



Designation: E790 – 21

Standard Test Method for Residual Moisture in Refuse-Derived Fuel Analysis Samples¹

This standard is issued under the fixed designation E790; 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 measurement of residual moisture in refuse-derived fuel (RDF) analysis samples. It is used to calculate on a dry basis other determinations performed on analysis RDF samples. It is used with air-dry moisture results to calculate total moisture (Note 1). The total moisture is used to calculate as-received values or other analyses performed on a sample.

NOTE 1—In some instances, RDF moisture may change during size-reduction steps of the RDF analysis sample preparation procedure. This moisture change, unless suitable corrections are made, will affect the accuracy of the total moisture value as calculated from the air-dry and residual moisture results.

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 *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.* For more specific precautionary information, see Section 7.

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

[D3173 Test Method for Moisture in the Analysis Sample of Coal and Coke](#)

¹ This test method is under the jurisdiction of ASTM Committee D34 on Waste Management and is the direct responsibility of Subcommittee D34.03 on Treatment, Recovery and Reuse.

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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.

[D5681 Terminology for Waste and Waste Management](#)
[D6044 Guide for Representative Sampling for Management of Waste and Contaminated Media](#)
[E180 Practice for Determining the Precision of ASTM Methods for Analysis and Testing of Industrial and Specialty Chemicals \(Withdrawn 2009\)](#)³
[E829 Practice for Preparing Refuse-Derived Fuel \(RDF\) Laboratory Samples for Analysis](#)

3. Terminology

3.1 For definitions of terms used in this test method, refer to Terminology [D5681](#).

4. Summary of Test Method

4.1 This test method is based on the weight loss of an air-dried analysis RDF sample under rigidly controlled conditions of temperature, time, and air flow.

4.2 The total moisture is calculated from the loss or gain upon sample air drying and the residual moisture as determined by this test method.

5. Significance and Use

5.1 The procedure in this test method for a sample as specified herein is intended for the purpose of determining the residual moisture present in a RDF analysis sample.

5.2 The residual moisture value is used to correct as-determined analysis results such as gross heating value, sulfur, and ash to dry sample basis results.

6. Apparatus

6.1 *Drying Oven:*

6.1.1 *Referee Type*—The oven shall be constructed to have a uniform temperature within the specimen chamber, have a minimum excess air volume, and be capable of constant temperature regulation at 107 ± 3 °C. Provision shall be made for renewing the preheated air in the oven at the rate of two to four times the oven air volume a minute, with the intake air

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