Designation: D7488 – 11 (Reapproved 2016)

Standard Test Method for Open Time of Latex Paints[1]

This standard is issued under the fixed designation D7488; 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 procedure to determine the length of time a latex paint remains "wet" or "open" enough to allow for brush-in and repair.

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.*

2. Referenced Documents

2.1 *ASTM Standards:*[2]

D3924 Specification for Environment for Conditioning and Testing Paint, Varnish, Lacquer, and Related Materials

D5068 Practice for Preparation of Paint Brushes for Evaluation

D5301 Practice for Physical Characterization of Paint Brushes

E177 Practice for Use of the Terms Precision and Bias in ASTM Test Methods

E691 Practice for Conducting an Interlaboratory Study to Determine the Precision of a Test Method

3. Terminology

3.1 *Definitions:*

3.1.1 *open time, n*—the length of time a coating remains wet or open enough to allow for brush-in without the edges of the first coat becoming visible and allowing for repair within the previously painted area.

4. Summary of Test Method

4.1 Since environmental conditions such as temperature, humidity and air flow can result in variable results, it is recommended that this test method be performed in a constant temperature / humidity room (23 ± 2°C (73.5 ± 3.5°F)) / 50 ± 5 % relative humidity. Test paints are applied to the center of a sealed chart with a 76 microns (3 mil) wet film thickness. X marks are made immediately. The number of X marks will depend on how many can fit on one drawdown (see Fig. 1). The test paint is then applied in perpendicular sections, brushing each section across the initial painted section. The perpendicular sections are repeated at agreed upon time intervals. After drying, wet edge is recorded as the last time the test paint could be brushed into the initial painted section without the edges of the first coat being visible. The time at which the X marks become visible is also noted.

5. Significance and Use

5.1 Latex paints dry very quickly which often causes difficulty in final appearance of painted areas, especially paints formulated below 100g/L VOC where lower amounts of solvents are in the formulated latex paint. This method is a means of determining the time available before a test paint cannot be worked into a previously painted area.

6. Apparatus

6.1 *Constant Temperature/Humidity Room* (23 ± 2°C (73.5 ± 3.5°F)) / 50 ± 5 % relative humidity in accordance with Specification D3924.

6.2 *Contrasting Sealed Chart* (that is, black sealed chart for white paints or white sealed chart for tinted paints), typically 30 by 60 cm (1 by 2 ft.).

6.3 *Glass Plate,* 30 by 60 cm (1 by 2 ft.) or vacuum plate.

6.3.1 If using a glass plate, tape to secure sealed chart to glass plate.

6.4 *Good Quality Brush,* 50 mm (2 in.) wide with straight edge, polyester bristles in accordance with Practice D5301.

6.5 *Timer or Clock* to record time intervals.

6.6 *Film Applicator,* capable of applying a film with a width of 7.5 cm (3 in.) and approximate wet film thickness of 75 microns (3 mil).

7. Procedure

7.1 Condition the brush in with the test paint accordance with Practice D5068.

[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.