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**Pulps — Laboratory beating —**  
**Part 2:**  
**PFI mill method**

*Pâtes — Raffinage de laboratoire —*  
*Partie 2: Méthode au moulin PFI*



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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.

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 5264-2 was prepared by Technical Committee ISO/TC 6, *Paper, board and pulps*, Subcommittee SC 5, *Test methods and quality specifications for pulps*.

This third edition cancels and replaces the second edition (ISO 5264-2:2002), which has been technically revised.

With regard to ISO 5264-2:2002, the following changes have been made:

- a) the normative references have been updated;
- b) a more precise description of the PFI mill has been given in Annex A;
- c) a new reference pulp for internal control beating has been added to Annex C;
- d) editorial updating.

ISO 5264 consists of the following parts, under the general title *Pulps — Laboratory beating*:

- *Part 1: Valley beater method*
- *Part 2: PFI mill method*

## 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<sup>[1]</sup>, ISO 5269-2<sup>[2]</sup> or ISO 5269-3<sup>[3]</sup>. Physical testing of the laboratory sheets is performed according to ISO 5270<sup>[4]</sup>.

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# Pulps — Laboratory beating —

## Part 2: 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.