



Designation: D4930 – 23

Standard Test Method for Dust Control Material on Calcined Petroleum Coke¹

This standard is issued under the fixed designation D4930; 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 the determination of the amount of material applied to calcined coke to control dust associated with coke handling and transportation.

1.2 This test method is limited to those materials that are soluble in a solvent that can be used in a Soxhlet extraction type of apparatus such as methylene chloride (dichloromethane).

NOTE 1—Methylene chloride is the most popular solvent for removing dust control oil at the time this procedure is being written. Toluene and methyl chloroform, however, have been used with equal results on all cokes tested which have included only those sprayed with aromatic or waxy materials.

1.3 The values stated in SI units are to be regarded as standard. No other units of measurement are included in this standard.

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.* For specific warning statements, see Section 7.

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:*²

D346 Practice for Collection and Preparation of Coke Samples for Laboratory Analysis

D2013 Practice for Preparing Coal Samples for Analysis
D2234/D2234M Practice for Collection of a Gross Sample of Coal
D4057 Practice for Manual Sampling of Petroleum and Petroleum Products
D4175 Terminology Relating to Petroleum Products, Liquid Fuels, and Lubricants
E11 Specification for Woven Wire Test Sieve Cloth and Test Sieves

3. Terminology

3.1 *Definitions:*

3.1.1 For definitions of terms used in this test method, refer to Terminology D4175.

3.1.2 *analysis sample, n*—the reduced and divided representative portion of the bulk sample, prepared for use in the laboratory.

3.1.3 *bulk sample, n*—the reduced and divided representative portion of the gross sample as prepared for shipment to and received by a laboratory, to be prepared for analysis.

3.1.4 *test sample, n*—the weighed portion of the analysis sample actually used in a test.

3.2 *Definitions of Terms Specific to This Standard:*

3.2.1 *de-dusting material, n*—a substance, such as a petroleum oil, a petroleum wax, an aqueous latex emulsion, and the like, that is applied to (sprayed on) calcined petroleum coke to control dust associated with coke handling and transport.

4. Summary of Test Method

4.1 The dust control material is dissolved from a weighed dry representative sample of 6.3 mm maximum sized coke by methylene chloride in a Soxhlet extraction apparatus. The mass of the residue remaining after distilling and evaporating the solvent is the mass of dust control material. The amount of residue as a percent of the original mass is calculated.

5. Significance and Use

5.1 The test is designed to quantify the amount of dust control material added to calcined coke. The dust control material is applied to calcined coke to help maintain a dust-free environment. It generally serves no other useful purpose. It adds mass to the coke and can have a negative effect on the quality of carbon and graphite artifacts made from the treated

¹ This test method is under the jurisdiction of ASTM Committee D02 on Petroleum Products, Liquid Fuels, and Lubricants and is the direct responsibility of Subcommittee D02.05 on Properties of Fuels, Petroleum Coke and Carbon Material.

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² For referenced ASTM standards, visit the ASTM website, www.astm.org, or contact ASTM Customer Service at service@astm.org. For *Annual Book of ASTM Standards* volume information, refer to the standard's Document Summary page on the ASTM website.

*A Summary of Changes section appears at the end of this standard