



NSAI
Standards

Irish Standard
I.S. EN 13369:2013

Common rules for precast concrete products

© CEN 2013

No copying without NSAI permission except as permitted by copyright law.

I.S. EN 13369:2013

Incorporating amendments/corrigenda/National Annexes issued since publication:

The National Standards Authority of Ireland (NSAI) produces the following categories of formal documents:

I.S. xxx: Irish Standard – national specification based on the consensus of an expert panel and subject to public consultation.

S.R. xxx: Standard Recommendation - recommendation based on the consensus of an expert panel and subject to public consultation.

SWIFT xxx: A rapidly developed recommendatory document based on the consensus of the participants of an NSAI workshop.

This document replaces:
EN 13369:2004

This document is based on:
EN 13369:2013

Published:
2 May, 2013

This document was published
under the authority of the NSAI
and comes into effect on:
2 May, 2013

ICS number:
91.100.30

NSAI
1 Swift Square,
Northwood, Santry
Dublin 9

T +353 1 807 3800
F +353 1 807 3838
E standards@nsai.ie
W NSAI.ie

Sales:
T +353 1 857 6730
F +353 1 857 6729
W standards.ie

Údarás um Chaighdeáin Náisiúnta na hÉireann

I.S. EN 13369:2013

EUROPEAN STANDARD

EN 13369

NORME EUROPÉENNE

EUROPÄISCHE NORM

April 2013

ICS 91.100.30

Supersedes EN 13369:2004

English Version

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 21 January 2013.

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. Up-to-date lists and bibliographical references concerning such national standards may be obtained on application to the CEN-CENELEC Management Centre or to any CEN member.

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.

CEN members are the national standards bodies of 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 United Kingdom.



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

Management Centre: Avenue Marnix 17, B-1000 Brussels

Contents

Page

Foreword.....	4
Introduction	6
1 Scope	7
2 Normative references	7
3 Terms and definitions	8
3.1 General	8
3.2 Dimensions	9
3.3 Tolerances	9
3.4 Durability	9
3.5 Mechanical properties	10
4 Requirements	10
4.1 Material requirements	10
4.2 Production requirements	11
4.3 Finished product requirements	17
5 Test methods	23
5.1 Tests on concrete	23
5.2 Measuring of dimensions and surface characteristics	24
5.3 Weight of the products	24
6 Evaluation of conformity	25
6.1 General	25
6.2 Type testing	26
6.3 Factory production control	27
7 Marking	31
8 Technical documentation	31
Annex A (informative) Concrete cover as regard to corrosion	32
Annex B (informative) Concrete quality control	34
Annex C (informative) Reliability considerations	37
Annex D (normative) Inspection schemes	39
Annex E (informative) Assessment of compliance	47
Annex F This annex does not exist.....	49
Annex G (normative) Test of water absorption	50
Annex H (informative) Shape correlation factor for cores	55
Annex I This annex does not exist.....	56
Annex J (informative) Measurement of dimensions	57
Annex K (informative) Prestressing losses	62
Annex L (informative) This annex does not exist	65
Annex M (informative) Technical documentation	66
Annex N (informative) Properties of indented bars and wire	68
Annex O (informative) Resistance to fire: recommendations for the use of EN 1992-1-2	69

Annex P (informative) Survey of type testing	70
Annex Q (informative) Use of reclaimed crushed and recycled coarse aggregates in concrete	72
Bibliography	74

Foreword

This document (EN 13369:2013) 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 October 2013, and conflicting national standards shall be withdrawn at the latest by October 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 EN 13369:2004.

The main technical changes that have been made in this new edition are the following ones:

- a) Scope: precast concrete product made of heavyweight, light and normal concrete; concrete using fibres (steel, polymer or other) is also covered;
- b) Normative references have been updated while taking the Bibliography into account;
- c) Terms and definitions have been reviewed;
- d) Requirements;
- e) New clause for reclaimed crushed and recycled coarse aggregates;
- f) New wording and requirements for the subclause “Curing (protection against drying out)”;
- g) New requirements: tensile strength, shrinkage, dry density;
- h) Productions tolerances are revised;
- i) New clause on Performance related design;
- j) Evaluation of conformity;
- k) Type testing, new Annex P, Survey of type testing;
- l) Concrete strength, conformity criteria;
- m) Annex G, Test of water absorption;
- n) Annex Q, Use of reclaimed crushed and recycled coarse aggregates in concrete.

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 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.*

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

This document is intended to outline the general common requirements 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 standard has been produced as part of the total CEN programme for construction and refers to the relevant specifications of associated standards EN 206 (all parts) for concrete and EN 1992 for the design of concrete structures. The installation of some precast concrete products is dealt with by EN 13670.

As it is not a harmonised standard, it may not 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.

1 Scope

This European Standard specifies the requirements, the basic performance criteria and the evaluation of conformity for unreinforced, reinforced and prestressed precast concrete products made of compact light-, normal- and heavyweight concrete according to EN 206-1 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 prefabricated reinforced components of lightweight aggregate concrete with open structure.

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

If a specific product standard exists, it takes precedence over this standard.

The precast concrete products dealt with in this standard are factory produced for building and civil engineering works. This standard may also be applied to products manufactured in temporary plants on site if the production is protected against adverse weather conditions and controlled following Clause 6 provisions.

The analysis and design of precast concrete products is not within the scope of this standard but it does offer, for non-seismic zones, information about:

- the choice of partial safety factors defined by the pertinent Eurocode;
- the definition of some requirements for prestressed concrete products.

2 Normative references

The following documents, in whole or in part, are normatively referenced in this document and are indispensable for its application. For dated references, only the edition cited applies. For undated references, the latest edition of the referenced document (including any amendments) applies.

EN 206-1:2000¹⁾, *Concrete — Part 1: 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 1992-1-1:2004²⁾, *Eurocode 2: Design of concrete structures — Part 1-1: General rules and rules for buildings*

EN 1992-1-2:2004³⁾, *Eurocode 2: Design of concrete structures — Part 1-2: General rules — Structural fire design*

EN 10080:2005, *Steel for the reinforcement of concrete — Weldable reinforcing steel — General*

1) This document is impacted by the stand-alone amendments EN 206-1:2000/A1:2004 and EN 206-1:2000/A2:2005.

2) This document is impacted by the corrigendum EN 1992-1-1:2004/AC:2010.

3) This document is impacted by the corrigendum EN 1992-1-2:2004/AC:2008.

This is a free preview. Purchase the entire publication at the link below:

[Product Page](#)

-
- Looking for additional Standards? Visit Intertek Inform Infostore
 - Learn about LexConnect, All Jurisdictions, Standards referenced in Australian legislation
-