



Standard Specification for “Fiberglass” (Glass-Fiber-Reinforced Thermosetting-Resin) Pipe Fittings for Nonpressure Applications¹

This standard is issued under the fixed designation D 3840; 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 fiberglass pipe fittings intended for use in gravity flow systems for conveying sanitary sewage, storm water, and those industrial wastes for which the fittings are determined to be suitable. Elbows, tees, laterals, crosses, reducers, and adapters are included. Both glass-fiber-reinforced and thermosetting-resin pipe (RTRP) and glass-fiber-reinforced polymer mortar pipe (RPMP) are fiberglass pipes.

NOTE 1—For the purposes of this standard, polymer does not include natural polymers.

1.2 This specification is intended to cover only dimensions, material properties, and workmanship rather than the structural design of the fittings. The structural design of the fittings shall be as agreed upon between purchaser and supplier and should take into consideration the anticipated conditions of installation and service.

1.3 This specification covers only fittings fabricated from cut sections of pipe, or from a combination of pipe sections and contact molded (hand layup), or machine fabricated components.

1.4 The values given in parentheses are provided for information purposes only.

1.5 The following safety hazards caveat pertains only to the test method portion, Section 11, 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 and health practices and determine the applicability of regulatory limitations prior to use.*

NOTE 2—There is no similar or equivalent ISO standard.

2. Referenced Documents

2.1 ASTM Standards:

D 638 Test Method for Tensile Properties of Plastics²

¹ This specification is under the jurisdiction of ASTM Committee D20 on Plastics and is the direct responsibility of Subcommittee D 20.23 on Reinforced Plastic Piping Systems and Chemical Equipment.

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² Annual Book of ASTM Standards, Vol 08.01.

D 883 Terminology Relating to Plastics²

D 1600 Terminology for Abbreviated Terms Relating to Plastics²

D 1763 Specification for Epoxy Resins³

D 2290 Test Method for Apparent Hoop Tensile Strength of Plastic or Reinforced Plastic Pipe by Split Disk Method³

D 3262 Specification for “Fiberglass” (Glass-Fiber-Reinforced Thermosetting-Resin) Sewer Pipe⁴

D 3567 Practice for Determining Dimensions of Fiberglass (Glass-Fiber-Reinforced Thermosetting Resin) Pipe and Fittings⁴

D 3892 Practice for Packaging/Packing of Plastics⁵

F 412 Terminology Relating to Plastic Piping Systems⁴

F 477 Specification for Elastomeric Seals (Gaskets) for Joining Plastic Pipe⁴

3. Terminology

3.1 Definitions:

3.1.1 *General*—Definitions are in accordance with Terminologies D 883 and F 412. Abbreviations are in accordance with Terminology D 1600, unless otherwise indicated.

3.2 Definitions of Terms Specific to This Standard:

3.2.1 *fiberglass pipe*—a tubular product containing glass fiber reinforcements embedded in or surrounded by cured thermosetting resin. The composite structure may contain aggregate, granular or platelet fillers, thixotropic agents, pigments or dyes. Thermoplastic or thermosetting liners or coatings may be included.

3.2.2 *reinforced polymer mortar pipe*—a fiberglass pipe with aggregate.

3.2.3 *reinforced thermosetting resin pipe*—a fiberglass pipe without aggregate.

3.2.4 *qualification*—One or more tests used to prove the design of a product. Not a routine quality control test.

NOTE 3—Qualification requirements appear in 6.1, 7.2, and 12.3.

4. Materials

4.1 Laminating Resin:

³ Annual Book of ASTM Standards, Vol 08.02.

⁴ Annual Book of ASTM Standards, Vol 08.04.

⁵ Annual Book of ASTM Standards, Vol 08.03.

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

