

# Standard Methods of Test for

## PLY ADHESION FOR PAPER<sup>1</sup>



ASTM Designation: D 825 - 54 (Reapproved 1964)

This Standard of the American Society for Testing and Materials is issued under the fixed designation D 825; 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.

### 1. Scope

1.1 These methods cover the measurement of the amount of bond or adhesion between the plies of a multi-ply paper, such as that made on a cylinder type of paper machine. Method A requires the use of special test apparatus commercially available. Method B permits the use of the conventional low-capacity tension testing machine.

### 2. Significance

2.1 These methods are useful in determining how well the different plies are bonded and adhere to each other in paper made on a cylinder machine. Poor adhesion would cause the plies to separate and destroy the sheet. The methods are reproducible within  $\pm 10$  per cent.

### 3. Sampling

3.1 The material shall be sampled in

accordance with ASTM Method D 585, Sampling Paper and Paperboard.<sup>2</sup>

### 4. Test Specimens

4.1 Samples shall be conditioned in accordance with the ASTM Method D 658, Conditioning Paper and Paper Products for Testing<sup>2</sup> after which at least five test specimens shall each be cut 3 in. in width by approximately 8 in. in length for Method A, and 2 in. in width by approximately 8 in. in length for Method B. The length direction of the specimens shall be perpendicular to the machine direction of the paper.

#### METHOD A

### 5. Apparatus

5.1 *Testing Machine* (Fig. 1)—The base of the testing machine, *A*, shall consist of a horizontal metal frame about 2 ft in length and 6 in. in width, inside of which two jaw carriages, *B* and *C*, may be made to move horizontally in ball bearings. The two jaws, *D* and *E*, 3 in. in length, are such that they approach and touch each other. By means of a crank, *F*, attached by a reversed direction cord, *G*, to the left jaw carriage, *B*, the left jaw carriage may be slowly pulled away from the right jaw carriage. The

<sup>1</sup> Under the standardization procedure of the Society, these methods are under the jurisdiction of the ASTM Committee D-6 on Paper and Paper Products. A list of members may be found in the ASTM Year Book.

Current edition accepted Sept. 15, 1954. Originally issued 1945. Replaces D 825 - 48.

<sup>2</sup> Appears in this publication.