



Standard Practice for Evaluating Aggregate Coating using Emulsified Asphalts¹

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1. Scope

1.1 This practice covers those emulsified asphalts intended for use by mixing with aggregate. It is not applicable to rapid-setting types or diluted materials used for tack coats, priming, or mulch treatments.

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

1.3 *This practice 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:*²

E11 Specification for Woven Wire Test Sieve Cloth and Test Sieves

3. Sample Conditioning for Testing

3.1 All emulsified asphalts shall be properly stirred to achieve homogeneity.

3.2 All emulsified asphalts with viscosity testing requirements of 50°C shall be conditioned to $50 \pm 3^\circ\text{C}$ in a 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.

3.3 Emulsified asphalts with viscosity testing requirements of 25°C shall be conditioned to $25 \pm 3^\circ\text{C}$ in a sample container to achieve homogeneity. the sample reaches $25 \pm 3^\circ\text{C}$, stir the sample to achieve homogeneity.

NOTE 1—Emulsified asphalts with viscosity testing requirements of 25°C may be heated and stirred as specified in 3.2, if necessary. In the event the 3.2 method is used, the sample should be cooled to $25 \pm 3^\circ\text{C}$.

¹ This practice 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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² 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.

4. Significance and Use

4.1 The intent of this practice is to ensure that a given mixing grade emulsified asphalt is stable enough and otherwise possesses the ability to mix with a reference stone for the prescribed time, and coat it uniformly and thoroughly.

5. Apparatus and Material

5.1 *Sieves*—Standard 19.0-mm and 6.3-mm sieves conforming to Specification E11.

5.2 *Spatula*—A steel spatula or its equivalent, having a blade approximately 200 mm in length.

5.3 *Mixing Container*—A container of approximately 1 L capacity (for example, round bottom iron dish, kitchen saucepan, pie tin, stainless steel bowl).

5.4 *Stone*—A supply of reference stone (hard limestone, trap rock, or other type) which has been washed with water and dried before using. All stone shall pass through the standard 19.0-mm sieve and not more than 5 % shall pass through the 6.3-mm sieve.

NOTE 2—Each laboratory should select its own reference stone supply, the source of which is not apt to change; this is to obviate rapid changes in the character of reference stone used in any one laboratory, since the extent of coating may be aggregate dependent.

5.5 *Balance*, capable of weighing 1000 g to within ± 0.1 g.

6. Procedure

6.1 Weigh 465.0 ± 1.0 g of stone into the metal pan.

6.2 Add 35.0 ± 0.1 g of the emulsified asphalt to the stone in the pan, and mix vigorously with the spatula for 3 min.

NOTE 3—An equivalent ratio of 93% stone and 7% emulsified asphalt may be used.

7. Report

7.1 Report whether or not there is appreciable separation of the asphaltic base from the water of the emulsified asphalt, and whether or not the stone is uniformly and thoroughly coated with the emulsified asphalt.

8. Keywords

8.1 asphalt; asphalt emulsion; cationic emulsified asphalt; coating; emulsified asphalt

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