



Standard Specification for Chlorinated Poly(Vinyl Chloride) (CPVC) Plastic Hot- and Cold-Water Distribution Systems¹

This standard is issued under the fixed designation D 2846/D 2846M; 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 Department of Defense.

1. Scope

1.1 This specification covers requirements, test methods, and methods of marking for chlorinated poly(vinyl chloride) plastic hot- and cold-water distribution system components made in one standard dimension ratio and intended for water service up to and including 180°F (82°C). These components comprise pipe and tubing, socket-type fittings, street fittings, plastic-to-metal transition fittings, solvent cements, and adhesives. Requirements and methods of test are included for materials, workmanship, dimensions and tolerances, hydrostatic sustained pressure strength, and thermocycling resistance. The components covered by this specification are intended for use in residential and commercial, hot and cold, potable water distribution systems.

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 1—Pressurized (compressed) air or other compressed gases contain large amounts of stored energy which present serious safety 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 inch-pound or SI units are to be regarded separately as standard. Within the text, SI units are shown in brackets. The values stated in each system are not exact equivalents; therefore, each system shall be used independently of the other. Combining values from the two systems may result in nonconformance with the specification.

NOTE 2—Suggested hydrostatic design stresses and hydrostatic pressure ratings for pipe, tubing, and fittings are listed in Appendix X1. Design, assembly, and installation considerations are discussed in Appendix X2. An optional performance qualification and an in-plant quality control program are recommended in Appendix X3.

1.5 The following safety hazards caveat pertains only to the test method portion, Sections 9 and 10, 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.*

2. Referenced Documents

2.1 ASTM Standards:

- D 1598 Test Method for Time-to-Failure of Plastic Pipe Under Constant Internal Pressure²
- D 1599 Test Method for Short-Time Hydraulic Failure Pressure of Plastic Pipe, Tubing, and Fittings²
- D 1784 Specification for Rigid Poly(Vinyl Chloride) (PVC) Compounds and Chlorinated Poly(Vinyl Chloride) (CPVC) Compounds³
- D 1898 Practice for Sampling of Plastics³
- D 2122 Test Method for Determining Dimensions of Thermoplastic Pipe and Fittings²
- D 2444 Test Method for Impact Resistance of Thermoplastic Pipe and Fittings by Means of a Tup (Falling Weight)²
- D 2837 Test Method for Obtaining Hydrostatic Design Basis for Thermoplastic Pipe Materials²
- F 402 Practice for Safe Handling of Solvent Cements, Primers, and Cleaners Used for Joining Thermoplastic Pipe and Fittings²
- F 412 Terminology Relating to Plastic Piping Systems²
- F 493 Specification for Solvent Cements for Chlorinated Poly(Vinyl Chloride) (CPVC) Plastic Pipe and Fittings²
- F 1498 Specification for Taper Pipe Threads 60° for Thermoplastic Pipe and Fittings²

2.2 ANSI Standards:

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² Annual Book of ASTM Standards, Vol 08.04.

³ Annual Book of ASTM Standards, Vol 08.01.

