



Designation: D1754/D1754M – 20

Standard Test Method for Effects of Heat and Air on Asphaltic Materials (Thin-Film Oven Test)¹

This standard is issued under the fixed designation D1754/D1754M; 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.

1. Scope

1.1 This test method covers the determination of the effects of heat and air on a film of semisolid asphaltic materials. The effects of this treatment are determined from measurements of selected asphalt properties before and after the test.

1.2 The values stated in either SI units or inch-pound units are to be regarded separately as standard. The values stated in each system may not be exact equivalents; therefore, each system shall be used independently of the other. Combining values from the two systems may result in nonconformance with the standard.

1.3 **Warning**—Mercury has been designated by the United States Environmental Protection Agency 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 Material Safety Data Sheet (MSDS) for details and EPA's website—<http://www.epa.gov/mercury/index.htm>—for additional information. Users should be aware that selling mercury and/or mercury-containing products into 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

- D5/D5M Test Method for Penetration of Bituminous Materials
- D8 Terminology Relating to Materials for Roads and Pavements
- D2170/D2170M Test Method for Kinematic Viscosity of Asphalts
- D2171/D2171M Test Method for Viscosity of Asphalts by Vacuum Capillary Viscometer
- D3666 Specification for Minimum Requirements for Agencies Testing and Inspecting Road and Paving Materials
- D4753 Guide for Evaluating, Selecting, and Specifying Balances and Standard Masses for Use in Soil, Rock, and Construction Materials Testing
- D8055 Guide for Selecting an Appropriate Electronic Thermometer for Replacing Mercury Thermometers in D04 Road and Paving Standards
- E1 Specification for ASTM Liquid-in-Glass Thermometers
- E77 Test Method for Inspection and Verification of Thermometers
- E145 Specification for Gravity-Convection and Forced-Ventilation Ovens
- E563 Practice for Preparation and Use of an Ice-Point Bath as a Reference Temperature
- E644 Test Methods for Testing Industrial Resistance Thermometers

3. Terminology

3.1 Definitions of terms used in this test method may be found in Terminology D8, determined from common English usage, or combinations of both.

¹ This test method is under the jurisdiction of ASTM Committee D04 on Road and Paving Materials and is the direct responsibility of Subcommittee D04.46 on Durability and Distillation Tests.

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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.