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# International Standard



# 2189

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## Expanded pure agglomerated cork — Determination of bulk density

*Agglomérés expansés purs de liège — Détermination de la masse volumique apparente*

Second edition — 1986-11-15

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**Descriptors** : cork, agglomerates, tests, determination, bulk density.

## 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.

Draft International Standards adopted by the technical committees are circulated to the member bodies for approval before their acceptance as International Standards by the ISO Council. They are approved in accordance with ISO procedures requiring at least 75 % approval by the member bodies voting.

International Standard ISO 2189 was prepared by Technical Committee ISO/TC 87, *Cork*.

This second edition cancels and replaces the first edition (ISO 2189-1972), of which it constitutes a technical revision.

Users should note that all International Standards undergo revision from time to time and that any reference made herein to any other International Standard implies its latest edition, unless otherwise stated.

# Expanded pure agglomerated cork — Determination of bulk density

## 1 Scope and field of application

This International Standard specifies a method of determination of the bulk density of expanded pure agglomerated cork.

## 2 References

ISO 2066, *Expanded pure agglomerated cork — Determination of moisture content*.

ISO 2219, *Expanded pure agglomerated thermal cork — Characteristics, sampling and packing*.

## 3 Principle

Measuring the dimensions of a test piece and determination of its dried mass.

## 4 Apparatus

### 4.1 Electric disc saw.

### 4.2 Metal rule, graduated in millimetres.

### 4.3 Vernier caliper, reading to 0,1 mm.

## 5 Sampling

Sampling shall be carried out in accordance with ISO 2219.

## 6 Procedure

### 6.1 Preparation of sample

Use the saw (4.1) to cut, from each board of the laboratory sample, one test piece in the shape of a right-angled parallelepiped measuring not less than 30 cm × 30 cm and not more than 50 cm × 50 cm and having the same thickness as the board<sup>1)</sup>. The surfaces of the test pieces shall be plane and parallel.

### 6.2 Determination

Carry out the tests at room temperature and humidity.

Measure the length and width of the test pieces using the metal rule (4.2), and their thickness using the vernier caliper (4.3).

Carry out the determination of the dried mass of the test pieces following the method specified in ISO 2066.

## 7 Expression of results

The bulk density,  $\rho$ , of the test piece, expressed in kilograms per cubic metre, is given by the formula

$$\frac{m}{V} \times 10^3$$

where

$m$  is the dried mass of the test piece, in grams and rounded off to the nearest 0,5 g;

$V$  is the volume of the test piece, in cubic centimetres and rounded off to the nearest 0,1 cm<sup>3</sup>, calculated by means of the equation

$$V = l b d$$

$l$ ,  $b$  and  $d$  being respectively the length, the width and the thickness of the test piece, in centimetres and rounded off to the nearest 1 mm.

Express the result as the arithmetic mean, rounded off to the nearest integer, of the individual bulk densities of three test pieces.

## 8 Test report

The test report shall include the following information :

- all necessary information for the complete identification of the sample;
- the reference of the method used;
- the result obtained;
- all operating details not specified in this International Standard or regarded as optional;
- any occurrences that may have affected the results.

1) Determination of moisture content may be carried out on these test pieces.