AS 1301.450:2019

Australian STANDARD

Methods of test for pulp and paper

Method 450: Compression strength of paper and board — Short span test (ISO 9895:2008, MOD)

STANDARDS Australia

AS 1301.450:2019

This Australian Standard ® was prepared by PK-019, Methods of Test for Pulp and Paper. It was approved on behalf of the Council of Standards Australia on 6 May 2019.

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Appita
Australian Institute of Packaging
Monash University

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Originated in Australia as AS 1301.450rp—1989.
Jointly revised and designated AS/NZS 1301.450rp:2006.
Revised and redesignated as AS 1301.450:2019.

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 1301.450rp:2006, *Methods of test for pulp and paper, Method 450rp: Compression strength of paper and board—Short span 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 for determining the compressive strength in the machine and cross-directions of paper and board using a short-span compressive tester. It is intended for papers and boards used for the manufacture of containers and boxes.

This Standard is an adoption with national modifications, and has been reproduced from, ISO 9895:2008, *Paper and board — Compressive strength — Short-span test*. 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 9895:2008 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.

Contents

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.

International Standards are drafted in accordance with the rules given in the ISO/IEC Directives, Part 2.

The main task of technical committees is to prepare International Standards. Draft International Standards adopted by the technical committees are circulated to the member bodies for voting. Publication as an International Standard requires approval by at least 75 % of the member bodies casting a vote.

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.

ISO 9895 was prepared by Technical Committee ISO/TC 6, *Paper, board and pulps*, Subcommittee SC 2, *Test methods and quality specifications for paper and board*.

This second edition cancels and replaces the first edition (ISO 9895:1989), which has been revised to insert a grammage range in the scope of this International Standard. Compared to the first edition, some editorial changes have also been made.

Introduction

This International Standard has been developed in order to specify the conditions for determining the compressive strength of paper and board used for the manufacture of containers and boxes.

In this International Standard, the same terminology and symbols are used as in general literature concerning materials physics and mechanics.

Australian Standard®

Methods of test for pulp and paper

Method 450: Compression strength of paper and board—Short span test (ISO 9895:2008, MOD)

1 Scope

This International Standard specifies a method for determining the compressive strength in the machine and cross-directions of paper and board using a short-span compressive tester. It is intended for papers and boards used for the manufacture of containers and boxes.

This International Standard is recommended for papers and boards with a grammage from 100 g/m^2 to 400 g/m^2.

NOTE 1 The procedure specified in this International Standard should not be used for the determination of strain at break (see Annex B).

NOTE 2 For the determination of compressive strength of laboratory sheets, see instructions in ISO 5270[1].

2 Normative references

The following referenced documents are indispensable for the application of this document. 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 536, *Paper and board — Determination of grammage*

3 Terms and definitions

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

3.1
compressive strength
maximum compressive force per unit width that a test piece of paper or board can withstand until the onset of failure

Note 1 to entry: The compressive strength is expressed in kilonewtons per metre.

3.2
compressive index
compressive strength divided by the grammage

Note 1 to entry: The compressive index is expressed in kilonewton metres per kilogram.

4 Principle

A test piece, 15 mm wide, is clamped between two clamps, spaced 0,70 mm apart, which are forced towards each other until a compressive failure occurs. The maximum force is measured and the compressive strength is calculated.