Designation: D 5817 – 03a

Standard Practice for Carbon Black, Pelleted—Reduction, Blending, and Drying of Gross Samples for Testing[1]

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1. Scope

1.1 This practice describes the procedure for blending of pelleted carbon black, the procedure for the reduction of gross samples of pelleted carbon black to the appropriate size for testing and the preparation of the sample for testing. These techniques are intended to minimize variations in measured characteristics between test samples. Standard terminology relating to carbon black samples is found in Terminology D 3053.

1.2 The values stated in SI units are to be regarded as the standard. The values given in parentheses are for information only.

1.3 *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 412 Test Methods for Vulcanized Rubber and Thermoplastic Elastomers—Tension
D 1506 Test Methods for Carbon Black—Ash Content
D 1508 Test Method for Carbon Black, Pelleted Fines and Attrition
D 1509 Test Methods for Carbon Black—Heating Loss
D 1510 Test Method for Carbon Black—Iodine Adsorption Number
D 1511 Test Method for Carbon Black—Pellet Size Distribution
D 1512 Test Methods for Carbon Black—pH Value
D 1513 Test Method for Carbon Black, Pelleted—Pour Density
D 1514 Test Method for Carbon Black—Sieve Residue
D 1618 Test Method for Carbon Black Extractables—Transmittance of Toluene Extract
D 1619 Test Methods for Carbon Black—Sulfur Content
D 1765 Classification System for Carbon Blacks Used in Rubber Products
D 1799 Practice for Carbon Black—Sampling Packaged Shipments
D 1900 Practice for Carbon Black—Sampling Bulk Shipments
D 2414 Test Method for Carbon Black—Oil Absorption Number
D 3053 Terminology Relating to Carbon Black
D 3191 Test Methods for Carbon Black in SBR (Styrene-Butadiene Rubber)—Recipe and Evaluation Procedures
D 3192 Test Methods for Carbon Black Evaluation in NR (Natural Rubber)
D 3265 Test Method for Carbon Black—Tint Strength
D 3493 Test Method for Carbon Black—Oil Absorption Number of Compressed Sample
D 5230 Test Method for Carbon Black—Automated Individual Pellet Hardness
D 6556 Test Method for Carbon Black—Total and External Surface Area by Nitrogen Adsorption

3. Summary of Test Methods

3.1 *Test Method A—Reduction of Sample Size*:

3.1.1 The gross bulk sample is poured through the riffle sample splitter. A portion of the sample is reintroduced into the splitter as many times as necessary to reduce the gross sample to the size desired for the intended test portion. The test portion may not be homogeneous.

3.2 *Test Method B—Blending of Carbon Black*:

3.2.1 The gross sample is poured through the riffle sample splitter a minimum of four times in a specific sequence to prepare a homogeneous test portion. The black must be cross-blended to accomplish a homogeneous portion for testing.

3.3 *Test Method C—Drying of Carbon Black*:

3.3.1 For all test methods listed in Section 2 except: the Fines and Attrition (Test Method D 1508), Heating Loss (Test Methods D 1509), Pellet Size Distribution (Test Method D 1511), pH Value (Test Methods D 1512), Pour Density (Test

[1] This practice is under the jurisdiction of ASTM Committee D24 on Carbon Black and is the direct responsibility of Subcommittee D24.61 on Carbon Black Sampling and Statistical Analysis.

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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.