



Designation: D 2529 - 74

Standard Test Method for BURSTING STRENGTH OF PAPERBOARD AND LINERBOARD¹

This Standard is issued under the fixed designation D 2529; 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 reappraisal.

1. Scope

1.1 This method covers a procedure for measuring the bursting strength of paperboard, including linerboard, employing a disk-shaped, molded diaphragm-type instrument.

NOTE 1—For the bursting strength of paper, see ASTM Method D 774, Test for Bursting Strength of Paper.² For the bursting strength of corrugated and solid Fiberboard, see ASTM Method D 2738, Test for Bursting Strength of Corrugated and Solid Fiberboard.³

2. Applicable Documents

2.1 ASTM Standards:

D 585 Sampling and Accepting a Single Lot of Paper, Paperboard, Fiberboard, or Related Product³

D 641 Conditioning Paperboard, Fiberboard, and Paperboard Containers for Testing³

3. Summary of Method

3.1 A specimen of board is clamped between two platens with circular openings in the center. An expansible diaphragm is distended through the lower platen by means of hydraulic pressure until the specimen bursts. The maximum hydraulic pressure when which the specimen ruptures is recorded.

4. Significance

4.1 The bursting strength test of paperboard, including linerboard, is a composite measure of certain properties of the sheet structure, principally tensile strength and elongation. In general, bursting strength is dependent on the type, proportion, preparation, and amount of the fibers present in the sheet and on their formation, internal sizing,

and to some degree, the surface treatment. While bursting strength is an empirical property, this test, in combination with basis weight, serves to define "standard grades" in commerce.

5. Apparatus

5.1 *Bursting Tester*, consisting of the following:

5.1.1 Means for clamping the test specimen between two annular, plane surfaces having fine concentric tool marks to minimize slippage. The upper clamping platen (clamping ring) shall have a diameter of 3.75 in. (95 mm), a thickness of 0.375 in. (9.5 mm), and a circular opening 1.240 ± 0.001 in. (31.50 ± 0.02 mm) in diameter. The lower edge of the opening (side in contact with the board) shall have a 0.025-in. (0.64-mm) radius. The lower clamping surface (diaphragm plate) shall have a thickness of 0.219 ± 0.003 in., (5.56 ± 0.08 mm) with an opening 1.240 ± 0.001 in. (31.50 ± 0.02 mm) in diameter. The upper edge of the opening (in contact with the board) shall have a 0.016-in. (0.4-mm) radius, and the lower edge of the opening (in contact with the rubber diaphragm) a radius of 0.125 in. (3.2 mm) to prevent cutting the rubber when pressure is applied. The upper clamping ring shall be connected to the clamping mechanism through a swivel joint to facilitate an even clamping pressure. The openings in the two clamping

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This method is related to ISO Draft Recommendation DR2759.

³ *Annual Book of ASTM Standards*, Part 20.