



Standard Test Method for Predicting Heat Buildup in PVC Building Products¹

This standard is issued under the fixed designation D4803; 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 test method covers prediction of the heat buildup in rigid and flexible PVC building products above ambient air temperature, relative to black, which occurs due to absorption of the sun's energy.

NOTE 1—This test method is expected to be applicable to all types of colored plastics. The responsible subcommittee intends to broaden the scope beyond PVC when data on other materials is submitted for review.

NOTE 2—There are no ISO standards covering the primary subject matter of this test method.

1.2 Rigid PVC exterior profile extrusions for assembled windows and doors are covered in Specification D4726.

1.3 Rigid PVC exterior profiles for fencing are covered in Specification F964.

1.4 Rigid PVC siding profiles are covered in Specification D3679.

1.5 Rigid PVC soffit profiles are covered in Specification D4477.

1.6 Rigid PVC and Rigid CPVC plastic building products compounds are covered in Specification D4216.

1.7 The text of this test method references notes and footnotes which provide explanatory material. These notes and footnotes (excluding those in tables and figures) shall not be considered as requirements of this test method.

1.8 The values stated in inch-pound units are to be regarded as the standard.

1.9 *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.* Specific safety hazard statements are given in Section 7.

¹ This test method is under the jurisdiction of ASTM Committee D20 on Plastics and is the direct responsibility of Subcommittee D20.24 on Plastic Building Products.

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2. Referenced Documents

2.1 ASTM Standards:²

D883 Terminology Relating to Plastics

D1600 Terminology for Abbreviated Terms Relating to Plastics

D4703 Practice for Compression Molding Thermoplastic Materials into Test Specimens, Plaques, or Sheets

D3679 Specification for Rigid Poly(Vinyl Chloride) (PVC) Siding

D4216 Specification for Rigid Poly(Vinyl Chloride) (PVC) and Related PVC and Chlorinated Poly(Vinyl Chloride) (CPVC) Building Products Compounds

D4477 Specification for Rigid (Unplasticized) Poly(Vinyl Chloride) (PVC) Soffit

D4726 Specification for Rigid Poly(Vinyl Chloride) (PVC) Exterior-Profile Extrusions Used for Assembled Windows and Doors

E631 Terminology of Building Constructions

F964 Specification for Rigid Poly (Vinyl Chloride) (PVC) Exterior Profiles Used for Fencing and Railing

3. Terminology

3.1 *Definitions*—Definitions are in accordance with Terminologies D883 or E631 and abbreviations with Terminology D1600 unless otherwise indicated.

3.2 Definitions of Terms Specific to This Standard:

3.2.1 *heat buildup*—the increase in temperature above that of ambient air due to the amount of energy absorbed by a specimen from the sun.

3.2.2 *temperature rise*—the increase in temperature above that of ambient (laboratory) air due to absorption of energy from a heating lamp (source).

4. Summary of Test Method

4.1 The PVC product (extruded product, injection molded part, or compression molded) is cut apart to obtain a flat test specimen at least 3 by 3 by 0.060 ± 0.020 in. (76 by 76 by 1.5 ± 0.5 mm).

² For referenced ASTM standards, visit the ASTM website, www.astm.org, or contact ASTM Customer Service at service@astm.org. For *Annual Book of ASTM Standards* volume information, refer to the standard's Document Summary page on the ASTM website.

*A Summary of Changes section appears at the end of this standard