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Standard Test Method for INDEX OF DUSTINESS OF COAL AND COKE¹

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^{ε1} NOTE—Section 2 was added editorially and subsequent sections renumbered in June 1985.

1. Scope

1.1 This test method covers the determination of a relative index of the dust produced when handling coal or coke.²

1.2 The values stated in inch-pound units are to be regarded as the standard.

2. Applicable Documents

2.1 ASTM Standards:

D271 Method of Laboratory Sampling and Analysis of Coal and Coke³

D346 Methods for Collection and Preparation of Coke Samples for Laboratory Analysis⁴

D492 Methods for Sampling Coals Classified According to Ash Content⁵

3. Apparatus

3.1 *Dust Cabinet*—The apparatus shall consist of a metal cabinet 5 ft (1.5 m) in height and 18-in. (457-mm) square, inside dimensions, arranged with a cover and three slides, and a drawer at the bottom, as shown in Fig. 1. One slide shall be inserted 12 in. (305 mm) below the top and shall form the compartment into which the sample to be tested is placed. The other two slides shall be inserted together 24 in. (610 mm) above the bottom and shall serve to collect the settled dust after 2 and 10-min intervals. Guides shall be so constructed that the slides move easily, and the guides for the lower slides shall extend 18 in. (457 mm) beyond one side of the cabinet. The lower slides shall be inserted into the side opposite the side into which the top slide is inserted. A drawer 14 in. (356 mm) in depth shall be located at the bottom for the removal of the sample. The entire apparatus should be dust-tight

and constructed of non-rusting sheet metal such as galvanized iron. The cabinet may be made of No. 10 gage sheet metal with edges bent over and welded. However, the bottom drawer may be made of No. 14 gage metal to decrease the weight. All slides may be made of No. 8 gage sheet metal. Each of the two lower slides shall have a polished upper surface (for example, stainless steel, chromium plated brass, or plain polished steel). All slides should preferably be of the thickness specified but not less than No. 10 gage to prevent bending and later binding in the guides. The inside surface of the cabinet shall be smooth from the top to the lower slides.

3.2 *Optional Automatic Attachments*—In order to increase the accuracy in timing of the insertion of the two lower slides, and to obviate the necessity for two persons being present at each test, an automatic means for the insertion of the slides may be added.

¹ This test method is under the jurisdiction of ASTM Committee D-5 on Coal and Coke and is the direct responsibility of Subcommittee D05.07 on Physical Characteristics of Coal.

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² For information concerning the development of this method of test for index of dustiness of coal and coke, the following references may be consulted:

Powell, A. R., and Russell, C. C., "Method for Determining the Dustiness of Coal and Coke," *Industrial and Engineering Chemistry*, Analytical Edition, Vol. 5, 1933, p. 340.

Pilcher, J. M., and Sherman, R. A., "The Treatment of Coal with Oil and Other Petroleum Products," *Technical Paper 113*, Am. Inst. Mining and Metallurgical Engrs., 1939.

³ Discontinued, see 1968 *Annual Book of ASTM Standards*, Part 19.

⁴ *Annual Book of ASTM Standards*, Vol 05.05.

⁵ Discontinued, see 1970 *Annual Book of ASTM Standards*, Part 19.