



Designation: D6997 – 24

Standard Test Method for Distillation of Emulsified Asphalt¹

This standard is issued under the fixed designation D6997; 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 covers the quantitative determination of residue and oil distillate in emulsified asphalts composed principally of a semisolid or liquid asphaltic base, water, and an emulsifying agent.

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

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, health, and environmental practices and determine the applicability of regulatory limitations prior to use.*

1.4 *This international standard was developed in accordance with internationally recognized principles on standardization established in the Decision on Principles for the Development of International Standards, Guides and Recommendations issued by the World Trade Organization Technical Barriers to Trade (TBT) Committee.*

2. Referenced Documents

2.1 ASTM Standards:²

- D4753 Guide for Evaluating, Selecting, and Specifying Balances and Standard Masses for Use in Soil, Rock, and Construction Materials Testing
- D7403 Test Method for Determination of Residue of Emulsified Asphalt by Low Temperature Vacuum Distillation
- D7497 Practice for Recovering Residue from Emulsified Asphalt Using Low-Temperature Evaporative Technique
- E1 Specification for ASTM Liquid-in-Glass Thermometers
- E1137/E1137M Specification for Industrial Platinum Resistance Thermometers
- E2251 Specification for Liquid-in-Glass ASTM Thermom-

eters with Low-Hazard Precision Liquids

2.2 AASHTO Standards:³

AASHTO M 339M/M 339 Standard Specification for Thermometers Used in the Testing of Construction Materials

2.3 IEC Standards:⁴

IEC 60751:2008 Industrial Platinum Resistance Thermometers and Platinum Temperature Sensors

3. Summary of Method

3.1 A sample of emulsified asphalt is heated in an aluminum alloy still and the volumes of distillate and water obtained are measured. The residue from the distillation, and also any oil portion of the distillate, may be tested as required.

4. Significance and Use

4.1 This test method can be used for quantitative determination of residue and oil distillates in emulsified asphalts for specification acceptance, service evaluation, control, and research. This test method can also be used to obtain residue and oil distillate for further testing.

NOTE 1—Test Method D7403 and Practice D7497 are low-temperature options for obtaining residue for further testing.

5. Apparatus

5.1 *Aluminum Alloy Still*—Approximately 241 mm in height by 95 mm inside diameter with cover and clamp as shown in Fig. 1.

5.2 *Gasket*—A variety of gasket materials may be used to seal the still provided they withstand the maximum temperature reached during distillation.

NOTE 2—Use of a gasket is optional if the joint can be ground to a tight fit or only residue recovery is required and further analysis on the water or oil distillate is not needed.

5.3 *Heat Sources*—Having holes on the inner periphery and having three spacers, to ensure centering of burner around the still (see Fig. 2). The dimensions as noted in Fig. 2 are provided

¹ 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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² For referenced ASTM standards, visit the ASTM website, www.astm.org, or contact ASTM Customer Service at www.astm.org/contact. For *Annual Book of ASTM Standards* volume information, refer to the standard's Document Summary page on the ASTM website.

³ Available from American Association of State Highway and Transportation Officials (AASHTO), 444 N. Capitol St., NW, Suite 249, Washington, DC 20001, <http://www.transportation.org>.

⁴ Available from International Electrotechnical Commission (IEC), 3, rue de Varembe, 1st floor, P.O. Box 131, CH-1211, Geneva 20, Switzerland, <https://www.iec.ch>.