BSI Standards Publication

# Timber structures - Strength graded structural timber with rectangular cross section

Part 3: Machine grading; additional requirements for factory production control

bsi.

# National foreword

This British Standard is the UK implementation of EN 14081-3:2012+A1:2018. It supersedes BS EN 14081-3:2012, which is withdrawn.

The start and finish of text introduced or altered by amendment is indicated in the text by tags. Tags indicating changes to CEN text carry the number of the CEN amendment. For example, text altered by CEN amendment A1 is indicated by A1 A1.

The UK participation in its preparation was entrusted to Technical Committee B/518, Structural timber.

A list of organizations represented on this committee can be obtained on request to its secretary.

This publication does not purport to include all the necessary provisions of a contract. Users are responsible for its correct application.


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NORME EUROPÉENNE

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English Version

# Timber structures - Strength graded structural timber with rectangular cross section - Part 3: Machine grading; additional requirements for factory production control

Structures en bois - Bois de structure à section rectangulaire classé pour sa résistance - Partie 3 : Classement mécanique ; exigences complémentaires relatives au contrôle de la production en usine

Holzbauwerke - Nach Festigkeit sortiertes Bauholz für tragende Zwecke mit rechteckigem Querschnitt - Teil 3: Maschinelle Sortierung, zusätzliche Anforderungen an die werkseigene Produktionskontrolle

This European Standard was approved by CEN on 16 December 2011 and includes Amendment 1 approved by CEN on 15 October 2017.

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## European foreword

This document (EN 14081-3:2012+A1:2018) has been prepared by Technical Committee CEN/TC124 "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of an identical text or by endorsement, at the latest by April 2019, and conflicting national standards shall be withdrawn at the latest by April 2019.

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

This document supersedes ▌A1⟩ EN 14081-3:2012 ⟨A1▌.

This document includes Amendment 1 approved by CEN on 2017-10-15.

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.

Other parts of the series of EN 14081 are:

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

— EN 14081-2, *Timber structures — Strength graded structural timber with rectangular cross section — Part 2: Machine grading; additional requirements for initial type testing*;

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

Compared to EN 14081-3:2005 the following modifications have been made in EN 14081:2012:

— the additional factory production control requirements for output controlled systems are transferred in Annex B (informative);

— in Annex A, the requirements for using control planks are updated.

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, Serbia, 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 European Standard 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 given in EN 14081-1 for factory production control 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.

## 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.

〚A1〛 EN 384, *Structural timber — Determination of characteristic values of mechanical properties and density* 〚A1〛

EN 408, *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*

〚A1〛 EN 14081-2:2018, *Timber structures — Strength graded structural timber with rectangular cross section — Part 2: Machine grading; additional requirements for type testing* 〚A1〛

## 3 Terms and definitions

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

〚A1〛

**3.1**
**production batch**
one production run where the timber of one source, grade or grade combination, species or species combination and size is graded using the same settings 〚A1〛

〚A1〛 *deleted text* 〚A1〛

## 4 Requirements for the operation, calibration and maintenance of a grading machine

**4.1** No modifications that are in conflict with the machine manufacturer's specification shall be made to the machine.

**4.2** Access to all machine adjustments shall be limited to personnel authorised to operate or set up the machine.

**4.3** The strength grading machine shall be regularly calibrated in accordance with the manufacturer's specification.