



Designation: D2013/D2013M – 24

Standard Practice for Preparing Coal Samples for Analysis¹

This standard is issued under the fixed designation D2013/D2013M; 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 U.S. Department of Defense.

1. Scope

1.1 This practice² covers the reduction and division of gross or divided samples, and the preparation of composite samples, up to and including the individual portions for laboratory analysis.

1.2 Reduction and division procedures are prescribed for coals of the following groups:

1.2.1 *Group A* includes coals that have been cleaned in all sizes.

1.2.2 *Group B* includes all other coals. Unknown coals are to be considered under Group B.

1.2.3 Group A allows smaller weight laboratory samples to be retained than Group B. These lower weights may be used for particular coals if they have been shown, by using the procedures of **A1.2**, to give a sample preparation and analysis variance which is no more than 20 % of the total analysis variance.

1.3 *Units*—The values stated in either SI units or inch-pound units are to be regarded separately as standard. The values stated in each system are not necessarily exact equivalents; therefore, to ensure conformance with the standard, each system shall be used independently of the other, and values from the two systems shall not be combined.

1.4 *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.*

1.5 *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*:³

- D121 Terminology of Coal and Coke**
- D2234/D2234M Practice for Collection of a Gross Sample of Coal**
- D3173/D3173M Test Method for Moisture in the Analysis Sample of Coal and Coke**
- D3174 Test Method for Ash in the Analysis Sample of Coal and Coke from Coal**
- D3180 Practice for Calculating Coal and Coke Analyses from As-Determined to Different Bases**
- D3302/D3302M Test Method for Total Moisture in Coal**
- D4749 Test Method for Performing the Sieve Analysis of Coal and Designating Coal Size**
- D7430 Practice for Mechanical Sampling of Coal**
- D7582 Test Methods for Proximate Analysis of Coal and Coke by Macro Thermogravimetric Analysis**
- E11 Specification for Woven Wire Test Sieve Cloth and Test Sieves**
- E177 Practice for Use of the Terms Precision and Bias in ASTM Test Methods**
- E456 Terminology Relating to Quality and Statistics**

2.2 *ISO Standard*:⁴

- ISO 13909 Hard Coal and Coke—Mechanical Sampling**
- ISO 18283 Coal and Coke—Manual Sampling**

3. Terminology

3.1 *Definitions of Terms Specific to This Standard*—No terms are used which are specific to this practice. Many terms used in this practice may be found in Terminologies **D121** and **E456** and in Practice **E177**.

4. Summary of Practice

4.1 Three processes of sample division and reduction are covered as follows:

¹ This practice is under the jurisdiction of ASTM Committee **D05** on Coal and Coke and is the direct responsibility of Subcommittee **D05.23** on Sampling.

Current edition approved Oct. 1, 2024. Published November 2024. Originally approved in 1962. Last previous edition approved in 2021 as D2013/D2013M – 21. DOI: 10.1520/D2013_D2013M-24.

² For more detailed explanation of this practice, see Keller, G. E., “Determination of Quantities Needed in Coal Sample Preparation and Analysis,” *Transactions*, Vol. 232, 1965, pp. 218–226.

³ 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.

⁴ Available from International Organization for Standardization (ISO), ISO Central Secretariat, BIBC II, Chemin de Blandonnet 8, CP 401, 1214 Vernier, Geneva, Switzerland, <http://www.iso.org>.