AS/NZS 1301.209:2017
ISO 5264-2:2011

AS/NZS 1301.209:2017

Australian/New Zealand Standard™

Methods of test for pulp and paper

Method 209: Laboratory processing of pulp—PFI mill method

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Australian/New Zealand Standard™

Methods of test for pulp and paper

Method 209: Laboratory processing of pulp—PFI mill method

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PREFACE

This Standard was prepared by Joint Technical Committee PK-019, Methods of Test for Pulp and Paper, to supersede AS/NZS 1301.209s:2003, *Methods of test for pulp and paper* Method 209s: *Laboratory processing of pulp—PFI mill method*.

This Standard is part of the AS/NZS 1301 series, *Methods of test for pulp and paper*.

The objective of this Standard is to set out a procedure for the beating of pulp using a PFI mill. Information on care and maintenance of the mill is also provided.

This Standard is an adoption with national modifications and has been reproduced from ISO 5264-2:2011, *Pulps—Laboratory beating*—Part 2: *PFI mill method*, and has been varied as indicated to take account of Australian/New Zealand conditions. The modifications are specified in Appendix ZZ (normative). Informative Appendix ZA has been added to provide additional information on the conditioning of the surfaces of the beating elements.

A similar Standard that is also used in place of this Standard is TAPPI T248, *Laboratory beating of pulp (PFI mill method)*.

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

(A) In the source text ‘this part of ISO 5264’ should read ‘this Australian/New Zealand 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’ have been used in this Standard to define the application of the annex or appendix to which they apply. A ‘normative’ annex or appendix is an integral part of a Standard, whereas an ‘informative’ annex or appendix is for information and guidance only.

CONTENTS

INTRODUCTION

In view of the widespread use of the following beaters:

— Valley beater,

— PFI mill,

it has been decided to provide guidance on the use of these beaters in order to achieve consistency of results with each instrument. Although both beaters show similar trends in the effect on pulp properties, there is no correlation between the actual results obtained with the different types of beaters.

ISO 5264-1 specifies a method of laboratory beating using a Valley beater.

Beating is a preliminary step in the preparation of laboratory sheets for testing the physical properties of pulps. In the PFI mill, each beating is performed separately, i.e. a new test portion of unbeaten pulp is taken for each beating.

NOTE A complete test of physical properties normally comprises unbeaten pulp and several beatings of the same pulp, where the beating is carried out for different numbers of roll revolutions. The number of roll revolutions depends on the type of pulp and the beating load. After beating, the drainability is measured according to ISO 5267-1 or ISO 5267-2, and laboratory sheets are prepared according to ISO 5269-1[1], ISO 5269-2[2] or ISO 5269-3[3]. Physical testing of the laboratory sheets is performed according to ISO 5270[4].

AUSTRALIAN/NEW ZEALAND STANDARD

Methods of test for pulp and paper

Method 209
Laboratory processing of pulp—PFI mill method

1 Scope

This part of ISO 5264 specifies a method for the laboratory beating of pulp using a PFI mill. The description is limited to the sampling, preparation and beating of the pulp and the beating equipment.

NOTE Beating is a preliminary step in testing the physical properties of pulp.

In principle, this method is applicable to all kinds of chemical and semi-chemical pulps. In practice, the method might not give satisfactory results with certain pulps having extremely long fibres.

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 638, *Paper, board and pulps — Determination of dry matter content — Oven-drying method*

ISO 4119, *Pulps — Determination of stock concentration*

ISO 5263-1, *Pulps — Laboratory wet disintegration — Part 1: Disintegration of chemical pulps*

ISO 5267-1, *Pulps — Determination of drainability — Part 1: Schopper-Riegler method*

ISO 5267-2, *Pulps — Determination of drainability — Part 2: “Canadian Standard” freeness method*

ISO 7213, *Pulps — Sampling for testing*

ISO 14487, *Pulps — Standard water for physical testing*

3 Principle

A measured amount of pulp at a specified stock concentration is beaten between a roll with bars and a smooth beater housing, both rotating in the same direction, but at different peripheral speeds.

4 Apparatus and auxiliary materials

Use ordinary laboratory equipment and the following.

4.1 PFI mill, as specified in Annex A.

See Annexes B and C.