SLOVENSKI STANDARD
oSIST prEN 14354:2015

01-februar-2015

Lesne plošče - Leseni furnir za talne obloge

Wood-based panels - Wood veneer floor coverings

Holzwerkstoffe - Furnierte Fußbodenbeläge

Panneaux à base de bois - Revêtements de sol à placage bois

Ta slovenski standard je istoveten z: **prEN 14354**

ICS:

79.080	Polizdelki iz lesa	Semi-manufactures of timber
97.150	Netekstilne talne obloge	Non-textile floor coverings

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EUROPEAN STANDARD

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Will supersede EN 14354:2004

English Version

Wood-based panels - Wood veneer floor coverings

Panneaux à base de bois - Revêtements de sol à placage bois

Holzwerkstoffe - Furnierte Fußbodenbeläge

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

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Foreword

This document (prEN 14354:2014) has been prepared by Technical Committee CEN/TC 112 “Wood-based panels”, the secretariat of which is held by DIN.

This document is currently submitted to the CEN Enquiry.

This document will supersede EN 14354:2004.

Compared to EN 14354:2004 the following modifications have been made:

a) definitions of lacquered and oiled surfaces were introduced;

b) deletion of requirements on humidity variations as in 4.3;

c) modifications of classification on wear resistance in Table 3 with two methods of testing;

d) requirement for the locking strength in Table 3 for the classes 32 and 33;

e) modified test method for abrasion resistance in Annex D;

f) new method for abrasion resistance in Annex E;

g) reference to test according ISO 24339 in Annex G.

1 Scope

This document defines terms and specifies requirements and test methods for wood veneer floor coverings with multilayer built up for internal use. It gives guidance for the evaluation of conformity of the products to the requirements of this standard.

Multilayer parquets according to EN 13489 with a minimum top layer thickness of 2,5 mm are excluded.

2 Normative references

The following documents, in whole or in part, are normatively referenced in this document and are indispensable for its application. For dated references, only the edition cited applies. For undated references, the latest edition of the referenced document (including any amendments) applies.

EN 319, *Particleboards and fibreboards - Determination of tensile strength perpendicular to the plane of the board*

EN 322, *Wood-based panels - Determination of moisture content*

EN 438-2:1991, *Decorative high-pressure laminates (HPL) -Sheets based on thermosetting resins - Part 2: Determination of properties*

EN 1534, *Wood flooring - Determination of resistance to indentation - Test method*

EN 13329:2008, *Laminate floor coverings - Specifications, requirements and test methods*

EN 13442, *Wood flooring and wood panelling and cladding - Determination of the resistance to chemical agents*

EN 16094, *Laminate floor coverings - Test method for the determination of micro-scratch resistance*

EN 60454–2:1995, *Specification for pressure-sensitive adhesive tapes for electrical purposes - Part 2: Methods of test (IEC 60454-2:1994)*

EN ISO 868:2003, *Plastics and ebonite - Determination of indentation hardness by means of a durometer (Shore hardness) (ISO 868:2003)*

EN ISO 10874, *Resilient, textile and laminate floor coverings - Classification (ISO 10874)*

EN ISO 6506-1, *Metallic materials - Brinell hardness test - Part 1: Test method (ISO 6506-1)*

ISO 48, *Rubber, vulcanized or thermoplastic - Determination of hardness (hardness between 10 IRHD and 100 IRHD)*

ISO 6267-2, *Rubber-covered rollers - Determination of apparent hardness - Shore-type durometer method*

ISO 24334, *Laminate floor coverings - Determination of locking strength for mechanically assembled panels*

ISO 24339, *Laminate and textile floor coverings - Determination of dimensional variations after exposure to humid and dry climate conditions*

ASTM D 785, *Standard test method for Rockwell hardness of plastics and electrical insulating materials*

FEPA-Standard 42-1, *Grains of fused aluminium oxide, silicon carbide and other abrasive materials for bonded abrasives and for general applications Macrogrits F 4 to F 220*

FEPA-standard 44-1, *Standard for fused aluminium oxide and silicon carbide abrasive grains - Part 1: Determination of bulk density - Macro grains*

3 Terms and definitions

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

3.1
wood veneer floor covering
rigid floor covering consisting of a substrate made from a wood-based panel, with a top layer of wood veneer and possibly a backing

3.2
top layer
finished upper wood layer, intended to be the visible side when the floor is installed

3.3
substrate
core material of the wood veneer floor covering

3.4
backing
layer opposite to the top layer

3.5
wood veneer floor covering element
smallest single item identified as the complete product, shaped and machined on its sides to the appropriate dimensions

Note 1 to entry: The element is provided with a suitable system allowing the elements to be assembled together at installation.

3.6
cup
curvature, concave or convex, of the element across the width of the face

3.7
lipping
difference in height, at the edge, between the upper faces of two adjacent and assembled elements when laid on a flat surface

3.8
deviation from edge straightness
concavity or convexity of the edge of the element along the length between the two ends of the element

3.9
wear layer
layer on which wearing occur

3.10
lacquered surface
film-forming coating with a minimum thickness of 20 µm

3.11
oiled surface
non film forming coating with in general less wear resistance can be provided only by maintenance

Note 2 to entry: These are products containing natural oil, wax or other material for impregnation.

4 Requirements

4.1 General

All wood veneer floor coverings shall comply with the general requirements given in Table 1. Wood veneer floor coverings with lacquered surface shall comply with the classification requirements given in Table 2. The values given in this Table take account of uncertainties due to variations in the application of finishes and of those described in the test method in Annex D and Annex E.

4.2 General requirements

The nominal dimensions shall be declared by the manufacturer at a given humidity. For appearance for evaluation of conformity, to be used when requested about product quality, the procedure in Annex H may be used.

The wood veneers used for the top layer are hardwood or softwood species and shall be free from decay and insect attack. Variations of colour can occur under the influence of light.

Table 1 — General requirements

Characteristics	Requirements	Test methods
Moisture content h (dispatch from manufacturer)	5 % ≤ $h_{average}$ ≤ 9 % and $h_{max} - h_{min}$ ≤ 3 %	EN 322
Thickness t of an element	$t_{max} - t_{min}$ ≤ 0,50 mm $t_{average} - t_{nominal}$ ≤ ± 0,50 mm	Annex A
Length l of the top layer in the same package	l ≤ 1 500 mm: $l_{max} - l_{min}$ ≤ 0,50 mm l >1 500 mm: $l_{max} - l_{min}$ ≤ 0,30 mm/m l_{mean} ≤ 1 mm	
Width w of the top layer and square element	$w_{max} - w_{min}$ ≤ 0,20 mm $w_{average} - w_{nominal}$ ≤ 0,1mm w_{mean} ≤ 0,5 mm	
Length l and width w of squared elements $l = w$	$l_{average} - l_{nominal}$ ≤ 0,10 mm $w_{average} - w_{nominal}$ ≤ 0,10 mm $l_{max} - l_{min}$ ≤ 0,20 mm $w_{max} - w_{min}$ ≤ 0,20 mm	
Deviation of squareness	q_{max} ≤ 0,20 mm	
Deviation from edge straightness of the top layer s	s_{max} ≤ 0,30 mm/m	
Cup f_w in width direction	$\lvert f_{w\ max} \rvert$ ≤ 0,20 % $\lvert f_{w\ average} \rvert$ ≤ 0,15 %	
Lipping p	p_{max} ≤ 0,15 mm	Annex B
Opening between elements	≤ 0,20 mm	
Adhesion of the lacquer[a]	≤ class 2	Annex F
Internal bond of the substrate[b]	≥ 1,25 N/mm^2	EN 319
Surface soundness	≥ 1,00 N/mm^2	EN 13329:2008, Annex D

a Not applicable for oiled surfaces
b For the mechanical assembly systems only (assembly system without glue).

5 Classification requirements

5.1 General

Veneer floor coverings shall be classified as suitable for different levels of use, according to the performance requirements specified in Table 2, when tested with the methods given therein. Classification shall conform to the scheme specified in EN ISO 10874 (levels 21, 22, 23, 31, 32, 33). The use classification defined in the Table 2 had been fixed on the basis of the material (wood veneer) and the linked test methods.

5.2 Classification requirements for elements with lacquer finishing

The classification requirements for elements with lacquered surfaces are given in Table 2. For the use of this table the producer has to declare which abrasion resistance test method has been used (Annex D or Annex E) and in the case of Annex D the thickness of the top layer.

Table 2 — Classification requirements for elements with finishing ex- factory

Class	**21**	**22**	**23**	**31**	**32**	**33**	**Test method**
Symbol							
Level of use	**Domestic**			**Commercial**			
	Moderate	**General**	**Heavy**	**Moderate**	**General**	**Heavy**	
Resistance to indentation	**≥ 10 N/mm²**	**≥ 20 N/mm²**		**≥ 30 N/mm²**	**≥ 40 N/mm²**		EN 1534
Thickness swelling	**≤ 15 %**				**≤ 10 %**		EN 13329:2008 Annex G
Impact resistance (Elasticity)	EC0	EC1		EC2	EC3		Annex C
Wear resistance 1,0 mm < top layer < 2,5 mm	800 revolutions			1500 revolutions	3000 revolutions		Annex D
Wear resistance Top layer ≤ 1,0 mm	1000 revolutions		2000 revolutions		4000 revolutions	6000 revolutions	Annex D
Wear resistance Alternative method	900 revolutions	1500 revolutions		2000 revolutions	4000 revolutions		Annex E
Locking strength	NO	NO		NO	Length ≥ 1,0 KN/m Short side ≥ 2,0 KN/m		ISO 24334

6 Marking and packaging

6.1 Marking

Wood veneer floor coverings which comply with the requirements of this standard shall have the following information marked by the manufacturer, either on their packaging, or on a label or information sheet included in the packaging.

a) Product name and number of this document, EN 14354;

b) Level of use and used abrasion test method (EN 14354 Annex D or E);

c) Wood species of the top layer and thickness of the top layer in the case of use of abrasion method according to EN 14354 Annex D;

d) Nominal dimensions of one element: thickness × width × length in millimetres;

e) The number of elements contained in a package;

f) The area in square metres contained in a package;

g) Manufacturer's or supplier's identification.

6.2 Packaging

The product shall be delivered in packages designed to protect the corners, edges and surfaces of the product, under normal conditions of transport and handling. Installation, cleaning and maintenance instructions shall be delivered together with the product.

7 Test report

If a test report is requested, it shall contain at least the following information:

a) the name and address of the test laboratory;

b) date of test report;

c) a reference to this standard;

d) the product tested;

e) sampling information;

f) test result;

g) all deviations from this standard.

Annex A
(normative)

Test methods for the determination of thickness, length, width, squareness, deviation from edge straightness and cup

A.1 General

This Annex specifies methods for measuring the thickness, length, width, squareness, deviation from edge straightness and cup of wood veneer floor covering elements.

A.2 Sampling

Take 5 elements at random.

A.3 Conditioning

Elements are measured without conditioning. If requested, the test pieces shall be stabilized to a constant mass in an atmosphere of (23 ± 2) °C and (50 ± 5) % relative humidity. Constant mass is considered to be reached when the results of two successive weighing operations, carried out at an interval of 24 h, do not differ by more than 0,1 % of the mass of the test pieces.

A.4 Test equipment

A.4.1 Micrometer, sliding caliper or any other equivalent tool giving an accuracy of 0,05 mm.

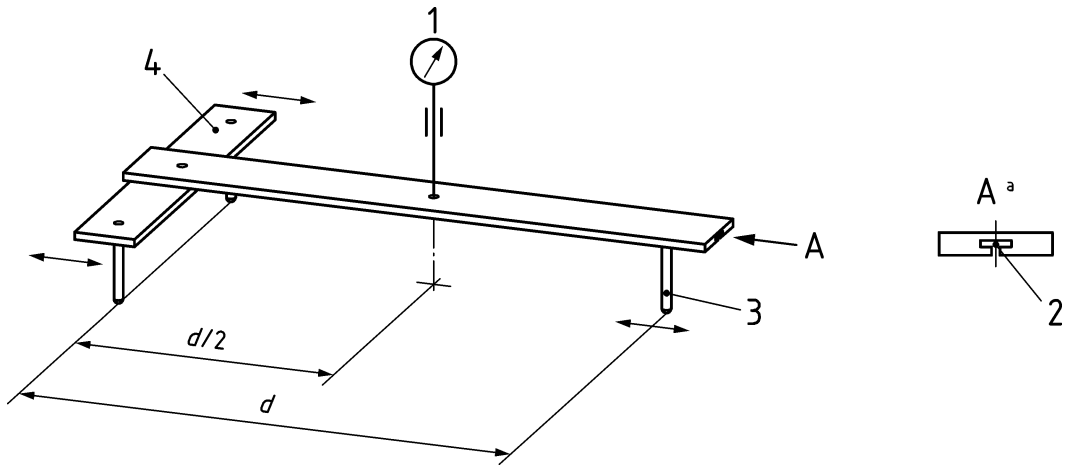
A.4.2 Sliding caliper or any other equivalent tool giving an accuracy of 0,01 mm.

A.4.3 Square arms with lengths of 300 mm and having a maximum angular distortion of 0,02 mm at 300 mm.

A.4.4 Steel ruler of length at least equal to the length of test specimen and having a maximum straightness deviation of 0,05 mm over 1 000 mm.

A.4.5 Apparatus (T–assembly) for measuring width flatness consisting of a dial gauge accurate to ± 0,01 mm with a rounded tip with a radius of ≤ 5,5 mm, installed centrally in relation to three rounded supports with a radius of ≥ 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 w 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 ± 0,5) N. The mass of the apparatus shall not affect the flatness of the test specimen beyond the limit of the accuracy of the gauge. See Figure A.1 for illustration. The instrument shall be set to zero against a suitable reference plate.

Dimensions in millimetres



Key

a view A enlarged
1 dial gauge
2 T-groove
3 adjustable pin
4 adjustable bridge

Figure A.1 — Instrument for measuring the width flatness (Principle)

A.4.6 Steel tape or ruler with an accuracy of ± 0,1 mm up to a length of 1,50 m, and ± 0,5 mm for longer lengths.

A.4.7 Thickness gauges ranging from 0,5 mm to 0,10 mm in steps of 0,01, and from 0,10 mm to 0,50 mm in steps of 0,05 mm.

A.5 Procedure

A.5.1 Determination of thickness *t*

Measure the thickness *t* with a micrometer, or any other device of the equipment described in A.4.1, at a distance of 20 mm from the edges of the top layer, at points located in each corner and in the middle of each long side (only four corner points if the length is ≤ 600 mm), see Figure A.2.

Dimensions in millimetres

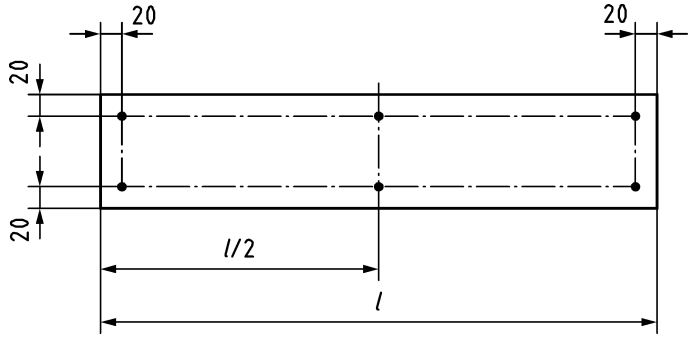


Figure A.2 — Measuring points for determination of thickness *t*

A.5.2 Determination of length *l*

For decorative pattern effects, measure the length of the elements with the test equipment described in A.4.2.

For non-decorative pattern effects, measure the length of the elements when shorter than 500 mm with the test equipment described in A.4.2 and for lengths equal to or longer than 500 mm, with the test equipment described in A.4.6.

Measure the length *l* of the top layer along two lines parallel to the axis of the element and at a distance of 20 mm from the edges (see Figure A.3).

Dimensions in millimetres

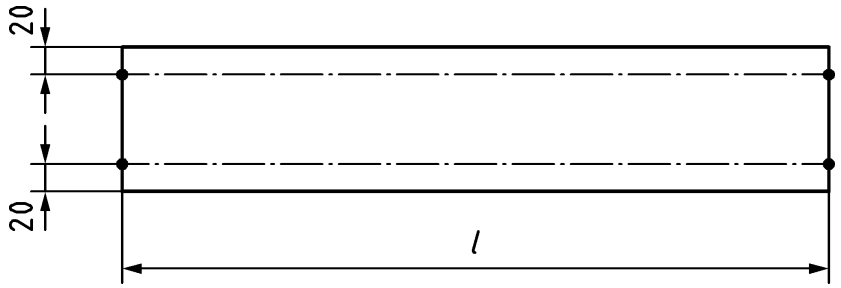


Figure A.3 — Measuring for determination of length *l*

A.5.3 Determination of width *w* and dimensions of squared elements

Measure the width *w* with a micrometer, or any of the other device in A.4.1 along two lines parallel to the sides or edges of the top layer, at a distance of 20 mm from the edges or sides and in the middle for elements with a length of > 600 mm (see Figure A.4).

Dimensions in millimetres

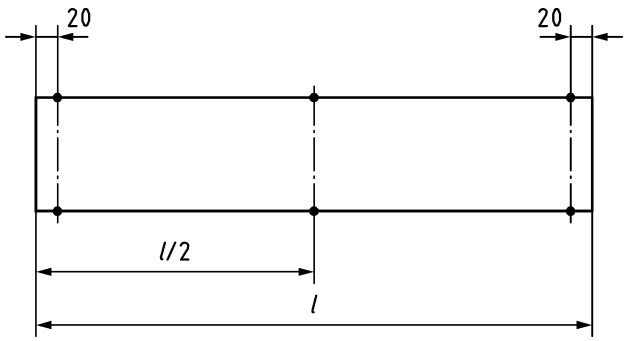


Figure A.4 — Measuring points for determination of width *w*

A.5.4 Determination of deviation from squareness *q*

Place one arm of the square (A.4.3) against one long side of the top layer of the element, and determine the maximum deviation to square at the small side. The same procedure is also done on the diagonally opposite corner (see Figure A.5).