



Standard Test Method for Loss on Heating of Oil and Asphaltic Compounds¹

This standard is issued under the fixed designation D6; 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 test method covers the determination of the loss in mass (exclusive of water) of oil and asphaltic compounds when heated as hereinafter prescribed.

1.2 The values in SI units are to be regarded as standard. The values 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 applicability and regulatory limitations prior to use.*

2. Referenced Documents

2.1 *ASTM Standards:*²

D5 Test Method for Penetration of Bituminous Materials

E1 Specification for ASTM Liquid-in-Glass Thermometers

E145 Specification for Gravity-Convection and Forced-Ventilation Ovens

3. Summary of Test Method

3.1 Fifty grams of material, spread out in a dish 55 mm in diameter, is heated in moving air for 5 h at 163°C (325°F) and the percent loss of mass determined along with a comparison, before and after, of any other desired characteristics. This test method provides only a relative measurement of the volatility of a material under test conditions.

4. Significance and Use

4.1 This test method is useful in characterizing certain petroleum products by the determination of their loss of mass upon heating under standardized conditions.

¹ This test method is under the jurisdiction of ASTM Committee D08 on Roofing and Waterproofing and is the direct responsibility of Subcommittee D08.03 on Surfacing and Bituminous Materials for Membrane Waterproofing and Built-up Roofing.

Current edition approved Dec. 1, 2006. Published December 2006. Originally approved in 1910. Last previous edition approved in 2000 as D6 – 95 (2000)¹. DOI: 10.1520/D0006-95R06.

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.

5. Apparatus

5.1 *Oven*—The oven shall be electrically heated and shall conform to the performance requirements of Specification E145 Type I, Grade B, for operating temperatures up to 180°C (365°F). During the tests for compliance to Specification E145 requirements, the oven shelf, properly placed, shall be in place and rotating. In addition, it shall also comply with the following requirements:

5.1.1 *Construction (Note 1)*—The oven shall be rectangular with minimum interior dimensions of 330 mm (13 in.) in each direction. The oven shall have in front a tightly fitting hinged door, which shall provide a clear opening substantially the same as the interior height and width of the oven. The door may contain a window with dimensions of at least 100 by 100 mm (4 by 4 in.), and with two sheets of glass separated by an air space, through which a vertical thermometer located as specified in Section 8, may be read without opening the door; or the oven may be provided with an inner glass door, through which the thermometer may be observed on opening the outer door momentarily. The oven shall be adequately ventilated by convection currents of air and for this purpose shall be provided with openings for the entrance of air and for the exit of heated air and vapors. Openings may be of any size and arrangement provided the requirements of Specification E145, Type I, Grade B, are met.

5.1.2 *Rotating Shelf*—The oven shall be provided with a circular metal shelf having a minimum diameter of 250 mm (9.8 in.). (A recommended form of aluminum shelf is shown in Fig. 1.) The shelf shall be suspended by a vertical shaft and centered with respect to the horizontal interior dimensions. The shelf shall be provided with a mechanical means of rotating it at the rate of 5 to 6 rpm. The shelf shall be vertically located as close to the center of the oven as permitted by compliance with the requirements of 7.2 regarding thermometer placement.

NOTE 1—Continued use of existing smaller ovens complying with the requirements of this test shall be permitted for an indefinite period to provide for normal amortization of present equipment. However, all new ovens purchased should comply with the minimum dimensions and requirements of this test method.

5.2 *Thermometer*—An ASTM Loss on Heat Thermometer graduated in Celsius degrees, having a range from 155 to