1.1.1 This specification does not define the suitability of different liner materials to various chemical and operating environments. Refer to the manufacturer's chemical resistance data for suitability recommendations.

1.1.2 This specification does not include products coated with plastics.

1.2 This specification covers plastic-lined pipe, flanges, and fittings as listed in [Table 1](#). Pressure limitations shall be in accordance with ASME B16 Standards, except reduced pressure limitations may be established by the manufacturer, considering both pressure and temperature limitations of the ferrous metal housing and the sealing ability of the liner.

NOTE 1—In this specification, propylene plastics cover those materials defined as both polypropylene plastics and propylene plastics in Terminology [F412](#). Both materials are identified as “PP” on the product. Note that this is at variance with Terminology [D1600](#), where “PP” is the abbreviation for polypropylene.

1.3 The plastic-lined flanged pipe and fitting assemblies are limited to temperatures shown in [Table 2](#). End users should consult with manufacturers as to the likely result of using a particular lined piping component at temperatures below the rated minimum.

NOTE 2—The temperature limitations are based on noncorrosive test conditions. Use in specific aggressive environments may alter temperature limitations. In such instances, specific temperature limits shall be established by mutual agreement between the purchaser and the manufacturer.

1.4 The values stated in inch-pound units are to be regarded as standard. The values given in parentheses are mathematical conversions to SI units that are provided for information only and are not considered standard.

¹ This specification is under the jurisdiction of ASTM Committee [F17](#) on Plastic Piping Systems and is the direct responsibility of Subcommittee [F17.11](#) on Composite.

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1.5 *This standard does not purport to address all of the safety concerns, if any, associated with its use. It is the responsibility of the user of this standard to establish appropriate safety and health practices and determine the applicability of regulatory limitations prior to use.*

2. Referenced Documents

2.1 ASTM Standards:²

- [A48/A48M](#) Specification for Gray Iron Castings
- [A53/A53M](#) Specification for Pipe, Steel, Black and Hot-Dipped, Zinc-Coated, Welded and Seamless
- [A105/A105M](#) Specification for Carbon Steel Forgings for Piping Applications
- [A106/A106M](#) Specification for Seamless Carbon Steel Pipe for High-Temperature Service
- [A126](#) Specification for Gray Iron Castings for Valves, Flanges, and Pipe Fittings
- [A135/A135M](#) Specification for Electric-Resistance-Welded Steel Pipe
- [A182/A182M](#) Specification for Forged or Rolled Alloy and Stainless Steel Pipe Flanges, Forged Fittings, and Valves and Parts for High-Temperature Service
- [A216/A216M](#) Specification for Steel Castings, Carbon, Suitable for Fusion Welding, for High-Temperature Service
- [A234/A234M](#) Specification for Piping Fittings of Wrought Carbon Steel and Alloy Steel for Moderate and High Temperature Service
- [A278/A278M](#) Specification for Gray Iron Castings for Pressure-Containing Parts for Temperatures Up to 650°F (350°C)
- [A312/A312M](#) Specification for Seamless, Welded, and Heavily Cold Worked Austenitic Stainless Steel Pipes
- [A351/A351M](#) Specification for Castings, Austenitic, for Pressure-Containing Parts
- [A395/A395M](#) Specification for Ferritic Ductile Iron Pressure-Retaining Castings for Use at Elevated Temperatures
- [A403/A403M](#) Specification for Wrought Austenitic Stainless Steel Piping Fittings

² For referenced ASTM standards, visit the ASTM website, www.astm.org, or contact ASTM Customer Service at service@astm.org. For *Annual Book of ASTM Standards* volume information, refer to the standard's Document Summary page on the ASTM website.