



Standard Specification for Reinforced Polyethylene Composite Pipe For The Transport Of Oil And Gas And Hazardous Liquids¹

This standard is issued under the fixed designation F2896; 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 requirements and test methods for materials, dimensions, workmanship, and markings for on-site manufactured multilayer reinforced polyethylene composite pipe. It covers nominal sizes 6 in. through 36 in. (150 mm through 915 mm). These multilayered reinforced polyethylene composite pipe products² are assembled and installed in various lengths, including long continuous lengths. These products are intended for the transport of crude oil, natural gas and hazardous liquids in the rehabilitation of existing pipelines and for new pipelines.

NOTE 1—Hazardous liquids are those liquids defined by the U.S. Department of Transportation in 49 CFR 195.2.

1.2 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.

1.3 *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:³

A312/A312M Specification for Seamless, Welded, and Heavily Cold Worked Austenitic Stainless Steel Pipes

A333/A333M Specification for Seamless and Welded Steel Pipe for Low-Temperature Service and Other Applications

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.

Current edition approved Nov. 15, 2011. Published December 2011. DOI: 10.1520/F2896-11.

² The reinforced polyethylene composite pipe product described in this standard is covered by patents. Interested parties are invited to submit information regarding the identification of an alternative(s) to this patented item to the ASTM International Headquarters. Your comments will receive careful consideration at a meeting of the responsible technical committee, which you may attend.

³ 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.

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A519 Specification for Seamless Carbon and Alloy Steel Mechanical Tubing

D624 Test Method for Tear Strength of Conventional Vulcanized Rubber and Thermoplastic Elastomers

D638 Test Method for Tensile Properties of Plastics

D792 Test Methods for Density and Specific Gravity (Relative Density) of Plastics by Displacement

D1000 Test Methods for Pressure-Sensitive Adhesive-Coated Tapes Used for Electrical and Electronic Applications

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

D1600 Terminology for Abbreviated Terms Relating to Plastics

D1693 Test Method for Environmental Stress-Cracking of Ethylene Plastics

D2122 Test Method for Determining Dimensions of Thermoplastic Pipe and Fittings

D2256/D2256M Test Method for Tensile Properties of Yarns by the Single-Strand Method

D2513 Specification for Polyethylene (PE) Gas Pressure Pipe, Tubing, and Fittings

D2774 Practice for Underground Installation of Thermoplastic Pressure Piping

D2837 Test Method for Obtaining Hydrostatic Design Basis for Thermoplastic Pipe Materials or Pressure Design Basis for Thermoplastic Pipe Products

D2992 Practice for Obtaining Hydrostatic or Pressure Design Basis for "Fiberglass" (Glass-Fiber-Reinforced Thermosetting-Resin) Pipe and Fittings

D3850 Test Method for Rapid Thermal Degradation of Solid Electrical Insulating Materials By Thermogravimetric Method (TGA)

D5035 Test Method for Breaking Force and Elongation of Textile Fabrics (Strip Method)

F412 Terminology Relating to Plastic Piping Systems

F585 Guide for Insertion of Flexible Polyethylene Pipe Into Existing Sewers