International Standard 5264/1

INTERNATIONAL ORGANIZATION FOR STANDARDIZATION•МЕЖДУНАРОДНАЯ ОРГАНИЗАЦИЯ ПО СТАНДАРТИЗАЦИИ•ORGANISATION INTERNATIONALE DE NORMALISATION

Pulps — Laboratory beating — Part 1 : Valley beater method

Pâtes — Raffinage de laboratoire — Partie 1 : Méthode à pile Valley

First edition — 1979-07-15

UDC 676.1 : 542.67 **Ref. No. ISO 5264/1-1979 (E)**

Descriptors : paper pulps, test specimen conditioning, refining, laboratory equipment.

Foreword

ISO (the International Organization for Standardization) is a worldwide federation of national standards institutes (ISO member bodies). The work of developing International Standards is carried out through ISO technical committees. Every member body interested in a subject for which a technical committee has been set up 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.

Draft International Standards adopted by the technical committees are circulated to the member bodies for approval before their acceptance as International Standards by the ISO Council.

International Standard ISO 5264/1 was developed by Technical Committee ISO/TC 6, *Paper, board and pulps*, and was circulated to the member bodies in December 1977.

It has been approved by the member bodies of the following countries :

Belgium	Iran	South Africa, Rep. of
Canada	Ireland	Spain
Chile	Italy	Sweden
Czechoslovakia	Kenya	Switzerland
Finland	Mexico	Turkey
France	Netherlands	United Kingdom
Germany, F. R.	Norway	USA
Hungary	Poland	USSR
India	Romania	

No member body expressed disapproval of the document.

Printed in Switzerland

Pulps — Laboratory beating — Part 1 : Valley beater method

0 Introduction

It has been agreed that the ultimate aim of standardization of laboratory beating should be to develop one test method which is internationally acceptable and which, if possible, allows the energy consumption during beating to be measured. For practical reasons it has not proved possible to achieve this at present. Therefore, as an interim measure, in view of the widespread use of the following methods

— Valley beater,

— PFI mill,

— Jokro mill,

it has been decided to provide agreed guidance on the use of these equipments in order to achieve consistency of results with each instrument. While all three methods will show a similar trend in respect of the pulp tested, the actual results cannot be correlated between different types of beater[1]. The position will be kept under review, and the methods will be replaced by a single method as soon as practicable.

1 Scope

This International Standard specifies a method, using a Valley beater, for the laboratory beating of pulp. The description is limited to the furnishing and beating of the stock, the withdrawal and distribution of samples, and the beating equipment.

The beating is a preliminary step in testing the physical properties of pulp.

Part 2 specifies a method of laboratory beating using a PFI mill and Part 3 a method using a Jokro mill.

2 Field of application

In principle, this method is applicable to all kinds of pulp.

NOTE — In practice, the method may not give satisfactory results with certain extremely long-fibred pulps, such as cotton linters.

3 References

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

ISO 4119, *Pulps — Determination of stock concentration (Rapid method).*

ISO 5263, *Pulps — Laboratory wet disintegration.*

4 Principle

A measured amount of pulp of specified stock concentration is beaten between the bars of the roll and the bedplate of a Valley beater. Samples of beaten pulp are taken at intervals during the beating.

5 Apparatus and auxiliary materials

Ordinary laboratory equipment and

5.1 Valley beater, as described in annex A.

5.2 Timer.

5.3 Balance, capable of weighing the sample to an error of less than 1 g.

5.4 Distilled water, or **deionized water,** or water of similar quality.

NOTE — Distilled water, or water of similar quality, is particularly recommended with a view to obviating any difficulties that might arise from the use of different qualities of water by the interested parties.

6 Preparation of sample

If the pulp is wet or air-dry, weigh out a sample for dry matter determination in accordance with ISO 638. If the pulp is in slush form, determine the dry matter content in accordance with ISO 4119.

1) Should one of the three methods listed become the future standard method, that one of the methods should be chosen which works in the most economical way and yields the highest reproducibility of results obtained in different laboratories.

At present, some countries are of the opinion that the PFI mill described in ISO 5264/2 meets these requirements best of all.