Designation: D 2377 – 00

Standard Test Method for Tack-Free Time of Caulking Compounds and Sealants[1]

This standard is issued under the fixed designation D 2377; 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 describes the determination of the tack-free time property of caulking compounds and sealants. This test method is applicable to both gun and knife grades.

1.2 The values stated in inch-pound 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.*

1.4 The committee with jurisdiction over this standard is not aware of any comparable standard published by other organizations.

2. Referenced Documents

2.1 *ASTM Standards:*

C 717 Terminology of Building Seals and Sealants[2]

3. Terminology

3.1 *Definitions*—Refer to Terminology C 717 for definitions of the following terms: caulking compound, compound, sealant.

4. Apparatus

4.1 *Cabinet or Room* capable of maintaining a temperature of 73.4 ± 3.6°F (23 ± 2°C) at 50 ± 5 % relative humidity for extended periods of time.

4.2 *Brass Sheet*, ¾ by 1½ in. (19 by 38 mm), approximately ¼ in. (6.4 mm) thick.

4.3 *Template*—A rectangular template of steel or brass, ⅛ in. (3.2 mm) thick, 1 by 3¾ in. (25.4 by 95.1 mm) inside, and approximately 2 by 4¾ in. (51 by 121 mm) outside.

4.4 *Steel Sheets*—Two rectangular tin-plated steel sheets, approximately 3 by 5 in. (76 by 127 mm), and of a convenient thickness.

4.5 *Plastic Strips*—Two, clear, low-density polyethylene strips, 1 by 5 in. (25.4 by 127 mm) by 0.004 ± 0.001 in. (0.1016 ± 0.0254 mm) thick.

4.6 *Spatula*, steel, having a 4 to 5-in. (102 to 127-mm) long narrow blade.

4.7 *Thin Knife Blade*.

5. Solvent

5.1 *Methyl Ethyl Ketone, Ethylene Dichloride*, or similar solvent.

6. Sampling

6.1 Take the test specimen from a previously unopened container and thoroughly mix before using.

7. Test Specimens

7.1 Prepare two test specimens as follows:

7.1.1 Thoroughly mix the conditioned compound and completely clean the template and steel sheets with solvent.

7.1.2 Center the template on the tin panel and carefully fill it, avoiding air pockets. Strike off the surface of the compound flat to a uniform ⅛-in. (3.2-mm) thickness. With a thin knife blade, cut all around the outside edge of the compound and lift the template straight up and off.

8. Conditioning

8.1 Condition the sample in the original closed container for at least 5 h at 73.4 ± 3.6°F (23 ± 2°C).

9. Procedure (Fig. 1)

9.1 For gun grade compounds, expose the specimen for 72 h at 73.4 ± 3.6°F (23 ± 2°C), 50 ± 5 % relative humidity. For knife grade compounds, expose for 120 h under the same conditions.

9.2 At the end of the exposure period, center the polyethylene strip lengthwise along the top surface of the compound. Set the brass weight in the center on top of the polyethylene strip and allow it to remain there for 30 s.

9.3 Remove the brass weight and carefully withdraw the polyethylene strip with thumb and forefinger at right angles to the compound. No caulking compound or sealant shall adhere to the polyethylene strip in either specimen.

---

[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 Sealent Standards.

Current edition approved June 10, 2000. Published July 2000. Originally published as D 2377 – 65 T. Last previous edition D 2377 – 94 (2000)ε1.

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

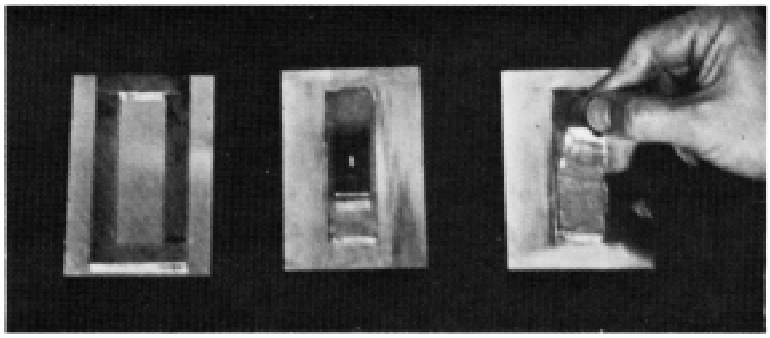

FIG. 1 Stages in the Tack-Free Time Test Procedure

9.4 Repeat steps 6.1 through 7.3 with the second test specimen.

10. Report

10.1 Report if any caulking compound or sealant has adhered to the polyethylene strip in either specimen.

11. Precision and Bias

11.1 No statement is made about either the precision or bias of this test method for measuring tack-free time, since the result merely states whether there is conformance to the criteria for sucess in the procedure.

12. Keywords

12.1 caulking compound; compound; sealant; tack-free