

Puitkonstruktsioonid. Katsemeetodid. Puitraamiga seinaplaatide tõmbetugevus ja jäikus

Timber structures - Test methods - Racking strength and stiffness of timber frame wall panels

EESTI STANDARDI EESSÕNA

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English Version

**Timber structures - Test methods - Racking strength and
stiffness of timber frame wall panels**

Structures en bois - Méthodes d'essai - Essai de raideur et
résistance au contreventement des murs à ossature en
bois

Holzbauwerke - Prüfverfahren - Wandscheiben-
Tragfähigkeit und -Steifigkeit von Wandelementen in
Holztafelbauart

This European Standard was approved by CEN on 4 June 2011.

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Foreword

This document (EN 594:2011) has been prepared by Technical Committee CEN/TC 124 "Timber structures", the secretariat of which is held by AFNOR.

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of an identical text or by endorsement, at the latest by December 2011, and conflicting national standards shall be withdrawn at the latest by December 2011.

Attention is drawn to the possibility that some of the elements of this document may be the subject of patent rights. CEN [and/or CENELEC] shall not be held responsible for identifying any or all such patent rights.

This document supersedes EN 594:1995.

The changes compared to the previous version are:

- 1) the test standard opened the scope for more types of panels;
- 2) the test protocol is changed to allow a more straight forward comparison between results of different panels.

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

1 Scope

This European Standard specifies the test method to be used in determining the racking strength and stiffness of timber frame wall panels.

The test method is intended primarily for panels as described, to provide:

- comparative performance values for the materials used in the manufacture of the panels, and
- data information for use in structural design.

The principle of the test method is suited to other sizes and shapes of panels and to other methods of hold down as well as panels which are partially sheathed and to combinations of panels.

NOTE The method is detailed for a general situation where the client for the test knows the materials to be used in the construction, which may cover a range of different panels and walls and therefore wishes to test a standard configuration of panel. Where specific details are fixed they may be incorporated into the test but any additions or changes to the standard configuration are indicated in the test report and, later, can lead to limitations on the use of the test data.

2 Normative references

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

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

EN 14358, *Timber structures — Calculation of the characteristic 5-percentile values and acceptance criteria for a sample*

ISO 3130, *Wood — Determination of moisture content for physical and mechanical tests*

ISO 3131, *Wood — Determination of density for physical and mechanical tests*

3 Terms and definitions

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

- 3.1**
timber frame wall panel
structural wall panel consisting of timber framing with sheathing material fixed to one or both faces and are referred to herein as 'panels'
- 3.2**
head binder
piece of timber fixed to the top of the panel for test purposes
- 3.3**
packer
piece of timber fixed to the base of the test rig for test purposes
- 3.4**
racking strength
capacity of a panel to resist a horizontal load in the plane of the panel
- 3.5**
racking stiffness
calculated stiffness of a panel when it is loaded to approximately 40 % of its racking strength