



# SLOVENSKI STANDARD

## SIST EN 1230-1:2010

01-februar-2010

Nadomešča:

SIST EN 1230-1:2002

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**Papir, karton in lepenka, namenjeni stiku z živili - Senzorična analiza - 1. del: Vonj**

Paper and board intended to come into contact with foodstuffs - Sensory analysis - Part 1: Odour

Papier und Pappe vorgesehen für den Kontakt mit Lebensmitteln - Sensorische Analyse - Teil 1: Geruch

**ITeH STANDARD PREVIEW**  
**(standards.iteh.ai)**

Papier et cartons destinés à entrer avec les denrées alimentaires - Analyse sensorielle - Partie 1 : Odeur

[SIST EN 1230-1:2010](https://standards.iteh.ai/catalog/standards/sist/26c9ae0d-3f91-4184-802a-7b67424274b5/sist-en-1230-1-2010)

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**Ta slovenski standard je istoveten z: EN 1230-1:2009**

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**ICS:**

67.250      Materiali in predmeti v stiku z živilami      Materials and articles in contact with foodstuffs

85.060      Papir, karton in lepenka      Paper and board

**SIST EN 1230-1:2010**

**en,fr,de**

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EUROPEAN STANDARD

EN 1230-1

NORME EUROPÉENNE

EUROPÄISCHE NORM

November 2009

ICS 55.040; 67.250; 85.060

Supersedes EN 1230-1:2001

English Version

## Paper and board intended to come into contact with foodstuffs - Sensory analysis - Part 1: Odour

Papier et cartons destinés à entrer avec les denrées  
alimentaires - Analyse sensorielle - Partie 1 : Odeur

Papier und Pappe vorgesehen für den Kontakt mit  
Lebensmitteln - Sensorische Analyse - Teil 1: Geruch

This European Standard was approved by CEN on 5 October 2009.

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 CEN Management Centre or to any CEN member.

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 Management Centre has the same status as the official versions.

CEN members are the national standards bodies of Austria, Belgium, Bulgaria, Cyprus, Czech Republic, Denmark, Estonia, Finland, France, Germany, Greece, Hungary, Iceland, Ireland, Italy, Latvia, Lithuania, Luxembourg, Malta, Netherlands, Norway, Poland, Portugal, Romania, Slovakia, Slovenia, Spain, Sweden, Switzerland and United Kingdom.

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## Foreword

This document (EN 1230-1:2009) has been prepared by 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 May 2010, and conflicting national standards shall be withdrawn at the latest by May 2010.

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

This document supersedes EN 1230-1:2001.

With regard to EN 1230-1:2001 the following changes have been made:

- including the reference to the CEN/TR 15645-1 (Note in Clause 5);
- simplifying the descriptions of evaluation scale of odour (11.1);
- editorial updating.

EN 1230 consists of the following parts under the general title *Paper and board intended to come into contact with foodstuffs – Sensory analysis*:

- Part 1: Odour <https://standards.iteh.ai/catalog/standards/sist/26c9ae0d-3f91-4184-802a-7b67424274b5/sist-en-1230-1-2010>
- Part 2: Off-flavour (taint)

Annex A is informative.

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, Cyprus, Czech Republic, Denmark, Estonia, Finland, France, Germany, Greece, Hungary, Iceland, Ireland, Italy, Latvia, Lithuania, Luxembourg, Malta, Netherlands, Norway, Poland, Portugal, Romania, Slovakia, Slovenia, Spain, Sweden, Switzerland and the United Kingdom.

## Introduction

The purpose of testing paper or board for odour is to establish whether the material to be tested possesses an inherent odour, when kept at room temperature. The test serves for evaluating the sensory quality of paper and board intended for food packaging or otherwise to come into contact with foodstuffs.

NOTE Temperature conditions other than room temperature may be used. In this case the result is not in conformity with this European Standard, which circumstances should be reported together with the result.

In order to give reliable results, this test should be performed by selected assessors.

The result may be influenced by the time elapsed between manufacturing and testing as well as by the storage conditions of the paper or board.

Part 2: Off flavour (taint) comprises the corresponding method for the estimation of changes in taste caused by transmission of substances to a test substance.

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## 1 Scope

This European Standard specifies the test method for assessment of the odour released by a paper or board sample. It is applicable to all kinds of paper and board, including coated and/or printed material, intended to come into direct or indirect contact with foodstuffs. It is not applicable for the determination of consumers' preference.

## 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.

EN ISO 186:2002, *Paper and board — Sampling to determine average quality (ISO 186:2002)*

## 3 Terms and definitions

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

### 3.1

#### **odour**

organoleptic attribute perceptible by the olfactory organ on sniffing certain volatile substances

### 3.2

#### **sample**

aggregate of all the specimens taken from the lot to provide information on the average quality of the lot and possibly serve as a basis for a decision on the lot

[EN ISO 186:2002]

### 3.3

#### **test piece**

the piece or pieces of paper or board on which the measurement is carried out in accordance with the stipulations of the method of test

NOTE The test piece is generally taken from a specimen; in some instances the test piece may be the specimen itself, or several specimens. [EN ISO 186]

### 3.4

#### **assessor**

any person taking part in a sensory test

[ISO 5492:2008]

### 3.5

#### **selected assessor**

assessor chosen for his/her ability to perform a sensory test

[ISO 5492:2008]

**EN 1230-1:2009 (E)****4 Principle**

Test pieces of the material to be examined are stored in glass jars for 20 h to 24 h at  $(23 \pm 2)$  °C in the dark. The odour of the air in the jars is estimated by a panel consisting of selected assessors. The intensity of the odour is evaluated on a scale from 0 to 4.

**5 Test panel**

The test panel consists of at least six selected assessors under the understanding that six consistent results are given, i.e. that the difference from the median value of the single results should not be more than 1,5. The members of the panel shall be trained in the evaluation of odour originating from paper and board. Guidelines concerning the testing and selection of assessors are given in ISO 8586-1.

The assessors shall be in good health and shall not suffer from the common cold at the time of the test.

**NOTE** It is recommended that a reference series is available for training of the assessors and to maintain the level of performance of the test panel during training sessions. Document CEN/TR 15645-1, *Paper and board intended to come into contact with foodstuffs — Calibration of the off-flavour test — Part 1: Odour* gives instructions for preparation and use of reference series for odour.

**6 Test conditions**

The evaluation shall be carried out at  $(23 \pm 2)$  °C in a quiet, well ventilated room that is free from odours. For more details, see ISO 8589.

**7 Equipment****7.1 General**

All equipments used shall be free from odour and only in use for sensory analysis. Use only minimum-odour cleaning agents for cleaning. Care is needed to ensure that lids, seals and inserts do not become a source of odour. An example of an efficient cleaning process is given in Annex A.

**7.2 Flat bottom flasks**

Wide-necked with conical ground joint and stopper, 500 ml capacity. Jars with wide screw neck intended for storage of dry chemicals, or domestic preserve jars may also be used. The flasks shall be made of coloured glass or covered by aluminium foil whenever there is a possibility that the appearance of the sample may influence the assessors. The number of flasks set up shall be equal to the number of members in the test panel.

**8 Sampling and storage of sample**

If the test result is to be used for assessment of a lot of paper, the number of rolls or stacks to be tested and the method of selecting them shall be in accordance with EN ISO 186.

If the test is made on another type of sample, make sure that the specimens taken are representative of the sample received.

The sampling and storage shall be carried out in such a way that contamination of the sample is avoided. The outer layers of a stack or roll shall be discarded.



The sample shall be wrapped in several layers of unlacquered aluminium foil immediately after sampling to prevent uptake and/or loss of odorous substances from the environment.

Multilayer board shall be tested as a whole.

## 9 Preparation of sample

All handling of the sample shall take place in an odour-free room or cupboard.

From the sample cut stripes to an amount of test pieces sufficient to give 6 dm<sup>2</sup> of paper or board for each flask. Minimum size of the stripes is 1 cm x 5 cm. Mention the size in the test report.

## 10 Procedure

Introduce the test pieces (6 dm<sup>2</sup>) loosely into the flat bottom flasks (7.2). Ensure that the surfaces of the test pieces are freely exposed. Close the flat bottom flasks and keep them for 20 h to 24 h at (23 ± 2) °C in the dark.

## 11 Evaluation of the test

Give each assessor her/his own coded flasks in a randomized order, a known empty flask (zero odour) and an evaluation form.

NOTE 1 A computerised data collection system may be used for the evaluation.

The assessor shakes the flask, opens it and sniffs the contents immediately after opening the vessel. If a repetition is necessary, the vessel shall be kept closed for at least 2 min. The assessor records the intensity of the perceived odour on the evaluation form as follows:

- a) 0 = no perceptible odour;
- b) 1 = odour just perceptible (difficult to define);
- c) 2 = weak odour;
- d) 3 = clear odour;
- e) 4 = strong odour.

Though the steps of the scale uses only whole numbers, the assessors may use half number ratings if considered necessary.

Starting with intensity 2, a description of the odour may be given.

NOTE 2 Due to the sensory fatigue it is recommended that not more than five tests are performed in succession. In order to avoid adaptation effects, it is recommended that the assessors pause for 1 min to 2 min between each test.

## 12 Expression of results

### 12.1 Calculation

Calculate the median of all the individual scores.