



Designation: **C1059/C1059M – 13** C1059/C1059M – 21

Standard Specification for Latex Agents for Bonding Fresh To Hardened Concrete¹

This standard is issued under the fixed designation C1059/C1059M; 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 latex bonding agents, suitable for brush, broom, or spray application, to bond fresh concrete to hardened concrete.

1.2 These latex bonding agents are intended for bonding new concrete to old concrete such as interior surfaces, floors, roadways, bridge decks, ramps, runways, walks, and curbs.

1.3 The values stated in either SI units or inch-pound units are to be regarded separately as standard. The values stated in each system are not necessarily exact equivalents; therefore, to ensure conformance with the standard, each system shall be used independently of the other, and values from the two systems shall not be combined.

1.4 The text of this specification refers to notes and footnotes that provide explanatory material. These notes and footnotes (excluding those in tables and figures) shall not be considered as requirements of this specification.

1.5 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.*

<https://standards.iteh.ai/catalog/standards/sist/a85fce29-6b0a-4aa4-80f0-bf283b5bb45d/astm-c1059-c1059m-21>

2. Referenced Documents

2.1 *ASTM Standards:*²

[C125 Terminology Relating to Concrete and Concrete Aggregates](#)

[C1042 Test Method for Bond Strength of Latex Systems Used With Concrete By Slant Shear \(Withdrawn 2008\)](#)³

3. Terminology

3.1 *Definitions:*

3.1.1 For definitions of terms used in this specification, refer to Terminology [C125](#).

3.2 *Definitions of Terms Specific to This Standard:*

¹ This specification is under the jurisdiction of ASTM Committee [C09](#) on Concrete and Concrete Aggregates and is the direct responsibility of Subcommittee [C09.25](#) on Organic Materials for Bonding.

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

*A Summary of Changes section appears at the end of this standard

3.2.1 *bond strength, n*—a measure of the force required to separate surfaces which have been bonded together.

3.2.2 *bonding agent, n*—a couplant that physically attaches one material surface to another.

3.2.3 *latex, n*—a stable dispersion of polymeric substance in an essentially aqueous medium.

4. Classification

4.1 This specification provides for the classification of the latex bonding agents in accordance with use.

4.1.1 *Type I (Redispersable)*, is restricted for use in interior work not subject to water immersion or high humidity.

4.1.2 *Type II (Non-redispersable)*, may be used for areas subject to high humidity or immersion in water and is suitable for use in other areas.

5. Ordering Information

5.1 Purchase orders for these materials shall identify:

5.1.1 The number of this specification and the required type, and

5.1.2 Supplementary requirements if necessary.

6. Physical Properties

6.1 The material shall conform to the requirements of **Table 1** when tested in accordance with Test Method **C1042**.

7. Sampling

7.1 For sampling of bulk quantities, a batch or lot shall be considered a unit of manufacture as prepared for shipment or may consist of a blend of two or more production runs of material. A composite sample shall be taken and it shall provide a volume of at least 4 L [1 gal].

7.2 When the latex bonding agent to be sampled is in containers, the sample shall be obtained by taking a portion out of the containers that is equal in number to the next integer larger than the cube root of the total number of containers in the lot. Grab samples shall be taken from each container and they shall have a volume of at least 0.25 L [0.5 pt.].

7.3 All the sample containers shall be sealed to prevent leakage or dilution and shall be properly marked for identification and correlation.

8. Rejection

8.1 The purchaser has the right to reject the latex bonding agent if it fails to meet the bond strength requirement, appears curdled or otherwise non-uniform, or if it has a rank odor.

9. Packaging and Package Marking

9.1 The proprietary name and type of the latex bonding agent and the net quantity in litres or gallons shall be plainly marked on the containers in which the material is delivered. Similar information shall be provided in the shipping advices accompanying packaged or bulk shipments of admixtures.

TABLE 1 Physical Property Requirements of Latex Bonding Agents

Latex	Bond Strength min, MPa [psi]
Type I	2.8 [400] dry
Type II	8.6 [1250] after immersion