Wood-based panels - Determination of duration of load and creep factors

EESTI STANDARDIKESKUS
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NATIONAL FOREWORD

See Eesti standard EVS-ENV 1156:1999 sisaldab Euroopa standardi ENV 1156:1998 ingliskeelset teksti.	This Estonian standard EVS-ENV 1156:1999 consists of the English text of the European standard ENV 1156:1998.
Standard on jõustunud sellekohase teate avaldamisega EVS Teatajas.	This standard has been endorsed with a notification published in the official bulletin of the Estonian Centre for Standardisation.
Euroopa standardimisorganisatsioonid on teinud Euroopa standardi rahvuslikele liikmetele kättesaadavaks 16.12.1998.	Date of Availability of the European standard is 16.12.1998.
Standard on kättesaadav Eesti Standardikeskusest.	The standard is available from the Estonian Centre for Standardisation.

Tagasisidet standardi sisu kohta on võimalik edastada, kasutades EVS-i veebilehel asuvat tagasiside vormi või saates e-kirja meiliaadressile standardiosakond@evs.ee.

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Võtmesõnad: bend tests, breaking loads, creep testing, determination, forces, loads, time, wood based panels,

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Descriptors: wood based panels, bend tests, creep tests, determination, loads : forces, breaking loads, time

English version

Wood-based panels - Determination of duration of load and creep factors

Panneaux à base de bois - Détermination des facteurs de durée de charge et de fluage

Holzwerkstoffe - Bestimmung von Zeitstandfestigkeit und Kriechzahl

This European Prestandard (ENV) was approved by CEN on 28 November 1998 as a prospective standard for provisional application.

The period of validity of this ENV is limited initially to three years. After two years the members of CEN will be requested to submit their comments, particularly on the question whether the ENV can be converted into a European Standard.

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

Central Secretariat: rue de Stassart, 36 B-1050 Brussels

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Foreword

This European Prestandard has been prepared by Technical Committee CEN/TC 112 "Wood-based panels", the secretariat of which is held by DIN.

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

1 Scope

This European Prestandard specifies a method of determining in a constant climate both a duration of load factor and a creep factor for wood-based panels stressed in flatwise bending with and without a shear component. Details of an alternative but provisional method employing medium sized test pieces are given in Annex B; this method can also be used for test pieces loaded under varying climates.

NOTE: The duration of load factor is necessary to modify the characteristic strength values obtained in short-term structural tests in order to derive long-term values. The creep factor obtained in the test is used to predict a long-term deflection from the initial elastic deflection.

2 Normative references

This European Prestandard 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 310
Wood-based panels
Determination of modulus of elasticity in bending and of bending strength

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 expression of test results

EN 1058
Wood-based panels
Determination of characteristic values of mechanical properties and density

ENV 1995-1-1
Eurocode 5 – Design of timber structures – Part 1-1: General rules and rules for buildings

3 Principle

Determination in a constant climate of the load duration factor (loss in strength with time under load) and the creep factor (ratio of increase in deflection with time to the initial elastic deflection) in bending by applying and sustaining a constant moment over the central region of a test piece; both the time to failure, and the increase in deflection with time are measured.

4 Apparatus

4.1 Measuring instruments as specified in EN 325.

4.2 A number of test rigs (see figure 1), having essentially the following components:

4.2.1 Two parallel cylindrical supports of length exceeding the width of the test piece and of diameter d = (15±0,5) mm. The distance between the supports shall be adjustable, and each support shall be capable of rotating in its frame.

Two cylindrical loading rollers of the same length and diameter as the supports. These shall lie parallel to the supports, be capable of rotating, and be linked together with cross-arms of fixed length.

The distance l_1 between the loading rollers shall be 150 mm, the distance between one support and the nearer loading roller shall be five times the nominal thickness t of the test piece. The horizontal and vertical components of the loading cradle shall be rigidly connected.