



Designation: D139 – 24

Standard Test Method for Float Test for Asphalt Materials¹

This standard is issued under the fixed designation D139; 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 float test for asphalt materials.

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

1.3 **Warning**—Mercury has been designated by EPA and many state agencies as a hazardous material that can cause central nervous system, kidney, and liver damage. Mercury, or its vapor, may be hazardous to health and corrosive to materials. Caution should be taken when handling mercury and mercury-containing products. See the applicable product Material Safety Data Sheet (MSDS) for details and EPA’s website (<http://www.epa.gov/mercury/faq.htm>) for additional information. Users should be aware that selling mercury or mercury-containing products, or both, in your state may be prohibited by state law.

1.4 The text of this standard references notes and footnotes which provide explanatory material. These notes and footnotes (excluding those in tables and figures) shall not be considered as requirements of the standard.

1.5 *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.*

1.6 *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

C670 Practice for Preparing Precision and Bias Statements for Test Methods for Construction Materials
D3666 Specification for Minimum Requirements for Agencies Testing and Inspecting Road and Paving Materials
D6997 Test Method for Distillation of Emulsified Asphalt
E1 Specification for ASTM Liquid-in-Glass Thermometers
E230/E230M Specification for Temperature-Electromotive Force (emf) Tables for Standardized Thermocouples
E879 Specification for Thermistor Sensors for General Purpose and Laboratory Temperature Measurements
E1137/E1137M Specification for Industrial Platinum Resistance Thermometers

2.2 IEC Standards:³

IEC 60584 Thermocouples—Part 1: EMF Specifications and Tolerances
IEC 60751 Industrial Platinum Resistance Thermometers and Platinum Temperature Sensors

3. Summary of Test Method

3.1 A plug of asphalt binder or emulsified asphalt residue is cast in a tapered collar. The assembled float and collar is then floated in the testing bath at the specified temperature. The time, in seconds, between placing the apparatus on the water and the water breaking through the material shall be taken as a measure of the consistency of the material under examination.

4. Significance and Use

4.1 The float test characterizes the flow behavior or consistency of certain asphalt materials.

4.2 This test method is useful in determining the consistency of asphalt binder or emulsified asphalt residue as one element in establishing the uniformity of certain shipments or sources of supply.

¹ This test method is under the jurisdiction of ASTM Committee D04 on Road and Paving Materials and is the direct responsibility of Subcommittee D04.44 on Rheological Tests.

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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 National Standards Institute (ANSI), 25 W. 43rd St., 4th Floor, New York, NY 10036, <http://www.ansi.org>.