

**Puitplaadid. Paindeelastsusmooduli ja
paindetugevuse määramine**

Wood-based panels - Determination of modulus of
elasticity in bending and bending strength

EESTI STANDARDI EESSÕNA

NATIONAL FOREWORD

Käesolev Eesti standard EVS-EN 310:2002 sisaldab Euroopa standardi EN 310:1993 ingliskeelset teksti.

Standard on kinnitatud Eesti Standardikeskuse 22.11.1999 käskkirjaga ja jõustub sellekohase teate avaldamisel EVS Teatajas.

Euroopa standardimisorganisatsioonide poolt rahvuslikele liikmetele Euroopa standardi teksti kättesaadavaks tegemise kuupäev on 26.02.1993.

Standard on kättesaadav Eesti standardiorganisatsioonist.

This Estonian standard EVS-EN 310:2002 consists of the English text of the European standard EN 310:1993.

This standard is ratified with the order of Estonian Centre for Standardisation dated 22.11.1999 and is endorsed with the notification published in the official bulletin of the Estonian national standardisation organisation.

Date of Availability of the European standard text 26.02.1993.

The standard is available from Estonian standardisation organisation.

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Võtmesõnad: elastsusmoodul, katsemeetod, osb, paindetugevus, puitkiudplaat, puitlaastplaat, puitplaat, tsementsideainega puitlaastplaat, vineer

Standardite reprodutseerimis- ja levitamiseõigus kuulub Eesti Standardikeskusele

Andmete paljundamine, taastekitamine, kopeerimine, salvestamine elektroonilisse süsteemi või edastamine ükskõik millises vormis või millisel teel on keelatud ilma Eesti Standardikeskuse poolt antud kirjaliku loata.

Kui Teil on küsimusi standardite autorikaitse kohta, palun võtke ühendust Eesti Standardikeskusega:
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Descriptors: Wood-based panel, particleboard, plywood, fibreboard, OSB, cement-bonded particleboard, test method, modulus of elasticity, bending strength.

English version

Wood-based panels

Determination of modulus of elasticity in bending
and of bending strength

Panneaux à base de bois; détermination
du module d'élasticité en flexion et de la
résistance à la flexion

Holzwerkstoffe; Bestimmung des Biege-
Elastizitätsmoduls und der Biegefestigkeit

This European Standard was approved by CEN on 1992-12-15.

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, Denmark, Finland, France, Germany, Greece, Iceland, Ireland, Italy, Luxembourg, Netherlands, Norway, Portugal, Spain, Sweden, Switzerland and United Kingdom.

CEN

European Committee for Standardization
Comité Européen de Normalisation
Europäisches Komitee für Normung

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Foreword

This European Standard was prepared by Working Group 4 'Common test methods' (Secretariat: BSI) of Technical Committee CEN/TC 112 'Wood-based panels', the Secretariat of which is held by DIN.

The text is based on draft International Standard ISO 9429 which has been developed with European participation.

This standard is one of a series of standards specifying methods of test for determining dimensions and properties of wood-based panels.

No existing European Standard is superseded.

This European Standard shall be given the status of a national standard, either by publication of an identical text or by endorsement, by August 1993 at the latest, and conflicting national standards withdrawn, by December 1994 at the latest.

In accordance with the CEN/CENELEC Internal Regulations, the following countries are bound to implement this European Standard:

Austria, Belgium, Denmark, Finland, France, Germany, Greece, Iceland, Ireland, Italy, Luxembourg, Netherlands, Norway, Portugal, Spain, Sweden, Switzerland and United Kingdom.

1 Scope

This European Standard specifies a method of determining the apparent modulus of elasticity in flatwise bending and the bending strength of wood-based panels of nominal thickness equal to or greater than 3 mm.

NOTE: Structural design values shall be determined according to EN 789.

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.

EN 325 Wood-based panels; determination of dimensions of test pieces

EN 326-1 Wood-based panels; sampling, cutting and inspection. Part 1: Sampling and cutting of test pieces and evaluation of test results¹⁾

3 Principle

The modulus of elasticity in bending and the bending strength are determined by applying a load to the centre of a test piece supported at two points. The modulus of elasticity is calculated by using the slope of the linear region of the load-deflection curve. The value calculated is the apparent modulus, not the true modulus, because the test

method includes shear as well as bending. The bending strength of each test piece is calculated by determining the ratio of the bending moment, M , at maximum load, F_{max} , to the moment of its full cross section.

4 Apparatus

4.1 Measuring instruments

As specified in EN 325.

4.2 Testing apparatus (see figure 1), having the following components.

4.2.1 Two parallel, cylindrical, roller-bearing supports, of length exceeding the width of the test piece, and of $(15 \pm 0,5)$ mm diameter. The distance between the supports shall be adjustable.

A cylindrical loading head, of the same length and $(30 \pm 0,5)$ mm in diameter, placed parallel to the supports and equidistant from them.

4.2.2 A suitable instrument, capable of measuring the deflection of the test piece in the middle of the span with an accuracy of 0,1 mm.

4.2.3 A suitable load measurement system, capable of measuring the load applied to the test piece with an accuracy of 1% of the measured value.

¹⁾ At present at the draft stage.