SLOVENSKI STANDARD
SIST EN 13879:2004

01-januar-2004

Lesne ploġ e ï Ugotavljanje upogibnih lastnosti po robu

Wood-based panels - Determination of edgewise bending properties

Holzwerkstoffe - Bestimmung der Eigenschaften bei Hochkantbiegung

Panneaux a base de bois - Détermination des propriétés de flexion sur chant

Ta slovenski standard je istoveten z: **EN 13879:2002**

ICS:

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

SIST EN 13879:2004 **en**

EUROPEAN STANDARD

NORME EUROPÉENNE

EUROPÄISCHE NORM

EN 13879

May 2002

ICS 79.060.01

English version

Wood-based panels - Determination of edgewise bending properties

Panneaux à base de bois - Détermination des propriétés de flexion sur chant

Holzwerkstoffe - Bestimmung der Eigenschaften bei Hochkantbiegung

This European Standard was approved by CEN on 14 March 2002.

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 Management Centre 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 Management Centre has the same status as the official versions.

CEN members are the national standards bodies of Austria, Belgium, Czech Republic, Denmark, Finland, France, Germany, Greece, Iceland, Ireland, Italy, Luxembourg, Malta, Netherlands, Norway, Portugal, 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 13879:2002 E

Contents

Foreword

This document (EN 13879:2002) 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of an identical text or by endorsement, at the latest by November 2002, and conflicting national standards shall be withdrawn at the latest by November 2002.

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

1 Scope

This European Standard specifies a method for the determination of strength, stiffness, creep and duration of load when wood-based panels are loaded in edgewise bending.

It is not applicable to extruded panels.

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 310, *Wood-based panels — Determination of modulus of elasticity in bending and of bending strength.*

EN 789, *Timber structures — Test methods — Determination of mechanical properties of wood based panels.*

ENV 1156, *Wood-based panels — Determination of duration of load and creep factors.*

3 Principle

The bending properties are determined on test pieces prepared from panel strips, facewise fixed together forming a test piece which can be tested according to one of the three test methods for flatwise bending described in the following standards EN 310, EN 789, ENV 1156.

4 Test pieces

4.1 Number of test pieces

4.1.1 General

Each test piece shall contain strips from only one panel and one panel direction.

4.1.2 Number of strips per test piece and test pieces per panel for EN 310 size test pieces

For each direction to be tested, the number of test pieces is given in Table 1.

Table 1 — Number of strips per test piece and test pieces per panel for EN 310 size test pieces

Thickness of panel mm	Number of strips per test piece	Number of test pieces per direction and panel to be tested
3	16	3
4	12	3
5	10	3
6	8	3
7	7	3
8	6	3
9	5	3
10	5	3
12	4	4
14	3	5
16	3	5
18	2	6
20	2	6
25	2	6
> 25	1	6

4.1.3 Number of strips per test piece and test pieces per panel for EN 789 size test pieces

For each direction to be tested, the number of test pieces is given in Table 2.

Table 2 — Number of strips per test piece and test pieces per panel for EN 789 size test pieces

Thickness of panel mm	Number of strips per test piece	Number of test pieces per direction and panel to be tested
3	100	1
4	75	1
5	60	1
6	50	1
7	43	1
8	38	1
9	33	1
10	30	1
12	25	1
14	22	1
16	19	1
18	17	1
20	15	1
30	10	1

4.1.4 Number of strips per test piece and test pieces per panel for ENV 1156 size test pieces

For each direction to be tested, the number of test pieces is given in Table 3.

Table 3 — Number of strips per test piece and test pieces per panel for ENV 1156 size test pieces

Thickness of panel mm	Number of strips per test piece	Number of test pieces per direction and panel to be tested
3	16	3
4	12	3
5	10	3
6	8	5
7	7	5
8	6	5
9	5	5
10	5	5
12	4	6
14	3	8
16	3	8
18	2	10
20	2	10
25	2	10
> 25	1	10

4.2 Preparation of test pieces

4.2.1 Adhesives and fasteners

Use a low modulus glue, an adhesive film or a mechanical fastener which will not increase the stiffness and strength of the test piece. Apply the adhesive or fastener to the test piece at the loading point(s) and at the supports.

4.2.2 Small size test pieces (see EN 310)

Prepare strips with a length of 560 mm and a width (w) of a least 30 mm. Fix the strips together face to back to make a test piece with the dimensions 560 mm $\times$ (ca. 50) mm $\times$ w mm. Cut the test piece to a length of 550 mm and a thickness of 25 mm. The width of the test piece is dependent on the thickness of the strips (see Figure 1). Test pieces with less homogeneous material (e.g. plywood, LVL, OSB and solid wood panels) and a thickness more than 16 mm shall be tested with a height of 50 mm. The test piece size shall then be changed in accordance with the test method (see EN 310).

Dimensions in millimetres

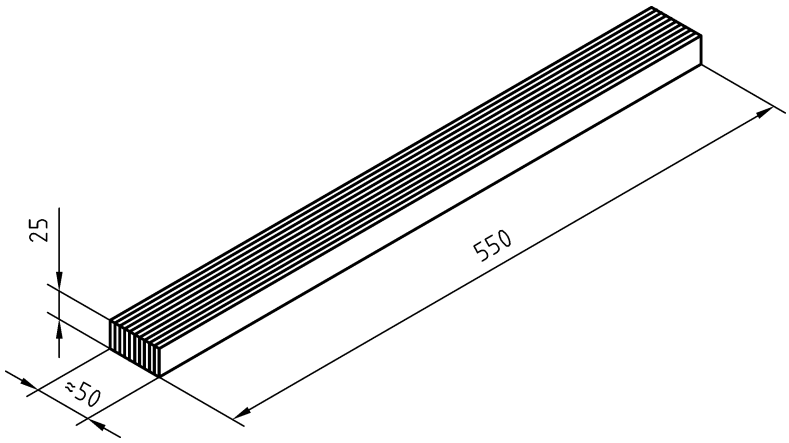

Figure 1 — Small size test piece for edgewise bending

4.2.3 Medium size test pieces (see EN 789)

Prepare strips with a length of 1 200 mm and a width (w) of 30 mm. Fix the strips together face to back to make a test piece with the dimensions 1 200 mm × (ca. 300) mm × w mm. Cut the test piece to a length of 1 150 mm and a thickness of 25 mm. The width of the test piece is dependent on the thickness of the strips (see Figure 2).

Dimensions in millimetres

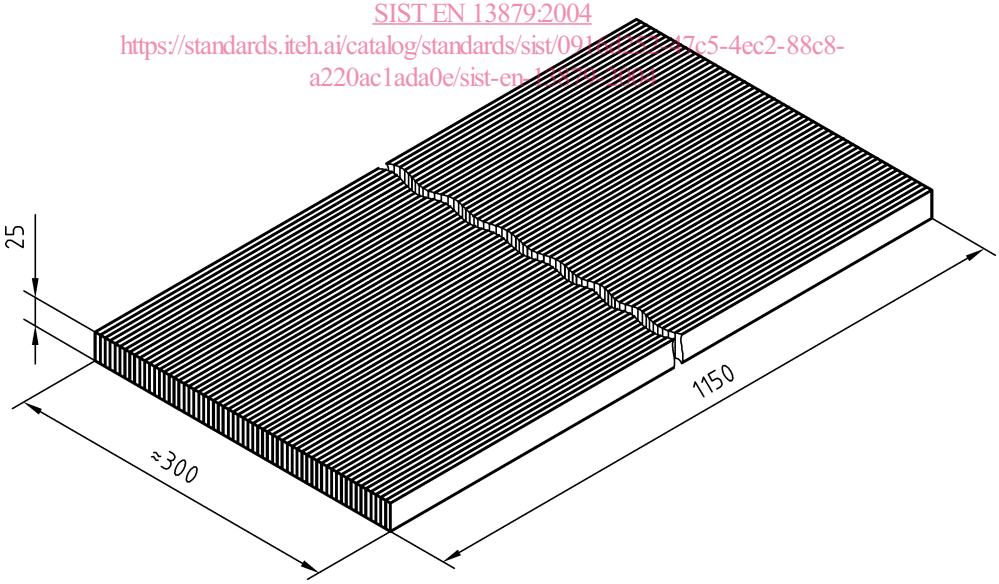

Figure 2 — Medium size test piece for edgewise bending

4.2.4 Test pieces for duration of load and creep test (see ENV 1156)

Prepare strips with a length of 500 mm and a width (w) of 30 mm. Fix the strips together face to back to make a test piece with the dimensions 500 × (ca. 50) × w mm. Cut the test piece to a length of 460 mm and a thickness of 25 mm. The width of the test piece is dependent on the thickness of the strips (see Figure 3). Test pieces with less homogeneous material (e.g. plywood, LVL, OSB and solid wood panels) and a thickness more than 16 mm shall be tested with a height of 50 mm. The test piece size shall then be changed in accordance with the test method (see ENV 1156).