



Designation: C734 – 15 (Reapproved 2019)

Standard Test Method for Low-Temperature Flexibility of Latex Sealants After Artificial Weathering¹

This standard is issued under the fixed designation C734; 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 test method covers a laboratory procedure for the determination of low-temperature flexibility of latex sealants after 500 h artificial weathering.

1.2 The values stated in metric (SI) units are to be regarded as the standard. The values given in parentheses are for information only.

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

NOTE 1—Currently there is no ISO standard similar to this test method.

1.4 *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

C717 Terminology of Building Seals and Sealants

C1442 Practice for Conducting Tests on Sealants Using Artificial Weathering Apparatus

3. Terminology

3.1 *Definitions*—Refer to Terminology **C717** for definitions of the following terms used in this test method: adhesive failure, latex sealant, sealant, substrate, and standard conditions.

¹ This test method is under the jurisdiction of ASTM Committee C24 on Building Seals and Sealants and is the direct responsibility of Subcommittee C24.40 on Weathering.

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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.

4. Summary of Test Method

4.1 A slab of the sealant is exposed, after drying, for a minimum of 500 h in an artificial weathering unit, after which it is conditioned and flexed at -17 ± 1 °C (0 ± 2 °F).

5. Significance and Use

5.1 This test evaluates the flexibility of artificially weathered latex sealants in a low-temperature environment.

6. Apparatus

6.1 *T3 Temper Alclad Aluminum Panels*, three, each 76 by 153-mm (3 by 6-in.) of 16 to 24 gauge (1.29 to 0.511 mm).

6.2 *Accelerated Weathering Device*—One of the units as described in Practice **C1442**. Because of differences in spectral power distributions of the exposure sources and exposure parameters used in the different types of devices described in Practice **C1442**, test results may differ with the type of accelerated weathering device. Choice of type of device shall be by mutual agreement among the interested parties.

6.3 *Cold Box or Freezer*.

6.4 *Mandrel, Wood or Metal*, 25 mm (1 in.) in diameter.

6.5 *Template*, consisting of a 3.2-mm ($\frac{1}{8}$ -in.) thick brass plate with a rectangular opening 38 by 127 mm ($1\frac{1}{2}$ by 5 in.).

6.6 *Spatula*, metal.

7. Sampling

7.1 Take the sealant to be tested directly from the container as commercially supplied by the manufacturer.

8. Test Specimens

8.1 Prepare three test specimens as follows:

8.1.1 Center the template on an aluminum panel, fill it to excess with the sealant, and strike the excess off flush with the surface of the template with the metal spatula.

8.1.2 Cut around the perimeter of the sealant, next to the template, with the spatula, and carefully remove template.

9. Conditioning

9.1 Condition the three specimens for 2 days at standard conditions.