



Standard Guide to Testing Solvent-Borne Architectural Coatings¹

This standard is issued under the fixed designation D5146; 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 guide covers the selection and use of procedures for testing solvent-borne coatings to be used on exterior, interior or both types of surfaces (see [Note 1](#)). The properties that can be examined or, in some cases, the relevant test procedures are listed in [Table 1](#) and [Table 2](#).

NOTE 1—The term “architectural coating” as used here combines the definition in Terminology [D16](#) with that in the FSCT Paint/Coatings Dictionary, as follows: “Organic coatings intended for on-site application to interior or exterior surfaces of residential, commercial, institutional, or industrial buildings, in contrast to industrial coatings. They are protective and decorative finishes applied at ambient temperatures. Often called Trade Sales Coatings.”

NOTE 2—Architectural coatings that are designed to give better performance than most conventional coatings because they are tougher and more stain- and abrasion-resistant are covered by Guide [D3730](#).

1.2 The types of organic coatings covered by this guide are as follows:

- (1) Type 1 Interior Low-Gloss Wall Finish,
- (2) Type 2 Interior Gloss and Semigloss Wall and Trim Enamels,
- (3) Type 3 Exterior House and Trim Coatings, and
- (4) Type 4 Floor Enamel, Exterior and/or Interior.

1.2.1 Each is intended for application by brushing, rolling, spraying, or other means to the materials appropriate for its type, which may include wood, plaster, wallboard, masonry, steel, previously painted surfaces, and other architectural substrates.

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

1.4 *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:²

- [D16 Terminology for Paint, Related Coatings, Materials, and Applications](#)
- [D56 Test Method for Flash Point by Tag Closed Cup Tester](#)
- [D93 Test Methods for Flash Point by Pensky-Martens Closed Cup Tester](#)
- [D154 Guide for Testing Varnishes](#)
- [D185 Test Methods for Coarse Particles in Pigments](#)
- [D215 Practice for the Chemical Analysis of White Linseed Oil Paints \(Withdrawn 2005\)³](#)
- [D344 Test Method for Relative Hiding Power of Paints by the Visual Evaluation of Brushouts](#)
- [D358 Specification for Wood to Be Used as Panels in Weathering Tests of Coatings](#)
- [D522 Test Methods for Mandrel Bend Test of Attached Organic Coatings](#)
- [D523 Test Method for Specular Gloss](#)
- [D562 Test Method for Consistency of Paints Measuring Krebs Unit \(KU\) Viscosity Using a Stormer-Type Viscometer](#)
- [D660 Test Method for Evaluating Degree of Checking of Exterior Paints](#)
- [D661 Test Method for Evaluating Degree of Cracking of Exterior Paints](#)
- [D662 Test Method for Evaluating Degree of Erosion of Exterior Paints](#)
- [D772 Test Method for Evaluating Degree of Flaking \(Scaling\) of Exterior Paints](#)
- [D869 Test Method for Evaluating Degree of Settling of Paint](#)
- [D968 Test Methods for Abrasion Resistance of Organic Coatings by Falling Abrasive](#)
- [D1006 Practice for Conducting Exterior Exposure Tests of Paints on Wood](#)
- [D1014 Practice for Conducting Exterior Exposure Tests of Paints and Coatings on Metal Substrates](#)
- [D1038 Terminology Relating to Veneer and Plywood](#)

¹ This guide is under the jurisdiction of ASTM Committee [D01](#) on Paint and Related Coatings, Materials, and Applications and is the direct responsibility of Subcommittee [D01.42](#) on Architectural Coatings.

Current edition approved June 1, 2010. Published June 2010. Originally approved in 1990. Last previous edition approved in 2003 as D5146 - 03. DOI: 10.1520/D5146-10.

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.

³ The last approved version of this historical standard is referenced on www.astm.org.