

## საქართველოს ეროვნული სტანდარტი

---

ქარხნული წარმოების ბეტონის პროექცია. უნდაამენტის ელემენტები

საინფორმაციო ნაწილი. სრული ტექსტის სანახავად შეიძინეთ სტანდარტი.

საქართველოს სტანდარტების, ტექნიკური რეგლამენტების  
და მეტროლოგიის ეროვნული სააგენტო  
თბილისი

**საინფორმაციო მონაცემები**

1 **შემუშავებულია** საქართველოს სტანდარტების, ტექნიკური რეგლამენტების და მეტროლოგიის ეროვნული სააგენტოს სტანდარტებისა და ტექნიკური რეგლამენტების დეპარტამენტის მიერ

2 **დამტკიცებულია და შემოღებულია სამოქმედოდ** საქართველოს სტანდარტების, ტექნიკური რეგლამენტების და მეტროლოგიის ეროვნული სააგენტოს 2009 წლის 10 სექტემბრის №35 “ს” განკარგულებით

3 მიღებულია გარეკანის მეთოდით სტანდარტიზაციის საერთაშორისო ორგანიზაციის სტანდარტი ისო ენ 14991 : 2007 „ქარხნული წარმოების ბეგონის პროდუქცია. ფუნდამენტის ელემენტები”

**4 პირველად**

5 **რეგისტრირებულია** საქართველოს სტანდარტების, ტექნიკური რეგლამენტების და მეტროლოგიის ეროვნული სააგენტოს რეესტრში: 2009 წლის 4 სექტემბერი №268-1.3-3274

წინამდებარე სტანდარტის სრული ან ნაწილობრივი აღწარმოება, გირაჟირება და გავრცელება საქართველოს სტანდარტების, ტექნიკური რეგლამენტების და მეტროლოგიის ეროვნული სააგენტოს ნებართვის გარეშე არ დაიშვება

საინფორმაციო ნაწილი. სრული ტექსტის სანახავად შეიძინეთ სტანდარტი.

ICS 91.100.30

English Version

## Precast concrete products - Foundation elements

Produits préfabriqués en béton - Éléments de fondation

Betonfertigteile - Gründungselemente

This European Standard was approved by CEN on 13 January 2007.

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 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 Management Centre has the same status as the official versions.

CEN members are the national standards bodies of Austria, Belgium, Bulgaria, Cyprus, Czech Republic, Denmark, Estonia, Finland, France, Germany, Greece, Hungary, Iceland, Ireland, Italy, Latvia, Lithuania, Luxembourg, Malta, Netherlands, Norway, Poland, Portugal, Romania, Slovakia, Slovenia, Spain, Sweden, Switzerland and United Kingdom.



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

Management Centre: rue de Stassart, 36 B-1050 Brussels

**Contents**

Page

The numbering of clauses is strictly related to EN 13369:2004 Common rules for precast concrete products, at least for the first three digits. When a clause of EN 13369 is not relevant or included in a more general reference of this standard, its number is omitted and this may result in a gap on numbering.

**Foreword**.....3

**Introduction** .....5

**1 Scope** .....6

**2 Normative references** .....6

**3 Terms and definitions** .....6

**4 Requirements** .....7

**5 Test methods**.....8

**6 Evaluation of conformity**.....8

**7 Marking** .....9

**8 Technical documentation** .....9

**Annex A (normative) Inspection schemes** .....10

**Annex B (informative) Typical shapes of foundation elements**.....11

**Annex Y (informative) Choice of CE marking method**.....17

**Annex ZA (informative) Clauses of this European Standard addressing the provisions of the EU Construction Products Directive**.....18

**Bibliography** .....27

საინფორმაციო ნაწილი. სრული ტექსტის სახსრად შეიძინეთ სტანდარტი.

## Foreword

This document (EN 14991:2007) has been prepared by Technical Committee CEN/TC 229 "Precast concrete products", the secretariat of which is held by AFNOR and was examined by and agreed with a joint working party appointed by the Liaison Group CEN/TC 229-TC250, particularly for its compatibility with structural Eurocodes.

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 2007, and conflicting national standards shall be withdrawn at the latest by January 2009.

This document has been prepared under a mandate given to CEN by the European Commission and the European Free Trade Association, and supports essential requirements of EU Construction Products Directives (89/106/EEC).

For relationship with EU Directives, see informative Annex ZA, which is an integral part of this document.

This standard is one of a series of product standards for precast concrete products.

For common aspects reference is made to EN 13369: *Common rules for precast concrete products*, from which also the relevant requirements of the EN 206-1: *Concrete — Part 1: Specification, performance, production and conformity* are taken.

The references to EN 13369 by CEN/TC 229 product standards are intended to make them homogeneous and to avoid repetitions of similar requirements.

Eurocodes are taken as a common reference for design aspects. The installation of some structural precast concrete products is dealt with by ENV 13670-1: *Execution of concrete structures — Part 1: Common rules*, which has at the moment the status of an European prestandard. In all countries it can be accompanied by alternatives for national application and it shall not be treated as a European Standard.

The programme of standards for structural precast concrete products comprises the following standards, in some cases consisting on several parts:

- EN 1168, *Precast concrete products — Hollow core slabs*
- EN 12794, *Precast concrete products — Foundation piles*
- EN 12843, *Precast concrete products — Masts and poles*
- EN 13747, *Precast concrete products — Floor plates for floor systems*
- EN 15037 (all parts), *Precast concrete products — Beams for beam-and-block floor systems*
- EN 13224, *Precast concrete products — Ribbed floor elements*
- EN 13225, *Precast concrete products — Linear structural elements*
- EN 14992, *Precast concrete products — Wall elements*
- EN 15258, *Precast concrete products — Retaining wall elements*
- EN 13693, *Precast concrete products — Special roof elements*

## EN 14991:2007 (E)

- EN 14844, *Precast concrete products — Box culverts*
- 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 14991, *Precast concrete products — Foundation elements*
- EN 15050, *Precast concrete products — Bridge elements*
- EN 14843, *Precast concrete products — Stairs*

This European Standard defines in Annex ZA the application methods of CE marking to products designed using the relevant EN Eurocodes (EN 1992-1-1 and EN 1992-1-2). Where, in default of applicability conditions of EN Eurocodes to the works of destination, design provisions other than EN Eurocodes are used for mechanical strength, the conditions to affix CE marking to the product are described in ZA.3.5.

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, Cyprus, Czech Republic, Denmark, Estonia, Finland, France, Germany, Greece, Hungary, Iceland, Ireland, Italy, Latvia, Lithuania, Luxembourg, Malta, Netherlands, Norway, Poland, Portugal, Romania, Slovakia, Slovenia, Spain, Sweden, Switzerland and United Kingdom.

## Introduction

The evaluation of conformity given in this European Standard refers to the completed precast elements which are supplied to the market and covers all the production operations carried out in the factory.

For design rules reference is made to EN 1992-1-1. Additional complementary rules are provided where necessary.

საინფორმაციო ნაწილი. სრული ტექსტის სახსრად შეიძინეთ სტანდარტი.