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# INTERNATIONAL STANDARD



# 2509

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INTERNATIONAL ORGANIZATION FOR STANDARDIZATION • МЕЖДУНАРОДНАЯ ОРГАНИЗАЦИЯ ПО СТАНДАРТИЗАЦИИ • ORGANISATION INTERNATIONALE DE NORMALISATION

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## Cork — Sound absorbing expanded pure agglomerated cork in tiles — Characteristics

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## FOREWORD

ISO (the International Organization for Standardization) is a worldwide federation of national standards institutes (ISO Member Bodies). The work of developing International Standards is carried out through ISO Technical Committees. Every Member Body interested in a subject for which a Technical Committee has been set up 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.

International Standard ISO 2509 was drawn up by Technical Committee ISO/TC 87, *Cork*, and circulated to the Member Bodies in September 1971.

It has been approved by the Member Bodies of the following countries :

Belgium  
Bulgaria  
Czechoslovakia  
Egypt, Arab Rep. of  
France

Germany  
Hungary  
Iran  
Italy  
Portugal

ISO 2509:1973  
South Africa, Rep. of  
Spain  
United Kingdom

<https://standards.iteh.ai/catalog/standards/sist/bd42-89cd-4ded-a007-3f1644da7822/iso-2509-1973>

The Member Body of the following country expressed disapproval of the document on technical grounds :

Romania

# Cork – Sound absorbing expanded pure agglomerated cork in tiles – Characteristics

## 1 SCOPE AND FIELD OF APPLICATION

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

## 2 REFERENCES

ISO/R 354, *Measurement of absorption coefficients in a reverberation room.*

ISO/R 2077, *Pure expanded cork board – Determination of the modulus of rupture by bending.*

## 3 DEFINITION

**sound absorbing expanded pure agglomerated cork :**  
Expanded agglomerated cork in tiles for use in the correction of room acoustics through the absorption of incident sounds, and manufactured by the agglomeration of granulated cork without the addition of binders.

## 4 DIMENSIONS AND DETAILS OF MANUFACTURE

### 4.1 Dimensions

Tiles shall have the following dimensions :

- 300 mm X 300 mm
- Minimum thickness : 20 mm.

Other dimensions may be agreed upon between the interested parties.

### 4.2 Details of manufacture

Sound absorbing expanded pure agglomerated cork may have grooves, lap-joints, flutes, perforations and chamfered edges. In such cases the manufacturer shall specify their location and maximum dimensions.

## 5 TOLERANCES

### 5.1 Overall dimensions

The following maximum tolerances apply to sound absorbing expanded pure agglomerated cork in tiles, in relation to nominal dimensions at a temperature of  $20 \pm 2$  °C and at a relative humidity of  $65 \pm 5$  % :

Length and width :  $\pm 0,4$  %.

Thickness :  $\pm 0,4$  mm.

For grooved tiles, the tolerance on thickness is determined from the axis of the groove to the visible surface to be used.

### 5.2 Squareness

The visible edges of sound absorbing expanded pure agglomerated cork in tiles must be at right angles. The maximum deviation from squareness measured over the whole length of an edge shall not exceed 0,5 % of that length.

## 6 MODULUS OF RUPTURE BY BENDING

The modulus of rupture of each specimen tested by bending must be at least  $15 \text{ N/m}^2$  for the thickness  $e \geq 20$  mm.

The modulus of rupture shall be determined as specified by ISO/R 2077.

## 7 RESISTANCE TO FLAME PROPAGATION

Sound absorbing expanded pure agglomerated cork may be treated on the surface or in its substance, by adding chemicals, to increase the resistance of the surface to flame propagation.

## 8 SOUND ABSORPTION

### 8.1 Test

The behaviour of the material as a sound absorber is defined by the results of the absorption test carried out in a reverberation room, as detailed in ISO/R 354, the following particulars being duly 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 shall be taken at the following frequencies, in hertz, at intervals of one-third octave :

100 – 125 – 160 – 200 – 250 – 320 (low pitch);

400 – 500 – 640 – 800 – 1 000 – 1 250 (medium pitch);

1 600 – 2 000 – 2 500 – 3 200 – 4 000 (high pitch).

### 8.2 Results

The results shall be reported in the form of a graph related to a system of rectangular co-ordinates, with absorption coefficients plotted as ordinates and frequencies plotted as abscissae, single points representing the values obtained being connected by straight lines.

They shall include the graph for absorption coefficients between 100 Hz and 4 000 Hz and the mean absorption coefficients for low-pitch (100 Hz to 320 Hz), medium-pitch (400 Hz to 1 250 Hz) and high-pitch sounds (1 600 Hz to 4 000 Hz).

### 8.3 Test report

Each test report must give a clear description of the material (length, width, thickness, mass per square metre, condition of the surface) and of the method followed.

If the tiles are chamfered or have a decorative painting, the test report must mention this fact.

## 9 FINISH

No finish is allowed other than painted surfaces, either for decorative purposes or to increase the resistance of the surface to flame propagation.

## 10 PACKING

The tiles must be dispatched in strong boxes (with reinforced corners) shaped to avoid damage during transportation.

The boxes shall be constructed of a material ensuring a high degree of resistance to water vapour transmission.

## 11 SAMPLING

Take at random from the lot a number of tiles sufficient to cover an area larger than 12 m<sup>2</sup>. Take at random from the lot three tiles as specimens for the determination of the modulus of rupture by bending.