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Evrokod 5 - Projektiranje lesenih konstrukcij - 3. del: Izvedba

Eurocode 5 - Design of timber structures - Part 3: Execution

Eurocode 5 - Bemessung und Konstruktion von Holzbauten - Teil 3: Ausführung

Eurocode 5 - Calcul des structures en bois - Partie 3 : Exécution

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Eurocode 5 - Design of timber structures - Part 3: Execution

Eurocode 5 - Calcul des structures en bois - Partie 3:
Exécution

Eurocode 5 - Bemessung und Konstruktion von
Holzbauten - Teil 3: Ausführung

This draft European Standard is submitted to CEN members for enquiry. It has been drawn up by the Technical Committee CEN/TC 250.

If this draft becomes a European Standard, CEN members are bound to comply with the CEN/CENELEC Internal Regulations which stipulate the conditions for giving this European Standard the status of a national standard without any alteration.

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Recipients of this draft are invited to submit, with their comments, notification of any relevant patent rights of which they are aware and to provide supporting documentation.

Warning : This document is not a European Standard. It is distributed for review and comments. It is subject to change without notice and shall not be referred to as a European Standard.



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

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Contents	Page
European foreword	6
0 Introduction	7
1 Scope.....	10
1.1 Scope of EN 1995-3.....	10
1.2 Assumptions	10
2 Normative references.....	11
3 Terms, definitions, symbols and abbreviations	11
3.1 Terms and definitions.....	11
3.2 Symbols and abbreviations	13
3.2.1 Latin lower-case letters	13
3.2.2 Latin upper-case letters.....	14
3.2.3 Greek lower-case letters	15
3.2.4 Greek upper-case letters.....	15
4 Documentation and inspection.....	15
4.1 Inspection levels.....	15
4.2 Execution specification	16
4.2.1 Content.....	16
4.2.2 Action in the case of damage or deviations from the execution specification.....	17
4.3 Execution quality assurance	17
4.4 Documentation and number of pieces to be assessed.....	17
4.4.1 General.....	17
4.4.2 Documentation of the execution	18
4.5 Inspection	18
5 Workmanship.....	19
5.1 General.....	19
5.2 Erection plan	19
5.3 Moisture control plan.....	20
5.4 Connections.....	21
5.4.1 General.....	21
5.4.2 Screwed connections	21
5.4.3 Nailed and stapled connections.....	22
5.4.4 Bolted connections.....	22
5.4.5 Dowelled connections	22
5.4.6 Punched metal plate fasteners (PMPF).....	22
5.4.7 Split ring and shear plate connectors.....	22
5.4.8 Expanded tube fasteners.....	22
5.5 Bonded connections.....	22
5.6 Timber piles.....	23
6 Permitted geometrical deviations	23
6.1 General.....	23
6.1.1 Maximum permitted geometrical deviations.....	23
6.1.2 Dimension adjustment for moisture content	23
6.1.3 Measuring geometrical deviations	23
6.2 Maximum permitted deviation in member cross section dimensions.....	24

6.3	Maximum permitted deviation for cutting and machining	24
6.4	Hole diameters for dowel-type fasteners	27
6.4.1	General	27
6.4.2	Hole diameters in metal	27
6.4.3	Hole diameters in wood	27
6.5	Location of holes for dowel-type fasteners and connectors	27
6.5.1	General	27
6.5.2	Laterally loaded fasteners and connectors	27
6.5.3	Axially loaded screws	30
6.6	Penetration and angle to surface of dowel-type fasteners	32
6.7	Prefabricated wall, floor and roof assemblies	33
6.8	Erected members and structures	33
6.8.1	General	33
6.8.2	Inclination from vertical	34
6.8.3	Bow in members	38
6.8.4	Inclination from vertical at end supports and twist in slender beams	40
6.8.5	Bearings and contact areas	41
6.8.6	Deviation of base supports	41
6.9	Carpentry joints	41
	Annex A (informative) Number of pieces to assess and assessment criteria	42
A.1	Use of this annex	42
A.2	Scope and field of application	42
A.3	Sample size and inspection procedures	42
	Annex B (normative) Bonding	44
B.1	Use of this annex	44
B.2	Scope and field of application	44
B.3	General rules	44
B.4	Competency	45
B.5	Equipment and premises	45
B.6	Materials	45
B.6.1	Timber products for surface bonding	45
B.6.2	Screws and washers for surface bonding	46
B.6.3	Adhesives	46
B.7	Bonded-in rods	47
B.7.1	Pre-drilled holes	47
B.7.2	The rods	47
B.7.3	The bonding process	47
B.8	Bonding of panels and laminations	47
B.8.1	General	47
B.8.2	Surface preparation	48
B.8.3	Bonding process	48
B.8.4	Pressing	48

prEN 1995-3:2023 (E)

B.8.4.1 Hydraulic pressing	48
B.8.4.2 Screw-press bonding	49
B.9 Measures to ensure contact pressure between two members	52
B.10 Quality control	52
B.10.1 General	52
B.10.2 Documentation	52
B.11 Bonded-in rod installation procedures	53
B.11.1 General	53
B.11.2 Procedure (i)	53
B.11.3 Procedure (ii)	54
B.11.4 Procedure (iii)	55
B.12 Type and frequency of quality control for bonding operations	56
B.13 Inspection levels of bonded-in rods	58
Annex C (informative) Timber piles	59
C.1 Use of this annex	59
C.2 Scope and field of application	59
C.3 Data recording	59
C.4 Execution rules	59
Annex D (normative) Carpentry joints – maximum permitted deviations	61
D.1 Use of this annex	61
D.2 Scope and field of application	61
D.3 Single step connections	61
D.4 Dovetail connections	61
D.5 Mortise and tenon joints	62
Annex E (informative) Detailing rules for structures in seismic areas	63
E.1 Use of this annex	63
E.2 Scope and field of application	63
E.3 Number of fasteners at connections	63
E.4 Permitted deviations of tie-down to foundations	63
E.5 Tie-down connection at inter-storey	64
Annex F (informative) Expanded tube connections	65
F.1 Use of this annex	65
F.2 Scope and field of application	65
F.3 Introduction	65
F.4 General	65
F.5 Adhesive	66

F.6	Bonding	66
F.7	Hole diameter in DLW	66
F.8	Expansion procedure	67
F.9	Requirements for the dies	67
	Bibliography	69

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prEN 1995-3:2023 (E)**European foreword**

This document prEN 1995-3:2023 has been prepared by Technical Committee CEN/TC 250 “Structural Eurocodes”, the secretariat of which is held by BSI. CEN/TC 250 is responsible for all Structural Eurocodes and has been assigned responsibility for structural and geotechnical design matters by CEN.

This document is currently submitted to the CEN Enquiry.

The first generation of EN Eurocodes was published between 2002 and 2007. This document forms part of the second generation of the Eurocodes, which have been prepared under Mandate M/515 issued to CEN by the European Commission and the European Free Trade Association.

The Eurocodes have been drafted to be used in conjunction with relevant execution, material, product and test standards, and to identify requirements for execution, materials, products and testing that are relied upon by the Eurocodes.

The Eurocodes recognize the responsibility of each Member State and have safeguarded their right to determine values related to regulatory safety matters at national level through the use of National Annexes.

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0 Introduction

0.1 Introduction to the Eurocodes

The Structural Eurocodes comprise the following standards generally consisting of a number of Parts:

- EN 1990, *Eurocode: Basis of structural and geotechnical design*
- EN 1991, *Eurocode 1 — Actions on structures*
- EN 1992, *Eurocode 2 — Design of concrete structures*
- EN 1993, *Eurocode 3 — Design of steel structures*
- EN 1994, *Eurocode 4 — Design of composite steel and concrete structures*
- EN 1995, *Eurocode 5 — Design of timber structures*
- EN 1996, *Eurocode 6 — Design of masonry structures*
- EN 1997, *Eurocode 7 — Geotechnical design*
- EN 1998, *Eurocode 8 — Design of structures for earthquake resistance*
- EN 1999, *Eurocode 9 — Design of aluminium structures*
- New parts are under development, e.g. Eurocode for design of structural glass

The Eurocodes are intended for use by designers, clients, manufacturers, constructors, relevant authorities (in exercising their duties in accordance with national or international regulations), educators, software developers, and committees drafting standards for related product, testing and execution standards.

NOTE Some aspects of design are most appropriately specified by relevant authorities or, where not specified, can be agreed on a project-specific basis between relevant parties such as designers and clients. The Eurocodes identify such aspects making explicit reference to relevant authorities and relevant parties.

0.2 Introduction to EN 1995 (all parts)

EN 1995 (all parts) applies to the design of timber structures and gives specific design rules for buildings and civil engineering timber works.

EN 1995 (all parts) complies with the principles and requirements for the safety and serviceability of structures and the basis of design and verification that are given in EN 1990.

EN 1995 (all parts) addresses only requirements for mechanical resistance, serviceability, durability and fire resistance of timber structures. Other requirements, e.g. concerning thermal or sound insulation, are not considered.

EN 1995 is subdivided in various parts:

EN 1995-1-1, *Eurocode 5 — Design of timber structures — Part 1-1: General rules and rules for buildings*

EN 1995-1-2, *Eurocode 5 — Design of timber structures — Part 1-2: Structural fire design*

EN 1995-2, *Eurocode 5 — Design of timber structures — Part 2: Bridges*

EN 1995-3, *Eurocode 5 — Design of Timber Structures — Part 3: Execution*

prEN 1995-3:2023 (E)

CEN/TS 19103, *Design of timber structures — Structural design of timber-concrete composite structures – Common rules and rules for buildings*

0.3 Introduction to EN 1995-3

EN 1995-3 applies to the execution of timber structures to achieve the intended level of safety and serviceability during their design service life, as given by EN 1990 and EN 1995.

This document has the following main functions:

- to transfer the requirements set during design to the constructor i.e. to be a link between design and execution;
- to give advice for supervision and inspection of timber structures.

This document can be used to give a set of standardized technical requirements for the execution when ordering a timber structure.

In order to achieve these functions, a set of documents and drawings giving all information required for the execution of the work shall be available before the start of the execution. This set of documents is referred to as the “execution specification” in this document. This document leaves a number of items open to be decided in the execution specification.

0.4 Verbal forms used in the Eurocodes

The verb “shall” expresses a requirement strictly to be followed and from which no deviation is permitted in order to comply with the Eurocodes.

The verb “should” expresses a highly recommended choice or course of action. Subject to national regulation and/or any relevant contractual provisions, alternative approaches could be used/adopted where technically justified.

The verb “may” expresses a course of action permissible within the limits of the Eurocodes.

The verb “can” expresses possibility and capability; it is used for statements of fact and clarification of concepts.

0.5 National Annex for EN 1995-3

National choice is allowed in this standard where explicitly stated within notes. National choice includes the selection of values for Nationally Determined Parameters (NDPs).

The national standard implementing EN 1995-3 can have a National Annex containing all national choices to be used for the design of buildings and civil engineering works to be constructed in the relevant country.

When no national choice is given, the default choice given in this standard is to be used.

When no national choice is made and no default is given in this standard, the choice can be specified by a relevant authority or, where not specified, agreed for a specific project by appropriate parties.

National choice is allowed in EN 1995-3 through notes to the following clauses:

Table 4.1	Table 6.1	Table 6.2	Table 6.3
Table 6.4	Table 6.5	Table 6.8	Table 6.9
Table 6.10	Table 6.11	6.5.2.1(3), (7) and (8)	6.8.3(8) and (9)
Table B.2	B.4 (1)		

National choice is allowed in EN 1995-3 on the application of the following informative annexes:

Annex A

Annex C

Annex E

Annex F

The National Annex can contain, directly or by reference, non-contradictory complementary information for ease of implementation, provided it does not alter any provisions of the Eurocodes.

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prEN 1995-3:2023 (E)**1 Scope****1.1 Scope of EN 1995-3**

(1) This document gives minimum requirements for execution of timber structures (buildings and bridges) designed in accordance with EN 1995 to ensure that what is built meets the requirements for mechanical resistance, serviceability, durability and fire performance.

(2) This document includes the minimum requirements for moisture control during transport to building site, storage on site, handling on site and execution.

(3) This document gives guidance on workmanship and permitted geometrical deviations during execution.

(4) This document relies on an execution specification which states all the specific requirements relevant for the execution of a particular structure.

(5) For products covered by a European technical product specification, this document only covers those aspects of fabrication such as cutting, machining and drilling after placement of the product on the market.

(6) This document does not cover:

- a) Design and detailing rules;
- b) Secondary members which are not designed according to EN 1995;
- c) Temporary works (such as formwork, scaffolding, propping, shoring, etc.);
- d) Specification, production and conformity of timber members in accordance with European technical product specifications;
- e) Permitted geometrical deviations required for appearance, thermal or sound insulation;
- f) Contractual aspects, responsibilities of the various parties, competency requirements or the degree of independence of the personnel undertaking the inspection;
- g) Health and safety requirements during execution.

1.2 Assumptions

(1) It is recognized in this document that areas such as detailed requirements for competence of personnel, and details related to the Quality Management are within the competence of the CEN Member States.

(2) Before the execution begins on a part of the structure, it is assumed the following are available on site for inspection levels IL2-B and IL3 (Inspection Level according to EN 1990 and Table 4.1 of this document):

- the design of that part, including calculations, drawings, and specification;
- the execution specification.

(3) Before the start of the execution, it is assumed that the execution specification has been checked for completeness.

(4) It is assumed that previous work (such as foundations) has been inspected and any work which needs to be done due to deviations from the execution specification has been carried out.

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.

NOTE See the Bibliography for a list of other documents cited that are not normative references, including those referenced as recommendations (i.e. in 'should' clauses), permissions ('may' clauses), possibilities ('can' clauses), and in notes.

EN 301, *Adhesives, phenolic and aminoplastic, for load-bearing timber structures — Classification and performance requirements*

EN 1090-2, *Execution of steel structures and aluminium structures — Part 2: Technical requirements for steel structures*

EN 1090-3, *Execution of steel structures and aluminium structures — Part 3: Technical requirements for aluminium structures*

prEN 1995-1-1:2023, *Eurocode 5 — Design of timber structures — Part 1-1: General rules and rules for buildings*

prEN 1995-1-2, *Eurocode 5 — Design of timber structures — Part 1-2: Structural fire design*

prEN 1995-2, *Eurocode 5 — Design of timber structures — Part 2: Bridges*

EN 14545, *Timber structures — Connectors — Requirements*

EN 14592, *Timber structures — Dowel-type fasteners — Requirements*

EN 15425, *Adhesives — One component polyurethane (PUR) for load-bearing timber structures — Classification and performance requirements*

EN 17334, *Glued-in rods in glued structural timber products — Testing, requirements and bond shear strength classification*

EN 17418, *Two-component epoxy and polyurethane adhesives for on-site repair of cracked timber structures — Testing, requirements and repair strength verification*

3 Terms, definitions, symbols and abbreviations

3.1 Terms and definitions

For the purposes of this document, the terms and definitions given in prEN 1995-1-1, prEN 1995-1-2 and prEN 1995-2 and the following apply.

3.1.1

batch

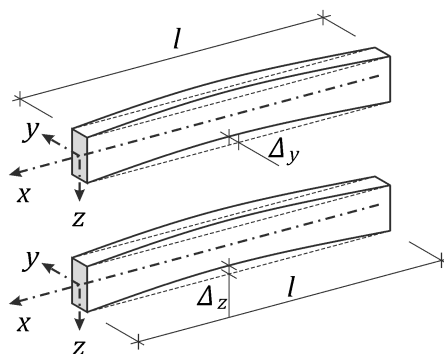
group of similar members or connections

3.1.2

bow

deviation from straightness where the member is curved about either its weak or strong axis

prEN 1995-3:2023 (E)

**Key**

- l Member length
 Δ_y, Δ_z Bow in the y/z -axis direction

Figure 3.1 — Definitions of Δ_y and Δ_z which denote the bow in directions parallel to the local y - and z -axes respectively

Note 1 to entry: In this document, bow is the deviation from straightness of a member that is assumed to be perfectly straight in the structural model. The term “deviation from the specified curvature” rather than bow is used where a member is curved or cambered in the model.

3.1.3**design documentation**

collection of documents describing the design, usually including drawings and specifications

3.1.4**erection plan**

collection of documents necessary for the erection

Note 1 to entry: An erection plan is usually produced by the party responsible for the construction and can include, for example: the execution specification, storage requirements, weather protection measures, sequence of erection, requirements for temporary works, execution methods, checking procedures, handling and assembly procedures and other requirements necessary for the erection.

3.1.5**execution**

all activities carried out for the physical completion of the work including procurement, the inspection and documentation thereof

Note 1 to entry: The term covers work on site; it can also signify the fabrication of parts off site and their subsequent erection on site.

3.1.6**execution specification**

collection of documents that includes all requirements and information necessary for the *execution* (3.1.5) of a timber structure as provided by the party responsible for the structural design documentation

Note 1 to entry: The party responsible for structural design can be more than one party and can include a manufacturer, if that manufacturer has design responsibility.