



Standard Test Methods and Practices for Emulsified Asphalts¹

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This standard has been approved for use by agencies of the Department of Defense.

1. Scope

1.1 These test methods and practices, given under the headings titled Composition, Consistency, Stability, and Examination of Residue, cover the examination of asphalt emulsions composed principally of a semisolid or liquid asphaltic base, water, and an emulsifying agent. The test methods cover the following tests:

Test	Sections
Composition:	
Water Content	4-10
Residue and Oil Distillate by Distillation	11-15
Residue by Evaporation	16-22
Particle Charge of Cationic Emulsified Asphalts	23-28
Consistency:	
Viscosity (Saybolt Furol)	29-33
Stability:	
Demulsibility	34-39
Settlement	40-45
Cement Mixing	46-52
Sieve Test	53-58
Coating	59-62
Miscibility with Water	63-65
Freezing	66-68
Coating Ability and Water Resistance	69-76
Storage Stability of Asphalt Emulsion	77-83
Examination of Residue	84-91
Identification Test for Rapid Setting Cationic Emulsified Asphalt	92-99
Identification of Cationic Slow Set Emulsions	100-105
Field Coating Test on Emulsified Asphalts	106-111
Emulsified Asphalt/Job Aggregate Coating Test	112-117
Weight per Gallon of Emulsified Asphalt	118-124
Residue by Low-Temperature Vacuum Distillation	126-131

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 applica-*

bility of regulatory limitations prior to use.

2. Referenced Documents

2.1 ASTM Standards:

- C 150 Specification for Portland Cement²
- C 778 Specification for Standard Sand²
- D 5 Test Method for Penetration of Bituminous Materials³
- D 70 Test Method for Specific Gravity and Density of Semi-Solid Bituminous Materials³
- D 86 Test Method for Distillation of Petroleum Products⁴
- D 88 Test Method for Saybolt Viscosity⁵
- D 113 Test Method for Ductility of Bituminous Materials³
- D 128 Test Methods for Analysis of Lubricating Grease⁴
- D 139 Test Method for Float Test for Bituminous Materials³
- D 140 Practice for Sampling Bituminous Materials³
- D 977 Specification for Emulsified Asphalt³
- D 2042 Test Method for Solubility of Asphalt Materials in Trichloroethylene³
- D 2397 Specification for Cationic Emulsified Asphalt³
- D 3289 Test Method for Specific Gravity or Density of Semi-Solid and Solid Bituminous Materials by Nickel Crucible³
- E 1 Specification for ASTM Thermometers⁶
- E 11 Specification for Wire-Cloth Sieves for Testing Purposes⁷
- E 145 Specification for Gravity-Convection and Forced-Ventilation Ovens⁷

3. Sample Conditioning for Testing

3.1 All emulsions with viscosity requirements of 50°C should be heated to 50 ± 3°C in the original sample container in a 71°C water bath or oven. The container should be vented to relieve pressure. After the sample reaches 50 ± 3°C, stir the sample to achieve homogeneity.

¹ These test methods are under the jurisdiction of ASTM Committee D04 on Road and Paving Materials and are the direct responsibility of Subcommittee D04.42 on Emulsified Asphalt Tests.

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² Annual Book of ASTM Standards, Vol 04.01.

³ Annual Book of ASTM Standards, Vol 04.03.

⁴ Annual Book of ASTM Standards, Vol 04.04.

⁵ Annual Book of ASTM Standards, Vol 05.01.

⁶ Annual Book of ASTM Standards, Vol 14.03.

⁷ Annual Book of ASTM Standards, Vol 14.02.