



Designation: D7834 – 13

## Standard Test Method for Filling Material Shedding of Paint Brushes<sup>1</sup>

This standard is issued under the fixed designation D7834; 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 reappraisal. A superscript epsilon ( $\epsilon$ ) indicates an editorial change since the last revision or reappraisal.

### 1. Scope

1.1 This test method describes the procedure for testing the shedding properties of both natural bristle and synthetic filament paint brushes (referred as filling material).

1.2 The values stated in inch-pound units are to be regarded as standard. The values given in parentheses are mathematical conversions to SI units that are provided for information only and are not considered standard.

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. Summary of Test Method

2.1 The amount of filling material removed in this test method is calculated to determine the shedding characteristic of the test sample.

### 3. Significance and Use

3.1 During the application of coatings, paint brushes can exhibit shedding of filling material onto the coated surface. A measure of this shedding filling material will determine the paint brush's ability to resist shedding during application.

### 4. Equipment

4.1 *Standard Large Brush Making Comb*, typically with a wood handle and steel teeth (see Fig. 1). Teeth approximately .88 in. (22.2 mm) long; teeth portion of comb approximately 36 teeth at 4.14 in. (105.1 mm), resulting in .15 in. (2.9 mm) tooth spacing; tooth diameter approximately .048 in. (1.2 mm); 4.75 in. (120.7 mm) comb length-out from handle.

4.2 *Standard White Paper*, 8.5 by 11 in. (215.9 by 279.4 mm).

### 5. Sampling, Test Specimens, and Test Units

5.1 Sample three identical brushes per test.

<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 D01.61 on Paint Application Tools.

Current edition approved June 1, 2013. Published July 2013. Originally approved in 2012. Last previous edition approved in 2012 as D7834 – 12. DOI: 10.1520/D7834-13.

### 6. Procedure

6.1 Hold the brush test specimen over the white paper with the filling material facing downward toward the paper at about a 45° angle and at a distance of 5 to 6 in. (127 to 152.4 mm) above the paper.

6.2 Check that the entire filling material is over the paper surface.

6.3 Insert the teeth of the comb as deep as possible, at approximately one third of the filling material length clear from ferrule edge.

6.4 Push the comb through the filling material until the teeth exit the tip of brush at about one stroke per second.

6.5 Repeat steps 6.3 and 6.4 ten (10) times on each width side of the brush.

6.6 Pull out any visible filling material that are protruding from the brush tip by hand and place on the paper.

6.7 Continue to follow steps 6.3 and 6.4 five (5) times on each thickness side of the brush.

6.8 Pull out any visible filling material that are protruding from the brush tip by hand and place on the paper.

6.9 Fan the tip of the brush back and forth with the comb five times along the width direction and pull out any remaining loose filling material protruding from the brush tip. The amount of depth that the tines must penetrate the brush tip is equal to the length of the tine or .88 in. (22.2 mm) deep as recommended in 4.1.

6.10 Count the number of filling material pieces that are greater than 0.5 in. (12.7 mm) and record. Smaller pieces and broken tips can be estimated visually and noted.

### 7. Precision and Bias

7.1 At the time of the study, there was no accepted reference material suitable for determining the bias for this test method. Therefore no statement of bias is being made.

### 8. Keywords

8.1 brush ferrule; brush filling material; length clear