



Designation: D6336 – 11 (Reapproved 2021)

## Standard Practice for Evaluation of Flushing Vehicles for Pigment Wetting Using a Vacuum Modified Sigma Blade Mixer<sup>1</sup>

This standard is issued under the fixed designation D6336; 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.

### 1. Scope

1.1 This practice covers guidelines for the evaluations of flushing vehicles for pigment dispersion using a vacuum modified sigma blade mixer, or vacuum flusher.

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>

- D280 Test Methods for Hygroscopic Moisture (and Other Matter Volatile Under the Test Conditions) in Pigments
- D387 Test Method for Color and Strength of Chromatic Pigments with a Mechanical Muller
- D1316 Test Method for Fineness of Grind of Printing Inks By the NPIRI Grindometer
- D2066 Test Methods for Relative Tinting Strength of Paste-Type Printing Ink Dispersions
- D2067 Test Method for Coarse Particles in Printing Ink Dispersions
- D4017 Test Method for Water in Paints and Paint Materials

<sup>1</sup> This practice is under the jurisdiction of ASTM Committee D01 on Paint and Related Coatings, Materials, and Applications and is the direct responsibility of Subcommittee D01.37 on Ink Vehicles.

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<sup>2</sup> For referenced ASTM standards, visit the ASTM website, [www.astm.org](http://www.astm.org), or contact ASTM Customer Service at [service@astm.org](mailto:service@astm.org). For *Annual Book of ASTM Standards* volume information, refer to the standard's Document Summary page on the ASTM website.

by Karl Fischer Method

D4040 Test Method for Rheological Properties of Paste Printing and Vehicles by the Falling-Rod Viscometer

D4361 Test Method for Apparent Tack of Printing Inks and Vehicles by a Three-Roller Tackmeter (Withdrawn 2019)<sup>3</sup>

### 3. Terminology

#### 3.1 Definitions of Terms Specific to This Standard:

3.1.1 *additives, n*—various materials that are used in relatively small quantities to condition the pigment or vehicle.

3.1.2 *break, n*—the action that takes place when water is separated from the pigment in a presscake.

3.1.3 *flushed color, n*—a color base in paste form prepared by flushing.

3.1.4 *flusher, n*—a mixing device that has two sigma shaped agitator blades parallel to each other, turning in opposing directions at different speeds.

3.1.4.1 *Discussion*—The mixing action of a flusher is that of kneading.

3.1.5 *flushing, n*—a method of transferring pigments from dispersions in water to dispersions in oil by the displacement of the water by oil.

3.1.5.1 *Discussion*—The resulting dispersions of flushing are known as flushed colors.

3.1.6 *pigment, n*—the fine solid particles of colorant used to give color to printing inks.

3.1.6.1 *Discussion*—The pigment particles are substantially insoluble in the vehicle and in water.

3.1.7 *presscake, n*—a mixture of pigment and water formed into a cake by passing through a filter press under pressure.

3.1.8 *vacuum cycle, n*—the time a flush is under vacuum to remove entrapped water.

3.1.9 *vehicle, n*—the liquid portion of an ink that holds and carries the pigment, provides workability and drying properties and binds the pigment to the substrate after the ink has dried.

<sup>3</sup> The last approved version of this historical standard is referenced on [www.astm.org](http://www.astm.org).