



Standard Specification for Contact Molded “Fiberglass” (Glass-Fiber-Reinforced Thermosetting Resin) Flanges¹

This standard is issued under the fixed designation D5421; 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 circular contact-molded fiberglass reinforced-thermosetting-resin flanges for use in pipe systems and tank nozzles. Included are requirements for materials, workmanship, performance, and dimensions.

1.2 Flanges (see Fig. 1) may be produced as integral flanges, Type A, or flange-on-pipe, Type B.

1.3 This specification is based on flange performance and does not cover design.

1.4 These flanges are designed for use with pipe and tanks that are manufactured to Specifications D2996, D2997, D3262, D3299, D3517, D3754, and D4097.

1.5 Selection of gaskets is not covered in this specification, refer to the manufacturer’s recommendation.

1.6 The values stated in inch-pound units are to be regarded as the standard. The SI units given in parentheses are for information only.

1.7 The following precautionary caveat pertains only to the test methods portion, Section 9, of this specification: *This standard does not purport to address the safety problems, 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 1—There is no known ISO equivalent to this standard.

2. Referenced Documents

2.1 ASTM Standards:²

C582 Specification for Contact-Molded Reinforced Thermosetting Plastic (RTP) Laminates for Corrosion-Resistant Equipment

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.

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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.

D883 Terminology Relating to Plastics

D1599 Test Method for Resistance to Short-Time Hydraulic Pressure of Plastic Pipe, Tubing, and Fittings

D1600 Terminology for Abbreviated Terms Relating to Plastics

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

D2997 Specification for Centrifugally Cast “Fiberglass” (Glass-Fiber-Reinforced Thermosetting-Resin) Pipe

D3262 Specification for “Fiberglass” (Glass-Fiber-Reinforced Thermosetting-Resin) Sewer Pipe

D3299 Specification for Filament-Wound Glass-Fiber-Reinforced Thermoset Resin Corrosion-Resistant Tanks

D3517 Specification for “Fiberglass” (Glass-Fiber-Reinforced Thermosetting-Resin) Pressure Pipe

D3754 Specification for “Fiberglass” (Glass-Fiber-Reinforced Thermosetting-Resin) Sewer and Industrial Pressure Pipe

D4097 Specification for Contact-Molded Glass-Fiber-Reinforced Thermoset Resin Corrosion-Resistant Tanks

2.2 ASME Standards:³

B 16.1 Cast Iron Pipe Flanges and Flanged Fittings

B 16.5 Pipe Flanges and Flanged Fittings

B 18.21.1 Type “A” Narrow Washers

3. Terminology

3.1 Definitions:

3.1.1 Definitions are in accordance with Terminology D883. Abbreviations are in accordance with Terminology D1600, unless otherwise indicated. The abbreviation for reinforced-thermosetting-resin pipe is RTRP.

3.2 Definitions of Terms Specific to This Standard:

3.2.1 *contact molding (CM)*—a method of fabrication wherein the glass fiber reinforcement is applied to the mold in the form of all chopped-strand mat, or chopped-strand mat and woven roving, in alternate plies by hand with the resin matrix applied by brush or roller and the laminate consolidated by a roller.

³ Available from American Society of Mechanical Engineers (ASME), ASME International Headquarters, Two Park Ave., New York, NY 10016-5990, http://www.asme.org.

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