



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

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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 D 4678 and other standards.

1.2 IRMs, as evaluated and referenced in Practice D 4678, 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 D 4678 shall be met before a candidate material can be formally accepted as an IRM.

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

2. Referenced Documents

2.1 ASTM Standards:

- D 88 Test Method for Saybolt Viscosity
- D 92 Test Method for Flash and Fire Points by Cleveland Open Cup Tester
- D 97 Test Method for Pour Point of Petroleum Products
- D 280 Test Methods for Hygroscopic Moisture (and Other Matter Volatile Under the Test Conditions) in Pigments
- D 287 Test Method for API Gravity of Crude Petroleum and Petroleum Products (Hydrometer Method)
- D 445 Test Method for Kinematic Viscosity of Transparent and Opaque Liquids (the Calculation of Dynamic Viscosity)
- D 611 Test Methods for Aniline Point and Mixed Aniline Point of Petroleum Products and Hydrocarbon Solvents
- D 1278 Test Methods for Rubber from Natural Sources—Chemical Analysis

- D 1416 Test Methods for Rubber From Synthetic Sources—Chemical Analysis²
- D 1500 Test Method for ASTM Color of Petroleum Products (ASTM Color Scale)
- D 1519 Test Method for Rubber Chemicals—Melting Range
- D 1646 Test Method for Rubber—Viscosity, Stress Relaxation, and Pre-Vulcanization Characteristics (Mooney Viscometer)
- D 1747 Test Method for Refractive Index of Viscous Materials
- D 1951 Test Method for Ash in Drying Oils and Fatty Acids
- D 1959 Test Method for Iodine Value of Drying Oils and Fatty Acids
- D 1960 Test Method for Loss on Heating of Drying Oils
- D 1965 Test Method for Unsaponifiable Matter in Drying Oils, Fatty Acids, and Polymerized Fatty Acids
- D 1980 Test Method for Acid Value of Fatty Acids and Polymerized Fatty Acids
- D 1982 Test Method for Titer of Fatty Acids
- D 1993 Test Method for Precipitated Silica—Surface Area by Multipoint BET Nitrogen Adsorption
- D 2007 Test Method for Characteristic Groups in Rubber Extender and Processing Oils and Other Petroleum-Derived Oils by the Clay-Gel Absorption Chromatographic Method
- D 2140 Test Method for Carbon-Type Composition of Insulating Oils of Petroleum Origin
- D 2161 Practice for Conversion of Kinematic Viscosity to Saybolt Universal Viscosity or to Saybolt Furol Viscosity
- D 2501 Test Method for Calculation of Viscosity-Gravity Constant (VGC) of Petroleum Oils
- D 3037 Test Methods for Carbon Black—Surface Area by Nitrogen Adsorption²
- D 3157 Test Method for Rubber from Natural Sources—Color
- D 3194 Test Method for Rubber from Natural Sources—Plasticity Retention Index (PRI)
- D 3280 Test Methods for Analysis of White Zinc Pigments
- D 4004 Test Methods for Rubber—Determination of Metal

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

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² Withdrawn.