



Designation: D7849 – 23

Standard Classification for Nomenclature of Reference Materials of Committee D24¹

This standard is issued under the fixed designation D7849; 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 classification covers instructions for naming the reference materials used by Committee D24.

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, health, and environmental practices and determine the applicability of regulatory limitations prior to use.*

1.3 *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

D1510 Test Method for Carbon Black—Iodine Adsorption Number

D1619 Test Methods for Carbon Black—Sulfur Content

D2414 Test Method for Carbon Black—Oil Absorption Number (OAN)

D3265 Test Method for Carbon Black—Tint Strength

D3493 Test Method for Carbon Black—Oil Absorption Number of Compressed Sample (COAN)

D6556 Test Method for Carbon Black—Total and External Surface Area by Nitrogen Adsorption

D7854 Test Method for Carbon Black-Void Volume at Mean Pressure

3. Significance and Use

3.1 Standard reference materials are used for calibration and verification of many carbon black tests under the jurisdiction of D24. This practice defines a systematic means of naming these

reference materials and does so in a manner to clearly differentiate between the various reference materials as well as their version.

4. Basis of Classification

4.1 ASTM Committee D24 has established five different types of reference materials which serve to improve test precision of analytical tests on carbon black as well as in-rubber evaluation of carbon black.³

4.1.1 *SRB (Standard Reference Blacks)*—A set of eight carbon blacks, seven furnace blacks, and one thermal black with defined target values for iodine adsorption number (Test Method D1510), STSA (Test Method D6556), NSA (Test Method D6556), OAN (Test Method D2414), COAN (Test Method D3493), Tint Strength (Test Method D3265), and VV50 (Test Method D7854). The SRBs can be used to verify analytical test equipment and test procedures. For OAN and COAN, their application may be needed to normalize measured data. For VV50, their application is mandatory to normalize measured data.

4.1.2 *ITRB (Industry Tint Reference Black)*—ITRB represents a standard carbon black of the N330 type. It is used for verification and standardization in the test method for Tint Strength (Test Method D3265).

4.1.3 *INR (Iodine Number Reference, previously designated “HT”)*—INR consist of three different reference blacks which have been heat-treated in order to provide particularly high stability of the iodine number over a long period of time, that is, over many years.

4.1.4 *IRB (Industry Reference Black)*—IRB is a carbon black of the N330 type which is produced in large quantities in order to serve as a reference material in rubber compounds. In-rubber properties of this reference black are determined during round robin testing when the material is introduced.

4.1.5 *STRM (Sulfur Test Reference Materials)*—A set of five carbon blacks with defined target values for sulfur in carbon black testing (Test Methods D1619).

4.1.6 *HNSA (High Nitrogen Surface Area)*—HNSA is a high surface area carbon black for use by those laboratories with a need to test high surface area carbon blacks for the NSA (Test

¹ This classification is under the jurisdiction of ASTM Committee D24 on Carbon Black and is the direct responsibility of Subcommittee D24.41 on Carbon Black Nomenclature and Terminology.

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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.

³ Target values and control limits are published on the website of the distributor of these reference materials, Balentine Enterprise Inc.: <http://carbonstandard.com/>.