

**Puitkonstruktsioonid. Nelinurkse ristlõikega
tugevussorditud ehituspuit. Osa 2: Masinsortimine.
Täiendavad nõuded esmasteks tüübikatsetusteks**

Timber structures - Strength graded structural timber with
rectangular cross section - Part 2: Machine grading;
additional requirements for initial type testing

EESTI STANDARDI EESSÕNA

NATIONAL FOREWORD

Käesolev Eesti standard EVS-EN 14081-2:2010+A1:2012 sisaldab Euroopa standardi EN 14081-2:2010+A1:2012 ingliskeelset teksti.

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English Version

**Timber structures - Strength graded structural timber with
rectangular cross section - Part 2: Machine grading; additional
requirements for initial type testing**

Structures en bois - Bois de structure de section
rectangulaire classé selon la résistance - Partie 2:
Classement mécanique - Exigences supplémentaires
concernant les essais de type initiaux

Holzbauwerke - Nach Festigkeit sortiertes Bauholz für
tragende Zwecke mit rechteckigem Querschnitt - Teil 2:
Maschinelle Sortierung; zusätzliche Anforderungen an die
Erstprüfung

This European Standard was approved by CEN on 5 May 2010 and includes Amendment 1 approved by CEN on 8 October 2012.

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Foreword

This document (EN 14081-2:2010+A1:2012) 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of an identical text or by endorsement, at the latest by May 2013, and conflicting national standards shall be withdrawn at the latest by May 2013.

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 A1 EN 14081-2:2010. A1

This document includes Amendment 1 approved by CEN on 8 October 2012.

The start and finish of text introduced or altered by amendment is indicated in the text by tags A1 A1.

This document has been prepared under a mandate given to CEN by the European Commission and the European Free Trade Association, and supports essential requirements of EU Directive(s).

Other parts of the EN 14081 series are:

- EN 14081-1, *Timber structures — Strength graded structural timber with rectangular cross section — Part 1: General requirements*;
- EN 14081-3, *Timber structures — Strength graded structural timber with rectangular cross section — Part 3: Machine grading; additional requirements for factory production control*
- EN 14081-4, *Timber structures — Strength graded structural timber with rectangular cross section — Part 4: Machine grading — Grading machine settings for machine controlled systems*

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

Introduction

Machine grading is in common use in a number of countries. The countries use two basic systems, referred to as "output controlled" and "machine controlled". Both systems require a visual override inspection to cater for strength-reducing characteristics that are not automatically sensed by the machine.

The output-controlled system is suitable for use where the grading machines are situated in sawmills grading limited sizes, species and grades in repeated production runs of around one working shift or more. This enables the system to be controlled by testing timber specimens from the daily output. These tests together with statistical procedures are used to monitor and adjust the machine settings to maintain the required strength properties for each strength class. With this system it is permissible for machine approval requirements to be less demanding and for machines of the same type to have non-identical performance.

The machine controlled system was developed in Europe. Because of the large number of sizes, species and grades used it was not possible to carry out quality control tests on timber specimens drawn from production. The system relies therefore on the machines being strictly assessed and controlled, and on considerable research effort to derive the machines settings, which remain constant for all machines of the same type.

The acceptability of grading machines and the derivation of settings rely on statistical procedures and the results will therefore depend on the method used. For this reason this document gives appropriate statistical procedures.

The requirements in this European Standard are based on machines in current use and on future types of machines as far as these can be foreseen. It is recognised that additional clauses or standards may be required if unforeseen developments take place.

1 Scope

This European Standard specifies requirements, additional to those in EN 14081-1, for initial type testing of machine graded structural timber with rectangular cross sections shaped by sawing, planing or other methods, and having deviations from the target sizes corresponding to EN 336. This includes requirements for strength grading machines and test equipment for proof loading graded material.

2 Normative references

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

EN 338, *Structural timber — Strength classes*

EN 384, *Structural timber — Determination of characteristic values of mechanical properties and density*

EN 408:2003, *Timber structures — Structural timber and glued laminated timber — Determination of some physical and mechanical properties*

EN 14081-1, *Timber structures — Strength graded structural timber with rectangular cross section — Part 1: General requirements*

EN 14081-3, *Timber structures — Strength graded structural timber with rectangular cross section — Part 3: Machine grading; additional requirements for factory production control*

EN 14081-4, *Timber structures — Strength graded structural timber with rectangular cross section — Part 4: Machine grading — Grading machine settings for machine controlled systems*

3 Terms and definitions

For the purposes of this document, the terms and definitions given in EN 14081-1 and the following apply.

3.1

characteristic strength

population 5-percentile value obtained from the results of tests with a duration of (300 ± 120) s using test pieces at an equilibrium moisture content resulting from a temperature of 20 °C and a relative humidity of 65 %

3.2

characteristic stiffness

population mean value obtained under the same test conditions as defined in 3.1

3.3

critical feed speed

speed within the intended usable range at which the grading machine is least accurate in measuring its indicating property

3.4

depth

dimension perpendicular to the longitudinal axis of a timber beam, in the plane of the bending forces