

Paper and board - Determination of moisture content of a lot - Oven-drying method (ISO 287:2017)

## EESTI STANDARDI EESSÕNA

## NATIONAL FOREWORD

See Eesti standard EVS-EN ISO 287:2017 sisaldab Euroopa standardi EN ISO 287:2017 ingliskeelset teksti.	This Estonian standard EVS-EN ISO 287:2017 consists of the English text of the European standard EN ISO 287:2017.
Standard on jõustunud sellekohase teate avaldamisega EVS Teatajas	This standard has been endorsed with a notification published in the official bulletin of the Estonian Centre for Standardisation.
Euroopa standardimisorganisatsioonid on teinud Euroopa standardi rahvuslikele liikmetele kättesaadavaks 13.12.2017.	Date of Availability of the European standard is 13.12.2017.
Standard on kättesaadav Eesti Standardikeskusest.	The standard is available from the Estonian Centre for Standardisation.

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English Version

Paper and board - Determination of moisture content of a  
lot - Oven-drying method (ISO 287:2017)

Papier et carton - Détermination de la teneur en  
humidité d'un lot - Méthode par séchage à l'étuve (ISO  
287:2017)

Papier und Pappe - Bestimmung des Feuchtegehaltes  
eines Lieferpostens - Wärmeschrankverfahren (ISO  
287:2017)

This European Standard was approved by CEN on 8 December 2017.

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This European Standard exists in three official versions (English, French, German). A version in any other language made by translation under the responsibility of a CEN member into its own language and notified to the CEN-CENELEC Management Centre has the same status as the official versions.

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EUROPEAN COMMITTEE FOR STANDARDIZATION  
COMITÉ EUROPÉEN DE NORMALISATION  
EUROPÄISCHES KOMITEE FÜR NORMUNG

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## European foreword

This document (EN ISO 287:2017) has been prepared by Technical Committee ISO/TC 6 “Paper, board and pulps” in collaboration with Technical Committee CEN/TC 172 “Pulp, paper and board” the secretariat of which is held by DIN.

This European Standard shall be given the status of a national standard, either by publication of an identical text or by endorsement, at the latest by June 2018 and conflicting national standards shall be withdrawn at the latest by June 2018.

Attention is drawn to the possibility that some of the elements of this document may be the subject of patent rights. CEN shall not be held responsible for identifying any or all such patent rights.

This document supersedes EN ISO 287:2009.

According to the CEN-CENELEC Internal Regulations, the national standards organizations of the following countries are bound to implement this European Standard: Austria, Belgium, Bulgaria, Croatia, Cyprus, Czech Republic, Denmark, Estonia, Finland, Former Yugoslav Republic of Macedonia, France, Germany, Greece, Hungary, Iceland, Ireland, Italy, Latvia, Lithuania, Luxembourg, Malta, Netherlands, Norway, Poland, Portugal, Romania, Serbia, Slovakia, Slovenia, Spain, Sweden, Switzerland, Turkey and the United Kingdom.

### Endorsement notice

The text of ISO 287:2017 has been approved by CEN as EN ISO 287:2017 without any modification.

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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.

The procedures used to develop this document and those intended for its further maintenance are described in the ISO/IEC Directives, Part 1. In particular the different approval criteria needed for the different types of ISO documents should be noted. This document was drafted in accordance with the editorial rules of the ISO/IEC Directives, Part 2 (see [www.iso.org/directives](http://www.iso.org/directives)).

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Any trade name used in this document is information given for the convenience of users and does not constitute an endorsement.

For an explanation on the voluntary nature of standards, the meaning of ISO specific terms and expressions related to conformity assessment, as well as information about ISO's adherence to the World Trade Organization (WTO) principles in the Technical Barriers to Trade (TBT), see the following URL: [www.iso.org/iso/foreword.html](http://www.iso.org/iso/foreword.html).

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

This fourth edition cancels and replaces the third edition (ISO 287:2009), which has been technically revised.

The main changes compared to the previous edition are as follows:

- precision data (previously in [Clause 11](#)) have been moved to [Annex A](#);
- editorial changes have been made for clarification and removal of inconsistencies.

## Introduction

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

ISO 638 is used in cases where the dry matter content is needed to calculate the result of chemical analysis or physical testing and when the determination of the moisture content of a sample, rather than a lot, is required. As an example, the dry matter content of the sample is needed to express the content of elements, such as cadmium and manganese, in relation to the oven-dry mass of the sample.

This document is 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 paper and board trade, the moisture content is important since it influences converting processes, such as printing and copying. The moisture content also has an influence on curl and dimensional stability.

# Paper and board — Determination of moisture content of a lot — Oven-drying method

## 1 Scope

This document specifies an oven-drying method for the determination of the moisture content of a lot of paper and board. The procedure in [Clause 8](#), describing how the test pieces are drawn from the lot, is performed at the time of sampling.

This document is applicable to every type of lot of paper and board, including corrugated board and solid board, provided that the paper or board does not contain any substances, other than water, that are volatile at the temperature specified in this document.

NOTE For determination of the dry matter content of a sample of paper or board, e.g. for calculation of the dry mass of the sample, ISO 638<sup>[1]</sup> can be used.

## 2 Normative references

The following documents are referred to in the text in such a way that some or all of their content constitutes requirements 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*

## 3 Terms and definitions

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

ISO and IEC maintain terminological databases for use in standardization at the following addresses:

- IEC Electropedia: available at <http://www.electropedia.org/>
- ISO Online browsing platform: available at <http://www.iso.org/obp>

### 3.1 moisture content

$w_{\text{H}_2\text{O}}$

content of water in paper or board, i.e. the ratio of the loss of mass of a test piece, when dried under specified conditions, to its mass at the time of sampling

Note 1 to entry: The moisture content is normally expressed as a percentage mass fraction.

### 3.2 constant mass

mass reached by a test piece of paper or board after drying at a temperature of  $(105 \pm 2)^\circ\text{C}$  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 % of the initial mass of the test piece at the time of sampling

## 4 Principle

At the time of sampling, test pieces taken from a lot are weighed and the test pieces are weighed again after drying to constant mass. From the mass of a test piece before and after drying, the moisture content is calculated.