



Designation: C 734 – 01

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

This standard is issued under the fixed designation C 734; 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 and health practices and determine the applicability of regulatory limitations prior to use.*

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

2. Referenced Documents

2.1 ASTM Standards:

C 717 Terminology Building Seals and Sealants²

G 23 Practice for Operating Light-Exposure Apparatus (Carbon-Arc Type) With and Without Water for Exposure of Nonmetallic Materials³

G 26 Practice for Operating Light-Exposure Apparatus (Xenon-Arc Type) With and Without Water for Exposure of Nonmetallic Materials³

2.2 Other Standards:

CSA Specification HA-4 CC42⁴

3. Terminology

3.1 *Definitions*—Refer to Terminology C 717 for definitions of the following terms used in this test method: adhesive failure, latex sealant, sealant, substrate.

¹ This test method is under the jurisdiction of ASTM Committee C24 on Building Seals and Sealants and is the direct responsibility of Subcommittee C 24.40 on Weathering.

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² *Annual Book of ASTM Standards*, Vol 04.07.

³ *Annual Book of ASTM Standards*, Vol 06.01.

⁴ Available from Canadian Government Specification Board, c/o Dept. of Supply and Services, Ottawa 4, Canada.

4. Summary of Test Method

4.1 A slab of the sealant is exposed, after drying, for 500 h in an artificial weathering unit, after which it is conditioned and flexed at $-17 \pm 1^\circ\text{C}$ ($0 \pm 2^\circ\text{F}$).

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 gage (1.29 to 0.511 mm), conforming with CSA Specification HA-4 CC42.

6.2 *Accelerated Weathering Unit*—One of the units either of the Type D through F as described in Practice G 23 or Type A through BH as described in Practice G 26, plus a 102-18 cycling cam and black panel accessories.

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 ($1/8$ -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 $23 \pm 1^\circ\text{C}$ ($73.4 \pm 2^\circ\text{F}$).