BS ISO 17727:2012

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Cork — Cork stoppers for still wine — Sampling plan for the quality control of cork stoppers

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The UK participation in its preparation was entrusted to Technical Committee PRI/81, Cork.

A list of organizations represented on this committee can be obtained on request to its secretary.

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Published by BSI Standards Limited 2012.

ISBN 978 0 580 78009 7

ICS 55.100; 79.100

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This British Standard was published under the authority of the Standards Policy and Strategy Committee on 31 January 2013.

Amendments issued since publication

Date	Text affected

BS ISO 17727:2012

INTERNATIONAL STANDARD

ISO 17727

First edition
2012-12-15

Cork — Cork stoppers for still wine — Sampling plan for the quality control of cork stoppers

Liège — Bouchons de liège pour vins tranquilles — Plan d'échantillonnage pour le contrôle qualité des bouchons de liège

Reference number
ISO 17727:2012(E)

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Published in Switzerland

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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.

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ISO 17727 was prepared by Technical Committee ISO/TC 87, *Cork*.

INTERNATIONAL STANDARD ISO 17727:2012(E)

Cork — Cork stoppers for still wine — Sampling plan for the quality control of cork stoppers

1 Scope

This International Standard describes the quality control sampling plans for the receipt and shipping of ready-to-use, cylindrical stoppers (flush with cork mouth finish) in semi-worked or finished cork used for still wines.

These plans do not apply to controls made during production.

This sampling plan applies to the following parameters, for which a standardized analysis method is available. These are the parameters which are applicable to:

— physical tests: dimensions, mass, and apparent density for agglomerate cork stoppers, moisture content, dimensional recovery after compression, extraction force, liquid tightness, and dust content [see ISO 9727 (all parts)];

— chemical tests: analysis of oxidizing residues (see ISO 21128);

— microbiological tests: enumeration of colony-forming units of yeasts, moulds, and bacteria capable of growth in an alcoholic medium (see ISO 10718);

— sensory analysis (see ISO 22308);

— the analysis of releasable 2, 4, 6-trichloroanisole (TCA) (see ISO 20752).

Type tests and validation tests are not included in this International Standard (for example global migration).

2 Terms and definitions

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

2.1
outer packaging
cardboard box that contains bags of stoppers

2.2
packaging
plastic bag that contains the stoppers

3 Initial sampling of the batch

The definition of a batch will vary according to the supplier, who will define this concept such that a group of stoppers is as homogeneous as possible for the characteristics evaluated.

An initial sample of n stoppers will be taken from a batch of N stoppers.

The quantity n of stoppers to be sampled will be the optimum amount of stoppers necessary to perform the controls: stoppers used in non-destructive tests can be reused. Controls shall be carried out in a logical order, according to this optimization criterion.

Take a sufficient quantity so as not to have to repeat the sampling in the event that the test shall be repeated.

a) For stoppers packaged in bags that are repackaged in cardboard boxes:

   — number of boxes constituting a batch = K;

   — sample size (for analysis) = n stoppers;

   — number of boxes to be opened: $k = \sqrt{K}$;

   — the sampling shall be taken from k boxes with n/k stoppers per box;

   — take stoppers from a single pack of each box opened.

b) For stoppers directly packaged in large bags:

   — number of bags constituting a batch = K;

   — sample size (for analysis) = n stoppers;

   — number of bags to be opened: $k = \sqrt{K}$;

   — the sampling shall be taken from k bags with n/k stoppers per bag.

4 Sampling implementation

For microbiological analysis (see ISO 10718), the sampling shall take place under specific hygiene conditions. The list of characteristics that follow a normal random distribution includes the "Checking visual appearance compliance and anomaly count" test. This visual check shall be done first, in order to eliminate stoppers with defects.

5 Sampling of stoppers for each test

5.1 General

The different parameters to be tested for the stoppers shall be treated by differentiating those following a normal distribution and those following a random distribution.

5.2 Normal distribution parameters

This affects the following parameters:

— dimensions;

— density (for agglomerate cork stoppers);

— moisture content;

— dimensional recovery;

— extraction force;

— liquid tightness;

— dust content;

— peroxide residues;

— microbiological analysis.

Table 1 — Sampling plan

Number	Parameter	Sample size
1 to 500 000	Dimensions	32
	Apparent density (agglomerate)	20
	Moisture	20
	Dimensional recovery	5
	Extraction force	5
	Liquid tightness	6
	Dust	1 x 4
	Peroxide residues	1 x 4
	Microbiological analysis	1 x 8

5.3 Random distribution parameters

This affects the following parameters:

— TCA;

— organoleptic analysis.

Table 2 — Sampling plan

Number	Parameter	Sample size
1 to 35 000	Organoleptic analysis	32
	Releasable TCA	1 x 20
35 001 to 150 000	Organoleptic analysis	50
	Releasable TCA	2 x 20
150 001 to 500 000	Organoleptic analysis	64
	Releasable TCA	3 x 20

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[3] ISO 9727-2, *Cylindrical cork stoppers — Physical tests — Part 2: Determination of mass and apparent density for agglomerated cork stoppers*

[4] ISO 9727-3, *Cylindrical cork stoppers — Physical tests — Part 3: Determination of humidity content*

[5] ISO 9727-4, *Cylindrical cork stoppers — Physical tests — Part 4: Determination of dimensional recovery after compression*

[6] ISO 9727-5, *Cylindrical cork stoppers — Physical tests — Part 5: Determination of extraction force*

[7] ISO 9727-6, *Cylindrical cork stoppers — Physical tests — Part 6: Determination of liquid tightness*

[8] ISO 9727-7, *Cylindrical cork stoppers — Physical tests — Part 7: Determination of dust content*

[9] ISO 10718, *Cork stoppers — Enumeration of colony-forming units of yeasts, moulds and bacteria capable of growth in an alcoholic medium*

[10] ISO 20752, *Cork stoppers — Determination of releasable 2, 4, 6-trichloroanisol (TCA)*

[11] ISO 21128, *Cork stoppers — Determination of oxidizing residues — Iodometric titration method*

[12] ISO 22308, *Cork stoppers — Sensory analysis*

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