SLOVENSKI STANDARD
SIST EN 14323:2004

01-september-2004

Lesne ploġ e ï Ploġ e, oplemenitene z melaminom, za notranje prostore ï Preskusne metode

Wood-based panels - Melamine faced boards for interior uses - Test methods

Holzwerkstoffe - Melaminbeschichtete Platten zur Verwendung im Innenbereich - Prüfverfahren

Panneaux a base de bois - Panneaux surfacés mélaminés pour usages intérieurs - Méthodes d'essais

Ta slovenski standard je istoveten z: EN 14323:2004

ICS:

79.060.01	Lesne ploġ e na sploġno	Wood-based panels in general

SIST EN 14323:2004 **en**

EUROPEAN STANDARD

NORME EUROPÉENNE

EUROPÄISCHE NORM

EN 14323

March 2004

ICS 79.060.01

English version

Wood-based panels - Melamine faced boards for interior uses - Test methods

Panneaux à base de bois - Panneaux surfacés mélaminés pour usages intérieurs - Méthodes d'essais

Holzwerkstoffe - Melaminbeschichtete Platten zur Verwendung im Innenbereich - Prüfverfahren

This European Standard was approved by CEN on 16 January 2004.

CEN members are bound to comply with the CEN/CENELEC Internal Regulations which stipulate the conditions for giving this European Standard the status of a national standard without any alteration. Up-to-date lists and bibliographical references concerning such national standards may be obtained on application to the Central Secretariat or to any CEN member.

This European Standard exists in three official versions (English, French, German). A version in any other language made by translation under the responsibility of a CEN member into its own language and notified to the Central Secretariat has the same status as the official versions.

CEN members are the national standards bodies of Austria, Belgium, Cyprus, Czech Republic, Denmark, Estonia, Finland, France, Germany, Greece, Hungary, Iceland, Ireland, Italy, Latvia, Lithuania, Luxembourg, Malta, Netherlands, Norway, Poland, Portugal, Slovakia, Slovenia, Spain, Sweden, Switzerland and United Kingdom.

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

Management Centre: rue de Stassart, 36 B-1050 Brussels

Ref. No. EN 14323:2004: E

Contents

Page

Foreword

This document (EN 14323:2004) has been prepared by Technical Committee CEN/TC 112 "Wood-based panels", the secretariat of which is held by DIN.

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 September 2004, and conflicting national standards shall be withdrawn at the latest by September 2004.

Annex A is informative.

According to the CEN/CENELEC Internal Regulations, the national standards organizations of the following countries are bound to implement this European Standard: Austria, Belgium, Cyprus, Czech Republic, Denmark, Estonia, Finland, France, Germany, Greece, Hungary, Iceland, Ireland, Italy, Latvia, Lithuania, Luxembourg, Malta, Netherlands, Norway, Poland, Portugal, Slovakia, Slovenia, Spain, Sweden, Switzerland and United Kingdom.

1 Scope

This European Standard specifies test methods for the determination of characteristics of melamine faced boards (MFB) as defined in EN 14322.

2 Normative references

This European Standard incorporates by dated or undated reference, provisions from other publications. These normative references are cited at the appropriate places in the text and the publications are listed hereafter. For dated references, subsequent amendments to or revisions of any of these publications apply to this European Standard only when incorporated in it by amendment or revision. For undated references the latest edition of the publication referred to applies (including amendments).

EN 324-1, *Wood-based panels — Determination of dimensions of boards — Part 1: Determination of thickness, width and length*

prEN 438-2:2002, *High-pressure decorative laminates (HPL) — Sheets based on thermosetting resins (usually called laminates) — Part 2: Determination of properties*

EN ISO 2813, *Paints and varnishes - Determination of specular gloss of non-metallic paint films at 20°, 60° and 85° (ISO 2813:1994, including Technical Corrigendum 1:1997)*

EN ISO 4892-2, *Plastics - Methods of exposure to laboratory light sources - Part 2: Xenon-arc sources (ISO 4892-2:1994)*

ISO 9352, *Plastics – Determination of resistance to wear by abrasive wheels*

3 Test pieces

The test pieces for the following tests shall be taken at least 150 mm from the edge of the product. When needed, the longitudinal or transverse direction of the decorative surface shall be specified by the manufacturer for the tests on the products.

4 Conditioning of test pieces

Unless specified otherwise for the individual tests, the test pieces shall be tested in the received state.

In cases of dispute or for type approval, the test pieces shall be conditioned in an atmosphere of (23 ± 2) °C and (50 ± 5) % relative humidity to constant mass prior to testing.

5 Test methods

5.1 Dimensions (thickness, length and width)

These properties shall be determined in accordance with EN 324-1.

5.2 Flatness

5.2.1 Principle

Flatness is determined by measuring the maximal deviation of the board surface from a metal straight edge placed at two selected positions parallel to the long and short edges of the board or panel.

5.2.2 Apparatus

Straight edge, of (1 000 ± 1) mm length, with dial indicator gauge (comparator) graduated to permit a reading accuracy of 0,1 mm.

5.2.3 Test pieces

The test piece shall be the complete board under test, as received, stored in the conditions recommended by the manufacturer.

5.2.4 Procedure

Place the board in a vertical position free from restraint with one long edge resting on an essentially horizontal floor. Place the flatness gauge on the concave surface at various positions. At each position, measure the greatest distance between board surface and the flatness gauge with an accuracy of 0,1 mm.

5.2.5 Expression of results

The result of the test is the highest recorded reading on the dial gauge in millimetres to the nearest 0,1 mm.

5.3 Edge damage

5.3.1 Principle

Edge damage is determined by placing a graduated mask or tape measure on the board or panel under test and measuring the size of chips of paper removed from the edges.

5.3.2 Apparatus

A metal tape measure or mask graduated in divisions of 1 mm.

5.3.3 Test pieces

The test piece is the board or panel as received.

5.3.4 Procedure

The test piece is laid level on a protective surface. Loose surface contamination is to be removed using a soft brush. Using the metal tape measure or the mask the size of the chip is measured at right angles to the board edge, across the chip towards the centre of the board.

5.3.5 Expression of results

Record the dimensions of the largest chip of paper removed to the nearest mm.

5.4 Surface defects

5.4.1 Principle

Inspection of boards for surface appearance under standardized conditions of lighting and viewing.

Surface defects are larger than 0,8 mm^2 and those that can be identified when the surface texture is viewed from a distance of 0,7 m and at an angle about of 45°.

5.4.2 Apparatus

Diffused light source, providing evenly diffused light giving an illumination on the test area between 2.000 Lux and 5.000 Lux. This may either be diffused daylight or be diffused artificial light. A convenient distance of the lights from the inspection table is approximately 1,5 m.

5.4.3 Test pieces

The test piece shall be the board under test, as received.

5.4.4 Procedure

Place the board, decorative face uppermost, on the inspection table and wipe it free of any loose contamination, if necessary, with a soft cloth and any suitable cleaning agent. Inspect it from the distance required (specified in 5.4.1) for defects such as smudges, smears, finger-prints, scratches, foreign particles, damage or any other form of blemish evident within the decorative surface. The inspector shall have normal vision, corrected if necessary. No magnifying glass shall be used in viewing the sheet.

5.4.5 Expression of results

Record all defects identifying type, number and size of defects and sum up surfaces and length.

NOTE The admissible size of defects is based on a maximum contamination area equivalent to a unit of defects and is proportional to the standard delivery size of the manufacturer. The total admissible area of contamination may be concentrated in one spot or dispersed over an amount of smaller defects.

In case of pre-cut panels the cumulative defect is referred to the standard delivery sizes of the manufacturers or amount of delivery.

EXAMPLE Permitted unit of defect (see EN 14322) in this sample is 2 mm^2/m^2
Standard delivery size of the manufacturer: 5 000 mm × 2 000 mm

Points:

The permissible total error (TE) is calculated as follows:

TE = Board length × Board width × Permitted unit of defect = 5 000 mm × 2 000 mm × 2 mm^2/m^2 = 20 mm^2

The following errors are therefore permitted:

1 × 20 mm^2 defect, or
2 × 10 mm^2 defect, or
3 × 6,6 mm^2 defect etc.

Length:

The permissible total error (TE) is calculated as follows:

TE = Board length × Board width × Permitted unit of defect = 5 000 mm × 2 000 mm × 20 mm/m^2 = 200 mm

The following errors are therefore permitted:

1 × 200 mm defect
2 × 100 mm defect
3 × 66 mm defect etc.

5.5 Resistance to scratching

5.5.1 Principle

The resistance to scratching of the surface under test is expressed as a numerical rating which defines the maximum applied load which does not produce a continuous surface scratch.

5.5.2 Apparatus

Scratch testing apparatus and viewing enclosure as described in prEN 438-2:2002 clause 25.

5.5.3 Test pieces

Cut a test piece 100 mm × 100 mm from the board under test. Wipe the surface using cotton fabric impregnated with a solvent such as acetone. It is important that, once cleaned, the surface is not fingered in the test area. Before making the scratch test store the test piece for 4 days in the standard atmosphere according to clause 4.

5.5.4 Procedure

Follow the procedure in 25.6 of prEN 438-2:2002 with the following modifications:

Start the test by making two scratches at 1,0 N with a spacing of 1 mm to 2 mm between the scratch marks. On the same test piece repeat this procedure with loads in increment of 0,5 N up to a load of 4 N leaving a space of 3 mm to 5 mm between each pair of scratches. Place the scratched samples in the standard atmosphere, defined in class 4, for 24 h before final inspection.

5.5.5 Expression of results

During the examination, the operator shall ensure that the double circle of scratch marks selected is truly > 90 % continuous.

NOTE The examination of the surface should take no longer than 10 s

Record the minimum load giving a continuous mark visible after 24 h in the standard atmosphere. In cases of dispute, three observers shall view the test piece and report their results independently; the final result shall be the average of the three reported values.

5.6 Resistance to staining

5.6.1 Principle

Test pieces are left in contact with a series of staining agents which are likely to be encountered in everyday use. The time and conditions of contact are specified for each staining agent. At the end of the specified contact period the test pieces are washed and examined for residual surface marks.

5.6.2 Staining agents

The test is carried out with the two representative staining agents acetone and black coffee. Acetone is applied at ambient temperature, black coffee of normal drinking strength is applied at approximately 80 °C. If the product under test meets specification requirements then it is deemed to comply with the specification for stain resistance. Other staining agents are included in annex A for information only.

In the case of arbitration, the staining agents listed in annex A shall be used to verify the quality of the surface.