Designation: F2261 – 06 (Reapproved 2023)

# Standard Test Method for Pressure Rating Poly(Vinyl Chloride) (PVC) Plastic Pipe Fittings, Schedule 40 and 80 Socket-Type[1]

This standard is issued under the fixed designation F2261; 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 test method covers a procedure for establishing Pressure Rating for PVC schedule 40 and 80 socket-type fittings by evaluating fitting failure test data derived by testing water-filled assemblies of pipe and fittings.

1.2 Unless the data approximates a straight line, when calculated using log-log coordinates, it is not possible to assign a pressure rating to that product or sample of product. Data that exhibit high scatter, or a downward curve, due to low long term data, will give low extrapolated values that are more conservative when calculated using log-log co-ordinates. In addition, this downward curve will show as higher scatter, and where the lower confidence level limits are not met the data shall be classified as unsuitable. (See Note 1)

NOTE 1—This test method is similar to that used in Test Method D2837, which has been used for about 30 years to establish the HDS of plastic pipe materials and is the basis for all pressure ratings assigned to plastic pipes.

1.3 The products covered by this test method are schedule 40 or 80 molded PVC fittings that conform to Specifications D2466 or D2467.

1.4 The pressure ratings developed using this test method applies only to fittings identical to the ones that were tested. Some variables that will affect the pressure rating are – pipe size, pattern, mold design, material, and molding conditions.

1.5 The values in inch-pound units are to be regarded as the standard. The values given in parentheses are mathematical conversions to SI units that are provided for information only and are not considered standard.

1.6 The testing procedure used to obtain the fitting failure data shall be as described in those sections of Test Method D1598, that are referenced in Section 6 of this test method.

1.7 The products covered by this test method are intended for use in the distribution of pressurized liquids at 73 °F. When appropriate, the design engineer must consider the effects of elevated temperature and chemical compatibility of the liquid with the fitting material and apply necessary design factors.

1.8 *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—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.

1.9 *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]

D1598 Test Method for Time-to-Failure of Plastic Pipe Under Constant Internal Pressure

D2466 Specification for Poly(Vinyl Chloride) (PVC) Plastic Pipe Fittings, Schedule 40

D2467 Specification for Poly(Vinyl Chloride) (PVC) Plastic Pipe Fittings, Schedule 80

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

2.2 *Other Standards:*

PPI Report– TR-4 – HDB/SDB/PDB/MRS Listed Materials[3]

## 3. Terminology

3.1 *Definitions of Terms Specific to This Standard:*

3.1.1 *failure*—the act, state, or fact of failing, specifically a lost of strength or breakdown of function

[1] This test method is under the jurisdiction of ASTM Committee F17 on Plastic Piping Systems and is the direct responsibility of Subcommittee F17.40 on Test Methods.

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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 Plastics Pipe Institute (PPI), 105 Decker Court, Suite 825, Irving, TX 75062, http://www.plasticpipe.org.