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Standard Test Method for EMULSIFIED ASPHALT/JOB AGGREGATE COLD MIX TEST¹

This standard is issued under the fixed designation D 4379; 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 (ϵ) indicates an editorial change since the last revision or reappraisal.

1. Scope

1.1 This test method may be used to identify the adequacy of slow setting grade of emulsified asphalt to mix with and coat a dense and fine-graded job aggregate. It is a laboratory test method of screening emulsion candidates for mixing with and coating job aggregates and is not to be construed as a mix design test method.

1.2 *This standard may involve hazardous materials, operations, and equipment. This standard does not purport to address all of the safety problems associated with its use. It is the responsibility of whoever uses this standard to consult and establish appropriate safety and health practices and determine the applicability of regulatory limitations prior to use.*

2. Applicable Documents

2.1 ASTM Standards:

D8 Definitions of Terms Relating to Materials for Roads and Pavements²

D244 Method of Testing Emulsified Asphalts²

D698 Test Method for Moisture—Density Relations of Soils and Soil-Aggregate Mixtures, Using 5.5-lb (2.49-kg) Rammer and 12-in. (304.8-mm) Drop³

D1073 Specification for Fine Aggregate for Bituminous Paving Mixtures²

2.2 AASHTO Standard:

T-99 Moisture/Density⁴

3. Significance and Use

3.1 The conditions of test are designed to identify the adequacy of emulsified asphalt, slow-setting grade (CSS-D2397 and SS-D977) for mixing with and coating dense-graded aggregate and fine-graded aggregate.

4. Summary of Method

4.1 A weighed amount of dry job aggregate is

hand-mixed with a weighed amount of water for prewetting the aggregate. The wetted aggregate is then hand-mixed with a weighed amount of emulsified asphalt of known asphalt cement content until maximum coating of the job aggregate is obtained. (Mix time is usually 15 to 120 s.) The adequacy of emulsified asphalt for mixing with job aggregate is determined by using various amounts of water and emulsified asphalt until a maximum coating of the job aggregate is obtained. This coating is rated as good, fair, or poor.

5. Apparatus

5.1 *Containers*—A 1000-mL glass beaker, a 1-qt (1.0-L) friction-top metal can, or 1000-mL stainless steel beaker or bowl.

5.2 *Mixing Tool*—A steel spatula or its equivalent, having a blade approximately 8 in. (203.2 mm) in length.

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

6. Procedure

6.1 Weigh 300 g of dry job aggregate into the container and add water basis dry weight of aggregate. Immediately begin to mix vigorously for 1 min or until all aggregate surfaces subjectively appear to be wetted (as a guide, 2 to 8 % water for dense-graded aggregate and 4 to 12 % water for fine-graded aggregate). The natural

¹ This test method is under the jurisdiction of ASTM Committee D-4 on Road and Paving Materials and is the direct responsibility of Subcommittee D04.42 on Emulsified Asphalt Tests.

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² Annual Book of ASTM Standards, Vol 04.03.

³ Annual Book of ASTM Standards, Vol 04.08.

⁴ Available from American Association of State Highway and Transportation Officials, 444 N. Capitol, Washington, DC 20001.