



**International
Standard**

ISO 24342

**Resilient and textile floor
coverings — Determination of
side length, edge straightness and
squareness of tiles and planks**

*Revêtements de sol résilients et textiles — Détermination de la
longueur des bords, de la rectitude des arêtes et de l'équerrage
des dalles et des lames*

**Fourth edition
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ISO copyright office
CP 401 • Ch. de Blandonnet 8
CH-1214 Vernier, Geneva
Phone: +41 22 749 01 11
Email: copyright@iso.org
Website: www.iso.org

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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.

The procedures used to develop this document and those intended for its further maintenance are described in the ISO/IEC Directives, Part 1. In particular, the different approval criteria needed for the different types of ISO document should be noted. This document was drafted in accordance with the editorial rules of the ISO/IEC Directives, Part 2 (see www.iso.org/directives).

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This fourth edition cancels and replaces the third edition (ISO 24342:2018), which has been technically revised.

The main changes are as follows:

- procedures have been modified to allow for differences between planks and tiles. Clauses 3, 4, 5, 8 and 9 have therefore been updated;
- uncertainty of measurement of the records defined by dial gauges method has been changed from 0,02 mm into 0,01 mm.

Any feedback or questions on this document should be directed to the user's national standards body. A complete listing of these bodies can be found at www.iso.org/members.html.

Resilient and textile floor coverings — Determination of side length, edge straightness and squareness of tiles and planks

1 Scope

This document specifies methods for determining side lengths, straightness of edges and squareness of square and/or rectangular resilient or textile floor tiles and planks.

2 Normative references

There are no normative references in this document.

3 Terms and definitions

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

ISO and IEC maintain terminology databases for use in standardization at the following addresses:

- ISO Online browsing platform: available at <https://www.iso.org/obp>
- IEC Electropedia: available at <https://www.electropedia.org/>

3.1

squareness

measurement of the amount the corner of the tile/plank deviates from 90°

Note 1 to entry: See [Figure 1](#).

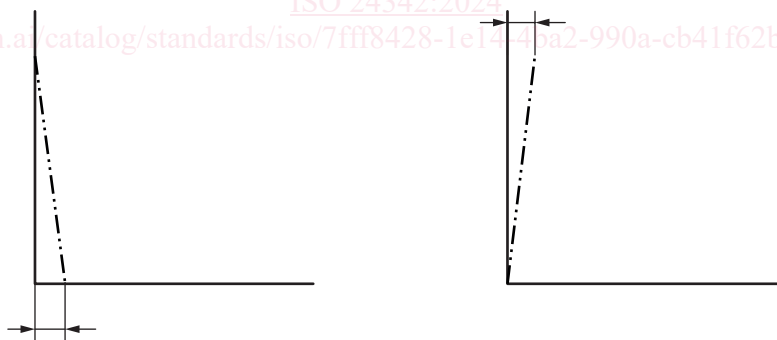


Figure 1 — Definition of squareness

3.2

straightness

property of an edge to be straight, unbent

Note 1 to entry: Some examples are shown in [Figure 2](#).

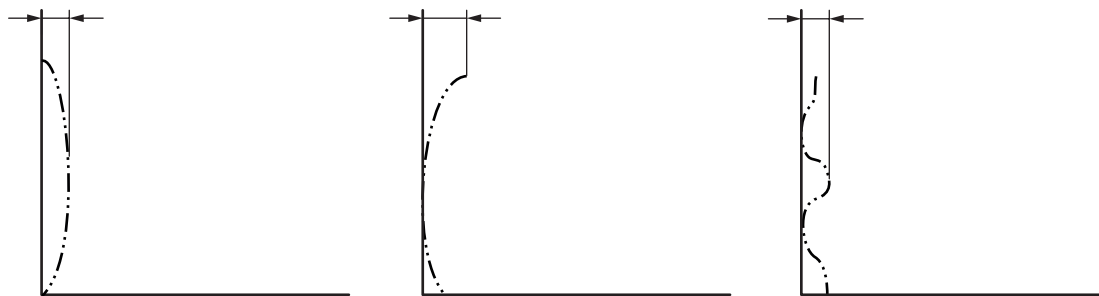


Figure 2 — Examples of straightness – Curved and S-Bow cases

3.3 tile plank

type of resilient or textile flooring of predetermined shape intended to be used in a modular mode

Note 1 to entry: Tiles are usually square. Planks have a ratio length divided by width superior or equal to 1,3. A modular product with a ratio inferior to 1,3 has to be considered as a tile.

4 Principle

The side lengths, straightness and squareness of resilient or textile floor tiles and planks are important considerations because installed flooring will have an objectionable appearance if these performance criteria are not followed. This can cause the installed tiles/planks to line up unevenly, producing unsightly seams and corners that do not match. The surface dimensions of a tile/plank are measured by a contact method at defined positions in each direction.

To assess the squareness of a tile, each corner of a right-angled tile is fitted into the dihedral angle of a precision square and the maximum gap between the arm of the square and the end of the tile is measured. The maximum opening between the arm and the edge is measured at defined points along the edge to assess the straightness.

To assess the squareness of a plank, place one side of the plank against a square/rectangle and slide it up to touch the other arm. Using the thickness gauges, determine the maximum deviation from square at the small side. The procedure is repeated on the diagonally opposite corner. The maximum opening between the arm and the edge is measured at defined points along the edge to assess the straightness.

NOTE For systems with edge connection systems, the visible area of the tile/plank is considered. The devices can be modified for products with edge connection systems to ensure that only the visible area is considered.

5 Apparatus

The use of other measuring methods or devices is permitted when it can be demonstrated that we obtain the same results with the same accuracy as the devices and methods defined below.

5.1 Reference plate

Reference plate, also referred to as a “calibration plate”, made to the target dimensions of the manufactured tile/plank.

The length and width dimensions shall be within 0,01 mm of the specified dimensions of the resilient or textile tiles/planks. The reference plate shall contain at least two sides that are perpendicular to $[\pm 0,000\ 18\ \text{rad}\ (0,01^\circ)]$ one another. These are used to set the squareness gauge to zero (in the case of tile, see [Figure 3](#) as example).

One corner of the reference plate shall be truncated by 3 mm (see [Figure 3](#)) to ensure good visual contact between the sample and the arms of the flat bedplate apparatus (see [5.3](#)).