



Standard Specification for Poly(Vinyl Chloride) Sheet Roofing¹

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This standard has been approved for use by agencies of the Department of Defense.

1. Scope

1.1 This specification covers flexible sheet made from poly(vinyl/chloride) resin as the primary polymer intended for use in single-ply roofing membranes exposed to the weather. The sheet shall contain reinforcing fibers or reinforcing fabrics.

1.2 The tests and property limits used to characterize the sheet are values intended to ensure minimum quality for the intended purpose. In-place roof system design criteria, such as fire resistance, material compatibility, wind uplift resistance, in-situ shrinkage, among others, are factors that must be considered but are beyond the scope of this specification.

1.3 The values stated in SI units are to be regarded as the standard. The values stated in parentheses are for information only.

2. Referenced Documents

2.1 ASTM Standards:

- D 570 Test Method for Water Absorption of Plastics²
- D 638 Test Method for Tensile Properties of Plastics²
- D 751 Test Methods for Coated Fabrics³
- D 1004 Test Method for Initial Tear Resistance of Plastic Film and Sheeting²
- D 1204 Test Method for Linear Dimensional Changes of Nonrigid Thermoplastic Sheeting or Film at Elevated Temperature²
- D 2136 Test Method for Coated Fabrics—Low Temperature Bend Test⁴
- D 3045 Practice for Heat Aging of Plastics Without Load⁵
- D 5602 Test Method for Static Puncture Resistance of Roofing Membrane Samples⁶
- D 5635 Test Method for Dynamic Puncture Resistance of Roofing Membrane Samples⁶
- G 26 Practice for Operating Light-Exposure Apparatus

(Xenon-Arc Type) With and Without Water for Exposure of Nonmetallic Materials⁷

G 53 Practice for Operating Light- and Water-Exposure Apparatus (Fluorescent UV/Condensation Type) for Exposure of Nonmetallic Materials⁷

3. Classification

3.1 Type II:

3.1.1 *Grade 1*—Reinforced sheet in which fibers are incorporated into a production process, for example as a carrier, without appreciably affecting such physical property characteristics of the finished product as tensile strength or ultimate elongation, but may provide other desirable characteristics, such as dimensional stability.

3.1.2 *Grade 2*—Externally reinforced sheet utilizing a fabric backing.

3.2 *Type III*—Sheet that is internally reinforced with fabric and which may also have a fabric backing.

3.3 *Type IV*—Sheet that is internally reinforced with fabric and which may also have a fabric backing with minimum thickness of 0.91 mm (0.036 in.).

4. Materials and Manufacture

4.1 The sheet shall consist of poly(vinyl chloride) resin in amounts greater than 50 % of the total polymer content suitably compounded with plasticizers, stabilizers, fillers, pigments, and other ingredients to satisfy the physical property requirements and accelerated durability tests.

4.2 To make seams and repairs, the sheet shall be capable of being bonded watertight to itself during the design service life of the sheets. The manufacturer shall recommend a suitable method. Design service life is defined as the designated time period of intended system performance.

5. Physical Requirements

5.1 The sheet shall conform to the physical requirements prescribed in Table 1.

6. Dimensions

6.1 The width and length of the sheet shall be agreed upon between the purchaser and the supplier as part of the purchase

¹ This specification is under the jurisdiction of ASTM Committee D08 on Roofing, Waterproofing, and Bituminous Materials and is the direct responsibility of Subcommittee D08.18 on Nonbituminous Organic Roof Coverings.

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

³ *Annual Book of ASTM Standards*, Vol 09.02.

⁴ *Annual Book of ASTM Standards*, Vol 09.01.

⁵ *Annual Book of ASTM Standards*, Vol 08.02.

⁶ *Annual Book of ASTM Standards*, Vol 04.04.

⁷ *Annual Book of ASTM Standards*, Vol 14.02.