SLOVENSKI STANDARD
SIST EN 1230-2:2010

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Nadomešča:
SIST EN 1230-2:2002
SIST EN 1230-2:2002/AC:2003

Papir, karton in lepenka, namenjeni stiku z živili - Senzorična analiza - 2. del: Neznačilna aroma (privzet okus ali vonj)

Paper and board intended to come into contact with foodstuffs - Sensory analysis - Part 2: Off-flavour (taint)

Papier und Pappe vorgesehen für den Kontakt mit Lebensmitteln - Sensorische Analyse - Teil 2:
Geschmacksübertragung

Papier et cartons destinés à entrer en contact avec les denrées alimentaires - Analyse sensorielle - Partie 2 :
Flaveur atypique (flaveur ou odeur parasite)

Ta slovenski standard je istoveten z: **EN 1230-2:2009**

ICS:

67.250	Materiali in predmeti v stiku z živili	Materials and articles in contact with foodstuffs
85.060	Papir, karton in lepenka	Paper and board

SIST EN 1230-2:2010 **en,fr,de**

EUROPEAN STANDARD

NORME EUROPÉENNE

EUROPÄISCHE NORM

EN 1230-2

November 2009

ICS 55.040; 67.250; 85.060

Supersedes EN 1230-2:2001

English Version

Paper and board intended to come into contact with foodstuffs - Sensory analysis - Part 2: Off-flavour (taint)

Papier et cartons destinés à entrer en contact avec les denrées alimentaires - Analyse sensorielle - Partie 2 : Flaveur atypique (flaveur ou odeur parasite)

Papier und Pappe vorgesehen für den Kontakt mit Lebensmitteln - Sensorische Analyse - Teil 2: Geschmacksübertragung

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 1230-2:2009) 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 1230-2:2001 and EN 1230-2:2001/AC 2002.

With regard to EN 1230-2:2001 and EN 1230-2:2001/AC:2002 the following changes have been made:

a) including coconut oil for fatty food and icing sugar for example for dry, non-fatty food (see 5.1);

b) including the references to CEN/TR 15645-2 and CEN/TR 15645-3 (Note in Clause 6);

c) simplifying the descriptions of evaluation scale of off-flavour (see 12.3 and Annex C);

d) incorporation of EN 1230-2:2001/AC: 2002;

e) 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

— Part 2: Off-flavour (taint)

Annexes A, B and C are informative; Annex D is normative.

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 taint test is valid for evaluation of whether the material to be tested may bring about a change in the taste (flavour) of the food to be in contact with the material. The test serves for evaluating the possible off-flavour transmitted from a paper and board intended for food packaging or otherwise to come into contact with foodstuffs. According to the results conclusions may be drawn as to the suitability of the material tested for packaging of foodstuffs.

For evaluation of the test substance three alternative testing procedures are described:

a) the triangle test;

b) the extended triangle test;

c) the multicomparison test.

It is recommended to use the triangle test when rating of the intensity of taint is not needed. This test is less affected by the presence of atypical data than the multicomparison test.

The multicomparison test may be preferred when a large number of samples are to be tested, as this procedure is less time consuming compared to the triangle tests. It is also the most common sensory test applied for evaluation of paper and board. The method is statistically less efficient than the triangle test.

NOTE The triangle and the extended triangle tests are described in detail in ISO 5492. The multicomparison test is not described in any ISO Standard.

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 1: Odour" comprises the corresponding method for the estimation of odour originating from paper or board intended for food contact.

1 Scope

This European Standard specifies whether a paper or board sample contains substances which may be transmitted through the air space to a test substance and affect its taste. It is applicable to all kinds of paper and board, including coated and printed material, intended to come into 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
taste
sensations perceived by the taste organ when stimulated by certain soluble substances

[ISO 5492:2008]

3.2
flavour
complex combination of the olfactory, gustatory and trigeminal sensations perceived during tasting

NOTE The flavour may be influenced by tactile, thermal, painful and/or kinaesthesic effects. [ISO 5492]

3.3
taint
taste or odour foreign to the product

[ISO 5492:2008]

3.4
off-flavour
atypical flavour often associated with deterioration or transformation of the product

[ISO 5492:2008]

NOTE For simplicity, taste and flavour are used as synonyms in this European Standard, though this is not exactly in accordance with ISO 5492. The same regards taint and off-flavour.

3.5
sample
the 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]

3.6
test piece
the piece or pieces of paper or board on which the measurement is carried out in accordance with the stipulations of the methods 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]

3.7
test substance
foodstuff intended to be packed, or a suitable test food product

3.8
test portion
portion of the test sample which is directly tested by the assessor

[ISO 5492:2008]

3.8.1
test portion for analysis
the quantity of test substance which has been stored along with the test pieces

3.8.2
test portion for control
the quantity of test substance which has been stored in the same way but without test piece

3.9
assessor
any person taking part in a sensory test

[ISO 5492:2008]

3.10
selected assessor
assessor chosen for his/her ability to perform a sensory test

[ISO 5492:2008]

3.11
triangle test
method of difference testing involving the simultaneous presentation of three coded **samples,** two of which are identical

NOTE The assessor is asked to select the sample perceived as different. [ISO 5492]

3.12
extended triangle test
triangle test where one portion is a test portion for analysis, and two are test portions for control

NOTE The assessor is asked to give a rating of the sample which he/she finds odd.

3.13
multicomparison test
test where the assessor is asked to give a rating of the intensity of the difference in taste between test portions for analysis and a known test portion for control

4 Principle

Test pieces of the material to be examined are stored in glass jars together with the test substance for 44 h to 48 h at (23 ± 2) °C at specified humidity, in the dark. The selected humidity (as given in 5.2 or 5.3) depends on the foreseeable use and/or an agreement with the customer. The selected humidity shall be stated in the test report. The test substance does not come into direct contact with the test piece. Any taint transferred to the test substance is evaluated by a panel consisting of selected assessors.

Three alternative procedures are described for the evaluation of the possible taint intensity:

a) the triangle test (one test portion for analysis and two for control, or vice versa, are presented to the assessor who is required to pick out the odd sample);

b) the extended triangle test (the assessor is given one test portion for analysis and two for control. He/she is required to pick out the odd sample and evaluate the intensity of its possible taint);

c) the multicomparison test (the assessor is required to score the intensity of one or several test portions for analysis, compared to a known test portion for control, which holds the taint intensity value of 0).

The intensity of the taint is evaluated by the use of a scale from 0 to 4 and the calculation of the median. A statistical significance test is performed in case of the triangle or extended triangle test.

5 Reagents

5.1 Test substance

Whenever possible use the same sort of food as is intended to be packed in the material to be tested. If this is not possible a suitable test food product shall be chosen in agreement with the customer.

NOTE Foodstuffs are mostly too heterogeneous and non uniform or may have an intense intrinsic aroma so that they might be unsuitable for testing. In addition, it might be difficult, after two days storage, to differentiate between the taint originating from the foodstuff itself and from the paper or board to be tested.

The following test food products are given as examples:

a) for meat, meat-based products, cheese and butter: butter or margarine;

b) for fatty-food: milk chocolate, grated or sliced into thin chips or coconut oil. Store the chocolate at room temperature, but move it into a refrigerator 0,5 h to 1 h before grating; it is recommended to store the coconut oil in the refrigerator;

c) for dry, non-fatty-food: icing sugar or crushed biscuits without flavouring substances;

d) for dairy products and other liquids: water.

5.2 Saturated magnesium nitrate solution

Add 130 g of pure Mg $(NO_3)_2$ $6 \cdot H_2O$ to 100 ml of odour-free tap water and allow the salt to dissolve to give a saturated solution standing over excess salt. A relative humidity of about 53 % prevails in a closed vessel with the aid of this solution.

5.3 Saturated sodium chloride solution

Add 50 g of pure NaCl to 100 ml of odour-free tap water and allow the salt to dissolve to give a saturated solution standing over excess salt. A relative humidity of about 75 % prevails in a closed vessel with the aid of this solution.