



~~Designation: C 711-03~~ Designation: C711 – 03 (Reapproved 2009)

Standard Test Method for Low-Temperature Flexibility and Tenacity of One-Part, Elastomeric, Solvent-Release Type Sealants¹

This standard is issued under the fixed designation C711; 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 determination of the low-temperature flexibility and tenacity of one-part, elastomeric, solvent-release type sealants after cyclic high- and low-temperature aging.

1.2 The subcommittee with jurisdiction is not aware of any similar ISO 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 and health practices and determine the applicability of regulatory limitations prior to use.*

2. Referenced Documents

2.1 *ASTM Standards:*²

C717 [Terminology of Building Seals and Sealants](#)

3. Terminology

3.1 ~~Definitions—Refer to Terminology C 717~~ Refer to Terminology C717 for definitions of the following terms used in this Test Method: elastomer, elastomeric, joint, sealant, solvent-release sealant.

4. Significance and Use

4.1 This test method is not intended to simulate an actual use condition but it will give some indication of the elastomeric properties or flexibility of a building joint sealant at low temperature. It can serve to differentiate between elastomer-based sealants and sealants based on nonelastic binders that can harden or embrittle on aging and crack or lose adhesion when flexed at low temperature. In addition, it can aid in identifying sealants that have poor flexibility because they are overextended and contain a very low level of elastomeric binder as well as those sealants having binders that will embrittle at low temperature.

5. Apparatus

5.1 *Aluminum Panels*, 3, thin, approximately 3 in. (76 mm) wide by 5 in. (127 mm) long by 0.012 in. (0.30 mm) thick.

5.2 *Spatula*, steel, with thin knife edge.

5.3 *Template*, rectangular, of steel or brass, 1/8 in. (3.2 mm) high, 1 by 3 3/4 in. (25 by 95 mm) inside and approximately 2 by 4 3/4 in. (51 by 121 mm) outside.

5.4 *Oven*, forced-draft type, having a temperature controlled at $158 \pm 3.6^\circ\text{F}$ ($70 \pm 2^\circ\text{C}$).

5.5 *Freezer Chest or Cold Box*, having a controlled temperature of $-10 \pm 5^\circ\text{F}$ ($-23 \pm 3^\circ\text{C}$).

5.6 *Mandrel or Rod*, with a diameter of 1/4 in. (6.4 mm), with a suitable holder or rack to support it.

5.7 *Methyl Ethyl Ketone*, or similar solvent.

6. Sampling

6.1 Take the test specimen from a previously unopened container as received from the sealant manufacturer.

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 Sealant Standards.

Current edition approved May 10, 2003. Published June 2003. Originally approved in 1972. Last previous edition approved in 1997 as C 711-93(1997) on General Test Methods.

Current edition approved Jan. 1, 2009. Published March 2009. Originally approved in 1972. Last previous edition approved in 2003 as C711-03. DOI: 10.1520/C0711-03R09.

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* Vol 04.07 volume information, refer to the standard's Document Summary page on the ASTM website.