

INTERNATIONAL
STANDARD

ISO
2509

Second edition
1989-05-15

**Sound-absorbing expanded pure agglomerated
cork in tiles**

Agglomérés expansés purs de liège absorbants acoustiques en dalles



Reference number
ISO 2509 : 1989 (E)

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.

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 2509 was prepared by Technical Committee ISO/TC 87, *Cork*.

This second edition cancels and replaces the first edition (ISO 2509 : 1973), of which it constitutes a technical revision.

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International Organization for Standardization

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Sound-absorbing expanded pure agglomerated cork in tiles

1 Scope

This International Standard specifies certain characteristics of sound-absorbing expanded pure agglomerated cork in tiles.

2 Normative references

The following standards contain provisions which, through reference in this text, constitute provisions of this International Standard. At the time of publication, the editions indicated were valid. All standards are subject to revision, and parties to agreements based on this International Standard are encouraged to investigate the possibility of applying the most recent editions of the standards listed below. Members of IEC and ISO maintain registers of currently valid International Standards.

ISO 354 : 1985, *Acoustics — Measurement of sound absorption in a reverberation room.*

ISO 633 : 1986, *Cork — Vocabulary.*

ISO 2066 : 1986, *Expanded pure agglomerated cork — Determination of moisture content.*

ISO 2077 : 1979, *Pure expanded corkboard — Determination of the modulus of rupture by bending.*

3 Definitions

For the purpose of this International Standard the definitions in ISO 633 and the following definition apply.

sound-absorbing expanded pure agglomerated cork: Expanded agglomerated cork in tiles for use in the correction of room acoustics by the absorption of incident sounds.

4 Apparatus

4.1 Metal rule, graduated in 0,5 mm.

4.2 Vernier gauge, accurate to 0,05 mm.

5 Characteristics

5.1 Dimensions

The length and width of tiles shall be measured using the metal rule (4.1), and the thickness using the vernier gauge (4.2) at a temperature of $20\text{ °C} \pm 2\text{ °C}$ and $(65 \pm 5)\%$ relative humidity.

Unless otherwise agreed, tiles shall have the following dimensions:

- 300 mm × 300 mm
- 500 mm × 500 mm
- 300 mm × 600 mm
- 1 000 mm × 500 mm
- minimum thickness: 20 mm

The tolerances allowed for the dimensions are

- length and width: $\pm 0,4\%$, with a maximum of 3 mm
- thickness: $\pm 0,4\text{ mm}$

5.2 Squareness

The visible edges of sound-absorbing expanded pure agglomerated cork in tiles shall be at right angles. The deviation from squareness shall not exceed $0,3^\circ$ (1,5 mm).

5.3 Moisture content

The moisture content of tiles, determined in accordance with the method described in ISO 2066, shall not exceed 4 %.

5.4 Modulus of rupture by bending

The modulus of rupture of each specimen tested by bending, in accordance with the method described in ISO 2077, shall not be less than 140 kPa for thicknesses greater than or equal to 20 mm.

5.5 Sound absorption in a reverberation room

Tiles shall be tested as specified in ISO 354, the following particulars being taken into account:

- the specimen shall be applied to the floor of the room as prescribed by the user or, lacking such instructions, it shall be glued with a contact binder;

- measurements of the sound-absorption coefficient at one-third octave bandwidth shall be taken at the following frequencies (hertz):

100 — 125 — 160 — 200 — 250 — 315 (low pitch);

400 — 500 — 630 — 800 — 1 000 — 1 250 (medium pitch);

1 600 — 2 000 — 2 500 — 3 150 — 4 000 (high pitch).

The acoustic behaviour of the tiles shall be reported in tabular form and in the form of a graph related to a system of rectangular co-ordinates, the value of absorption for each frequency band being shown.

6 Presentation and finish

Sound-absorbing expanded pure agglomerated cork may have grooves, lap-joints, flutes, perforations and chamfered edges.

7 Sampling

Take at random from the lot a number of tiles sufficient to cover an area between 10 m² and 12 m². Take at random from the lot three tiles for the determination of the modulus of rupture by bending, and of moisture content.

8 Packing

The tiles shall be dispatched in suitable packages to ensure their transport to destination without damage.

Tiles with different dimensions or presentation shall not be placed in the same package.

9 Marking

Unless otherwise agreed, packages shall be marked with the following indications:

- a) identification of the product, namely the dimensions and presentation of the tiles;
- b) name or designation of manufacturer;
- c) country of origin.

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Descriptors : acoustic absorption, insulating materials (acoustic), cork, agglomerates, tiles, specifications, dimensions, sampling, packing, marking.

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