

STN	Drevené konštrukcie Pevnostne triedené konštrukčné rezivo s pravouhlým prierezom Časť 2: Strojové triedenie Dodatočné požiadavky na počiatočné skúšanie typu	STN EN 14081-2+A1 73 1716
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Timber structures - Strength graded structural timber with rectangular cross section - Part 2: Machine grading; additional requirements for type testing

Táto norma obsahuje anglickú verziu európskej normy.
This standard includes the English version of the European Standard.

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English Version

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

Structures en bois - Bois de structure à section
rectangulaire classé pour sa résistance - Partie 2 :
Classement mécanique par machine; exigences
supplémentaires concernant les essais de type

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 13 August 2018 and includes Amendment 1 approved by CEN on 13 March 2022.

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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 CEN-CENELEC Management Centre has the same status as the official versions.

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

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EN 14081-2:2018+A1:2022 (E)

Contents	Page
European foreword.....	4
Introduction	6
1 Scope.....	7
2 Normative references.....	7
3 Terms and definitions	7
4 Symbols and abbreviations	9
5 Requirements for strength grading machines.....	10
6 Derivation of settings for machine control systems.....	11
6.1 Requirements on sampling.....	11
6.2 Requirements for grading process, destructive testing and calculation of grade determining properties	12
6.2.1 Grading process	12
6.2.2 Destructive testing.....	12
6.2.3 Calculations of grade determining properties	12
6.3 Requirements for a setting area	13
6.3.1 General.....	13
6.3.2 Standardized areas.....	13
6.4 Requirements for the derivation and verification of machine settings.....	13
6.4.1 Derivation of machine settings	13
6.4.2 Verification of machine settings	14
6.5 Fixed settings.....	16
6.6 Reporting	16
7 Additional verification requirements for a new grading machine or a change in scope of existing grading machines for machine control systems	18
7.1 Repeatability.....	18
7.2 Machine installation check.....	18
8 Derivation of settings for output control systems	19
8.1 General.....	19
8.2 Initial machine settings.....	19
8.3 Verification of machine settings	19
8.3.1 Sampling.....	19
8.3.2 Destructive testing and calculation of characteristic values.....	19
8.3.3 Requirements for verification of machine settings	19
8.4 Report.....	19
9 Requirements for adaptive settings	20
9.1 Method	20
9.2 Conditions.....	21
Annex A (informative) Guidelines for sampling a growth area for deriving machine settings	22
Annex B (informative) Prediction limit method	23
B.1 General.....	23
B.2 Model determination	23

B.3	Settings calculation	24
Annex C (normative)	Determination of the global cost matrix	25
C.1	Introduction	25
C.2	Optimum grading	25
C.3	IP grading	25
C.4	Calculation of size matrix	26
C.5	Calculation of elementary cost matrix	26
C.5.1	Introduction	26
C.5.2	Factors for wrongly upgraded pieces	26
C.5.3	Factors for wrongly downgraded pieces	27
C.5.4	Examples of elementary cost matrices for C, T and D classes	27
C.6	Calculation of a global cost matrix	30
Annex D (informative)	Settings for C and T-classes	31
Bibliography	36

EN 14081-2:2018+A1:2022 (E)**European foreword**

This document (EN 14081-2:2018+A1:2022) 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 2022, and conflicting national standards shall be withdrawn at the latest by December 2022.

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 includes Amendment 1 approved by CEN on 13 March 2022.

This document supersedes A1 EN 14081-2:2018 A1.

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 Standardization Request given to CEN by the European Commission and the European Free Trade Association.

Compared to EN 14081-2:2010+A1:2012, the following main modifications have been made:

- new definitions added in Clause 3;
- new requirements for sampling, settings areas and minimum cross-section area;
- introduction of standardized areas;
- method for deriving settings is no longer normative, since several methods may be used; an example of a method is given in Annex B;
- new method for verification of settings;
- cost matrix requirements are changed, to better allow settings that aim for reduced reject rather than yield in the highest grade;
- new method for output control systems;
- introduction of adaptive settings;
- introduction of fixed settings.

This standard is part of a series of standards on *Timber structures — Strength graded structural timber with rectangular cross section* (“EN 14081”) that includes:

- *Part 1: General requirements;*
- *Part 2: Machine grading; additional requirements for type testing;*
- *Part 3: Machine grading; additional requirements for factory production control.*

Any feedback and questions on this document should be directed to the users’ national standards body. A complete listing of these bodies can be found on the CEN website.

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, Republic of North Macedonia, Romania, Serbia, Slovakia, Slovenia, Spain, Sweden, Switzerland, Turkey and the United Kingdom.

EN 14081-2:2018+A1:2022 (E)**Introduction**

Machine grading is in common use in a number of countries. There are two basic systems, referred to as “output control” and “machine control”. Both systems require a visual override inspection to cater for performance reducing characteristics that are not automatically sensed by the machine.

The output control 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 control 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, under basic machine control operation, remain constant for all machines of the same type.

Additional factory production control requirements are given in EN 14081-3.

This standard provides a new approach, applicable to both machine control and output control systems, which permits fine adjustment of settings on a grading machine based on continuous monitoring of Indicating Property (IP) data during grading. This approach is called “adaptive settings”.

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.

Grading assignments to strength classes are based on grading reports. When these grading reports are evaluated and approved by CEN/TC 124 /WG 2 /TG 1, they become Approved Grading Reports (AGR).

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 recognized that additional clauses or standards may be required if unforeseen developments take place.

Since the previous version of this European Standard (EN 14081-2:2010+A1:2012), grading settings work, and research data, have provided more information about the variation in wood properties. Several new rules were created by CEN/TC 124 /WG 2 to update the procedures and ensure safety of grading – particularly of settings covering many countries, and are referenced in the guidance paper (see Annex A). This new version of the standard updates the procedures according to the guidance paper.

1 Scope

This document specifies requirements, additional to those of EN 14081-1, for 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.

2 Normative references

The following documents are referred to in the text in such a way that some or all of their content constitutes requirements 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 384, *Structural timber — Determination of characteristic values of mechanical properties and density*

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

EN 14358, *Timber structures — Calculation and verification of characteristic values*

EN 13556, *Round and sawn timber — Nomenclature of timbers used in Europe*

EN ISO 3166-1, *Codes for the representation of names of countries and their subdivisions — Part 1: Country code (ISO 3166-1)*

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