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**STANDARDS ASSOCIATION OF AUSTRALIA**  
**Incorporated by Royal Charter**

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**AMENDMENT No 1**  
**to**  
**AS 1301.P411s—1980**  
**METHODS OF TEST FOR PULP AND PAPER**  
**P411s—Water Absorptiveness of Paper and Paperboard (Cobb Test)**

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**CORRECTION**

*SUMMARY:* This amendment applies to Clause 1.3.

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**Page 1. Clause 1.3, 4th line**

*Delete* the words 'be 200 to 205 mm square with' and *substitute* with the word 'have'.

Under revision see Draft Nov 1987  
AS 1301. 411s - 8d - April 1989

SUPERSEDED BY

**AUSTRALIAN STANDARD**  
*Prepared by the Appita Testing Committee. Endorsed as part of AS 1301 by the Standards Association of Australia—October 1980. Endorsed as suitable for use in New Zealand by the Standards Council of New Zealand.*

Appita P411s—80

Tentative Standard—July 1956  
Standard—November 1959  
Revised—November 1962  
Revised—February 1973  
Revised—October 1980

ENDORSED BY SANZ

# WATER ABSORPTIVENESS OF PAPER AND PAPERBOARD (COBB TEST)

This test (References 6.1, 6.2, 6.3) measures the water absorbed in a specified time through the surface of a flat sheet of paper or paperboard (Note 5.1). It is designed primarily for non-bibulous materials. It is not recommended as a sizing test for writing papers or for measuring the resistance of the surface of a sheet to minute quantities of water such as in writing with a pen.

## 1. APPARATUS

**1.1 Test piece holder** (Fig. 1), comprising a metal ring with a ground lower face which can be clamped by means of a crossbar against a hard rubber mat (Note 5.2) secured to a flat base-plate. The crossbar has a hole at one end and a slot at the other to permit rapid removal and is secured by two wing nuts on a pair of studs.

The metal ring is  $112.8 \pm 0.2$  mm internal diameter (corresponding to an area of  $100 \pm 0.2$  cm<sup>2</sup>—Note 5.3), about 6 mm thick, and 25 to 50 mm high. The upper face must be readily distinguishable from the lower ground face to prevent it from being clamped upside down. This can be achieved by providing a notch or a pouring lip in the upper face.

The flat base-plate is about 150 by 150 mm and the rubber mat is larger than the outside dimensions of the metal ring (Note 5.4), preferably of similar size to the plate.

**1.2 Metal roller** weighing  $10.0 \pm 0.5$  kg with a smooth face  $200 \pm 10$  mm wide and a diameter of 90

$\pm 10$  mm. Stainless steel, brass and chrome-plated brass rollers have been found to be satisfactory. For safety reasons a suitable cradle should be provided to hold the roller when it is not in use.

**1.3 Supply of standard blotters** made of fully bleached chemical pulp, neutral, free from sizing agents, chemical additives, visible contraries and fluorescent materials. The blotters shall be ~~200 to 205 mm square~~ <sup>have</sup> with a grammage of  $250 \pm 25$  g/m<sup>2</sup>, a Klemm absorbency of  $70 \pm 20$  mm (Appendix A1), a water uptake of  $450 \pm 5$  g/m<sup>2</sup> (Appendix A2), and the dimensional changes caused by soaking must not exceed 3 per cent in any direction (Appendix A3). Advice on the source of suitable blotters may be obtained from the Secretary of Appita.

**1.4 Distilled or deionized water**, previously adjusted in temperature to  $20 \pm 1^\circ\text{C}$ .

## 2. PREPARATION OF TEST PIECES

Condition the sample in accordance with Appita P414 in the standard atmosphere prescribed in Appita P415. Cut 10 pieces each 120 to 140 mm

square, free from folds, wrinkles or other blemishes not commonly inherent in the paper.

## 3. PROCEDURE

**3.1** Conduct the test in an atmosphere controlled in accordance with Appita P415.

**3.2** Weigh a test piece to the nearest 0.01 g. Wipe dry the rubber mat of the test piece holder, and place the weighed test piece on it with the surface to be tested uppermost.

Wipe the metal ring perfectly dry and place on the test piece with the ground face against the surface to be tested. Place the crossbar in position and tighten the two wing nuts simultaneously to apply an even clamping force sufficient to prevent any

leakage between the metal ring and the surface of the test piece. Pour  $100 \pm 5$  mL of water quickly into the ring, starting a stopwatch at the time of initial wetting of the test surface. Take care not to drop any water on the surface of the test piece outside the metal ring. At  $15 \pm 2$  seconds before the end of the specified test period (Note 5.5), pour the water quickly from the ring, taking care not to drop any water on the untested surface of the test piece. Loosen the wing nuts, swing the crossbar out of the way, remove the metal ring, taking care not to transfer water to any of the non test area in the process.

SEE AMENDMENT No. 1.

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