



Designation: D6933 – 13

## Standard Test Method for Oversized Particles in Emulsified Asphalts (Sieve Test)<sup>1</sup>

This standard is issued under the fixed designation D6933; 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 covers the degree to which an emulsified asphalt may contain particles of asphalt or other discreet solids retained on a 850- $\mu$ m mesh sieve.

1.2 The values stated in SI units are to be regarded as standard. No other units of measurement are included in this standard.

1.3 *This test method 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>

D7496 Test Method for Viscosity of Emulsified Asphalt by Saybolt Furol Viscometer

E1 Specification for ASTM Liquid-in-Glass Thermometers

E11 Specification for Woven Wire Test Sieve Cloth and Test Sieves

### 3. Significance and Use

3.1 The retention of an excessive amount of particles on the sieve indicates that problems may occur in handling and application of the material. Particles of asphalt retained on the sieve often are caused by agglomeration of the dispersed phase. Storage, pumping, handling, and temperature can all contribute to the formation of particles. Contamination from the tank, transport, or hose are other factors affecting particle formation.

### 4. Sample Conditioning for Testing

4.1 All emulsified asphalts shall be properly stirred to achieve homogeneity before testing.

4.2 All emulsified asphalts with viscosity testing requirements of 50°C shall be heated to  $50 \pm 3^\circ\text{C}$  in the original sample container in a water bath or oven. The container should be vented to relieve pressure. After the sample reaches  $50 \pm 3^\circ\text{C}$ , stir the sample to achieve homogeneity.

4.3 Emulsified asphalts with viscosity testing requirements of 25°C should be mixed or stirred at  $25 \pm 3^\circ\text{C}$  in the original sample container to achieve homogeneity.

NOTE 1—Emulsified asphalts with viscosity testing requirements of 25°C may be heated and stirred as specified in 4.2, if necessary. In the event the 4.2 method is used, the sample should be cooled to  $25 \pm 3^\circ\text{C}$  before testing.

### 5. Apparatus and Reagents

5.1 *Sieve*—A sieve having a nominal 76-mm frame conforming to Specification E11, and having a 850- $\mu$ m wire sieve cloth.

5.2 *Pan*—A tin box cover or shallow metal pan of appropriate size to fit over the bottom of the standard sieve.

5.3 *Thermometric device*—ASTM 17C for tests at 25°C and ASTM 19C for tests at 50°C, conforming to the requirements of Specification E1, or any other thermometric device of equal accuracy.

5.4 *Nonionic Surfactant Solution (1 %)*—1 g of nonionic surfactant (ethoxylated nonylphenol is recommended) dissolved in distilled water and diluted to 100 mL.

5.5 *Distilled or Deionized Water*

5.6 *Balances*—capable of weighing 2000 g to within  $\pm 1$  g, and 500 g to within  $\pm 0.1$  g.

5.7 *Oven*—Capable of maintaining temperature of  $110 \pm 5^\circ\text{C}$ .

5.8 *Desiccator*.

### 6. Hazards

6.1 **WARNING:** Mercury has been designated by the United States Environmental Protection Agency (EPA) and many state agencies as a hazardous material that can cause central nervous system, kidney and liver damage. Mercury, or its vapor, may be hazardous to health and corrosive to materials. Caution should be taken when handling mercury and

<sup>1</sup> This test method is under the jurisdiction of ASTM Committee D04 on Road and Paving Materials and is the direct responsibility of Subcommittee D04.42 on Emulsified Asphalt Test.

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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.