



Designation: D2517 – 18 (Reapproved 2023)

Standard Specification for Reinforced Epoxy Resin Gas Pressure Pipe and Fittings¹

This standard is issued under the fixed designation D2517; 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 U.S. Department of Defense.

1. Scope*

1.1 This specification covers requirements and methods of test for materials, dimensions and tolerances, hydrostatic-burst strength, chemical resistance, and longitudinal tensile properties, for reinforced epoxy resin pipe and fittings for use in gas mains and services for direct burial and insertion applications. The pipe and fittings covered by this specification are intended for use in the distribution of natural gas, petroleum fuels (propane–air and propane–butane vapor mixtures), manufactured and mixed gases where resistance to gas permeation, toughness, resistance to corrosion, aging, and deterioration from water, gas, and gas additives are required. Methods of marking are also given. Design considerations are discussed in [Appendix X1](#).

1.2 The values in SI units are to be regarded as the standard.

1.3 The following safety hazards caveat pertains only to the test method portion, Section 8, of this specification: *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, health, and environmental practices and determine the applicability of regulatory limitations prior to use.*

NOTE 1—There is no known ISO equivalent to this standard.

1.4 A recommended inplant quality control program is given in [Appendix X2](#).

1.5 *This international standard was developed in accordance with internationally recognized principles on standardization established in the Decision on Principles for the Development of International Standards, Guides and Recommendations issued by the World Trade Organization Technical Barriers to Trade (TBT) Committee.*

2. Referenced Documents

2.1 *ASTM Standards:*²

[D396 Specification for Fuel Oils](#)

[D543 Practices for Evaluating the Resistance of Plastics to Chemical Reagents](#)

[D618 Practice for Conditioning Plastics for Testing](#)

[D883 Terminology Relating to Plastics](#)

[D1598 Test Method for Time-to-Failure of Plastic Pipe Under Constant Internal Pressure](#)

[D1599 Test Method for Resistance to Short-Time Hydraulic Pressure of Plastic Pipe, Tubing, and Fittings](#)

[D1898 Practice for Sampling of Plastics \(Withdrawn 1998\)](#)³

[D2105 Test Method for Longitudinal Tensile Properties of “Fiberglass” \(Glass-Fiber-Reinforced Thermosetting-Resin\) Pipe and Tube](#)

[D2143 Test Method for Cyclic Pressure Strength of Reinforced, Thermosetting Plastic Pipe](#)

[D2290 Test Method for Apparent Hoop Tensile Strength of Plastic or Reinforced Plastic Pipe](#)

[D2412 Test Method for Determination of External Loading Characteristics of Plastic Pipe by Parallel-Plate Loading](#)

[D2924 Test Method for External Pressure Resistance of “Fiberglass” \(Glass-Fiber-Reinforced Thermosetting-Resin\) Pipe](#)

[D2992 Practice for Obtaining Hydrostatic or Pressure Design Basis for “Fiberglass” \(Glass-Fiber-Reinforced Thermosetting-Resin\) Pipe and Fittings](#)

[D2996 Specification for Filament-Wound “Fiberglass” \(Glass-Fiber-Reinforced Thermosetting-Resin\) Pipe](#)

[D3567 Practice for Determining Dimensions of “Fiberglass” \(Glass-Fiber-Reinforced Thermosetting Resin\) Pipe and Fittings](#)

[D3839 Guide for Underground Installation of “Fiberglass”](#)

¹ This specification is under the jurisdiction of ASTM Committee [D20](#) on Plastics and is the direct responsibility of Subcommittee [D20.23](#) on Reinforced Thermosetting Resin Piping Systems and Chemical Equipment.

Current edition approved Oct. 1, 2023. Published October 2023. Originally approved in 1966. Last previous edition approved in 2018 as D2517 – 18. DOI: 10.1520/D2517-18R23.

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.

³ The last approved version of this historical standard is referenced on www.astm.org.

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