



# SLOVENSKI STANDARD SIST EN 13369:2024

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Nadomešča:  
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## Splošna pravila za montažne betonske izdelke

Common rules for precast concrete products

Allgemeine Regeln für Betonfertigteile

Règles communes pour les produits préfabriqués en béton

Ta slovenski standard je istoveten z: **EN 13369:2023**

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## Common rules for precast concrete products

Règles communes pour les produits préfabriqués en  
béton

Allgemeine Regeln für Betonfertigteile

This European Standard was approved by CEN on 28 August 2023.

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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

CEN-CENELEC Management Centre: Rue de la Science 23, B-1040 Brussels

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**EN 13369:2023 (E)****European foreword**

This document (EN 13369:2023) has been prepared by Technical Committee CEN/TC 229 “Precast concrete products”, 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of an identical text or by endorsement, at the latest by May 2024 and conflicting national standards shall be withdrawn at the latest by May 2024.

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 EN 13369:2018.

The main changes compared to the previous edition are listed below:

- a) normative references have been updated taking into account the amendment A2 of EN 206;
- b) the specifications regarding the concrete strength at the end of curing were revised;
- c) Annex A was revised with the deletion of environmental conditions classes;
- d) the vocabulary in Annex D was revised to comply with the Construction Product Regulation;
- e) Annex H on prestressing losses was revised;
- f) an informative Annex related to the performance-based approach was added.

EN 13369 is a common reference for the following group of specific product standards prepared by Technical Committee CEN/TC 229:

- EN 1168, *Precast concrete products — Hollow core slabs*;
- EN 12737, *Precast concrete products — Floor slats for livestock*;
- EN 12794, *Precast concrete products — Foundation piles*;
- EN 12839, *Precast concrete products — Elements for fences*;
- EN 12843, *Precast concrete products — Masts and poles*;
- EN 13198, *Precast concrete products — Street furniture and garden products*;
- EN 13224, *Precast concrete products — Ribbed floor elements*;
- EN 13225, *Precast concrete products — Linear structural elements*;
- EN 13693, *Precast concrete products — Special roof elements*;
- EN 13747, *Precast concrete products — Floor plates for floor systems*;
- EN 13748-1, *Terrazzo tiles — Part 1: Terrazzo tiles for internal use*;
- EN 13748-2, *Terrazzo tiles — Part 2: Terrazzo tiles for external use*;

- EN 13978-1, *Precast concrete products — Precast concrete garages — Part 1: Requirements for reinforced garages monolithic or consisting of single sections with room dimensions;*
- EN 14843, *Precast concrete products — Stairs;*
- EN 14844, *Precast concrete products — Box culverts;*
- EN 14991, *Precast concrete products — Foundation elements;*
- EN 14992, *Precast concrete products — Wall elements;*
- EN 15037-1, *Precast concrete products — Beam-and-block floor systems — Part 1: Beams;*
- EN 15037-2, *Precast concrete products — Beam-and-block floor systems — Part 2: Concrete blocks;*
- EN 15037-3, *Precast concrete products — Beam-and-block floor systems — Part 3: Clay blocks;*
- EN 15037-4, *Precast concrete products — Beam-and-block floor systems — Part 4: Expanded polystyrene blocks;*
- EN 15037-5, *Precast concrete products — Beam-and-block floor systems — Part 5: Lightweight blocks for simple formwork;*
- EN 15050, *Precast concrete products — Bridge elements;*
- EN 15258, *Precast concrete products — Retaining wall elements;*
- EN 15435, *Precast concrete products — Normal weight and lightweight concrete shuttering blocks — product properties and performances;*
- EN 15498, *Precast concrete products — Wood-chip concrete shuttering blocks — Product properties and performances.*

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, Türkiye and the United Kingdom.

## EN 13369:2023 (E)

### Introduction

This document is intended to outline the general common specifications applicable to a large variety of precast concrete products manufactured in a factory environment. It acts as a reference standard for other standards to enable a more consistent approach to standardization in the field of precast concrete products and to reduce the variations brought about by a large number of standards produced in parallel by different groups of experts. At the same time, it allows those experts the flexibility to include variations in specific product standards where they are required.

This document has been produced as part of the total CEN programme for construction and refers to the relevant specifications of associated standards EN 206 for concrete and the EN 1992 series for the design of concrete structures. The installation of some precast concrete products is dealt with by EN 13670.

As it is not a harmonized standard, it is not allowed to be used on its own for the purpose of CE marking of precast concrete products.

The design of precast concrete products should be verified to ensure the fitness of their properties for the particular application, particular attention being paid to design co-ordination with other parts of the construction.

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## 1 Scope

This document provides the specifications, the basic performance criteria and the Assessment and Verification of Constancy of Performance (AVCP) for unreinforced, reinforced and prestressed precast concrete products made of compact light-, normal- and heavyweight concrete according to EN 206 with no appreciable amount of entrapped air other than entrained air. Concrete containing fibres for other than mechanical properties (steel, polymer or other fibres) is also covered. It does not cover precast reinforced components of lightweight aggregate concrete with open structure nor glass-fibre reinforced concrete.

It can also be used to specify products for which there is no standard. Not all of the specifications (Clause 4) of this document are relevant to all precast concrete products.

Some European product standards refer to this document. They can include specific provisions that take precedence over the provisions of this document.

## 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 206:2013+A2:2021, *Concrete - Specification, performance, production and conformity*

EN 934-2, *Admixtures for concrete, mortar and grout - Part 2: Concrete admixtures - Definitions, requirements, conformity, marking and labelling*

EN 1008, *Mixing water for concrete - Specification for sampling, testing and assessing the suitability of water, including water recovered from processes in the concrete industry, as mixing water for concrete*

EN 1097-6, *Tests for mechanical and physical properties of aggregates - Part 6: Determination of particle density and water absorption*

EN 1992-1-1:2004,<sup>1</sup> *Eurocode 2: Design of concrete structures - Part 1-1: General rules and rules for buildings*

EN 12350-2, *Testing fresh concrete - Part 2: Slump test*

EN 12350-4, *Testing fresh concrete - Part 4: Degree of compactability*

EN 12350-5, *Testing fresh concrete - Part 5: Flow table test*

EN 12350-6, *Testing fresh concrete - Part 6: Density*

EN 12350-7, *Testing fresh concrete - Part 7: Air content - Pressure methods*

EN 12350-8, *Testing fresh concrete - Part 8: Self-compacting concrete - Slump-flow test*

EN 12350-9, *Testing fresh concrete - Part 9: Self-compacting concrete - V-funnel test*

EN 12350-10, *Testing fresh concrete - Part 10: Self-compacting concrete - L box test*

EN 12350-11, *Testing fresh concrete - Part 11: Self-compacting concrete - Sieve segregation test*

<sup>1</sup> As impacted by EN 1992-1-1:2004/AC:2010 and EN 1992-1-1:2004/A1:2014.

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EN 12350-12, *Testing fresh concrete - Part 12: Self-compacting concrete - J-ring test*

EN 12390-1, *Testing hardened concrete - Part 1: Shape, dimensions and other requirements for specimens and moulds*

EN 12390-2, *Testing hardened concrete - Part 2: Making and curing specimens for strength tests*

EN 12390-3, *Testing hardened concrete - Part 3: Compressive strength of test specimens*

EN 12390-7, *Testing hardened concrete - Part 7: Density of hardened concrete*

EN 12504-1, *Testing concrete in structures - Part 1: Cored specimens - Taking, examining and testing in compression*

EN 13501-1, *Fire classification of construction products and building elements - Part 1: Classification using data from reaction to fire tests*

EN ISO 717-1, *Acoustics - Rating of sound insulation in buildings and of building elements - Part 1: Airborne sound insulation (ISO 717-1)*

EN ISO 717-2, *Acoustics - Rating of sound insulation in buildings and of building elements - Part 2: Impact sound insulation (ISO 717-2)*

EN ISO 10456, *Building materials and products - Hygrothermal properties - Tabulated design values and procedures for determining declared and design thermal values (ISO 10456)*

ASTM C173/C173M - 10b, *Standard Test Method for Air Content of Freshly Mixed Concrete by the Volumetric Method*

### **3 Terms and definitions**

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

ISO and IEC maintain terminology databases for use in standardization at the following addresses:

- ISO Online browsing platform: available at <https://www.iso.org/obp/>
- IEC Electropedia: available at <https://www.electropedia.org/>

#### **3.1 General**

##### **3.1.1**

##### **precast concrete product**

product which is made of concrete and is manufactured in accordance with this document or a specific product standard in a place different from the final destination of use, protected from adverse weather conditions during production and which is the result of an industrial process under a factory production control system and with the possibility of sorting before delivery

Note 1 to entry: In relevant European Standards, the shorter term “Precast product” is often used.

##### **3.1.2**

##### **concrete cover**

distance between the surface of the reinforcement closest to the nearest concrete surface (including links and stirrups and surface reinforcement where relevant) and the nearest concrete surface

[SOURCE: EN 1992-1-1:2004]

### 3.1.3

#### **concrete family**

group of concrete compositions for which a reliable relationship between relevant properties is established and documented

[SOURCE: EN 206:2013+A2:2021, 3.1.1.2]

### 3.1.4

#### **tendon**

prestressing unit (wire, strand or bar) subjected to pre-tensioning

### 3.1.5

#### **lightweight concrete**

concrete with a closed structure and with an oven-dry density of 800 kg/m<sup>3</sup> to 2 000 kg/m<sup>3</sup>

### 3.1.6

#### **normal weight concrete**

concrete with an oven-dry density of 2 000 kg/m<sup>3</sup> to 2 600 kg/m<sup>3</sup>

### 3.1.7

#### **heavyweight concrete**

concrete with an oven-dry density of more than 2 600 kg/m<sup>3</sup>

### 3.1.8

#### **product-type**

set of representative performance levels or classes of construction product, in relation to its characteristics, produced using a given combination of raw materials or other elements in a specific production process

### 3.1.9

#### **reclaimed crushed aggregate**

aggregate gained by crushing hardened concrete that has not been previously used in construction

[SOURCE: EN 206:2013+A2:2021]

### 3.1.10

#### **recycled aggregate**

aggregate resulting from the processing of inorganic material previously used in construction

[SOURCE: EN 206:2013+A2:2021]

## 3.2 Dimensions

### 3.2.1

#### **principal dimensions**

length, width, depth or thickness

### 3.2.2

#### **nominal dimension**

dimension declared in the technical documentation and targeted at manufacture

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### 3.3 Tolerances

#### 3.3.1

##### **tolerance**

sum of the absolute values of the upper and the lower permitted deviation

#### 3.3.2

##### **deviation**

difference between an actual measure and the corresponding nominal dimension

### 3.4 Durability

#### 3.4.1

##### **durability**

ability of a precast concrete product to satisfy, with anticipated maintenance, the design performance requirements during its design working life under the influence of the expected environmental actions

#### 3.4.2

##### **design working life**

assumed period for which a structure or part of it is to be used for its intended purpose with anticipated maintenance but without major repair being necessary

#### 3.4.3

##### **environmental conditions**

physical or chemical impacts to which the precast concrete product is exposed and which result in effects on the concrete or reinforcement or embedded metal that are not considered as loads in structural design

#### 3.4.4

##### **ambient conditions**

hygrothermic conditions in the factory which result in effects on the hardening process of the concrete

### 3.5 Mechanical properties

#### 3.5.1

##### **potential strength**

compressive concrete strength derived from tests on cubes or cylinders moulded and cured in laboratory conditions in accordance with EN 12390-2

#### 3.5.2

##### **structural strength**

compressive concrete strength derived from tests on specimens (drilled cores or cut prisms) taken from the precast concrete product (direct structural strength) or derived from tests on moulded specimens cured in the same ambient conditions as the product itself (indirect structural strength)

#### 3.5.3

##### **characteristic strength**

value of strength below which 5 % of the population of all possible strength determinations of the volume of concrete under consideration are expected to fall