



## Standard Specification for Residential Central-Vacuum Tube and Fittings<sup>1</sup>

This standard is issued under the fixed designation F 2158; 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 establishes requirements and test methods for materials, dimensions and tolerances, flattening resistance and impact resistance of plastic tubing for use in central-vacuum systems for residential buildings.

1.2 All notes and footnotes shall be considered as non-mandatory requirements of the specification.

1.3 *Units*—The values stated in inch-pound units are to be regarded as standard. The values given in parentheses are mathematical conversions to SI units, which are provided for information only and are not considered standard.

1.4 *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 requirements prior to use.*

### 2. Referenced Documents

#### 2.1 ASTM Standards:

- D 618 Practice for Conditioning Plastics for Testing<sup>2</sup>
- D 1600 Terminology for Abbreviated Terms Relating to Plastics<sup>2</sup>
- D 1784 Specification for Rigid Poly (Vinyl Chloride) (PVC) Compounds and Chlorinated Poly (Vinyl Chloride) (CPVC) Compounds<sup>2</sup>
- D 2122 Test Method for Determining Dimensions of Thermoplastic Pipe and Fittings<sup>3</sup>
- D 2444 Test Method for Determination of the Impact Resistance of Thermoplastic Pipe and Fittings by Means of a Tup (Falling Weight)<sup>3</sup>
- D 2564 Specification for Solvent Cements for Poly (Vinyl Chloride) (PVC) Plastic Piping Systems<sup>3</sup>
- D 2749 Specification for Dimensions of Plastic Pipe Fittings<sup>3</sup>
- D 5033 Guide for Development of ASTM Standards Relating to Recycling and Use of Recycled Plastic<sup>4</sup>

F 402 Practice for Safe Handling of Solvent Cements, Primers, and Cleaners Used for Joining Thermoplastic Pipe and Fittings<sup>3</sup>

F 412 Terminology Relating to Plastic Piping Systems<sup>3</sup>

### 3. Terminology

3.1 Definitions are in accordance with Terminology F 412, abbreviations are in accordance with Terminology D 1600, and dimension symbols are in accordance with Specification D 2749.

#### 3.2 Definitions of Terms Specific to This Standard:

3.2.1 *central-vacuum tubing, n*—piping used for central-vacuum systems, that is O.D controlled.

3.2.2 *unaided eye, n*—observable without enhancement beyond correction for normal vision.

### 4. Significance and Use

4.1 The requirements of this specification are intended to provide tube and fittings for central-vacuum cleaning systems, used to convey debris from the vacuum inlets to the central-vacuum power units.

### 5. Materials

5.1 *Basic Materials*—The tube and fittings shall be made of virgin plastic having a cell classification of equivalent to or greater than that for poly (vinyl chloride) (PVC) 12454, 13354, and 12223, as defined in Specification D 1784. Compounds that have different cell classifications, because one or more properties are superior to those of the specified compounds, are also acceptable.

5.2 *Recycled Material*—The use of recycled materials as defined in Guide D 5033 is acceptable as long as the material meets the cell classification requirements in 5.1.

5.3 *Solvent Cement*—Where solvent cement is used to join PVC tube and fittings, it shall meet the requirements of Specification D 2564.

### 6. Requirements

6.1 *General*—The tube and fittings shall be homogeneous throughout and free of visible cracks, holes, foreign inclusions, or other defects. They shall be as uniform as commercially practicable in color, opacity, density, and other physical properties.

<sup>1</sup> 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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<sup>2</sup> *Annual Book of ASTM Standards*, Vol 08.01.

<sup>3</sup> *Annual Book of ASTM Standards*, Vol 08.04.

<sup>4</sup> *Annual Book of ASTM Standards*, Vol 08.03.