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

*Papiers, cartons et pâtes — Détermination de la teneur en matières  
sèches — Méthode par séchage à l'étuve*



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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 638 was prepared by Technical Committee ISO/TC 6, *Paper, board and pulps*.

This second edition cancels and replaces the first edition (ISO 638:1978), which has been technically revised. The scope has been changed to cover also paper and board instead of only pulps.

## Introduction

Determination of dry matter content and moisture content are carried out for different purposes.

This International Standard should be used when the dry matter content is needed to calculate the results for chemical analysis or physical testing. An example of this is where the results of a chemical analysis for cadmium or manganese are required on the basis of the oven-dry mass of the sample.

ISO 287<sup>[1]</sup> should be used for the purpose of determining the average moisture content and the variation in moisture content (maximum and minimum values) of a lot. In the converting of paper and board, moisture content is important as it can have an effect on processes such as printing and copying. Moisture content can have an effect on curl and dimensional stability.

ISO 4119<sup>[2]</sup> should be used in laboratory procedures or is referred to in other International Standards in which the concentration of an aqueous pulp suspension requires determination.

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

## 1 Scope

This International Standard specifies an oven-drying method for the determination of the dry matter in paper, board and pulp.

The procedure is applicable to paper, board and pulp which does not contain any appreciable quantities of materials other than water that are volatile at the temperature of  $105\text{ °C} \pm 2\text{ °C}$ . It is used, for example, in the case of pulp, paper and board samples taken for chemical and physical tests in the laboratory, when a concurrent determination of dry matter content is required.

This method is not applicable to the determination of the dry matter content of slush pulp or to the determination of the saleable mass of pulp lots.

NOTE ISO 287<sup>[1]</sup> specifies the determination of moisture of a lot of paper and board; ISO 4119<sup>[3]</sup> specifies the determination of stock concentration of pulps; ISO 801 (all parts)<sup>[2]</sup> specifies the determination of saleable mass in lots.

## 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 186, *Paper and board — Sampling to determine average quality*

ISO 7213, *Pulps — Sampling for testing*

## 3 Terms and definitions

For the purposes of this document, the following terms and definitions apply.

### 3.1

#### **dry matter content**

⟨paper, board and pulps⟩ ratio of the mass of a test piece, after drying to constant mass at a temperature of  $105\text{ °C} \pm 2\text{ °C}$  under specified conditions, to its mass before drying

NOTE The dry matter content is usually expressed as a percentage mass fraction.

### 3.2

#### **constant mass**

⟨paper, board and pulps⟩ mass reached by a test piece after drying at a temperature of  $105\text{ °C} \pm 2\text{ °C}$  until the difference between two successive dryings and weighings, separated in time by at least half the initial drying period, does not exceed 0,1 % mass fraction of the test piece before drying