AS 1301.411:2019

Australian STANDARD

Methods of test for pulp and paper

Method 411: Water absorptiveness of paper and paperboard (Cobb test) (ISO 535:2014, MOD)

STANDARDS Australia

AS 1301.411:2019

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The following are represented on Committee PK-019:

Appita
Australian Institute of Packaging
Monash University

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Originated as AS P1.P411m—1962.
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Jointly revised and designated as AS/NZS 1301.411s:2004.
Revised and redesignated as AS 1301.411:2019.

Preface

This Standard was prepared by the Australian members of Joint Standards Australia/Standards New Zealand Committee PK-019, Methods of Test for Pulp and Paper, to supersede AS/NZS 1301.411s:2004, *Methods of test for pulp and paper, Part 411s: Water absorptiveness of paper and paperboard (Cobb test)*.

After consultation with stakeholders in both countries, Standards Australia and Standards New Zealand decided to develop this Standard as an Australian Standard rather than an Australian/New Zealand Standard.

The objective of this Standard is to specify a method of determining the water absorptiveness of sized paper and board, including corrugated fibreboard, under standard conditions. It may not be suitable for paper of grammage less than 50 g/m2 or embossed paper. It is not suitable for porous papers such as newsprint or unsized papers such as blotting paper or other papers having a relatively high water absorptiveness for which ISO 8787:1986, *Paper and board — Determination of capillary rise — Klemm method* is more suitable.

This method is not intended to be used for precise evaluation of the writing properties of paper although it does give a general indication of suitability for use with aqueous inks

This Standard is an adoption with national modifications with, and has been reproduced from, ISO 535:2014, *Paper and board — Determination of water absorptiveness — Cobb method.* The modifications are additional requirements and are set out in Appendix ZZ, which has been added at the end of the source text.

Appendix ZZ lists the variations to ISO 535:2014 for the application of this Standard in Australia.

As this document has been reproduced from an International Standard, the following applies:

(a) In the source text “this International Standard” should read “this Australian Standard”.

(b) A full point substitutes for a comma when referring to a decimal marker.

Australian or Australian/New Zealand Standards that are identical adoptions of international normative references may be used interchangeably. Refer to the online catalogue for information on specific Standards.

The terms “normative” and “informative” are used in Standards to define the application of the appendices or annexes to which they apply. A “normative” appendix or annex is an integral part of a Standard, whereas an “informative” appendix or annex is only for information and guidance.

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Foreword

ISO (the International Organization for Standardization) is a worldwide federation of national standards bodies (ISO member bodies). The work of preparing International Standards is normally carried out through ISO technical committees. Each member body interested in a subject for which a technical committee has been established has the right to be represented on that committee. International organizations, governmental and non-governmental, in liaison with ISO, also take part in the work. ISO collaborates closely with the International Electrotechnical Commission (IEC) on all matters of electrotechnical standardization.

The procedures used to develop this document and those intended for its further maintenance are described in the ISO/IEC Directives, Part 1. In particular the different approval criteria needed for the different types of ISO documents should be noted. This document was drafted in accordance with the editorial rules of the ISO/IEC Directives, Part 2 (see www.iso.org/directives).

Attention is drawn to the possibility that some of the elements of this document may be the subject of patent rights. ISO shall not be held responsible for identifying any or all such patent rights. Details of any patent rights identified during the development of the document will be in the Introduction and/or on the ISO list of patent declarations received (see www.iso.org/patents).

Any trade name used in this document is information given for the convenience of users and does not constitute an endorsement.

For an explanation on the meaning of ISO specific terms and expressions related to conformity assessment, as well as information about ISO's adherence to the WTO principles in the Technical Barriers to Trade (TBT) see the following URL: Foreword - Supplementary information

The committee responsible for this document is ISO/TC 6, *Paper, board and pulps*, Subcommittee SC 2, *Test methods and quality specifications for paper and board*.

This third edition cancels and replaces the second edition (ISO 535:1991), which has been technically revised to include precision data.

Introduction

The test described in this International Standard permits the determination of the quantity of water that can be absorbed by the surface of paper or board in a given time. Water absorptiveness is a function of various paper and board characteristics such as sizing, porosity, etc.

Australian Standard®

Methods of test for pulp and paper

Method 411: Water absorptiveness of paper and paperboard (Cobb test) (ISO 535:2014, MOD)

1 Scope

This International Standard specifies a method of determining the water absorptiveness of sized paper and board, including corrugated fibreboard, under standard conditions. It may not be suitable for paper of grammage less than 50 g/m^2 or embossed paper. It is not suitable for porous papers such as newsprint or unsized papers such as blotting paper or other papers having a relatively high water absorptiveness for which ISO 8787[2] is more suitable.

This method is not intended to be used for precise evaluation of the writing properties of paper although it does give a general indication of suitability for use with aqueous inks.

2 Normative references

The following documents, in whole or in part, are normatively referenced in this document and are indispensable for its application. For dated references, only the edition cited applies. For undated references, the latest edition of the referenced document (including any amendments) applies.

ISO 186, *Paper and board — Sampling to determine average quality*

ISO 187, *Paper, board and pulps — Standard atmosphere for conditioning and testing and procedure for monitoring the atmosphere and conditioning of samples*

ISO 5269-1, *Pulps — Preparation of laboratory sheets for physical testing — Part 1: Conventional sheet-former method*

3 Terms and definitions

For the purposes of this document the following terms and definitions apply.

3.1
water absorptiveness (Cobb value)
calculated mass of water absorbed in a specified time by 1 m^2 of paper or board under specified conditions

Note 1 to entry: The test area is normally 100 cm^2.

4 Principle

A test piece is weighed immediately before and immediately after exposure for a specified time of one surface to water, followed by blotting. The result of the increase in mass is expressed in grams per square metre (g/m^2).

5 Reagents and materials

5.1 Water, distilled or deionized. The temperature of the water is important and should be maintained during the test at the temperature used for conditioning and testing.

5.2 Blotting paper, having a grammage of 250 g/m^2 ± 25 g/m^2. Pulp evaluation blotters are acceptable for the purposes of this International Standard (see ISO 5269-1).