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Standard Specification for REINFORCED THERMOSETTING RESIN SEWER AND INDUSTRIAL PRESSURE PIPE (RTRP)¹

This standard is issued under the fixed designation D 4162; 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 machine-made reinforced thermosetting resin pipe for use in pressure systems for conveying sanitary sewage, storm water, and many industrial wastes and corrosive fluids. Pipe covered by this specification is intended to operate at internal pressures of 250 psi gage (1.72 MPa) or less.

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

2. Applicable Documents

2.1 ASTM Standards:

- C 581 Test for Chemical Resistance of Thermosetting Resins Used in Glass Fiber Reinforced Structures²
- D 638 Test for Tensile Properties of Plastics³
- D 695 Test for Compressive Properties of Rigid Plastics³
- D 790 Tests for Flexural Properties of Unreinforced and Reinforced Plastics and Electrical Insulating Materials³
- D 883 Definitions of Terms Relating to Plastics⁴
- D 1600 Abbreviations of Terms Relating to Plastics⁴
- D 2290 Test for Apparent Tensile Strength of Ring or Tubular Plastics and Reinforced Plastics by Split-Disk Method⁵
- D 2412 Test for External Loading Properties of Plastic Pipe by Parallel-Plate Loading⁶
- D 2584 Test for Ignition Loss of Cured Reinforced Resins⁷
- D 2992 Obtaining Hydrostatic Design Basis for Reinforced Thermosetting Resin Pipe and Fittings⁶
- D 3567 Determining Dimensions of Reinforced Thermosetting Resin Pipe (RTRP) and Fittings⁶

D 3681 Test for Chemical Resistance of Reinforced Thermosetting Resin Pipe in a Deflected Condition⁶

F 412 Definitions of Terms Relating to Plastic Piping Systems⁶

F 477 Specifications for Elastomeric Seals (Gaskets) for Joining Plastic Pipe⁶

2.2 ISO Standard:⁸

ISO/R 1172 Textile Glass Reinforced Plastics—Determination of Loss on Ignition

3. Definitions

3.1 *General*—Definitions are in accordance with Definitions D 883 or F 412, and abbreviations with Abbreviations D 1600, unless otherwise indicated.

3.2 *reinforced thermosetting resin pipe*—a tubular product containing fibrous reinforcement embedded in, or surrounded by, cured thermosetting resin. The composite structure may contain granular or platelet fillers, thixotropes, pigments, or dyes. Thermoplastic or thermosetting liners or coatings may be included. The abbreviation for reinforced thermosetting resin pipe is RTRP.

3.3 *industrial pipe*—pipe designed for internal and external environments, or both, commonly encountered in industrial piping systems

¹ This specification is under the jurisdiction of ASTM Committee D-20 on Plastics and is the direct responsibility of Subcommittee D20.23 on Reinforced Plastic Piping Systems and Chemical Equipment.

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² Annual Book of ASTM Standards, Parts 34 and 35.

³ Annual Book of ASTM Standards, Part 35.

⁴ Annual Book of ASTM Standards, Parts 34, 35, and 36.

⁵ Annual Book of ASTM Standards, Parts 34 and 36.

⁶ Annual Book of ASTM Standards, Part 34.

⁷ Annual Book of ASTM Standards, Part 36.

⁸ Available from American National Standards Institute, 1430 Broadway, New York, N.Y. 10018.