



Designation: C731 – 15 (Reapproved 2022)

Standard Test Method for Extrudability, After Package Aging, of Latex Sealants¹

This standard is issued under the fixed designation C731; 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 extrudability of latex sealants after freeze-thaw and heat cycling.

1.2 The values stated in SI units are to be regarded as standard. The values given in parentheses after SI units are provided for information only and are not considered 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, 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

3. Terminology

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

4. Summary of Test Method

4.1 After being subjected to 5 freeze-thaw cycles followed by 7 days of heat aging, the sealant is extruded under pressure

from an air-powered caulking gun, and the extrudability is measured in grams per second.

5. Significance and Use

5.1 Extrudability measurements of latex sealants serve to indicate only their ease of application; they do not predict the performance capability of the compound after installation.

5.2 This test method also measures freeze-thaw and heat stability of such sealants.

6. Apparatus

6.1 *Caulking Gun*, air-powdered.

6.2 *Polyethylene Cartridge*, 6 fluid oz and plunger.

6.3 *Polyethylene Cartridge Nozzle*, 64 mm (2½ in.) in length with 3 mm (⅛ in.) orifice.

6.4 *Air Compressor*, capable of producing 0.34 MPa (50 psi).

6.5 *Freezer*, capable of maintaining $-17^{\circ}\text{C} \pm 1^{\circ}\text{C}$ ($0^{\circ}\text{F} \pm 2^{\circ}\text{F}$).

6.6 *Circulating Air Oven*, capable of maintaining $50^{\circ}\text{C} \pm 1^{\circ}\text{C}$ ($122^{\circ}\text{F} \pm 2^{\circ}\text{F}$).

6.7 *Stop Watch*, standard laboratory.

6.8 *Analytical Balance*, accurate to 1 g.

6.9 *Jar*, approximately 0.5 L (1-pt).

6.10 *Spatula*.

7. Sampling

7.1 After conditioning as specified in **8.1**, take the sealant to be tested directly from a container as commercially supplied by the manufacturer.

8. Conditioning

8.1 Subject the sealant in its original container to 5 freeze-thaw cycles, each cycle consisting of 16 h at $-17^{\circ}\text{C} \pm 1^{\circ}\text{C}$ ($0^{\circ}\text{F} \pm 2^{\circ}\text{F}$) and 8 h at $23^{\circ}\text{C} \pm 1^{\circ}\text{C}$ ($73.4^{\circ}\text{F} \pm 2^{\circ}\text{F}$), followed by 7 days at $50^{\circ}\text{C} \pm 1^{\circ}\text{C}$ ($122^{\circ}\text{F} \pm 2^{\circ}\text{F}$).

8.2 Condition the sealant which is still in its original container, for a minimum of 5 days at standard conditions.

8.3 Condition the polyethylene cartridge for a minimum of 16 h at 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 **C24.20** on General Test Methods.

Current edition approved Jan. 1, 2022. Published January 2022. Originally approved in 1972. Last previous edition approved in 2015 as C731 – 15. DOI: 10.1520/C0731-15R22.

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.