



Designation: **D869 – 85 (Reapproved 2015) D869 – 21**

## Standard Test Method for Evaluating Degree of Settling of Paint<sup>1</sup>

This standard is issued under the fixed designation D869; 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 ( $\epsilon$ ) indicates an editorial change since the last revision or reapproval.

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

### 1. Scope

1.1 This test method covers the determination of the degree of pigment suspension and ease of remixing a shelf-aged sample of paint to a homogeneous condition suitable for the intended use.

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

1.3 *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, health, and environmental practices and determine the applicability of regulatory limitations prior to use.*

1.4 *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:*<sup>2</sup>

**D1309 Test Method for Settling Properties of Traffic Paints During Storage** (Withdrawn 2020)<sup>3</sup>

### 3. Significance and Use

3.1 Paints, if not formulated or processed properly may settle excessively. Paint that settles excessively is difficult to reincorporate into the paint system causing time delays or valuable pigment being left in the drum. This test method is an attempt to evaluate the degree of settling caused by the accelerated Test Method **D1309**. This very subjective method of evaluation in conjunction with the variables of Test Method **D1309** raises questions as to the usefulness of the results for specification compliance.

### 4. Apparatus

4.1 *Container*, standard 500-mL (1-pt) friction-top can paint container,  $85.5 \pm 1.5$  mm ( $3\frac{3}{8} \pm \frac{1}{16}$  in.) in diameter, and  $98.5 \pm 1.5$  mm ( $3\frac{7}{8} \pm \frac{1}{16}$  in.) in height.

<sup>1</sup> 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 **D01.24** on Physical Properties of Liquid Paints and Paint Materials.

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<sup>2</sup> 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.

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

4.2 *Spatula*, weighing  $45 \pm 1$  g with square-end blade 125 mm (4 stainless-steel blade with a handle with a  $127 \text{ mm}^{3/4}$  (5 in.) in length long blade and approximately 20 mm (20 mm ( $1^{3/16}$  in.) in width, shall be used to examine the paint for pigment settling and reincorporation characteristics. width. Approximately 2 mm of the end shall be cut off such that the end is square. For comparative testing it is recommended to use the indicated spatula parameters as variances may show different results. Other specifications may be acceptable and should be decided on between purchaser and seller.

## 5. Procedure

5.1 Place the specimen to be tested for pigment suspension in a 500-mL (1-pt) container, filling the can to within 13 mm ( $1/2$  in.) of the top. Close the can tightly and hold undisturbed for shelf aging for 6 months or for such other periods of time agreed upon between the purchaser and the seller.

5.2 Open the can holding the shelf-aged sample without shaking or agitation, and examine the sample without removal of supernatant vehicle. Use the spatula to determine the extent and character of portions of the paint that may have separated during storage. Prepare a suitable spatula for this purpose by cutting the tip from an ordinary 127-mm (5-in.) flexible steel laboratory spatula to the specified length. Hold the spatula perpendicular to and in the center area of the paint at a height whereby the bottom edge of the spatula is level with the top of the can. Drop the spatula from that position. Rate the condition of the sample in accordance with 5.4.

5.3 After examination of the entire specimen as described in 5.2, if a portion of the pigment has separated out to form a firm cake at the bottom of the container pour the supernatant portion of the liquid off into a clean container and hold for subsequent use. Reincorporate the separate cake by hand stirring with the spatula, adding back the liquid in small amounts until the pigment has been reincorporated to form a homogeneous paint suitable for the intended use or until it is determined that the pigment cake cannot be reincorporated by hand stirring. Rate the condition of the specimen in accordance with 5.4.

5.4 Rate the sample for degree of settling on a scale from 10 to 0 in accordance with the following. Give intermediate conditions the appropriate odd number.

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