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.

Designation: D3840 – 19

Standard Specification for "Fiberglass" (Glass-Fiber-Reinforced Thermosetting-Resin) Pipe Fittings for Nonpressure Applications[1]

This standard is issued under the fixed designation D3840; 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 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 needs to 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 stated in inch-pound units are to be regarded as the standard. 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, health, and environmental practices and determine the applicability of regulatory limitations prior to use.*

NOTE 2—There is no known ISO equivalent to this standard.

1.6 *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]

D638 Test Method for Tensile Properties of Plastics
D883 Terminology Relating to Plastics
D1600 Terminology for Abbreviated Terms Relating to Plastics
D1763 Specification for Epoxy Resins
D2290 Test Method for Apparent Hoop Tensile Strength of Plastic or Reinforced Plastic Pipe
D3262 Specification for "Fiberglass" (Glass-Fiber-Reinforced Thermosetting-Resin) Sewer Pipe
D3567 Practice for Determining Dimensions of "Fiberglass" (Glass-Fiber-Reinforced Thermosetting Resin) Pipe and Fittings
D3892 Practice for Packaging/Packing of Plastics
F412 Terminology Relating to Plastic Piping Systems
F477 Specification for Elastomeric Seals (Gaskets) for Joining Plastic Pipe

3. Terminology

3.1 *Definitions:*

3.1.1 *General*—Definitions are in accordance with Terminologies D883 and F412. Abbreviations are in accordance with Terminology D1600, 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. It is acceptable for the composite structure to contain aggregate, granular or platelet fillers, thixotropic agents, pigments or dyes. It is acceptable to include thermoplastic or thermosetting liners or coatings.

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

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

Current edition approved Aug. 1, 2019. Published August 2019. Originally approved in 1979. Last previous edition approved in 2014 as D3840 – 14. DOI: 10.1520/D3840-19.

[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.

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

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