



# Standard Test Method for Laboratory Determination of Degree of Bleeding of Traffic Paint<sup>1</sup>

This standard is issued under the fixed designation D 969; 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 laboratory test procedure for determining the degree of bleeding of traffic or pavement marking paints.

1.2 The values stated in inch-pound 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 476 Specification for Titanium Dioxide Pigments<sup>2</sup>
  - D 867 Specification for Pumice Pigment<sup>3</sup>
  - D 868 Test Method for Evaluating Degree of Bleeding of Traffic Paint<sup>4</sup>
  - D 1199 Specification for Calcium Carbonate Pigments<sup>2</sup>
- ### 2.2 ASTM Adjuncts:
- D 868 Bleeding resistance of paint (one photo)<sup>5</sup>

## 3. Significance and Use

3.1 Solvents in a traffic paint may cause bleeding of pavement constituents into the traffic marking, thereby rendering the traffic marking less effective as a lane or directional indicator. This test method describes how to prepare a panel for evaluation. The very subjective method of evaluating the degree of bleeding raises questions as to the usefulness of the result for specification compliance.

## 4. Apparatus

4.1 *Film Applicator*—A conventional type drawdown gage that casts a film having a minimum width of 2 in. (50 mm) and an approximate wet thickness of 15 mils (380 μm) (applicator clearance of approximately 30 mils (760 μm)).

4.2 *Test Panel for Coal-Tar Substrate*—A 5 by 10-in. (127 by 254-mm) piece cut from a standard roll of so-called “15-lb (6.8-kg) coal-tar saturated asbestos or rag felt” (see Note 1).

4.3 *Test Panel for Asphalt Substrate*—A 5 by 10-in. (127 by 254-mm) piece cut from a standard roll of 15-lb (6.8-kg) asphalt-saturated felt.

NOTE 1—The following paint composition, when used on 15-lb (6.8-kg) felts from various sources, gave the severe bleeding necessary for a rating of between 4 and 2 on the coal tar, and the lesser bleeding necessary for a rating between 9 and 7 on asphalt, when compared to the photographic reference standards of Test Method D 868.<sup>4</sup> This control paint is suggested only for use in standardizing the test panels.

	Pounds (kg) <sup>A</sup>	Gallons (L) <sup>B</sup>
Titanium dioxide TiO <sub>2</sub> /(Specification D 476, Type II, Class II)	219.3	6.25
Calcium carbonate/CaCO <sub>3</sub> /ASTM Specification D 1199	525.7	23.29
Aluminum stearate (a 5% mixture in toluol shall gel below 120°F)	2.1	0.23
Pumice, No. 100 (Specification D 867)	87.8	4.48
Alkyd resin solution, pure oxidizing 52 % soya oil modified, 50 % solution in 38 K.B. mineral spirits	425.7	55.98
V.M. & P. naphtha	53.9	8.78
Lead naphthenate, 24 %	5.7	0.59
Cobalt naphthenate, 6 %	1.3	0.16
Chemical ASA (anti-skin agent)	1.8	0.24
<u>Totals</u>	<u>1323.3</u>	<u>100.00</u>

<sup>A</sup>1 lb = 0.454 kg.

<sup>B</sup>1 gal = 3.7854 L.

## 5. Preparation of Test Panel

5.1 Cut the 5 by 10-in. (125 by 255-mm) specimen panel from that portion of the roll 5 in. in from the edges.

5.2 Provide a nonbleeding contrast surface by affixing a 3/4-in. (20-mm) cellophane tape, with firm pressure, to the entire length of the panel so that the outside edge of the tape is at least 1 in. (25 mm) from the edge of the panel and parallel to the edge of the panel.

## 6. Procedure

6.1 Place the test panel on a smooth flat surface (such as a

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<sup>2</sup> *Annual Book of ASTM Standards*, Vol 06.03.

<sup>3</sup> Discontinued; see 1992 *Annual Book of ASTM Standards*, Vol 06.03.

<sup>4</sup> *Annual Book of ASTM Standards*, Vol 06.02.

<sup>5</sup> Copies of the pictorial photographic reference standards are contained in the publication *Pictorial Standards of Coating Defects*, and may be obtained from ASTM Headquarters (request Adjunct PCN 12-408680-00) or the Federation of Societies for Coating Technology, 492 Norristown Rd., Blue Bell, PA 19422. The original source of the photographic reference standards illustrated in Fig. 1 is the Federation.

glass panel), with the tape side up on the left, and hold in a flat position by weighting down the edges.

6.2 Draw the paint under test down over the specimen panel in such a manner that the entire width of the tape is covered, leaving the remainder of the film to the right of the tape in direct contact with the test panels.

6.3 Keep the coated panel in a flat position until the film is set (after which the weights may be removed) and allow the coated panel to dry for 48 h at 70 to 80°F (21 to 27°C).

6.4 Immediately after completion of 48-h drying, observe the contrast in color between the portion of the film over the

tape and that portion that is in direct contact with the test panels. Rate the degree of bleeding numerically in accordance with the nearest photographic reference standard in Test Method D 868.<sup>4</sup>

## 7. Precision and Bias

7.1 Precision and bias cannot be determined.

## 8. Keywords

8.1 bleeding; traffic paint

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