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LABORATORY BÖBLINGENTitle: TEARING RESISTANCE -- 7 AND 9
POINT CARD STOCK AND PAPER1.0 INTRODUCTION1.1 SCOPE

1.1.1 This document establishes the method for determining tearing resistance of 7 and 9 point card stock and paper.

1.2 REFERENCES1.2.1 Specifications

1.2.1.1 IBM 894502 -- Data Processing Card Stock
7 Point

1.2.1.2 IBM 894507 -- Data Processing Card Stock
9 Point

1.2.1.3 IBM-IRD 7-02-0101 -- Card Stock IBM Informa-
tion Processing Cards

1.2.1.4 IBM-IRD 7-02-0201 -- Card Stock Nine Point
Data Processing

1.2.1.5 IBM-IRD 7-05-0101 through 7-05-0108 -- OCR
Bond Paper and Tag Paper

1.2.2 Standards

1.2.2.1 TAPPI T402 -- Conditioning Paper and Paper-
board for Testing

1.2.2.2 TAPPI T414 -- Internal Tearing Resistance of
Paper

1.3 AUTHORIZATION

1.3.1 This document is authorized by the Manager of Quality Assurance.

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POINT CARD STOCK AND PAPER**1.4** TEST EQUIPMENT/MATERIAL

1.4.1 The Elmendorf Tearing Resistance Tester. (See Figure 1)

1.4.2 The Elmendorf Sample Cutter (Refer to Figure 2).

1.5 CALIBRATION

1.5.1 Place tester on flat surface. Release pendulum allowing full swing before stopping. If pointer falls short or goes beyond zero, make necessary adjustments with leveling screw. Repeat adjustments until pointer stops at zero (Refer to Figure 1).

2.0**2.1** SAMPLE PREPARATION

2.1.1 Identify machine direction and cross direction of the specimen.

2.1.2 Specimens shall first be cut to approximately 7-3/8" x 3-1/4" for easier handling.

2.1.3 Enough specimens shall be cut in each principal direction to allow scale readings to fall between 20 and 60 grams. Refer to the following chart as a guide line to determine number of plies necessary to perform test on various card stock and paper stock.

2.1.4 If specifications call for a minimum between:

40 - 120 use 8 plies x 2 = test results

80 - 240 use 4 plies x 4 = test results

160 - 480 use 2 plies x 8 = test results

320 - 960 use 1 ply x 16 = test results

Normally, bond stock requires 8 ply while card stock and tab stock requires 4 ply.

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- 2.1.5 To acquire machine direction samples for testing, position the 3-1/4" width of card against the template on the Elmerdorfer sample cutter and cut number of specimens required (size of MD specimen is 3-1/4" x 2-1/2").
- 2.1.6 To acquire cross direction specimen, position the 7-3/8" length of samples against the template and cut specimens required (size of CD specimen is 5" x 2-1/2").
- 2.1.7 Environment for conditioning and testing shall be in accordance with TAPPI T402 ($73^{\circ} \pm 3.5^{\circ}\text{F}$ and $50\% \pm 2\%$ R. H. for a minimum of two hours.

3.0 TEST INSTRUCTIONS

NOTE: Refer to applicable specification (reference 1.2.1) for actual value(s) to be tested.

- 3.1 Place test specimen midway in clamps with the upper edge parallel to the top of the jaws.
- 3.2 Check to ensure all sheets touch the bottom of the clamp jaws.
- 3.3 Secure specimen in clamp jaws by means of thumb screws. Apply even pressure on both clamp jaws.
- 3.4 Make the initial slit in specimen by depressing handle of slitting knife as far as possible.
- 3.5 Depress pendulum stop and allow pendulum to swing once in each direction.
- 3.6 Release pendulum stop gently to cease pendulum motion at return swing of pendulum. Do not allow pointer to come in contact with pointer stop.



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3.7 Observe and record reading of pointer on scale.

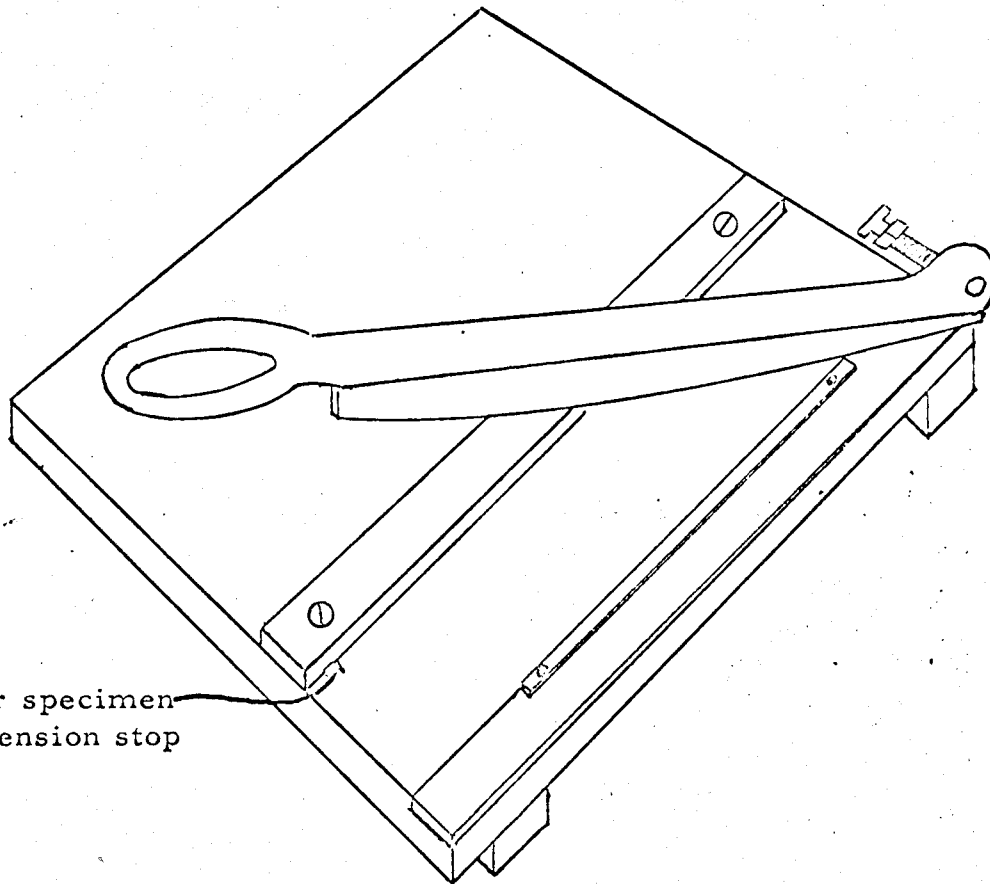
4.0 REPORTING

4.1 Scale reading times the appropriate factor from step 2.1.4 gives the final average.

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Tear specimen
Dimension stop

Elmendorf Tear Tester
Sample Cutter

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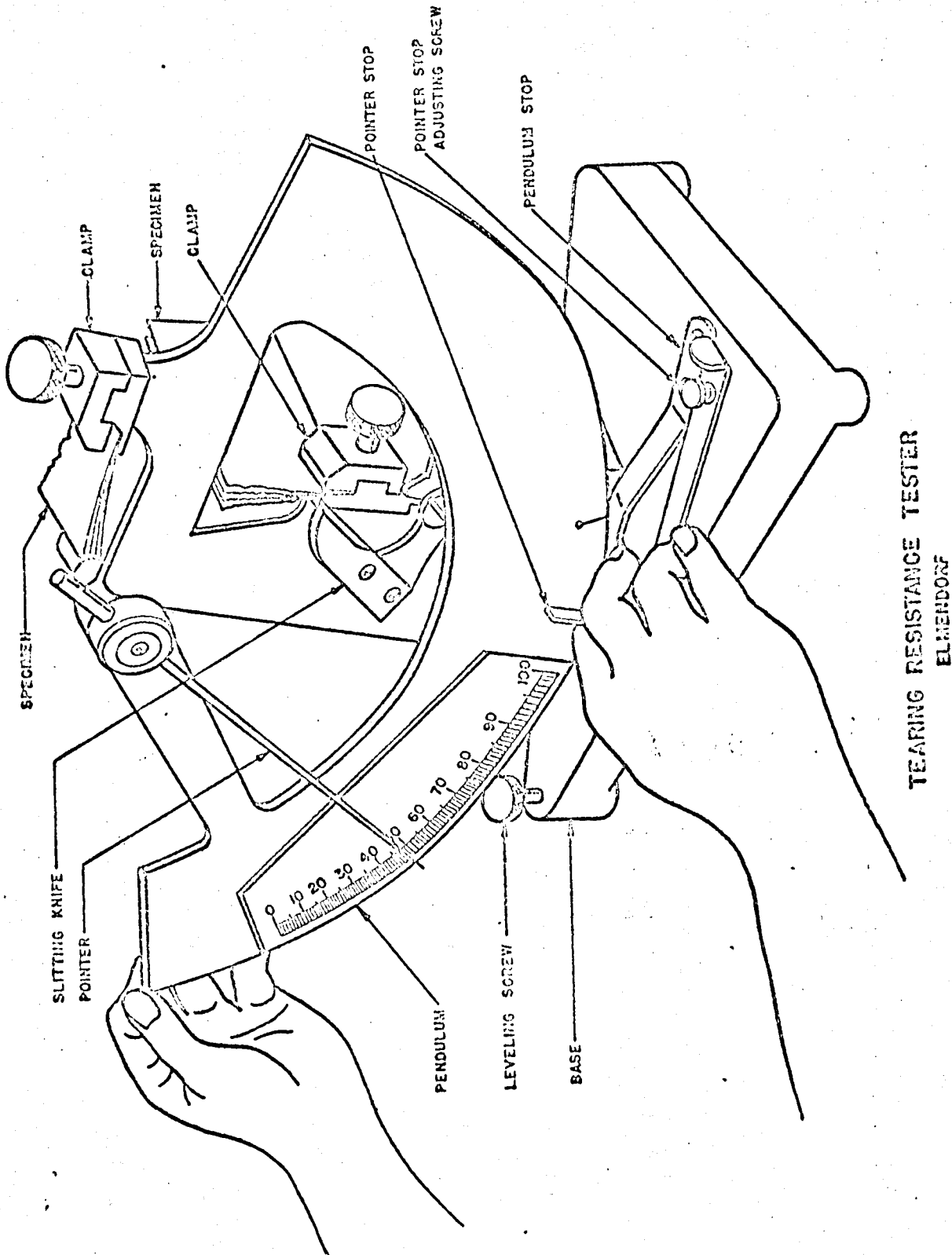


Figure 1