



Designation: D 1417 – 97

Standard Test Methods for Rubber Latexes—Synthetic¹

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1. Scope

1.1 These test methods cover test procedures for synthetic rubber latexes ABR, BR, CR, IIR, IR, NBR, NCR, NIR, PBR, PSBR, SBR, SCR, SIR, synthetic rubber latexes having substitute carboxylic acid (COOH) groups on the polymer chain (X), and synthetic rubber latexes that are reinforced (Y). Exceptions to the above are noted in the individual test procedures. The test methods include procedures for sampling, and for determining total solids, volatile unsaturates (residual styrene), pH value, surface tension, viscosity, coagulum, bound styrene, Mooney viscosity, mechanical stability, polystyrene reinforcement in contained polymer, and residual acrylonitrile content.

NOTE 1—The nomenclature used in these test methods is in accordance with Practice D 1418.

1.2 The values stated in SI units are to be regarded as standard.

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.* Table 1

2. Referenced Documents

2.1 ASTM Standards:

- D 1076 Specification for Rubber—Concentrated, Ammonia Preserved, Creamed, and Centrifuged Natural Latex²
- D 1331 Test Methods for Surface and Interfacial Tension of Solutions of Surface-Active Agents³
- D 1416 Test Methods for Rubber from Synthetic Sources—Chemical Analysis²
- D 1418 Practice for Rubber and Rubber Latexes—Nomenclature²
- D 1646 Test Methods for Rubber—Viscosity, Stress Relaxation, and Pre-Vulcanization Characteristics (Mooney Viscometer)²
- D 3182 Practice for Rubber—Materials, Equipment, and Procedures for Mixing Standard Compounds and Preparing Standard Vulcanized Sheets²

¹ These test methods are under the jurisdiction of ASTM Committee D-11 on Rubber and are the direct responsibility of Subcommittee D11.23 on Synthetic Rubbers.

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² Annual Book of ASTM Standards, Vol 09.01.

³ Annual Book of ASTM Standards, Vol 15.04.

TABLE 1 Drying Time for Determination of Total Solids in Latex
(Drying Aid, 1 cm³ of distilled water.)

Type of Latex	Drying Time, min
SBR 2000	45
SBR 2001	45
SBR 2002	45
SBR 2003	45
BR 2004	45
SBR 2005	45
SBR 2006	45
SBR 2076	45
SBR 2100	60
SBR 2101 and X765	45
SBR 2102	60
SBR 2103	60
BR 2104	45
SBR 2105	45
SBR 2106	45
SBR 2107	45
SBR 2108	45
SBR 2109	45
SBR 2110	45
SBR 2111	45
SBR 2112	45
SBR 2113	45
SBR 2114	45

D 3314 Test Method for Rubber—Chemical Analysis for Polystyrene Blocks in SBR (Styrene-Butadiene Rubber) and Styrene-Reinforced Latexes²

D 4483 Practice for Determining Precision for Test Method Standards in the Rubber and Carbon Black Industries²

E 70 Test Method for pH of Aqueous Solutions with the Glass Electrode⁴

E 200 Practice for Preparation, Standardization, and Storage of Reagent Solutions for Chemical Analysis⁴

3. Sampling

3.1 Rubber latex tends to cream on standing. Once stratification has occurred, the latex must be thoroughly agitated to obtain a homogeneous blend as a representative sub-sample. The procedure required differs with the type of container and facilities available.

3.2 Sub-Sampling from Tank Cars:

3.2.1 If stratification has occurred, take separate samples about 75 mm (3 in.) from the top surface and about 75 mm from the bottom of the tank. If results from the top and bottom

⁴ Annual Book of ASTM Standards, Vol 15.05.