INTERNATIONAL STANDARD

ISO 9727-2

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Cylindrical cork stoppers — Physical tests —

Part 2: Determination of mass and apparent density for agglomerated cork stoppers

Bouchons cylindriques en liège — Essais physiques —

Partie 2: Détermination de la masse et de la masse volumique apparente des bouchons de liège agglomérés

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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 9727-2 was prepared by Technical Committee ISO/TC 87, *Cork*.

This first edition of ISO 9727-2, together with the other parts of ISO 9727:2007, cancels and replaces ISO 9727:1991, which has been technically revised.

ISO 9727 consists of the following parts, under the general title *Cylindrical cork stoppers — Physical tests*:

— *Part 1: Determination of dimensions*

— *Part 2: Determination of mass and apparent density for agglomerated cork stoppers*

— *Part 3: Determination of humidity content*

— *Part 4: Determination of dimensional recovery after compression*

— *Part 5: Determination of extraction force*

— *Part 6: Determination of liquid tightness*

— *Part 7: Determination of dust content*

Cylindrical cork stoppers — Physical tests —

Part 2
Determination of mass and apparent density for agglomerated cork stoppers

1 Scope

This part of ISO 9727 specifies a test method for

— measuring the mass of cylindrical cork stoppers ready for use or semi-worked, totally or partially made of agglomerated cork, and

— calculating the apparent density of cylindrical cork stoppers ready for use or semi-worked, totally made of agglomerated cork.

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 633, *Cork — Vocabulary*

3 Terms and definitions

For the purposes of this document, the terms and definitions given in ISO 633 and the following apply.

3.1
apparent density of a cylindrical cork stopper
quotient between the measured mass of the stopper and its calculated volume

4 Apparatus

4.1 **Balance**, with a resolution inferior or equal to 0,01 g.

5 Test conditions

5.1 Environment

The test shall be carried out in an environment with the following characteristics:

— temperature 21 °C ± 4 °C;

— relative humidity of air 60 % ± 20 %.

5.2 Cork stopper

5.2.1 Temperature

At the beginning of the test, confirm that the stoppers of the test sample are at a temperature of 21 °C ± 4 °C.

5.2.2 Humidity

At the beginning of the test, confirm that the stoppers of the test sample are at a humidity of 6 % ± 2 %.

When the humidity is not between 4 % and 8 %, the result of the humidity obtained shall be referred to in the test report.

6 Sampling

From each lot, take the quantity of stoppers that correspond to the sampling plan previously agreed between the interested parties.

Stoppers from the sample shall not show visible defects that may interfere with the performance of the measurement.

7 Procedure

7.1 Before testing, each stopper shall be numerated.

7.2 Weigh, with the balance (4.1), each cork stopper from the sample and register the value obtained.

8 Results

8.1 Mass

The final test result is the arithmetic average of the results obtained with each stopper from the total test sample, expressed in grams, rounded off to 0,1, and also the standard deviation and the maximum and the minimum results rounded off to 0,1.

8.2 Apparent density

The apparent density for each stopper, ρ, expressed in kilograms per cubic metre, is given by the following equation:

$$\rho = \frac{m \times 10^6}{\pi \times (d/2)^2 \times L}$$

where

m is the mass of the stopper as registered in Clause 7, expressed in grams;

d is the diameter, expressed in millimetres, measured in accordance with ISO 9727-1;

L is the length, expressed in millimetres, measured in accordance with ISO 9727-1.

NOTE When calculating the volume of chamfered stoppers, the chamfer will not be considered.

The final test result is the arithmetic average of the results obtained with each stopper of the test sample, rounded off to the nearest unit, and also the standard deviation and the maximum and the minimum results rounded off to the unit.

9 Test report

The test report shall include the following information:

a) a reference to this part of ISO 9727;

b) complete identification of the sample, including its type, referring to the eventual existence of chamfers and its origin;

c) sampling report;

d) results obtained;

e) any deviation from this part of ISO 9727 that may have affected the results.

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