AS/NZS 1301.418s:2015

Australian/New Zealand Standard™

Methods of test for pulp and paper

Part 418s: Ash content of wood, pulp, paper and board

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 30 March 2015 and on behalf of the Council of Standards New Zealand on 27 March 2015.
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The following are represented on Committee PK-019:

Appita
Australian Forest Products Association
Australian Institute of Packaging
New Zealand Paper Forum
Scion

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This Standard was issued in draft form for comment as DR AS/NZS 1301.418s:2014.

Australian/New Zealand Standard™

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Part 418s: Ash content of wood, pulp, paper and board

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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/NZS 1301.418s:1994.

This Standard specifies two methods for determining the ash content of wood, pulp, paper or board. The purpose of the test dictates which method is used.

While revising this Standard it was discovered that ISO 1762:2001 contained equivalent material, enabling this revised method to incorporate the essential requirements of both ISO 1762:2001, *Paper, board and pulps—Determination of residue (ash) on ignition at 525°C* and ISO 2144:1997, *Paper, board and pulps—Determination of residue (ash) on ignition at 900°C*.

The term ‘informative’ has been used in this Standard to define the application of the appendix to which it applies. An ‘informative’ appendix is only for information and guidance.

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1 SCOPE

This Standard specifies procedures for the determination of ash content of all types of wood, pulp, paper and board.

This Standard embodies two procedures—one specifies ignition at 900°C and the other at 525°C. The former temperature is applicable to all types of wood, pulp, paper and board. The latter temperature is applicable to all types of pulp, paper and board.

The ash may consist of—

(a) mineral matter in the wood or pulp and various residues from chemicals used in manufacture of the pulp;

(b) metallic matter from piping and machinery; and

(c) fillers, pigments, coatings or residues from various additives in the paper or board.

The ash content, of wood pulp, paper and board can be thought of as the residue after ignition or the total inorganic matter. The procedure for ignition, however, needs to be carefully defined. At 900°C any calcium carbonate, a common component of paper and board, will be converted to calcium oxide. Therefore, the ash content, determined at this temperature, might not be a measure of the original mineral content. At 525°C there is minimal decomposition of calcium carbonate, and therefore the ash content at this temperature may be used as a measure of original mineral content, providing the sample does not contain other minerals which decompose at or below this temperature. For example, magnesium carbonate, which can be added to paper to provide particular properties, may be at least partly decomposed to magnesium oxide at 525°C.

2 REFERENCED DOCUMENTS

The following documents are referred to in this Standard:

AS
1301 Methods of test for pulp and paper
1301.417s Method 417s: Sampling paper, board and pulp for testing

AS/NZS
1301 Methods of test for pulp and paper
1301.002s Method 002s: Preparation of wood samples for chemical analysis
1301.457s Method 457s: Determination of moisture content in paper, board and pulps

ISO
1762 Paper, board and pulps—Determination of residue (ash) on ignition at 525°C

2144 Paper, board and pulps—Determination of residue (ash) on ignition at 900°C