

ISO

INTERNATIONAL ORGANIZATION FOR STANDARDIZATION

Review

ISO RECOMMENDATION R 535

DETERMINATION OF THE WATER ABSORPTION
OF PAPER OR BOARD (COBB METHOD)

1st EDITION
January 1967

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Printed in Switzerland

Also issued in French and Russian. Copies to be obtained through the national standards organizations.

BRIEF HISTORY

The ISO Recommendation R 535, *Determination of the Water Absorption of Paper or Board (Cobb Method)*, was drawn up by Technical Committee ISO/TC 6, *Paper, Board and Pulps*, the Secretariat of which is held by the Association Française de Normalisation (AFNOR).

Work on this question by the Technical Committee began in 1960 and led, in 1964, to the adoption of a Draft ISO Recommendation.

In April 1965, this Draft ISO Recommendation (No.791) was circulated to all the ISO Member Bodies for enquiry. It was approved, subject to a few modifications of an editorial nature, by the following Member Bodies:

Argentina	Germany	Portugal
Australia	Greece	Republic of South Africa
Austria	India	Romania
Belgium	Israel	Spain
Brazil	Italy	Sweden
Canada	Japan	Switzerland
Czechoslovakia	Morocco	Turkey
Chile	Netherlands	U.A.R.
Denmark	New Zealand	United Kingdom
Finland	Norway	U.S.S.R.
France	Poland	Yugoslavia

Two Member Bodies opposed the approval of the Draft:

Ireland
U.S.A.

The Draft ISO Recommendation was then submitted by correspondence to the ISO Council, which decided, in January 1967, to accept it as an ISO RECOMMENDATION.

DETERMINATION OF THE WATER ABSORPTION OF PAPER OR BOARD (COBB METHOD)

INTRODUCTION

This test permits the determination of the quantity of water that can be absorbed by a paper or board in a given time.

Water absorption capacity is a function of various characteristics of paper or board such as sizing, porosity, etc. It cannot be used for a precise appreciation of the writing properties.

1. SCOPE

This ISO Recommendation describes a method of determining the water absorption capacity of paper or board under standard conditions.

2. DEFINITION

Water absorption of paper or board (Cobb value). The amount of water in grammes absorbed by 1 m² of paper or board in a specified time under a head of 1 cm of water and at 20 ± 1 °C or at one of the other temperatures specified in ISO Recommendation R 187*.

3. PRINCIPLE

To weigh the test piece immediately before beginning the test and again after exposure to water under the conditions stated in the test method.

4. REAGENTS

Use distilled or de-mineralized water.

The temperature of the water is important and should be maintained at 20 ± 1 °C or at one of the other temperatures specified in ISO Recommendation R 187, at the time of test.

5. APPARATUS

5.1 The Cobb absorbency tester

For determining water absorption capacity, any type of apparatus may be used which permits

- an immediate and uniform contact of the water with the part of the test piece submitted to the test and
- the rapid withdrawal of the test piece without the risk of contact with the water outside the test area.

The test area is 100 cm².

In its simplest form, the apparatus consists of a rigid metal cylinder of 100 ± 0.2 cm² internal cross sectional area (corresponding to a diameter of 112.8 ± 0.2 mm) and about 5 cm high with means for clamping it on the surface of the test piece. The thickness of the cylinder wall is not important but should be such as not to damage the surface of the test piece. The lower edge of the cylinder in contact with the test piece should be flat and machined smooth.

The test piece is placed on a flat base which has been previously covered with a piece of sheet rubber so that a leakproof seal is formed when the cylinder is clamped in the testing position.

* ISO Recommendation R 187, *Method for the Conditioning of Paper and Board Test Samples*.
See also ISO Recommendation R 554, *Standard Conditioning and/or Test Atmospheres – Standard Reference Atmosphere – Specifications*.