



Designation: D4707 – 09 (Reapproved 2017)

Standard Test Method for Measuring Paint Spatter Resistance During Roller Application¹

This standard is issued under the fixed designation D4707; 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 the determination of the tendency of a paint to spatter when applied with a paint roller to a substrate.

1.2 *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.*

1.3 *This international standard was developed in accordance with internationally recognized principles on standardization established in the Decision on Principles for the Development of International Standards, Guides and Recommendations issued by the World Trade Organization Technical Barriers to Trade (TBT) Committee.*

2. Referenced Documents

2.1 *ASTM Standards:*²

D3924 Specification for Environment for Conditioning and Testing Paint, Varnish, Lacquer, and Related Materials (Withdrawn 2016)³

D3925 Practice for Sampling Liquid Paints and Related Pigmented Coatings

2.2 *Other Document:*

Pictorial Standards of Paint Roller Spatter⁴

3. Summary of Test Method

3.1 The test paint is applied to a black plastic panel by draw-down. The coated plastic panel is immediately mounted

¹ This test method 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.

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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.

⁴ Copies of the pictorial photographic reference standards are contained in *Pictorial Standards of Coatings Defects* and may be obtained from the Federation of Societies For Coatings Technology, 492 Norristown Rd., Blue Bell, PA 19422.

on an essentially vertical surface above a sheet of paper used to catch any spatter. A specially designed notched spool roller (see 5.1) is rolled through the film following a defined procedure, tending to generate spatter. Any spatter falls upon the spatter catch paper and, after drying, is rated against the pictorial standards.

4. Significance and Use

4.1 Paint spatter generated by roller application is dependent on the properties of both the paint being applied and the paint roller cover used for the application. To eliminate the influence of the paint roller cover as a variable, and thus restrict the spatter-inducing variable to the paint under test only, the paint roller cover is replaced by a standard notched spool roller to generate spatter by a mechanism that simulates that of a paint-applying roller cover.

4.2 Although most of the development work to establish this test method was undertaken using latex paints, sufficient work was also done to show its applicability to solvent-reducible paints.

4.3 Tests during the development of this test method showed that the spattering properties of paints, like other physical properties, may in time change. Therefore, the results of this test are valid only for the time when the test is run.

5. Apparatus

5.1 *Notched Spool Test Roller* (Fig. 1).^{5,6}

5.2 *Glass Plate*—at least 230 by 485 mm (9 by 19 in.) by 6 mm (0.25 in.) thick.

5.3 *U-shaped Film Caster*,^{7,6} having a 175- μ m (7-mil) clearance by 135 mm (5.25 in.) wide.

5.4 *Metronome*, adjusted to 80 beats per min.

⁵ The sole source of supply for the notched spool test roller known to the committee at this time is Precision Gage and Tool Co., 28 Volkenand Ave., Dayton, OH 45410.

⁶ If you are aware of alternative suppliers, please provide this information to ASTM International Headquarters. Your comments will receive careful consideration at a meeting of the responsible technical committee,¹ which you may attend.

⁷ The sole source of supply for the Dow film caster known to the committee at this time is BYK-Gardner, Inc., Gardner Laboratory, 2435 Linden Lane, Silver Spring, MD 20910.