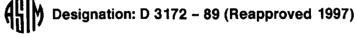
STD.ASTM D3172-ENGL 1989 🔳 0759510 0612775 071

NOTICE: This standard has either been superseded and replaced by a new version or discontinued.

Contact ASTM International (www.astm.org) for the latest information.



AMERICAN SOCIETY FOR TESTING AND MATERIALS 100 Barr Harbor Dr., West Conshohocken, PA 19428 Reprinted from the Annual Book of ASTM Standards. Copyright ASTM

Standard Practice for Proximate Analysis of Coal and Coke¹

This standard is issued under the fixed designation D 3172; 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 practice covers the determination of moisture, volatile matter, and ash and the calculation of fixed carbon on coals and cokes sampled and prepared by prescribed methods and analyzed according to ASTM established procedures.

1.2 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 346 Practice for Collection and Preparation of Coke Samples for Laboratory Analysis²
- D 388 Classification of Coals by Rank²
- D 2013 Method of Preparing Coal Samples for Analysis²
- D 2234 Test Methods for Collection of a Gross Sample of Coal²
- D 3173 Test Method for Moisture in the Analysis Sample of Coal and Coke²
- D 3174 Test Method for Ash in the Analysis Sample of Coal and Coke from Coal²
- D 3175 Test Method for Volatile Matter in the Analysis Sample of Coal and Coke²

3. Terminology

3.1 Definition:

3.1.1 proximate analysis of coal and coke—an assay of the moisture, ash, volatile matter, and fixed carbon as determined by prescribed methods. Other constituents such as sulfur and phosphorus are not included.

4. Significance and Use

4.1 Test methods, as herein described, can be used to establish the rank of coals, show the ratio of combustible to incombustible constituents, provide the basis for buying and selling, and evaluate for beneficiation or for other purposes.

5. Sampling

5.1 Coal sample collection shall be in accordance with Sections 5 and 6 of Classification D 388, if the proximate analysis is to be used for classification of coal by rank. In all other cases, sample collection shall be in accordance with Test Methods D 2234. Preparation shall be in accordance with Method D 2013. Coke sampling shall be in accordance with Method D 346.

6. Test Methods

- 6.1 Moisture-Test Method D 3173.
- 6.2 Ash-Test Method D 3174.

6.3 Volatile Matter—Test Method D 3175. If the modified procedure is required, the report should show that the modified procedure was used.

6.4 Fixed Carbon—The fixed carbon is a calculated value. It is the resultant of the summation of percentage moisture, ash, and volatile matter subtracted from 100. All percentages shall be on the same moisture reference base.

Fixed carbon, % = 100 - (moisture, %)

+ ash, % + volatile matter, %)

The American Society for Testing and Materials takes no position respecting the validity of any patent rights asserted in connection with any item mentioned in this standard. Users of this standard are expressly advised that determination of the validity of any such patent rights, and the risk of infringement of such rights, are entirely their own responsibility.

This standard is subject to revision at any time by the responsible technical committee and must be reviewed every five years and if not revised, either reapproved or withdrawn. Your comments are invited either for revision of this standard or for additional standards and should be addressed to ASTM Headquarters. Your comments will receive careful consideration at a meeting of the responsible technical committee, which you may attend. If you feel that your comments have not received a fair hearing you should make your views known to the ASTM Committee on Standards, 100 Barr Harbor Drive, West Conshohocken, PA 19428.

¹ This practice is under the jurisdiction of ASTM Committee D-5 on Coal and Coke and is the direct responsibility of Subcommittee D05.21 on Methods of Analysis.

Current edition approved Sept. 29, 1989. Published February 1990. Originally published as D 3172 - 73. Last previous edition D $3172 - 73(1984)^{\epsilon_1}$.

² Annual Book of ASTM Standards, Vol 05.05.