



Designation: D 1309 – 93 (Reapproved 1998)

Standard Test Method for Settling Properties of Traffic Paints During Storage¹

This standard is issued under the fixed designation D 1309; 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 a laboratory procedure for simulating in 2 weeks the settling that might occur in traffic paint during approximately 12 months' normal storage.

1.2 The values stated in inch-pound 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 and health practices and determine the applicability of regulatory limitations prior to use.* For a specific hazard statement, see Note in 5.2.

2. Referenced Documents

2.1 ASTM Standards:

D 869 Test Method for Evaluating Degree of Settling of Paint²

3. Significance and Use

3.1 Paints, if not formulated or processed properly, or both, may settle excessively. This test method is an attempt to simulate the conditions that would accelerate settling of the pigment in order to evaluate settling properties within 2 weeks. The variables of this test method in conjunction with the very subjective method of evaluating the degree of settling (Test Method D 869) raise questions as to the usefulness of the results for specification compliance.

4. Apparatus

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

4.2 *Spatula*, weighing 45 ± 1 g with square-end blade $4\frac{3}{4}$ in. (125 mm) in length and approximately $1\frac{3}{16}$ in. (20 mm) in width. A suitable spatula may be prepared by cutting the tip from an ordinary 5-in. (125-mm) flexible steel laboratory spatula to the specified length.

4.3 *Freezer*, maintained at from -5 to -10°F (-21 to -23.3°C).

4.4 *Oven*, maintained at $160 \pm 2^{\circ}\text{F}$ ($71 \pm 1^{\circ}\text{C}$).

4.5 *Lid Clips*.

5. Procedure

5.1 Thoroughly mix the paint to be evaluated to a homogeneous consistency. Transfer enough of the paint to a 1-pt (500-mL) paint can to fill it to within $\frac{1}{2}$ in. (13 mm) of the top. Close the can tightly, securing the lid with four clips, and subject it to the following exposure cycle.

5.1.1 Monday through Friday:

5.1.1.1 Place in freezer at 8:00 a.m.

5.1.1.2 Transfer to oven at 10:00 a.m.

5.1.1.3 Transfer to freezer at 2:00 p.m.

5.1.1.4 Transfer to oven at 4:00 p.m.

5.1.2 From 4:00 p.m. Friday until 8:00 a.m. Monday:

5.1.2.1 Place in the oven at 4:00 p.m. Friday.

5.1.2.2 At 8:00 a.m. Monday morning, after the can has been in the oven over a weekend, place it in the freezer and continue the cycles described above for another 7 days. Each time the can of paint is removed from the oven give it one sharp "spank" on the table top. The spank consists of a short rapid jar of the bottom of the can of paint against the top of the table. The violence of the jar is such that if the bottom of the can of paint were spanked against the platform of a scale instead of a table top the scale would register approximately 5 lb (2.27 kg) weight.

5.2 At the completion of the exposure, allow the paint to cool at room temperature for 4 h and determine the degree of settling in accordance with Test Method D 869.

NOTE 1—Open cans slowly and carefully to allow release of residual vapor pressure.

6. Report

6.1 Report the "accelerated settling rating" in accordance with the degree of settling scale given in the Procedure section of Test Method D 869.

7. Precision and Bias

7.1 Due to the poor precision of Test Method D 869, if it is used in a specification, the maximum deviation from the settling limits specified should be agreed upon between the purchaser and the seller.

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 D01.44 on Traffic Coatings.

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² *Annual Book of ASTM Standards*, Vol 06.02.