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An American National Standard

Standard Test Method for Weight of Wax Applied During Curtain Coating Operation[1]

This standard is issued under the fixed designation D 3708; 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.

ε[1] NOTE—Keywords were added editorially in October 1993.

1. Scope

1.1 This test method covers the determination of the weight of hot melt coating applied to corrugated board by curtain coating. It is intended to be used for routine process control in the plant.

NOTE 1—Related methods for determining the weight of wax coating include the following: Test Method D 3521; Test Method D 3522, and Test Method D 3344. [2]

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 the user of this standard to establish appropriate safety and health practices and determine the applicability of regulatory limitations prior to use.*

1.3 The values stated in SI units are to be regarded as the standard. The values given in parentheses are for information only.

2. Referenced Documents

2.1 *ASTM Standards:*

D 3344 Test Method for Total Wax Content of Corrugated Paperboard[2]

D 3521 Test Method for Surface Wax Coating on Corrugated Board[2]

D 3522 Test Method for Applied Coating Wax and Impregnating (Saturating) Wax in Corrugated Board Facing[2]

3. Terminology

3.1 *Definitions:*

3.1.1 *wax loading*—the weight of wax present primarily as a surface film but including the minor part embedded in the surface fibers of corrugated board. It is expressed as weight per unit area, usually in grams per square metre or pounds per thousand square feet of board.

4. Summary of Test Method

4.1 The amount of wax applied to corrugated board by means of a curtain coater is determined by attaching a folded sheet of paper to production corrugated board, running the combination through the curtain coater, and subsequently determining the applied weight of wax on the sheet of paper.

5. Significance and Use

5.1 Wax coatings are applied to corrugated board to provide a barrier against moisture or other penetrants or to provide improved appearance or abrasion resistance. These functional properties are influenced by the amount of wax present on the surface.

5.2 During curtain coating operations, major portions of the wax will congeal on the surface, while a minor portion will penetrate and become embedded in the fibers of the facing. This method measures the total weight of wax applied to the board. The amount actually remaining on the surface of the corrugated board can be determined by Test Method D 3521.

5.3 The uniformity of application of wax film across the width of the curtain coater may also be determined using this technique by passing test combinations (blanks) under the curtain at various locations, that is, left side, center, right side.

6. Apparatus

6.1 *Sample Trimming Equipment*—A suitable trimming board or template arrangement equipped with a razor edge knife for even cutting of specimens to the required size with parallel edges.

6.2 *Measuring Rule*, steel-edged, for measuring the size of specimens to within 0.5 mm.

6.3 *Test Paper*—Any good quality typing bond with about 25 % cotton fibers approximately 200 by 300 mm (8½ by 11 in.).

6.4 *Pressure-Sensitive Tape*, to attach the test paper to the corrugated carrier board.

6.5 *Carrier Board*—Production uncoated corrugated board, not less than 450 by 750 mm (18 by 30 in.). Die cut, slotted, and printed box blanks are acceptable.

6.6 *Analytical Balance*, capable of reproducing weighings to the nearest 0.001 g.

7. Sampling and Test Specimens

7.1 Prepare test blanks by folding the 200 by 300-mm (8½ by 11-in.) sheets of the test paper in half in the 300-mm dimension. Assure that all folded edges are approximately

[1] This test method is under the jurisdiction of ASTM Committee D02 on Petroleum Products and Lubricantsand is the direct responsibility of Subcommittee D02.10.0Aon Physical and Chemical Properties.

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[2] *Annual Book of ASTM Standards*, Vol 05.02.