



Designation: D5900 – 23

Standard Specification for Physical and Chemical Properties of Industry Reference Materials (IRM)¹

This standard is issued under the fixed designation D5900; 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 specification covers the chemical and physical quality specifications or requirements, or both, for Industry Reference Materials (IRMs) as cited in Practice D4678 and other standards.

1.2 IRMs, as evaluated and referenced in Practice D4678, are vitally important to conduct product, specification, and development testing in the rubber and carbon black industries.

1.3 Before a new lot of material can be accepted as an IRM, it must comply with the specifications prescribed in this specification. However, these specifications are only part of the requirements. Other requirements as given in Practice D4678 shall be met before a candidate material can be formally accepted as an IRM.

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

1.5 *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.*

1.6 *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

¹ This specification is under the jurisdiction of ASTM Committee D11 on Rubber and Rubber-like Materials and is the direct responsibility of Subcommittee D11.20 on Compounding Materials and Procedures.

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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.

- D92 Test Method for Flash and Fire Points by Cleveland Open Cup Tester
- D97 Test Method for Pour Point of Petroleum Products
- D280 Test Methods for Hygroscopic Moisture (and Other Matter Volatile Under the Test Conditions) in Pigments
- D287 Test Method for API Gravity of Crude Petroleum and Petroleum Products (Hydrometer Method)
- D445 Test Method for Kinematic Viscosity of Transparent and Opaque Liquids (and Calculation of Dynamic Viscosity)
- D611 Test Methods for Aniline Point and Mixed Aniline Point of Petroleum Products and Hydrocarbon Solvents
- D1416 Test Methods for Rubber from Synthetic Sources—Chemical Analysis (Withdrawn 1996)³
- D1500 Test Method for ASTM Color of Petroleum Products (ASTM Color Scale)
- D1519 Test Methods for Rubber Chemicals—Determination of Melting Range
- D1646 Test Methods for Rubber—Viscosity, Stress Relaxation, and Pre-Vulcanization Characteristics (Mooney Viscometer)
- D1747 Test Method for Refractive Index of Viscous Materials
- D1951 Test Method for Ash in Drying Oils and Fatty Acids (Withdrawn 2003)³
- D1959 Test Method for Iodine Value of Drying Oils and Fatty Acids (Withdrawn 2006)³
- D1960 Test Method for Loss on Heating of Drying Oils (Withdrawn 2003)³
- D1965 Test Method for Unsaponifiable Matter in Drying Oils, Fatty Acids, and Polymerized Fatty Acids (Withdrawn 2007)³
- D1980 Test Method for Acid Value of Fatty Acids and Polymerized Fatty Acids (Withdrawn 2007)³
- D1982 Test Method for Titer of Fatty Acids
- D1993 Test Method for Precipitated Silica-Surface Area by Multipoint BET Nitrogen Adsorption
- D2140 Practice for Calculating Carbon-Type Composition of Insulating Oils of Petroleum Origin

³ The last approved version of this historical standard is referenced on www.astm.org.