



Standard Practice for Preparing Coal Samples for Analysis¹

This standard is issued under the fixed designation D 2013; 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.

^{ε1} NOTE—Section 6.2.2 was revised, Table 1 and Fig. 2 were reinstated into the standard, Figure 3 was updated and Fig. 4, Gross Sample Preparation for Moisture Determination (Referee Method), was deleted editorially in June 2001.

1. Scope

1.1 This practice² covers the reduction and division of gross or divided 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 Annex A1.2, to give a sample preparation and analysis variance which is no more than 20 % of the total analysis variance.

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 of regulatory limitations prior to use.*

1.4 The values stated in SI units are to be regarded as standard. The values given in parentheses are provided for information purposes only.

2. Referenced Documents

2.1 ASTM Standards:

D 121 Terminology of Coal and Coke³

D 197 Test Method for Sampling and Fineness Test of Pulverized Coal³

D 2234 Practice for Collection of a Gross Sample of Coal³

D 3174 Test Method for Ash in the Analysis Sample of Coal and Coke from Coal³

D 3302 Test Method for Total Moisture in Coal³

D 4749 Test Method for Performing the Sieve Analysis of

Coal and Designating Coal Size³

E 11 Specification for Wire-Cloth Sieves for Testing Purposes⁴

E 177 Practice for Use of the Terms Precision and Bias in ASTM Test Methods⁴

E 456 Terminology Relating to Quality and Statistics⁴

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 D 121 and E 456 and in Practice E 177.

4. Summary of Practice

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

4.1.1 *Procedure A*—Manual riffles are used for division of the sample and mechanical crushing equipment for the reduction of the sample.

4.1.2 *Procedure B*—Mechanical sample dividers are used for the division of the sample and mechanical crushing equipment for the reduction of the sample.

4.1.3 *Combined Procedure A and B*—The two procedures may be combined at any stage.

5. Significance and Use

5.1 Other standards are used to collect the gross sample: Practice D 2234 allows for one division of the gross sample before crushing. The mass and top size of the gross or divided sample collected by using these guides and practices are usually too large for chemical or physical testing. Practice D 2013 provide instructions for reducing and dividing the gross or divided sample, by on-line or off-line processes, or both, to a top size and mass suitable to the performance of testing. Any bias in the gross or divided sample before adherence to this practice will remain in the final sample resulting from use of this practice. Therefore, carefully select the standard to be used to collect the gross sample.

5.2 Division and reduction of a sample may occur at more than one location. Most often, the sample is collected, reduced, and divided (one or more times) by use of a mechanical

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. 10, 2000. Published January 2001. Originally published as D 2013 – 62 T. Last previous edition D 2013 – 00.

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 *Annual Book of ASTM Standards*, Vol 05.06.

⁴ *Annual Book of ASTM Standards*, Vol 14.02.