Designation: D 6325 - 98 (Reapproved 2004)

Test Method for Determining Open Assembly Time of Carpet Mastic Adhesives¹

This standard is issued under the fixed designation D 6325; 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 a procedure to measure open assembly time for a troweled carpet adhesive.
- 1.2 This test method provides an evaluation of the ability of an adhesive to effectively wet out the intended carpet backing.
- 1.3 The values stated in inch-pound units are to be regarded as the standard. The values given in parentheses are for information only.
- 1.4 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
- C 679 Test Method for Tack-Free Time of Elastomeric Sealants
- D 618 Practice for Conditioning Plastics for Testing
- D 907 Terminology of Adhesives

3. Terminology

- 3.1 Definitions:
- 3.1.1 Many of the terms in this test method are defined in Terminology D 907.

4. Significance and Use

4.1 The ability to have a sufficient open assembly time is critical when bonding a carpet. An adhesive with too short an open assembly time will not allow the installer enough time to position the carpet before the adhesive is dried beyond use. A product with too long an open assembly time will not provide enough dry time for the carpet to bond to the intended substrate without movement of the carpet.

- ¹ This test method is under the jurisdiction of ASTM Committee D14 on Adhesives and is the direct responsibility of Subcommittee D14.70 on Construction Adhesives.
- Current edition approved April 1, 2004. Published April 2004. Originally approved in 1998. Last previous edition approved in 1998 as D 6325 98.
- 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* volume information, refer to the standard's Document Summary page on the ASTM website.

- 4.2 The test method provides a means of measuring the open assembly time for an adhesive. Use of such a test method can aid both the manufacturer to develop and the user to select the appropriate adhesive for the installation of carpet.
- 4.3 Test Method C 679 was used as a model for this test method.

5. Apparatus

- 5.1 Applicator Trowel—1/8 in. (3.2 mm) wide, 1/8 in. (3.2 mm) deep, 1/16 in. (1.6 mm) space V-notch.
 - 5.2 One-kg Weight, at least 2 in. (51 mm) in diameter.
 - 5.3 Chronometer.

6. Materials

- 6.1 Adhesive—Any appropriate adhesive used to install carpet.
- 6.2 *Polyethylene*—Low density (LDPE) with a 0.006 in. (0.15 mm) thickness.
 - 6.3 Glass, 12 in. by 12 in.

7. Conditioning

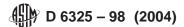
7.1 Condition the LDPE, glass, and adhesive to be tested 24 h prior to testing at 73.4 \pm 3.6°F (23 \pm 2°C) and 50 \pm 5 % relative humidity according to Practice D 618.

8. Sample Preparation

8.1 Cut the LDPE into twenty 2 in. (50.8 mm) by 2 in. (50.8 mm) pieces.

9. Procedure

- 9.1 Hold the trowel at a 45° angle and spread enough adhesive to cover the entire glass surface. Start the chronometer.
- 9.2 Place an LDPE square on the adhesive taking care not to put unnecessary pressure on it.
 - 9.3 Apply the 1-kg weight on the LDPE for 10 s.
- 9.4 Grasp one end of the LDPE square and slowly peel away (at a 90 degree angle) the LDPE within 5 s. Record the percentage of the adhesive transferred to the LDPE.
- 9.5 Every 5 min. after the adhesive was originally troweled, repeat steps 9.2-9.4 using a new LDPE square on a section of adhesive not previously tested or bonded.
 - 9.6 Continue the testing until you have no adhesive transfer.



9.7 This is the open assembly time.

10. Report

- 10.1 Report the following information:
- 10.1.1 The type of carpet adhesive used.
- 10.1.2 The substrates used.
- 10.1.3 The adhesive open time. Record the % of LDPE area covered as a function of time in minutes until no further transfer to LDPE is evident.

10.1.4 Report the temperature and humidity test conditions.

11. Precision and Bias

11.1 No information is presented about either the precision or bias of this test method for measuring open time since the final result is a plot of percent area covered versus time.

12. Keywords

12.1 adhesive; adhesion; carpet; open assembly time

ASTM International takes no position respecting the validity of any patent rights asserted in connection with any item mentioned in this standard. Users of this standard are expressly advised that determination of the validity of any such patent rights, and the risk of infringement of such rights, are entirely their own responsibility.

This standard is subject to revision at any time by the responsible technical committee and must be reviewed every five years and if not revised, either reapproved or withdrawn. Your comments are invited either for revision of this standard or for additional standards and should be addressed to ASTM International Headquarters. Your comments will receive careful consideration at a meeting of the responsible technical committee, which you may attend. If you feel that your comments have not received a fair hearing you should make your views known to the ASTM Committee on Standards, at the address shown below.

This standard is copyrighted by ASTM International, 100 Barr Harbor Drive, PO Box C700, West Conshohocken, PA 19428-2959, United States. Individual reprints (single or multiple copies) of this standard may be obtained by contacting ASTM at the above address or at 610-832-9585 (phone), 610-832-9555 (fax), or service@astm.org (e-mail); or through the ASTM website (www.astm.org).