



Standard Test Method for Package Stability of Paint¹

This standard is issued under the fixed designation D 1849; 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.

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

1. Scope

1.1 This test method covers the change in consistency and certain other properties that may take place when liquid paint of either the solvent-reducible or water-reducible type is stored at a temperature above 32°F (0°C).

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

2. Referenced Documents

2.1 ASTM Standards:

D 562 Test Method for Consistency of Paints Measuring Krebs Unit (KU) Using a Stormer-Type Viscometer²

D 869 Test Method for Evaluating Degree of Settling of Paint³

D 3925 Practice for Sampling Liquid Paints and Related Pigment Coatings²

3. Apparatus

3.1 *Spatula*, weighing 45 ± 1 g with square-ended blade 120 mm ($4\frac{3}{4}$ in.) in length and approximately 20 mm ($1\frac{3}{16}$ in.) in width as described in Test Method D 869.

3.2 *Viscometer*—A Stormer viscometer with the paddle-type rotor as described in Test Method D 562.

3.3 *Paint Brush*, 38 mm ($1\frac{1}{2}$ in.) polyester or nylon/polyester, 13-mm ($\frac{1}{2}$ -in.) thick and 63-mm ($2\frac{1}{2}$ -in.) length out, chisel tip.

3.4 *Test Surface*—A smooth-surfaced paper chart coated with a suitable varnish or lacquer so as to render the surface impervious to paint vehicles.

4. Procedure

4.1 Obtain duplicate samples of the paint in original, unopened containers in accordance with Practice D 3925 (Note 1). Examine one of the samples received for the characteristics listed in 4.2, using the procedures therein described. Weigh the other unopened sample to the nearest 1 g, then hold it undisturbed for specified periods of time and ranges of temperature, as agreed upon between purchaser and seller (Note 2). After storage, reweigh the sample without shaking to determine any loss of weight resulting from faulty closure.

NOTE 1—Containers should preferably be no larger than 1 L (1 qt).

NOTE 2—Storage for 1 month at $52 \pm 1^\circ\text{C}$ ($125 \pm 2^\circ\text{F}$) simulates some of the effects of storage for 6 months to 1 year at $23 \pm 2^\circ\text{C}$ ($73 \pm 3.5^\circ\text{F}$). However, it should be recognized that storage at 125°F may not simply accelerate changes occurring at 73°F. With water-borne paints, for example, at 125°F the growth of some putrefying bacteria is inhibited.

4.2 Bring the stored sample to $23 \pm 2^\circ\text{C}$ ($73 \pm 3.5^\circ\text{F}$). Note any evidence of pressure or vacuum in the unopened container. Open the container and note any skinning, corrosion and odor of putrefaction, rancidity or souring. Disregard other odors. If the sample is in a 1-L (1-qt) or smaller container, measure the character of the lower or settled layer with the spatula as described in Test Method D 869. If the sample is larger than 1 qt, omit this step. Hand stir the paint 300 stirs in 2 min with a spatula appropriate to the container, stirring so as to ensure uniform distribution of any settled material (Note 3 and Note 4).

4.3 *Immediately* after stirring, measure the consistency of the paint in accordance with Test Method D 562.

4.4 Apply the stored paint to one test panel and the control paint to the other. After the brushed film has completely dried, examine it for grains approximately 0.8 mm ($\frac{1}{32}$ in.) in diameter, even larger gelatinous lumps, and streaks caused by such grains or lumps.

NOTE 3—Avoid the use of a mechanical shaker or syringe-type measuring device that might disperse particles or lumps that would not be dispersed by hand stirring.

5. Report

5.1 For the stored sample only, report the time of storage in days and the temperature of storage in degrees Fahrenheit or Celsius. Report the initial and final sample weight.

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 *Annual Book of ASTM Standards*, Vol 06.01.

³ *Annual Book of ASTM Standards*, Vol 06.02.