
**Cylindrical cork stoppers — Physical
tests —**

**Part 7:
Determination of dust content**

*Bouchons cylindriques en liège — Essais physiques —
Partie 7: Détermination de la quantité de poussières*



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Published in Switzerland

Foreword

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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 9727-7 was prepared by Technical Committee ISO/TC 87, Cork.

This first edition of ISO 9727-7, 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*

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Cylindrical cork stoppers — Physical tests —

Part 7: Determination of dust content

1 Scope

This part of ISO 9727 specifies a test method for determining the dust content of a cylindrical cork stopper.

It is applicable to all types of cylindrical cork stoppers ready for use, intended to be completely inserted in the bottle neck (straight cork stoppers).

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

straight cork stopper

«*ras de bague*»

stopper which is completely introduced in the bottle neck, its superior end reaching the top border of the bottle

4 Materials

4.1 Ethanolic solution (10 %), prepared with demineralised water and previously filtered through a membrane of 1,2 µm porosity.

5 Apparatus

5.1 Conical flask, of 500 ml capacity, with a bottom diameter of at least 100 mm.

5.2 Orbital stirrer, allowing to reach a rotational frequency between 140 r/min and 160 r/min.

5.3 Glass or stainless-steel filter, fixed to a vacuum device.

5.4 Membranes and oven, to dry them.

5.4.1 First possibility

5.4.1.1 **Membrane**, of cellulose acetate or polycarbonate with 1,2 μm porosity.

5.4.1.2 **Oven**, regulated at $30\text{ }^{\circ}\text{C} \pm 2\text{ }^{\circ}\text{C}$.

5.4.2 Second possibility

5.4.2.1 **Membrane**, of glass microfibre with 1,2 μm porosity.

5.4.2.2 **Oven**, regulated at $103\text{ }^{\circ}\text{C} \pm 4\text{ }^{\circ}\text{C}$.

5.5 **Balance**, with a resolution inferior or equal to 0,000 1 g.

5.6 **Desiccator**, with hygroscopic salt and saturation indicator.

6 Test conditions

6.1 Environment

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

- temperature $21\text{ }^{\circ}\text{C} \pm 4\text{ }^{\circ}\text{C}$;
- relative humidity of air $60\text{ } \% \pm 20\text{ } \%$.

6.2 Cork stoppers

6.2.1 Temperature

At the beginning of the test, confirm that the stoppers of the test sample are at a temperature of $21\text{ }^{\circ}\text{C} \pm 4\text{ }^{\circ}\text{C}$.

6.2.2 Humidity

At the beginning of the test, confirm that the stoppers of the test sample are at a humidity of $6\text{ } \% \pm 2\text{ } \%$.

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

7 Sampling

From each lot, take the quantity of stoppers that correspond to the sampling plan previously agreed between the interested parties. The test piece is composed of 4 cork stoppers.

8 Procedure

8.1 Place 4 cork stoppers in a 500 ml conical flask (5.1) and add 250 ml of the filtered ethanolic solution (4.1).

8.2 Place the conical flask for 10 min on the stirring plate (5.2) at a rotational frequency between 140 r/min and 160 r/min.

8.3 Filter the ethanolic solution obtained through a membrane of 1,2 μm previously dried and weighted to 0,1 mg. Register the initial mass, m_1 , expressed in milligrams.