



Standard Practice for Preparation of Calcined Petroleum Coke Samples for Analysis¹

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1. Scope

1.1 This practice covers the preparation procedures necessary for the reduction and division of calcined petroleum coke samples in order to generate appropriate analytical samples upon which physical and chemical analytical tests will be performed.

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:²

- D 1552 Test Method for Sulfur in Petroleum Products (High-Temperature Method)
- D 2638 Test Method of Real Density of Calcined Petroleum Coke by Helium Pycnometer
- D 4292 Test Method of Determination for Vibrated Bulk Density of Calcined Petroleum Coke
- D 4422 Test Method of Ash in the Analysis of Petroleum Coke
- D 4930 Test Method for Dust Control Material on Calcined Petroleum Coke
- D 4931** Test Method for Gross Moisture in Green Petroleum Coke

¹ This practice is under the jurisdiction of ASTM Committee D02 on Petroleum Products 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.

- D 5004 Test Method of Real Density for Calcined Petroleum Coke, Xylene Displacement
- D 5056 Test Method for Trace Metals in Petroleum Coke by Atomic Absorption
- D 5187 Test Method for Determination of Crystallite Size (L_c) of Calcined Petroleum Coke by X-Ray Diffraction
- D 5600 Test Method for Trace Metals in Petroleum Coke by Inductively Coupled Plasma Atomic Emission Spectrometry (ICP-AES)
- D 5709** Test Method for Sieve Analysis of Petroleum Coke
- D 6376 Test Method for Determination of Trace Metals in Petroleum Coke by Wavelength Dispersive X-ray Fluorescence Spectroscopy

3. Terminology

3.1 Definitions:

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

3.1.2 *composite sample*—a sample, representative of an entire consignment of calcined petroleum coke, generated by mixing portions of gross samples from different lots together in mass fractions proportioned to the consignment.

3.1.3 *gross sample*—the original, uncrushed representative portion taken from a shipment or lot of coke.

3.1.4 *intermediate sample*—a sample, representative of a gross sample, upon which no analysis is to be performed, yet required for generation of analysis samples after undergoing further division and reduction.

3.1.5 *lot*—a quantity of calcined petroleum coke to be represented by a gross sample.

3.1.6 *riffle*—a manual sample divider which splits the sample stream into a number of alternate elements.

3.1.7 *sample division*—the process whereby a sample is reduced in mass without change in particle size.