



Standard Specification for Smooth-Wall Poly(Vinyl Chloride) (PVC) Conduit and Fittings for Underground Installation¹

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^{ε1} NOTE—Section 4.1 was editorially revised in March 2002.

1. Scope

1.1 This specification covers the requirements for smooth-wall poly(vinyl chloride) conduit and fittings for underground communication and electrical power wire and cables.

1.2 The values given in parentheses are for information only.

1.3 The following safety hazards caveat pertains only to the test method 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.*

2. Referenced Documents

2.1 ASTM Standards:

D 618 Practice for Conditioning Plastics for Testing²

D 1600 Terminology for Abbreviated Terms Relating to Plastics^{2,3}

D 1784 Specification for Rigid Poly(Vinyl Chloride) (PVC) Compounds and Chlorinated Poly(Vinyl Chloride) (CPVC) Compounds^{4,3}

D 2122 Test Method for Determining Dimensions of Thermoplastic Pipe and Fittings⁴

D 2152 Test Method for Adequacy of Fusion of Extruded Poly(Vinyl Chloride) (PVC) Pipe and Molded Fittings by Acetone Immersion⁴

D 2412 Test Method for Determination of External Loading Characteristics of Plastic Pipe by Parallel-Plate Loading⁴

D 2444 Test Method for Determination of the Impact Resistance of Thermoplastic Pipe and Fittings by Means of a Tup (Falling Weight)⁴

D 2466 Specification for Poly(Vinyl Chloride) (PVC) Plastic Pipe Fittings, Schedule 40⁴

D 2564 Specification for Solvent Cements for Poly(Vinyl Chloride) (PVC) Plastic Piping Systems⁴

D 2855 Practice for Making Solvent-Cemented Joints With Poly(Vinyl Chloride) (PVC) Pipe and Fittings⁴

F 412 Terminology Relating to Plastic Piping Systems⁴

3. Terminology

3.1 Definitions are in accordance with Terminology F 412 and abbreviations are in accordance with Terminology D 1600, unless otherwise specified. The abbreviation for poly(vinyl chloride) is PVC.

4. Classification

4.1 This specification covers five types of underground conduit. There are two having lesser pipe stiffness values, designed primarily for concrete encased burial (EB), and three with greater pipe stiffness values, designed primarily for direct burial (DB). The complete designations follow:

Type EB-20 — Designed to be encased in concrete.

Type EB-35 — Designed to be encased in concrete.

Type DB-60 — Designed for direct burial without encasement in concrete.

Type DB-100 — Designed for direct burial without encasement in concrete.

Type DB-120 — Designed for direct burial without encasement in concrete.

4.2 This specification covers conduit with integral bells, or with either separate or attached couplings.

4.3 This specification covers molded and fabricated fittings intended for use with all types of conduit.

5. Materials

5.1 *Basic Materials*—The conduit shall be made of virgin homopolymer PVC compound having a cell classification of 12254-A or B, 12164-B⁵ (with a minimum tensile strength of 4000 psi (28 MPa)), or 12264-A or B (with a minimum tensile modulus of 500 000 psi) as defined in Specification D 1784. Molded fittings shall be made from PVC compound having a cell classification of 12234-B, 12234-C, or 13343-C as defined in Specification D 1784. Homopolymer PVC compounds must equal or exceed the requirements of the listed cell classification numbers.

¹ This specification is under the jurisdiction of ASTM Committee F17 on Plastic Piping and is the direct responsibility of Subcommittee F17.25 on Vinyl Based Pipe. Current edition approved Sept. 10, 1995. Published November 1995. Originally published as F 512 – 77. Last previous edition F 512 – 93.

² *Annual Book of ASTM Standards*, Vol 08.01.

³ *Annual Book of ASTM Standards*, Vol 08.02.

⁴ *Annual Book of ASTM Standards*, Vol 08.04.

⁵ Supporting data are available at ASTM Headquarters. Request RR:F17-1002.