



Standard Specification for Rubber—Concentrated, Ammonia Preserved, Creamed, and Centrifuged Natural Latex¹

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1. Scope

1.1 This specification covers requirements for first grade concentrated natural rubber latex (see Table 1) of the following types:

Type 1—Centrifuged natural latex preserved with ammonia only or by formaldehyde followed by ammonia.

Type 2—Creamed natural latex preserved with ammonia only or by formaldehyde followed by ammonia.

Type 3—Centrifuged natural latex preserved with low ammonia with other necessary preservatives.

1.2 This specification is not necessarily applicable to latices prepared or preserved by other methods, and shall not be construed as limiting the desirability or usefulness of other types of latices. It does not apply to natural latex sources other than *Hevea brasiliensis* nor to compounded latex concentrates.

1.3 The analytical procedures applicable to the specifications are included and appear in the following order:

	Section
Sampling	6 and 7
Total Solids	8
Dry Rubber Content	9
Total Alkalinity	10
Viscosity	11
Sludge Content	12
Coagulum Content	13
KOH Number	14
pH	15
Mechanical Stability	16
Copper and Manganese	17
Density	18-30
Volatile Fatty Acids	31-35
Boric Acid	36
Dry Films	37
Precision for All Test Methods	38

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

2. Referenced Documents

2.1 ASTM Standards:

¹ This specification is under the jurisdiction of ASTM Committee D11 on Rubber and is the direct responsibility of Subcommittee D11.22 on Natural Rubber.

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TABLE 1 Requirements for Specified Latex Types

	Type 1	Type 2	Type 3
Total solids, min, %	61.3	66.0	61.3
Dry rubber content (DRC), ^A min, %	59.8	64.0	59.8
Total solids content minus dry rubber content, max, %	2.0	2.0	2.0
Total alkalinity calculated as ammonia, as % latex	0.60 min	0.55 min	0.29 max
Sludge content, max, %	0.10	0.10	0.10
Coagulum content, max, %	0.050	0.050	0.050
KOH number, max ^B	0.80	0.80	0.80
Mechanical stability, s, min	650	650	650
Copper content, max, % of total solids	0.0008	0.0008	0.0008
Manganese content, max, % of total solids	0.0008	0.0008	0.0008
Color on visual inspection	no pronounced blue or gray ^C		
Odor after neutralization with boric acid	no putrefactive odor		

^ADry rubber content by definition and use is the acid coagulable portion of latex after washing and drying.

^BIt is accepted that KOH numbers for boric acid preserved latices will be higher than normal, equivalent to the amount of boric acid in the latex.

^CBlue or gray color usually denotes iron contamination caused by improper storage in containers.

D 1278 Test Methods for Rubber from Natural Sources—Chemical Analysis²

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 Electrode³

3. General Specification Requirements

3.1 In manufacturing, the material shall be processed in accordance with the best commercial practice and shall be of uniform composition.

3.2 The material shall conform to the chemical and physical requirements prescribed in Table 1.

4. Significance and Use

4.1 This specification denotes limits on the 3 types of latex as defined in the scope and defines the test methods to use for the specified properties. These test methods may be used for production control or for referee purposes.

² Annual Book of ASTM Standards, Vol 09.01.

³ Annual Book of ASTM Standards, Vol 15.05.