



Designation: F 1742 – 96^{ε1}

Standard Specification for PVC Insulating Sheeting¹

This standard is issued under the fixed designation F 1742; 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.

ε¹ NOTE—Note 1 was added editorially in February 1999.

1. Scope

1.1 This specification covers acceptance testing of Poly Vinyl Chloride insulating sheeting for use as a covering for protection of workers.

1.2 The following safety hazards caveat applies only to the test method portion, Sections 17-19, 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 149 Test Method for Dielectric Breakdown Voltage and Dielectric Strength of Solid Electrical Insulating Materials at Commercial Power Frequencies²
- D 412 Test Methods for Vulcanized Rubber and Thermoplastic Rubbers and Thermoplastic Elastomers—Tension³
- D 570 Test Method for Water Absorption of Plastics⁴
- D 747 Test Method for Apparent Bending Modulus of Plastics by Means of a Cantilever Beam⁴
- D 1004 Test Method for Initial Tear Resistance of Plastic Film and Sheeting⁴
- D 1048 Specification for Rubber Insulating Blankets⁵
- D 1746 Test Method for Transparency of Plastic Sheeting⁴
- D 2240 Test Method for Rubber Property—Durometer Hardness³

2.2 American National Standard:⁶

- ANSI C84.1 Voltage Ratings for Electric Power Systems and Equipment (60 Hz)

3. Terminology

3.1 Definitions:

¹ This specification is under the jurisdiction of ASTM Committee F-18 on Electrical Protective Equipment for Workers and is the direct responsibility of Subcommittee F18.25 on Insulating Cover-Up Equipment.

Current edition approved Nov. 10, 1996. Published January 1997.

² Annual Book of ASTM Standards, Vol 10.01.

³ Annual Book of ASTM Standards, Vol 09.01.

⁴ Annual Book of ASTM Standards, Vol 08.01.

⁵ Annual Book of ASTM Standards, Vol 10.03.

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

3.1.1 *voltage, maximum use*—the a-c voltage (rms) classification of the protective equipment that designates the maximum nominal design voltage of the energized system that may be safely worked. The nominal design voltage is equal to phase-to-phase voltage on multiphase circuits.

3.1.1.1 *Discussion*—If there is no multiphase exposure in a system area, and the voltage exposure is limited to phase (polarity on d-c systems) to ground potential, the phase (polarity on d-c systems) to ground potential shall be considered to be the nominal design voltage.

3.1.2 *Discussion*—If electrical equipment and devices are insulated, or isolated, or both, such that the multiphase exposure on a grounded wye circuit is removed, then the nominal design voltage may be considered as the phase-to-ground voltage on that circuit.

3.1.3 *voltage, nominal design*—a nominal value consistent with the latest revision of ANSI C84.1, assigned to the circuit or system for the purpose of conveniently designating its voltage class.

4. Significance and Use

4.1 This specification covers the minimum electrical and physical properties guaranteed by the manufacturer and the detailed procedures by which such properties are to be determined. The purchaser may at his option perform or have performed any of these tests in order to verify the guarantee. Claims for failure to meet the specification are subject to verification by the manufacturer.

NOTE 1—This material is intended for a single use application.

4.2 The safe and proper field use of PVC sheeting is beyond the scope of this specification.

4.2.1 When authorizing use of PVC sheeting for personal protection, a margin of safety should be allowed between the maximum voltage at which it is used and the proof-test voltage at which it is tested. The relationship between proof-test and the maximum voltage at which sheeting shall be used is shown in Table 1.

5. Classification

5.1 PVC insulating sheeting covered under this specification shall be designated as Class 0 or Class 1.

5.1.1 The class designation shall be based on the electrical properties as shown in Table 2 or Table 3.