SLOVENSKI STANDARD
SIST EN 20187:2000

01-april-2000

Papir, karton, lepenka in vlaknine - Standardna atmosfera za kondicioniranje in preskušanje ter postopek za nadzor atmosfere in kondicioniranje vzorcev (ISO 187:1990)

Paper, board and pulps - Standard atmosphere for conditioning and testing and procedure for monitoring the atmosphere and conditioning of samples (ISO 187:1990)

Papier, Pappe und Zellstoff - Normalklima für die Vorbehandlung und Prüfung und Verfahren zur Überwachung des Klimas und der Probenvorbehandlung (ISO 187:1990)

Papier, carton et pâtes - Atmosphere normale de conditionnement et d'essai et méthode de surveillance de l'atmosphere et de conditionnement des échantillons (ISO 187:1990)

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85.040	Vlaknine	Pulps
85.060	Papir, karton in lepenka	Paper and board

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English version

Paper, board and pulps - Standard atmosphere for conditioning and testing and procedure for monitoring the atmosphere and conditioning of samples (ISO 187:1990)

Papier, carton et pâtes - Atmosphère normale de conditionnement et d'essai et méthode de surveillance de l'atmosphère et de conditionnement des échantillons (ISO 187:1990)

Papier, Pappe und Zellstoff - Normalklima für die Vorbehandlung und Prüfung und Verfahren zur Überwachung des Klimas und der Probenvorbehandlung (ISO 187:1990)

This European Standard was approved by CEN on 1993-09-06. CEN members are bound to comply with the CEN/CENELEC Internal Regulations which stipulate the conditions for giving this European Standard the status of a national standard without any alteration.

Up-to-date lists and bibliographical references concerning such national standards may be obtained on application to the Central Secretariat or to any CEN member.

The European Standards exist 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 Central Secretariat has the same status as the official versions.

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CEN

European Committee for Standardization
Comité Européen de Normalisation
Europäisches Komitee für Normung

Central Secretariat: rue de Stassart,36 B-1050 Brussels

Foreword

This European Standard has been taken over by CEN/TC 172 "Pulp, paper and board" from the work of ISO/TC 6 "Paper, board and pulps" of the International Organization for Standardization (ISO).

The document was submitted to formal vote and adopted by CEN as a European Standard without any modification.

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 march 1994, and conflicting national standards shall be withdrawn at the latest by march 1994.

According to the CEN/CENELEC Internal Regulations, the following countries are bound to implement this European Standard: Austria, Belgium, Denmark, Finland, France, Germany, Greece, Iceland, Ireland, Italy, Luxembourg, Netherlands, Norway, Portugal, Spain, Sweden, Switzerland, United Kingdom.

Endorsement notice

The text of the International Standard ISO 187:1990 was approved by CEN as a European Standard without any modification.

INTERNATIONAL STANDARD

ISO 187

Second edition
1990-12-01

Paper, board and pulps — Standard atmosphere for conditioning and testing and procedure for monitoring the atmosphere and conditioning of samples

Papier, carton et pâtes — Atmosphère normale de conditionnement et d'essai et méthode de surveillance de l'atmosphère et de conditionnement des échantillons

Reference number
ISO 187:1990(E)

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.

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.

International Standard ISO 187 was prepared by Technical Committee ISO/TC 6, *Paper, board and pulps*.

This second edition cancels and replaces the first edition (ISO 187: 1977), which has been technically revised.

Annex A forms an integral part of this International Standard. Annexes B and C are for information only.

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Introduction

The physical properties of paper are affected materially by its moisture content which, in turn, is dependent on the humidity of the surrounding atmosphere. In order that tests may be made on paper in a defined physical state, it is brought into equilibrium with an atmosphere of standardized temperature and relative humidity, and tested in that atmosphere.

The moisture content of a given paper in equilibrium with a given atmosphere varies according to whether the equilibrium is reached by sorption or by desorption of moisture. This hysteresis influences those physical properties that change with moisture content. Unless otherwise specified the equilibrium condition should be attained by the sorptive process.

For a number of years three standard test atmospheres have been in common use:

20 °C/65 % r.h.; 23 °C/50 % r.h. and 27 °C/65 % r.h.

At the time of publication of this revision of ISO 187: 1977 the atmosphere 23 °C/50 % r.h. is used almost exclusively in most countries and after 1 January 1993 is to be considered the ISO standard test atmosphere for testing of pulp, paper and board. However, the 23 °C/50 % r.h. atmosphere is difficult to attain in some of the countries located in tropical zones, and in such countries the 27 °C/65 % r.h. atmosphere is permitted. Until 1 January 1993 the 20 °C/65 % r.h. atmosphere is acceptable as a standard test atmosphere.

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Paper, board and pulps — Standard atmosphere for conditioning and testing and procedure for monitoring the atmosphere and conditioning of samples

1 Scope

This International Standard specifies the standard atmosphere for conditioning, and for testing pulp, paper and board, and also the procedures for measuring the temperature and relative humidity.

For the conditioning of laboratory prepared handsheets in accordance with ISO 5269-1, the standard atmosphere is that defined in this International Standard but the procedure is different[1].

2 Normative references

The following standards contain provisions which, through reference in this text, constitute provisions of this International Standard. At the time of publication, the editions indicated were valid. All standards are subject to revision, and parties to agreements based on this International Standard are encouraged to investigate the possibility of applying the most recent editions of the standards indicated below. Members of IEC and ISO maintain registers of currently valid International Standards.

ISO 554:1976, *Standard atmospheres for conditioning and/or testing — Specifications.*

ISO 4677-1:1985, *Atmospheres for conditioning and testing — Determination of relative humidity — Part 1: Aspirated psychrometer method.*

ISO 5269-1:1979, *Pulps — Preparation of laboratory sheets for physical testing — Part 1: Conventional sheet-former method.*

ISO 5269-2:1980, *Pulps — Preparation of laboratory sheets for physical testing — Part 2: Rapid-Koethen method.*

3 Definitions

For the purposes of this International Standard, the following definitions apply.

3.1 relative humidity (r.h.): The ratio, expressed as a percentage, of the actual water vapour content of the air to the water vapour content of air saturated with water vapour at the same temperature and pressure.

3.2 conditioning: A process of establishing a reproducible moisture content equilibrium between the sample and an atmosphere of specified temperature and relative humidity. This equilibrium is considered to be attained when the results of two consecutive weighings of the sample, carried out at an interval of time of not less than 1 h, do not differ by more than a specified amount.

NOTE 1 The interval between weighings is dependent on the grammage of the sample and the degree of agreement expected between successive weighings should take account of the known cycling characteristics of the particular test room. The establishment of moisture content equilibrium is accepted as ensuring that the paper is in a stable physical state, but in special circumstances, conditioning may have to be prolonged until the desired physical equilibrium is attained. Such circumstances are not within the scope of this International Standard.

4 Principle

Exposure of the sample to a specific conditioning atmosphere in such a manner that a reproducible state of moisture content equilibrium is reached between the sample and this atmosphere.

1) ISO 5269-1 requires pulp handsheets to be conditioned by desorption of moisture, whilst ISO 5269-2 requires drying followed by conditioning by sorption of moisture.