



Designation: C 972 – 00

## Standard Test Method for Compression-Recovery of Tape Sealant<sup>1</sup>

This standard is issued under the fixed designation C 972; 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 approval. A superscript epsilon ( $\epsilon$ ) indicates an editorial change since the last revision or reapproval.

### 1. Scope

1.1 This test method describes a laboratory procedure for determining compression-recovery characteristics of tape sealant.

1.2 The values stated in 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.* Table 1

NOTE 1—There are no ISO standards similar or equivalent to this ASTM standard.

### 2. Referenced Documents

2.1 *ASTM Standards:*

C 717 Terminology of Building Seals and Sealants<sup>2</sup>

E 177 Practice for Use of the Terms Precision and Bias in ASTM Test Methods<sup>3</sup>

E 691 Practice for Conducting an Interlaboratory Study to Determine the Precision of a Test Method<sup>3</sup>

### 3. Terminology

3.1 *Definitions*—For definitions of terms used in this test method, refer to Terminology C 717.

### 4. Significance and Use

4.1 Tape sealants are tacky, deformable solids used under compression between two or more surfaces of similar or dissimilar materials in a variety of sealing applications. This procedure presents an indication of the compression recovery characteristics of preformed tapes.

### 5. Apparatus

5.1 *Glass Plates*, two, each 6.35 by 76.2 by 76.2 mm (0.25 by 3 by 3 in.).

5.2 *Steel Panels*, two, cold-rolled, each 0.762 by 76.2 by 76.2 mm (0.03 by 3 by 3 in.).

NOTE 2—Substitutes such as aluminum, acrylic, acrylonitrile-butadiene-styrene (ABS), may be substituted for the plates (5.1) and panels (5.2).

5.3 *Compression Testing Machine*, with a cross-head speed of 50 mm (2 in.)/min and capable of stopping at specified settings.

NOTE 3—Load values may differ when determined on screw-type versus spring-type test machines due to a drift past the desired stop in the spring-type machine. It may be necessary to use shims to obtain the desired stop.

5.4 *Recorder*, for recording compression loads in newtons (or pounds-force).

5.5 *Stop Watch*, measuring in minutes and seconds.

5.6 *Gage or Rule*, capable of measuring tape thickness to 0.025 mm or 0.001 in.

### 6. Test Specimen and Sample

6.1 *Conditioning:*

6.1.1 Condition the specimens for 24 h at  $23 \pm 2^\circ\text{C}$  ( $73.4 \pm 3.6^\circ\text{F}$ ) and  $50 \pm 10\%$  relative humidity.

6.1.2 Other conditioning parameters may be included as desired.

6.2 Samples to be tested shall be taken from a roll or tape sealant after first removing and discarding approximately the first 0.6 m (2 ft) of the roll.

6.3 Tape sealant configuration should be approximately 9.53 by 9.53 by 76.2 mm (0.375 by 0.375 by 3 in.). The sample should be re-extruded rather than plied to conform to the specified size if the sample does not approximate these dimensions.

6.4 Total tape volume ( $V$ ) should be calculated (width by length by thickness) for determination of tape sealant compression index.

6.5 Prepare two test specimens for each sample as follows:

6.5.1 Do not clean or unnecessarily handle the surfaces of surface-treated or painted plate or panels.

6.5.2 Clean plates or panels with detergent or solvent, or both.

6.5.3 Place two 76.2 by 9.53 by 9.53-mm (3 by 0.375 by 0.375-in.) lengths of tape sealant on one of the plates or panels, as shown in Fig. 1, and remove the release paper. Place the

<sup>1</sup> 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 Jan. 10, 2000. Published April 2000. Originally published as C 972 – 82. Last previous edition C 972 – 95.

<sup>2</sup> *Annual Book of ASTM Standards*, Vol 04.07.

<sup>3</sup> *Annual Book of ASTM Standards*, Vol 14.02.