



Standard Specification for Poly(Vinyl Chloride) (PVC) Plastic Flexible Concealed Water- Containment Membrane¹

This standard is issued under the fixed designation D 4551; 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 covers poly(vinyl chloride) (PVC) flexible sheeting which is used without mastic, bedding, or coating for construction of concealed water-containment-membranes in applications where there is potential for costly secondary damage from water leakage and very long-term reliable performance is essential. Examples are fountains, pools, planters, shower and safe pans, tile tubs, or similar wet installations where the membrane is inaccessible once the construction is complete. Included are requirements for materials and sheeting, test methods, workmanship criteria, and methods of marking.

1.2 Recycled materials may be used in this product in accordance with the requirements in Section 5.

1.3 The tests are intended to ensure quality and performance and are not intended for design purposes. Tests have been selected to be conducted primarily with liquids that simulate the environment to which the membrane will be subjected during actual use.

1.4 This specification does not cover water-containment membranes exposed to ultraviolet light.

1.5 The values stated in inch-pound units are to be regarded as the standard. The values given in parentheses are for information only.

1.6 The following precautionary caveat pertains only to the test method portion, Section 13, 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

2. Referenced Documents

2.1 ASTM Standards:

¹ This specification is under the jurisdiction of ASTM Committee D-20 on Plastics and is the direct responsibility of Subcommittee D20.24 on Plastic Building Products.

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² Paragraphs 1.2, 2.1, 5.2, and 18.1 have been revised to accommodate recycle materials.

D 374 Test Methods for Thickness of Solid Electrical Insulation³

D 412 Test Methods for Vulcanized Rubber Thermoplastic Elastomers-Tension³

D 543 Practices for Evaluating the Resistance of Plastics to Chemical Reagents³

D 618 Practice for Conditioning Plastics for Testing³

D 883 Terminology Relating to Plastics³

D 1004 Test Method for Initial Tear Resistance of Plastic Film and Sheeting³

D 1203 Test Methods for Volatile Loss from Plastics Using Activated Carbon Methods³

D 1204 Test Method for Linear Dimensional Changes of Nonrigid Thermoplastic Sheeting or Film at Elevated Temperature³

D 1243 Test Method for Dilute Solution Viscosity of Vinyl Chloride Polymers³

D 1898 Practice for Sampling of Plastics⁴

D 3892 Practice for Packaging/Packing of Plastics⁵

D 5033 Guide for the Development of ASTM Standards Relating to Recycling and Use of Recycled Plastics⁵

E 96 Test Methods for Water Vapor Transmission of Materials⁵

2.2 ANSI Standard:

Z 26.1 Safety Code for Safety Glazing Materials for Glazing Motor Vehicles Operating on Land Highways⁶

2.3 Military Standard:

MIL-STD-105 Sampling Procedures and Tables for Inspection by Attributes⁷

3. Terminology

3.1 Definitions:

3.1.1 *General*—Definitions are in accordance with Terminology D 883 unless otherwise indicated.

³ *Annual Book of ASTM Standards*, Vol 08.01.

⁴ *Annual Book of ASTM Standards*, Vol 08.02.

⁵ *Annual Book of ASTM Standards*, Vol 08.03.

⁶ Available from the American National Standards Institute, 11 West 42nd Street, 13th Floor, New York, NY 10036.

⁷ Available from Standardization Documents Order Desk, Bldg. 4 Section D, 700 Robbins Ave., Philadelphia, PA 19111-5094, Attn: NPODS.