



Designation: C 1016 – 94a

Standard Test Method for Determination of Water Absorption of Sealant Backing (Joint Filler) Material¹

This standard is issued under the fixed designation C 1016; 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 determining the water absorption characteristics of sealant backing and joint filler materials, hereinafter referred to as backing.

1.2 The values stated in SI units are to be regarded as the standard. The inch-pound units 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.*

2. Referenced Documents

2.1 *ASTM Standards:*

C 717 Terminology of Building Seals and Sealants²

E 691 Practice for Conducting an Interlaboratory Study to Determine the Precision of a Test Method³

3. Terminology

3.1 *Definitions*—Refer to Terminology C 717 for the following terms used in this test method: joint filler, sealant, and sealant backing.

4. Summary of Test Method

4.1 The mass of three measured specimens of backing is determined. The specimens are then placed in room temperature water for 24 h after which the specimens are removed from the water and their mass measured. The change in mass is calculated, and the result is expressed as a change in mass per unit of volume.

4.2 Procedure A measures the maximum amount of water that can enter the backing. Procedure B measures the amount of water that can enter the backing with the backing cut ends sealed.

5. Significance and Use

5.1 This test method determines the amount of water absorbed by a backing material. Water absorption by the backing may affect sealant performance.

5.2 This test method is also useful when designating proper storage of back up material and in determining appropriate precautions when using backing materials.

5.3 The specifier, using this test method, can exercise judgment in the selection of backing materials based on water absorption characteristics.

6. Apparatus

6.1 *Balance*, sensitive to 0.1 g (0.004 oz).

6.2 *Rule*, steel, graduated to 1.0 mm ($\sim 1/16$ in.).

6.3 *Shallow Pan for Water*, at least 50 mm (2 in.) deep and 350 mm (14 in.) long.

6.4 *Paraffin Wax*.⁴

7. Sampling

7.1 Take samples from manufactured product. The number of samples for each lot shall be agreed upon between the purchaser and the seller. A sample shall consist of three test specimens.

7.2 Sample selection is important, therefore, the sample should be representative of typical backing production. Care should be exercised in choosing samples that have not been damaged by inappropriate storage or handling.

7.3 Samples should be of uniform shape for their length to enable accurate calculation of volume.

8. Test Specimens

8.1 A test specimen is a piece of backing 300 ± 5 mm (12 ± 0.25 in.) in length. Ideally the cross-sectional backing area should be from 2 to 3 cm² (0.3 to 0.5 in.²). Cut three test specimens from each sample.

9. Conditioning

9.1 Condition the test specimens at $23 \pm 2^\circ\text{C}$ ($73 \pm 3^\circ\text{F}$) and $50 \pm 5\%$ relative humidity for a minimum of 24 h prior to testing, provided the specimens feel and appear dry. Specimens that appear damp should be dried in accordance with the

¹ This test method is under jurisdiction of ASTM Committee C-24 on Building Seals and Sealants and is the direct responsibility of Subcommittee C24.32 on Chemically Curing Sealants.

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

³ *Annual Book of ASTM Standards*, Vol 14.02.

⁴ Paraffin wax, manufactured by Thomas Scientific, 99 High Hills Rd., Swedesboro, NJ 08085, or equal, has been found suitable for this purpose.