



## Standard Test Method for Staining from Sealants<sup>1</sup>

This standard is issued under the fixed designation D 2203; 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 ( $\epsilon$ ) indicates an editorial change since the last revision or reapproval.

### 1. Scope

1.1 This test method covers a laboratory procedure for determining whether a sample of sealant will cause staining of the substrate when in the contact with masonry, concrete, or stone (marble, limestone, sandstone, granite, etc.).

1.2 The values stated in SI (metric) units are to be regarded as the standard. The values given in parentheses are provided for information only.

1.3 *This standard does not purport to address all of the safety problems, 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 510 Test Method for Staining and Color Change of Single- or Multicomponent Joint Sealants<sup>2</sup>

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

### 3. Terminology

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

### 4. Significance and Use

4.1 Staining of a building is an aesthetically undesirable occurrence. This test method evaluates the likelihood of a sealant causing an early stain on a porous substrate, when the stain is caused by gross exudation from the sealant. This test method does not predict staining caused by other factors.

4.2 See also Test Method C 510.

### 5. Apparatus and Materials

5.1 *Convection Oven*, having a temperature controlled at  $104.5 \pm 3^\circ\text{C}$  ( $220 \pm 5^\circ\text{F}$ ).

5.2 *Brass Ring*, 19 mm ( $\frac{3}{4}$  in.) inside diameter, 19 mm ( $\frac{3}{4}$  in.) high, walls at one end beveled to a minimum diameter.

5.3 *Filter Paper*, ten sheets, high-grade, rapid, qualitative 9 cm in diameter.<sup>3</sup>

5.4 *Aluminum Foil*, household-type, 25.4 mm (1 in.) square.

5.5 *Weight*, 300-g.

5.6 *Spatula*, small, thin, steel.

5.7 *Glass Plate*, at least 100 by 100 mm (4 by 4 in.).

5.8 *Desiccator*, with drying agent.

### 6. Sampling

6.1 Take the test specimen from a previously unopened container and thoroughly mix before using, if required for homogeneity.

### 7. Conditioning

7.1 Condition the sample in a closed container for at least 5 h at  $23 \pm 2^\circ\text{C}$  ( $73.4 \pm 3.6^\circ\text{F}$ ).

### 8. Procedure

8.1 Dry the filter papers for 5 to 8 h in an oven maintained at  $104.5 \pm 3^\circ\text{C}$  ( $220 \pm 5.4^\circ\text{F}$ ). At the end of the drying period, remove from the oven and store in a desiccator until cool.

8.2 Remove ten filter papers from the desiccator, staple them together, and place them on a glass plate. Set the brass ring with beveled edge down on the center of the filter papers. Fill the ring flush with thoroughly mixed sealant, taking care to incorporate as little air as possible with the compound. Place a 25.4-mm (1-in.) square piece of aluminum foil on top of the ring, and the 300-g weight on top of that.

8.3 Allow the filled ring to stand for 72 h at  $23 \pm 2^\circ\text{C}$  ( $73.4 \pm 3.6^\circ\text{F}$ ). Then slide a spatula under the brass ring and remove the ring and compound. Hold the top filter paper up to the light with a glass plate under it and, with a sharp pencil, mark the maximum and minimum diameters of the stain. Measure these diameters to the nearest 0.5 mm. Subtract 19 (diameter of ring in millimetres) from the average of the two diameters and divide by 2. Record this result as *width of stain*. (Width of stain = (average - 19)/2).

8.4 Examine the ten individual papers for depth of stain by holding them up to a light. Record the number of papers, including the first one, showing any evidence of staining as *number of papers stained*.

8.5 Report the sum of *width of stain* and *number of papers stained* as the *stain index*.

<sup>1</sup> This test method is under the jurisdiction of ASTM Committee C-24 on Building Seals and Sealants and is the direct responsibility of Subcommittee C24.16 on Emulsion Sealants.

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

<sup>3</sup> This test method is based on the use of Whatman No. 1 filter paper, manufactured by Whatman, Inc., 9 Bridewell Place, Clifton, NJ 07073.