



Standard Test Method for Performing the Sieve Analysis of Coal and Designating Coal Size¹

This standard is issued under the fixed designation D 4749; 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 procedures for determining the sieve analysis of coal and designating the size of coal from sieve analysis data. Raw as well as prepared (crushed, cleaned or screened) coals can be tested by this test method.

1.2 This test method explains how to designate coal sizes from the results of sieve analysis data in order to represent the condition of the coal as sold. In the case of special mixtures or coals with noncontinuous ranges of sizes, a sufficiently complete sieve analysis must be made to properly describe the size distribution.

1.3 This test method is not applicable for determining the sieve analysis nor for designating the size of pulverized coal.² Size fractions down to and including 38 μm (No. 400 U.S.A. Standard Series) can be treated by the methods discussed in this test method. Methods for handling size fractions below 38 μm (No. 400) will be developed by this committee.

1.4 The values stated in metric units shall be regarded as standard. The values shown in parentheses are provided for information only. The values stated in each system may not be exact equivalents; therefore, each system must be used independently of the other, without combining values in any way.

1.5 *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:

- D 197 Test Method for Sampling and Fineness Test of Pulverized Coal³
- D 346 Practice for Collection and Preparation of Coke Samples for Laboratory Analysis³
- D 388 Classification of Coals by Rank³

¹ This test method is under the jurisdiction of ASTM Committee D05 on Coal and Coke and is the direct responsibility of Subcommittee D05.07 on Physical Characteristics of Coal.

Current edition approved Nov. 27, 1987. Published January 1988. Originally published as D 4749–87. Last previous edition D 4749–87 (1994)^{ε1}.

² For powdered or pulverized coal as is fired into steam boilers, refer to Method D 197.

³ *Annual Book of ASTM Standards*, Vol 05.06.

D 2013 Practice for Preparing Coal Samples for Analysis³
D 2234 Practice for Collection of a Gross Sample of Coal³
D 4371 Test Method for Determining the Washability Characteristics of Coal³

E 11 Specification for Wire-Cloth and Sieves for Testing Purposes⁴

E 323 Specification for Perforated-Plate Sieves for Testing Purposes⁴

2.2 Other Document:

Specification C-80 Commonwealth of Pennsylvania, Department of General Services, Bureau of Purchases, Specification for Coal:Anthracite⁵

3. Descriptions of Terms Specific to this Standard

3.1 *as-mined coal*—same as ROM coal (3.8).

3.2 *as-shipped or produced coal*—raw or prepared coal in any state or condition at which it leaves the mine property or loading facility.

3.3 *bottomsize, nominal*—the sieve designating the lower limit or bottomsize shall be that sieve of the series given in Section 6 with the largest openings through which passes a total of less than 15 % of the sample. This defined bottomsize is not to be confused with the size of the smallest particles in the lot. (**Warning**—In the case of a commercial, double-screened product, for example, 37.5 by 9.5 mm (1½ by ¾ in.), this designation may not be valid. In such commercial or contractual situations, the amount of allowable material smaller than the bottomsize (for example, 9.5 mm) must be specified by the contract under which the coal is bought and sold.)

3.4 *dry sieving*—for the purposes of this test method, the test method for the sieving of coal after the sample has been air-dried under prescribed conditions; this is generally used when testing with coal particles larger than 600 μm. (No. 30 U.S.A. Standard Sieve Series.)

3.5 *opening*—for the purpose of this test method, openings and apertures shall be regarded as synonymous terms. Dimensions for round and square openings shall be determined as follows: for round holes, dimensions shall refer to the opening

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

⁵ Available from Commonwealth of Pennsylvania, Dept. of General Services, Bureau of Purchases, 414 N. Office Building, Harrisburg, PA 17125.

