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Standard Test Method for WATER ABSORPTIVENESS OF FIBERBOARD SPECIMENS FOR ADHESIVES¹

This standard is issued under the fixed designation D 1714; 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 the selection of specimens of uniform water absorptiveness for use in determining the bonding permanency of adhesives for sealing the top flaps of fiberboard shipping cases. This method is for use in conjunction with the adhesive bonding permanency test described in ASTM Method D 1713, Test for Bonding Permanency of Water- or Solvent-Soluble Liquid Adhesives for Automatic Machine Sealing Top Flaps of Fiberboard Specimens.² The use of board stock of uniform water absorptiveness is necessary to ensure that comparative results are obtained with adhesives tested for bonding permanency. Specimens of fiberboard used for such tests must be within ± 50 percent of the average water absorptiveness value to give comparative results with various adhesives.

1.2 *This standard may involve hazardous materials, operations, and equipment. This standard does not purport to address all of the safety problems associated with its use. It is the responsibility of whoever uses this standard to consult and establish appropriate safety and health practices and determine the applicability of regulatory limitations prior to use.*

2. Apparatus

2.1 *Sizing Tester*,³ with a metal ring 100 cm² cross-sectional area.

2.2 *Stop Watch*.

2.3 *Analytical Balance*, accurate to ± 0.01 g.

NOTE 1—This degree of accuracy may be necessary to determine uniformity of liner facing materials.

3. Test Specimens

3.1 Test specimens shall be swatches of board

stock or board facing materials cut to 12.7 cm (5 in.) square. Specimens shall be the same as materials used for fiberboard shipping cases on the production line.

3.2 Specimens may be the liner facing materials of the corrugated board stock; or combined corrugated, faced board stock, or solid fiberboard stock. If the linear facing material is used, it should be obtained from the shipping case manufacturer rather than from the assembled case. When corrugated board stock is tested, board swatches form both the *smooth outer-facing* and the *inner-facing* (showing the corrugated lines) shall be tested since both facings will be contacted by the adhesive when the cases are sealed.

3.3 A minimum of ten specimens shall be tested.

4. Conditioning

4.1 Condition the swatches of board or board liner facing materials to equilibrium at 23 ± 1 C (73.2 ± 1.8 F) and 50 ± 2 percent relative humidity prior to the test.

5. Procedure

5.1 Place the rubber mat on the base plate. Place the board or board facing swatch, after weighing to the nearest ± 0.01 g, on top of the mat with the test side uppermost (Note 2). Then place the metal ring on top of the specimen and

¹ This test method is under the jurisdiction of ASTM Committee D-14 on Adhesives and is the direct responsibility of Subcommittee D14.50 on Special Adhesives.

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² *Annual Book of ASTM Standards*, Vol 15.06.

³ Cobb Sizing Tester, obtainable from the W. & L. E. Gurley Co., Troy, N. Y., has been found suitable for this purpose.