



SLOVENSKI STANDARD

SIST EN 17539:2021

01-oktober-2021

Modularne mehansko spojene talne obloge (MMF) - Ugotavljanje geometrijskih značilnosti

Modular mechanical locked floor coverings (MMF) - Determination of geometrical characteristics

Modulare mechanisch verriegelnde Fußbodenbeläge (MMF) - Bestimmung der geometrischen Eigenschaften

Revêtements de sol modulaires à verrouillage mécanique (MMF) - Détermination des caractéristiques géométriques

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ICS:

97.150

Talne obloge

Floor coverings

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EUROPEAN STANDARD

EN 17539

NORME EUROPÉENNE

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August 2021

ICS 97.150

English Version

Modular mechanical locked floor coverings (MMF) - Determination of geometrical characteristics

Revêtements de sol modulaires à verrouillage
mécanique (MMF) - Détermination des caractéristiques
géométriques

Modulare mechanisch verriegelnde Fußbodenbeläge
(MMF) - Bestimmung der geometrischen Eigenschaften

This European Standard was approved by CEN on 4 July 2021.

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EUROPEAN COMMITTEE FOR STANDARDIZATION
COMITÉ EUROPÉEN DE NORMALISATION
EUROPÄISCHES KOMITEE FÜR NORMUNG

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Contents	Page
European foreword	4
Introduction	5
1 Scope.....	6
2 Normative references.....	6
3 Terms and definitions.....	6
4 Principles.....	7
4.1 Thickness.....	7
4.2 Length and width	7
4.3 Squareness	7
4.4 Straightness	7
4.5 Flatness.....	7
4.6 Openings and height differences.....	7
5 Apparatus	7
5.1 Apparatus for thickness measurement.....	7
5.2 Apparatus for length and width measurement.....	7
5.3 Apparatus for squareness measurement.....	8
5.4 Apparatus for straightness measurement.....	8
5.5 Apparatus for determination of flatness.....	8
5.6 Apparatus for openings and height differences.....	9
6 Sampling and selection of specimens.....	9
7 Atmosphere for conditioning and testing.....	9
8 Procedure	9
8.1 Determination of thickness.....	9
8.2 Determination of length and width.....	10
8.3 Determination of straightness and squareness.....	10
8.3.1 Squareness	10
8.3.2 Straightness	11
8.4 Determination of flatness	12
8.4.1 Determination of width flatness.....	12
8.4.2 Determination of length flatness	12
8.5 Determination of openings and height differences between panels	13
8.5.1 General.....	13
8.5.2 Determination of openings between the panels.....	13
8.5.3 Determination of height differences.....	13
9 Calculation and expression of results	14
9.1 Thickness.....	14
9.2 Length and Width.....	14
9.3 Squareness	14
9.4 Straightness	14
9.5 Flatness.....	14
9.5.1 Width flatness	14
9.5.2 Length flatness.....	14
9.6 Openings and height differences.....	14

10	Precision statement	14
11	Test report	15
	Bibliography	16

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[SIST EN 17539:2021](https://standards.iteh.ai/catalog/standards/sist/0154d1ff-0177-4623-a41d-6e4e8b35ee29/sist-en-17539-2021)

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EN 17539:2021 (E)**European foreword**

This document (EN 17539:2021) has been prepared by Technical Committee CEN/TC 134 “Resilient, textile and laminate floor coverings”, the secretariat of which is held by NBN.

This European Standard shall be given the status of a national standard, either by publication of an identical text or by endorsement, at the latest by February 2022, and conflicting national standards shall be withdrawn at the latest by February 2022.

Attention is drawn to the possibility that some of the elements of this document may be the subject of patent rights. CEN shall not be held responsible for identifying any or all such patent rights.

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Introduction

The technical committee CEN/TC 134 decided to develop a series of generic test methods able to demonstrate the characteristics of modular mechanical locked floor covering panels. This series of test methods will be used in the common part of individual product specification standards.

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EN 17539:2021 (E)**1 Scope**

This document specifies test methods for the determination of geometrical characteristics of modular mechanical locked floor covering panels in respect of thickness, length, width, squareness, straightness, width flatness, length flatness, openings between assembled elements and height differences between assembled elements.

The geometrical characteristics of modular mechanical locked panels are important considerations because installed flooring will have an objectionable appearance if these performance criteria are not followed. This can cause the installed panels to line up unevenly, producing unsightly seams, uneven surfaces and corners that do not match.

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 terminological databases for use in standardization at the following addresses:

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

3.1 floor covering panel with mechanical locking system

rigid or semi-rigid floor covering, typically in a plank or tile format, consisting of a compact layer of a substrate and a decorative surface layer for floating installation

3.2 decorative layer

layer providing visual and aesthetic properties, intended to be the visible side when the floor is installed

Note 1 to entry: Decorative layers can consist of resilient layers including cork, layers with aminoplastic thermosetting resins and wood veneer layers with a thickness < 2,5 mm and textile surfaces.

3.3 squareness

measurement of the amount each corner of the tile deviates from 90°

3.4 straightness

property of an edge to be straight, unbent

4 Principles

4.1 Thickness

The test piece is placed between two parallel plates, and the distance between them is measured.

4.2 Length and width

The surface dimensions of a modular mechanical locked floor covering panel are measured by a contact method at defined positions in each direction. The measurement is taken at the edges of the surface layer.

4.3 Squareness

To assess the squareness, each corner of a right-angled panel is fitted into the dihedral angle of a precision square and the maximum gap between the arm of the square and the ends of the panel is measured.

4.4 Straightness

To assess the straightness, the maximum opening between the panel and the straight edge is measured on the concave side using a suitable gauge.

4.5 Flatness

To assess width flatness the deviation in height is measured by direct contact with a dial gauge maintained at constant height. To assess length flatness the maximum opening between the panel and a straight edge is measured using a gauge.

4.6 Openings and height differences

A standard assembly is fixed together, openings of the assembled specimens are measured with thickness gauges and height differences are measured with callipers or depth gauges at standard predefined points.

5 Apparatus

5.1 Apparatus for thickness measurement

5.1.1 Movable circular upper plate.

For various types of floor covering panel structures, the diameter of the upper plate, the applied mass, the area and the pressure shall be in accordance with Table 1.

5.1.2 Fixed lower plate, at least equal to size of the upper plate and at least 15 cm².

5.1.3 Dial gauge, to measure the distance between the plates with an uncertainty of measurement of 0,01 mm (0,1 mm over a range of 25 mm for textiles).

5.1.4 Straight edge, for example a ruler, for brushing the surface of textile specimens.

5.2 Apparatus for length and width measurement

A dial gauge, a sliding calliper gauge or equivalent device with a limit of permissible error of 0,05 mm for measurements up to 610 mm and a limit of permissible of 0,1 mm for measurements over 610 mm.

EN 17539:2021 (E)

5.3 Apparatus for squareness measurement

Flat bedplate apparatus, for measuring squareness of panels. This apparatus shall be an “L” shaped steel device having an angle of $1,570\ 80$ rad (90°) with a tolerance of $\pm 0,000\ 18$ rad ($0,01^\circ$).

5.4 Apparatus for straightness measurement

5.4.1 Calibrated straight edge (steel ruler), of length at least equal to the length of the specimens, and having a maximum straightness deviation of 0,05 mm over 1 000 mm.

5.4.2 A set of thickness gauges.

5.5 Apparatus for determination of flatness

5.5.1 Apparatus for measuring width flatness, consisting of a dial gauge accurate to $\pm 0,01$ mm with a rounded tip of radius 5,5 mm, installed centrally in relation to three rounded supports with radii 5 mm. The supports shall be adjustable along a T-shaped assembly of bars to provide the required gauge length. The measurement, d , shall not be less than the width, of the test specimen minus 10 mm. The tip of the gauge in contact with the face of the test specimen shall apply a force of $(1,0 \pm 0,5)$ N. The mass of the apparatus shall not affect the flatness of the test specimen beyond the limit of permissible error of the gauge. The instrument shall be set to zero against a suitable flat reference plate (see Figure 1). For structured surfaces it is recommended to use rounded plates at the three rounded feet and a plate on the tip of the gauge, e.g. as described in 5.1.1 and 8.1.2, Table 1.

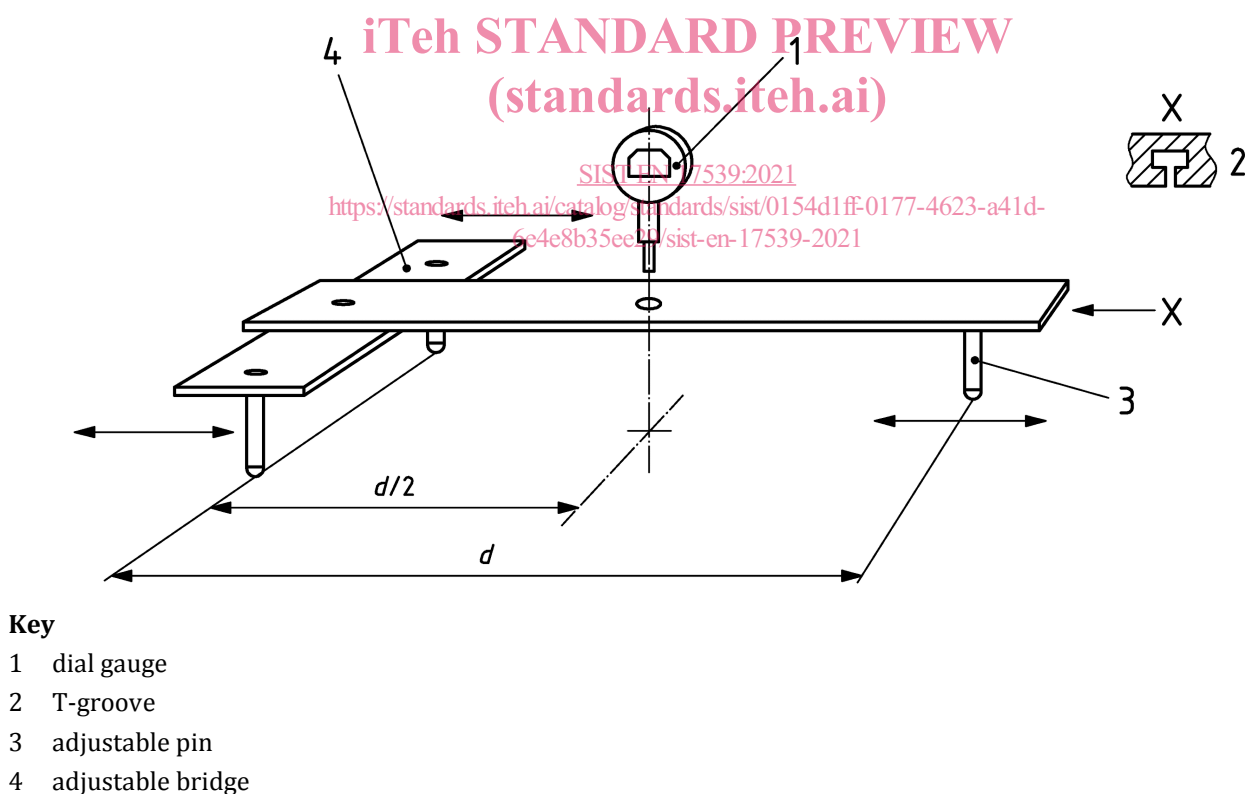


Figure 1 — Example of apparatus for measuring width flatness

5.5.2 Apparatus for measuring length flatness consisting of a plain rigid surface, at least as long as the floor covering panel, having a maximum straightness deviation of 0,05 mm over 1 000 mm.