Designation: F441/F441M – 15

Standard Specification for Chlorinated Poly(Vinyl Chloride) (CPVC) Plastic Pipe, Schedules 40 and 80[1]

This standard is issued under the fixed designation F441/F441M; 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.

This standard has been approved for use by agencies of the U.S. Department of Defense.

1. Scope*

1.1 This specification covers chlorinated poly(vinyl chloride) (CPVC) pipe made in Schedule 40 and 80 sizes and pressure-rated for water (see appendix). Included are criteria for classifying CPVC plastic pipe materials and CPVC plastic pipe, a system of nomenclature for CPVC plastic pipe, and requirements and test methods for materials, workmanship, dimensions, sustained pressure, burst pressure, flattening, and extrusion quality. Methods of marking are also given.

NOTE 1—The CPVC pipe covered by this specification was covered previously in Specification D1785.

NOTE 2—The sustained and burst pressure test requirements, and the pressure ratings in the appendix, are calculated from stress values obtained from tests made on pipe 2 in. [50 mm] and smaller. However, tests on larger pipe have shown these stress values to be valid.

1.2 The products covered by this specification are intended for use with the distribution of pressurized liquids only, which are chemically compatible with the piping materials. Due to inherent hazards associated with testing components and systems with compressed air or other compressed gases some manufacturers do not allow pneumatic testing of their products. Consult with specific product/component manufacturers for their specific testing procedures prior to pneumatic testing.

NOTE 3—Pressurized (compressed) air or other compressed gases contain large amounts of stored energy which present serious saftey hazards should a system fail for any reason.

1.3 The text of this specification references notes, footnotes, and appendixes which provide explanatory material. These notes and footnotes (excluding those in tables and figures) shall not be considered as requirements of the specification.

1.4 The values stated in either SI units or inch-pound units are to be regarded separately as standard. The values stated in each system may not be exact equivalents; therefore, each system shall be used independently of the other. Combining values from the two systems may result in non-conformance with the standard.

1.5 The following safety hazards caveat pertains only to the test methods portion, Section 8, 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.* A specific precautionary statement is given in Note 7.

2. Referenced Documents

2.1 *ASTM Standards:*[2]

D618 Practice for Conditioning Plastics for Testing

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

D1784 Specification for Rigid Poly(Vinyl Chloride) (PVC) Compounds and Chlorinated Poly(Vinyl Chloride) (CPVC) Compounds

D1785 Specification for Poly(Vinyl Chloride) (PVC) Plastic Pipe, Schedules 40, 80, and 120

D2122 Test Method for Determining Dimensions of Thermoplastic Pipe and Fittings

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

F412 Terminology Relating to Plastic Piping Systems

2.2 *Federal Standard:*

Fed. Std. No. 123 Marking for Shipment (Civil Agencies)[3]

[1] This specification is under the jurisdiction of ASTM Committee F17 on Plastic Piping Systems and is the direct responsibility of Subcommittee F17.25 on Vinyl Based Pipe.

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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.

[3] Available from Standardization Documents Order Desk, DODSSP, Bldg. 4, Section D, 700 Robbins Ave., Philadelphia, PA 19111-5098, http://www.dodssp.daps.mil.

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

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