



Standard Test Methods for Loss-On-Drying by Thermogravimetry¹

This standard is issued under the fixed designation E1868; 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 These test methods describe a procedure for determining the amount of volatile matter of any kind that is driven off from a test specimen under a specific set of temperature and time conditions. These test methods determine only the mass of material lost, not its identity.

1.2 These test methods are applicable to a wide variety of solid or liquid materials, mixtures, or blends where the major component is stable at the test temperature.

NOTE 1—These test methods can be applied to the analysis of volatile organic compounds (VOC) content in metalworking fluids and direct contact lubricants subject to South Coast Air Quality Management District (SCAQMD) Rule 1144.

1.3 The applicable temperature range for these test methods are generally between ambient temperature and 1000°C.

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

1.5 There is no ISO method equivalent to this test standard.

1.6 *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 of regulatory limitations prior to use.*

2. Referenced Documents

2.1 ASTM Standards:²

- D6 Test Method for Loss on Heating of Oil and Asphaltic Compounds
- D1475 Test Method For Density of Liquid Coatings, Inks, and Related Products
- D1509 Test Methods for Carbon Black—Heating Loss
- D2216 Test Methods for Laboratory Determination of Water

¹ These test methods are under the jurisdiction of ASTM Committee E37 on Thermal Measurements and is the direct responsibility of Subcommittee E37.01 on Calorimetry and Mass Loss.

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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.

(Moisture) Content of Soil and Rock by Mass

D2288 Test Method for Weight Loss of Plasticizers on Heating (Withdrawn 2010)³

D2595 Test Method for Evaporation Loss of Lubricating Greases Over Wide-Temperature Range

D2832 Guide for Determining Volatile and Nonvolatile Content of Paint and Related Coatings

D3175 Test Method for Volatile Matter in the Analysis Sample of Coal and Coke

D4017 Test Method for Water in Paints and Paint Materials by Karl Fischer Method

D4893 Test Method for Determination of Pitch Volatility

E177 Practice for Use of the Terms Precision and Bias in ASTM Test Methods

E359 Test Methods for Analysis of Soda Ash (Sodium Carbonate)

E473 Terminology Relating to Thermal Analysis and Rheology

E691 Practice for Conducting an Interlaboratory Study to Determine the Precision of a Test Method

E897 Test Method for Volatile Matter in the Analysis Sample of Refuse-Derived Fuel (Withdrawn 2011)³

E1142 Terminology Relating to Thermophysical Properties

E1582 Practice for Calibration of Temperature Scale for Thermogravimetry

E1860 Test Method for Elapsed Time Calibration of Thermal Analyzers

E2040 Test Method for Mass Scale Calibration of Thermogravimetric Analyzers

2.2 SCAQMD Documents:⁴

Rule 1144 Metalworking Fluids and Direct-Contact Lubricants

3. Terminology

3.1 Definitions:

3.1.1 Specific technical terms used in this test method are defined in Terminology E473 and Terminology E1142, including *thermogravimetry*, *thermogravimetric analyzer*, *repeatability*, and *reproducibility*.

³ The last approved version of this historical standard is referenced on www.astm.org.

⁴ Available from South Coast Air Quality Management District (SCAQMD), 21865 Copley Drive, Diamond Bar, CA, 91765, <http://aqmd.gov>.