



Designation: D977 – 05

Standard Specification for Emulsified Asphalt¹

This standard is issued under the fixed designation D977; 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.

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

1. Scope

1.1 This specification covers thirteen grades of emulsified asphalt for use in pavement construction in the manner designated.

2. Referenced Documents

2.1 *ASTM Standards:*²

- D140 Practice for Sampling Bituminous Materials
- D244 Test Methods and Practices for Emulsified Asphalts
- D3910 Practices for Design, Testing, and Construction of Slurry Seal
- D6930 Test Method for Settlement and Storage Stability of Emulsified Asphalts
- D6933 Test Method for Oversized Particles in Emulsified Asphalts (Sieve Test)
- D6935 Test Method for Determining Cement Mixing of Emulsified Asphalt
- D6936 Test Method for Determining Demulsibility of Emulsified Asphalt
- D6997 Test Method for Distillation of Emulsified Asphalt

3. Requirements

3.1 The emulsified asphalt shall be tested within 14 days of delivery. The emulsified asphalt shall be homogeneous after

¹ This specification is under the jurisdiction of ASTM Committee D04 on Road and Paving Materials and is the direct responsibility of Subcommittee D04.41 on Emulsified Asphalt Specifications.

Current edition approved June 1, 2005. Published July 2005. Originally approved in 1948. Last previous edition approved in 2003 as D977-03. DOI: 10.1520/D0977-05.

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.

thorough mixing provided separation has not been caused by freezing. Emulsified asphalts separated by freezing shall not be tested.

3.2 Emulsified asphalt shall conform to the requirements prescribed in [Table 1](#).

4. Sampling

4.1 Samples of emulsified asphalt shall be taken in accordance with Practice [D140](#).

4.2 Samples shall be stored in clean, airtight sealed containers as specified in Practice [D140](#) at a temperature of not less than 4°C (39.2°F) until tested.

5. Test Methods

5.1 The properties of the emulsified asphalts given in [Table 1](#) shall be determined in accordance with the following ASTM test methods:

- 5.1.1 *Viscosity*—Test Methods [D244](#).
- 5.1.2 *Storage Stability*—Test Method [D6930](#).
- 5.1.3 *Demulsibility*—Test Method [D6936](#).
- 5.1.4 *Coating Ability and Water Resistance*—Test Methods [D244](#).
- 5.1.5 *Cement Mixing*—Test Methods [D6935](#)-05
- 5.1.6 *Sieve Test*—Test Method [D6933](#), except use distilled water in all wetting and washing operations in place of the nonionic surfactant solution (1 %).
- 5.1.7 *Distillation*—Test Method [D6997](#).
- 5.1.8 *Tests on Residue from Distillation*—Test Methods [D244](#).

6. Keywords

6.1 anionic; emulsion; emulsified asphalt; high float; medium setting; rapid setting; slow setting