



Designation: D 7377 – 07

## Standard Practice for Evaluating the Water Wash-Off Resistance of Traffic Paints<sup>1</sup>

This standard is issued under the fixed designation D 7377; 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 A newly applied traffic paint film may be exposed to hard rain shortly after application. This practice was designed to simulate that condition and covers determination of the water wash-off resistance of an applied traffic paint film under controlled conditions. This test can be used to compare conventional and fast-dry traffic paints and the binders used in them for their relative ability to withstand heavy rain soon after application on roadway surfaces.

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:*<sup>2</sup>

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

**D 711** Test Method for No-Pick-Up Time of Traffic Paint

**D 823** Practices for Producing Films of Uniform Thickness of Paint, Varnish, and Related Products on Test Panels

**D 1005** Test Method for Measurement of Dry-Film Thickness of Organic Coatings Using Micrometers

**D 1212** Test Methods for Measurement of Wet Film Thickness of Organic Coatings

**D 4414** Practice for Measurement of Wet Film Thickness by Notch Gages

<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 D01.44 on Traffic Coatings.

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<sup>2</sup> 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.

### 3. Terminology

3.1 *Definitions:*

3.1.1 *conventional waterborne traffic paint, n*—an aqueous traffic paint that uses a conventional-dry latex binder. Typical no-pick-up dry times for conventional traffic paints are 20 to 45 min.

3.1.2 *durable fast-dry waterborne traffic paint, n*—an aqueous traffic paint that uses a third generation durable fast-dry latex binder. Air or airless spray application on roadways is typically 0.65 mm (25 mils) wet or about 0.41 mm (16 mils) dry. The range of application for durable waterborne paints is 0.56 to 0.89 mm (22 to 35 mils) wet, but sometimes the durable paints are also striped at standard line thickness.

3.1.3 *effective water wash-off dry time, n*—the traffic paint dry time required for no visible loss of coating when conducting the water-wash off Standard Practice.

3.1.4 *fast-dry waterborne traffic paint, n*—an aqueous traffic paint that uses a fast-dry traffic latex binder. Typical no-pick-up dry times for fast-dry traffic paints are <10 min.

3.1.5 *standard line fast-dry waterborne traffic paint, n*—an aqueous traffic paint that uses a first or second generation fast-dry latex binder. Air or airless spray application on roadways is typically 0.38 mm (15 mils) wet or about .223 mm (9 mils) dry.

3.1.6 *waterborne traffic paint, n*—an aqueous traffic paint (usually white or yellow) containing either a conventional or fast-dry latex binder.

### 4. Summary of Practice

4.1 This standard practice involves preparing a series of uniform thickness films of traffic paint on standard substrates. The films are allowed to dry over different time periods, and then each paint film is subsequently tested with the water-wash-off test to determine the relative amount of coating remaining at the end of the wash off period.

### 5. Significance and Use

5.1 After waterborne traffic paints are applied to a road pavement, it is important that they be sufficiently coalesced or cured so they will not be removed by rain. This practice can be used to determine the relative performance of binders and other