



Designation: D 1337 – 96

Standard Test Method for Storage Life of Adhesives by Consistency and Bond Strength¹

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1. Scope

1.1 This test method covers a means by which the storage life of an adhesive can be measured using rheological and adhesive performance testing.

1.2 The values stated in SI units are to be regarded as the standard. The values 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:

D 618 Practice for Conditioning Plastics for Testing²

D 897 Test Method for Tensile Properties of Adhesive Bonds³

D 906 Test Method for Strength Properties of Adhesives in Plywood Type Construction in Shear by Tension Loading³

D 907 Terminology of Adhesives³

D 1002 Test Method for Apparent Shear Strength of Single-Lap-Joint Adhesively Bonded Metal Specimens by Tension Loading (Metal-to-Metal)³

3. Terminology

3.1 *Definitions*—Many terms in this test method are defined in Terminology D 907.

4. Significance and Use

4.1 This test method is applicable to all adhesives having a relatively short storage life.

4.2 This test method is intended to determine whether the storage life conforms to the minimum specified storage life required of an adhesive by consistency tests (Procedure A) or by bond strength tests (Procedure B), or by both.

PROCEDURE A—CONSISTENCY TEST

5. Apparatus

5.1 *Viscometer*—Any means of measuring the viscosity or consistency of the adhesive is selected, provided that the results are expressed in fundamental units.

5.2 *Controlled-Temperature Chamber*, capable of maintaining temperature to $\pm 1.1^\circ\text{C}$ ($\pm 2^\circ\text{F}$), to provide temperature storage conditions.

6. Storage of Adhesive

6.1 Store the adhesive and all its components, if there are any, in their original and unopened containers when the container is approximately quart (or litre) size. When the adhesive is supplied in larger containers, the desired number of samples is withdrawn from the large container. In this latter case, the size, type of closure, and nature (such as glass, steel, or tin-coated steel) of the small storage container is agreed upon by the purchaser and the manufacturer.

6.2 For storage temperature, use any one of the standard temperatures specified in Practice D 618. The time of storage is any time agreed upon by the purchaser and the manufacturer. If the effect of storage time is desired, it is suggested that at least three quantities of the adhesive be stored under the prescribed conditions, and tested at various intervals of time. Use a separate, unopened container at each such test.

7. Conditioning

7.1 Condition all containers after storage at $23 \pm 1^\circ\text{C}$ ($73.4 \pm 2^\circ\text{F}$) before opening. If the adhesive consists of two or more components, blend the components in accordance with the instructions from the manufacturer, and again adjust the temperature to $23 \pm 1^\circ\text{C}$, if required.

¹ This test method is under the jurisdiction of ASTM Committee D-14 on Adhesives and is the direct responsibility of Subcommittee D14.10 on Working Properties.

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² *Annual Book of ASTM Standards*, Vol 08.01.

³ *Annual Book of ASTM Standards*, Vol 15.06.