AS/NZS 1301.456s:2006
ISO 6587:1992
Reconfirmed 2017

AS/NZS 1301.456s:2006

Australian/New Zealand Standard™

Methods of test for pulp and paper

Method 456s: Determination of conductivity of aqueous extracts of paper, board and pulps

This Joint Australian/New Zealand Standard was prepared by Joint Technical Committee PK-019, Methods of Test for Pulp and Paper. It was approved on behalf of the Council of Standards Australia on 8 December 2005 and on behalf of the Council of Standards New Zealand on 21 December 2005.
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The following are represented on Committee PK-019:

Australian Plantation Products and Paper Industry Council (A3P)
Appita
CSIRO Forestry and Forest Products
Ensis Papro, SCION (New Zealand)
National Association of Forest Industries

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This Standard was issued in draft form for comment as DR 05395.

STANDARDS AUSTRALIA/STANDARDS NEW ZEALAND

RECONFIRMATION

OF
AS/NZS 1301.456s:2006
Methods of test for pulp and paper
Method 456s: Determination of conductivity of aqueous extracts of paper, board and pulps

RECONFIRMATION NOTICE

Technical Committee PK-019 has reviewed the content of this publication and in accordance with Standards Australia procedures for reconfirmation, it has been determined that the publication is still valid and does not require change.

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Approved for reconfirmation in accordance with Standards Australia procedures for reconfirmation on 10 May 2017.

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The following are represented on Technical Committee PK-019:

Appita
Monash University
New Zealand Paper Forum
Scion

NOTES

Australian/New Zealand Standard™

Methods of test for pulp and paper

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PREFACE

This Standard was prepared by the Joint Standards Australia/Standards New Zealand Committee PK-019, Methods of Test for Pulp and Paper to supersede AS 1301.456s—1992. This Standard is identical with and reproduced from ISO 6587:1992, *Paper, board and pulps—Determination of conductivity of aqueous extracts*.

The objective of this Standard is to specify a method for the determination of the conductivity of aqueous extracts of paper, board or pulp, these extracts having been prepared by a hot or a cold method.

The method is applicable to all kinds of paper, board and pulps, except for papers used for electrical purposes. For high purity papers used for electrical purposes, the method used should be that given in IEC 60554-2, which is referred to as IEC 554-2 in the source document..

As this Standard is reproduced from an International Standard, the following applies:

(a) Its number does not appear on each page of text and its identity is shown only on the cover and title page.

(b) In the source text ‘this International Standard’ should read ‘this Australian/New Zealand Standard’.

(c) A full point should be substituted for a comma when referring to a decimal marker.

(d) Substitute ‘L’ for ‘l’ as the unit for litres.

The references to International Standards should be replaced by references to the following Australian/New Zealand Standards.

Reference to International Standard		*Australian/New Zealand Standard*	
ISO		AS	
186	Paper and board—Sampling to determine average quality	—	
287	Paper and board—Determination of moisture content—Oven-drying method	1301 1301.457s	Methods of test for pulp and paper Part 457s: Determination of moisture content in paper, board and pulps
638	Pulps—Determination of dry matter content	—	
7213	Pulps— Sampling for testing	—	
IEC			
554	Specification for cellulosic papers for electrical purposes	—	
554-2	Part 2: Methods of test		

AUSTRALIAN/NEW ZEALAND STANDARD

Methods of test for pulp and paper

Method 456s:
Determination of conductivity of aqueous extracts of paper, board and pulps

1 Scope

This International Standard specifies a method for the determination of the conductivity of aqueous extracts of paper, board or pulp, these extracts having been prepared by a hot or a cold method.

The method is applicable to all kinds of paper, board and pulps, except for papers used for electrical purposes. For high purity papers used for electrical purposes, the method used should be that given in IEC 554-2.

2 Normative references

The following standards contain provisions which, through reference in this text, constitute provisions of this International Standard. At the time of publication, the editions indicated were valid. All standards are subject to revision, and parties to agreements based on this International Standard are encouraged to investigate the possibility of applying the most recent editions of the standards indicated below. Members of IEC and ISO maintain registers of currently valid International Standards.

ISO 186:1985, *Paper and board — Sampling to determine average quality.*

ISO 287:1985, *Paper and board — Determination of moisture content — Oven-drying method.*

ISO 638:1978, *Pulps — Determination of dry matter content.*

ISO 7213:1981, *Pulps — Sampling for testing.*

IEC 554-2:1977, *Specification for cellulosic papers for electrical purposes — Part 2: Methods of test.*

3 Principle

A 2 g sample is extracted for 1 h with 100 ml of boiling or cold, distilled or deionized water. Measurement of the conductivity of the extract at 25 °C by means of a conductivity meter or resistance bridge, using alternating current.

4 Reagents

4.1 **Distilled or deionized water**.

Distilled or deionized water shall be used throughout the test. The conductivity of the water shall not exceed 0,2 mS/m after boiling and cooling as specified in 7.2.2 (see note 2).

NOTES

1 Usually, both distillation and deionization are required. Unless great care is exercised when distilling, and with the materials employed in the condenser and subsequent surfaces with which the condensed vapour would possibly come in contact, the distillate can fail to reach the required level of conductivity.

2 When it is not possible to obtain water of the specified purity, water with a higher conductivity may be used, but the conductivity of the water used should be stated in the test report.

4.2 **Potassium chloride**, standard solutions.

Use potassium chloride (KCl) of recognized analytical reagent grade, powdered, or fine crystals. Dry for 2 h at 105 °C $\pm$ 2 °C and immediately prepare the following two solutions.

4.2.1 **0,01 mol/l solution**.

Dissolve 0,745 5 g of the potassium chloride in water having a conductivity not greater than 0,2 mS/m, and dilute to 1 000 ml.

4.2.2 **0,001 mol/l solution**.

Dilute 100 ml of the 0,01 mol/l solution (4.2.1) to 1 000 ml.

Store the solutions in waxed glass bottles with ground glass stoppers. The conductivity values, in