

**Timber structures - Test methods -
Determination of mechanical properties of
wood based panels**

Timber structures - Test methods - Determination of
mechanical properties of wood based panels

EESTI STANDARDI EESSÕNA

NATIONAL FOREWORD

Käesolev Eesti standard EVS-EN 789:2004 sisaldab Euroopa standardi EN 789:2004 ingliskeelset teksti. Käesolev dokument on jõustatud 21.12.2004 ja selle kohta on avaldatud teade Eesti standardiorganisatsiooni ametlikus väljaandes. Standard on kättesaadav Eesti standardiorganisatsioonist.	This Estonian standard EVS-EN 789:2004 consists of the English text of the European standard EN 789:2004. This document is endorsed on 21.12.2004 with the notification being published in the official publication of the Estonian national standardisation organisation. The standard is available from Estonian standardisation organisation.
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Käsitlusala: This document specifies test methods for determining some mechanical properties of commercial wood-based panel products for use in load-bearing timber structures. These properties are intended for the calculation of characteristic values for use in obtaining material design values.	Scope: This document specifies test methods for determining some mechanical properties of commercial wood-based panel products for use in load-bearing timber structures. These properties are intended for the calculation of characteristic values for use in obtaining material design values.
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Võtmesõnad:

English version

Timber structures - Test methods - Determination of mechanical properties of wood based panels

Structures en bois - Méthodes d'essai - Détermination des propriétés mécaniques des panneaux à base de bois

Holzbauwerke - Prüfverfahren - Bestimmung der mechanischen Eigenschaften von Holzwerkstoffen

This European Standard was approved by CEN on 1 April 2004.

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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.

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

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Foreword

This document (EN 789:2004) has been prepared by Technical Committee CEN/TC 124 "Timber Structures", the secretariat of which is held by SFS.

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 April 2005, and conflicting national standards shall be withdrawn at the latest by April 2005.

This document supersedes EN 789:1995.

This document includes a Bibliography.

According to the CEN/CENELEC Internal Regulations, 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.

Introduction

The following amendments have been made to EN 789:1995:

- Certain descriptions of test methods and expressions of the test results have been improved.
- Following further research, the panel and planar shear test methods have been revised and moved from the annexes to the main part of the document.
- A method for compression perpendicular to the plane of the panel has been added, as Annex D.

These changes are based on the results and experience of research carried out at a number of European laboratories.

1 Scope

This document specifies test methods for determining some mechanical properties of commercial wood-based panel products for use in load-bearing timber structures. These properties are intended for the calculation of characteristic values for use in obtaining material design values.

For each type and grade of load-bearing panel product, as defined in the Harmonised Standard for wood-based panels (EN 13986), it is necessary to determine characteristic values of mechanical properties to enable it to be used for structural purposes. This document details the testing required to establish characteristic values. The tests need only be carried out once for each product, unless there is a reason to suspect a significant change has occurred in the properties of the product.

NOTE For certain types and grades of panel, characteristic values are given in EN 12369 and these may be used for appropriate panels without further testing to this document.

This document is not intended to be used for quality control testing, for which smaller test pieces than specified herein, are adequate.

Due to the limited experience in use, the test method for compression perpendicular to the plane of the panel (bearing) is included in Annex D (informative).

2 Normative references

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

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

EN 323, *Wood-based panels - Determination of density*

EN 325, *Wood-based panels - Determination of dimensions of test pieces*

EN 14358, *Structural timber – Calculation of characteristic 5-percentile value*

3 Terms and definitions

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

3.1 specimen

piece of the panel from which a test piece will be fabricated

3.2 test piece

specimen of aggregate of parts from a sample fabricated to the size and shape required for testing

4 Symbols and abbreviations

<i>A</i>	full cross-sectional area, equal to <i>b</i> <i>t</i> , in square millimetres;
<i>b</i>	measured width of test piece, in millimetres;
<i>E</i>	modulus of elasticity, in newtons per square millimetre;
<i>F</i>	load, in newtons;
<i>f</i>	strength, in newtons per square millimetre;