

Betoonvalmistooted. Vaiad

Precast concrete foundation piles

EESTI STANDARDI EESSÕNA

NATIONAL FOREWORD

<p>Käesolev Eesti standard EVS-EN 12794:2006 sisaldab Euroopa standardi EN 12794:2005 ingliskeelset teksti.</p> <p>Käesolev dokument on jõustatud 28.04.2005 ja selle kohta on avaldatud teade Eesti standardiorganisatsiooni ametlikus väljaandes.</p> <p>Standard on kättesaadav Eesti standardiorganisatsioonist.</p>	<p>This Estonian standard EVS-EN 12794:2006 consists of the English text of the European standard EN 12794:2005.</p> <p>This document is endorsed on 28.04.2005 with the notification being published in the official publication of the Estonian national standardisation organisation.</p> <p>The standard is available from Estonian standardisation organisation.</p>
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<p>Käsitlusala:</p> <p>This document specifies the terminology, requirements, basic performance criteria, test methods and evaluation of conformity that will be applied to precast concrete foundation piles, factory produced for building and civil engineering works and installed at the site by the use of impact, vibration, pressing or other suitable techniques. This document may also be applied to products manufactured in temporary plants on site where production is controlled in accordance with the provisions of Clause 6 and is protected against adverse weather conditions as necessary.</p>	<p>Scope:</p> <p>This document specifies the terminology, requirements, basic performance criteria, test methods and evaluation of conformity that will be applied to precast concrete foundation piles, factory produced for building and civil engineering works and installed at the site by the use of impact, vibration, pressing or other suitable techniques. This document may also be applied to products manufactured in temporary plants on site where production is controlled in accordance with the provisions of Clause 6 and is protected against adverse weather conditions as necessary.</p>
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Võtmesõnad: betoon, betoonitooted, eelvalatud, vundamendivaiaid

ICS 91.100.30; 93.020

English version

Precast concrete products - Foundation piles

Produits préfabriqués en béton - Pieux de fondation

Betonfertigteile - Gründungspfähle

This European Standard was approved by CEN on 22 November 2004.

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 Central Secretariat 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 Central Secretariat has the same status as the official versions.

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



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Foreword

This document (EN 12794:2005) has been prepared by Technical Committee CEN/TC 229 "Precast concrete products", the secretariat of which is held by AFNOR.

This document was examined by and agreed with a joint working party appointed by the Liaison Group CEN/TC229-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 August 2005, and conflicting national standards shall be withdrawn at the latest by November 2006.

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).

This document 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 products*, from which also the relevant requirements of the EN 206-1: *Concrete — Part 1: Specification, performances, 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 an European Standard.

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

prEN 1168, *Precast concrete products — Hollow core slabs*

EN 12794, *Precast concrete products - Foundation piles*

EN 12843, *Precast concrete products — Masts and poles*

prEN 13747, *Precast concrete products — Floor plates for floor systems*

prEN 15037-1, *Precast concrete products - Beam-and-block floor systems - Part 1: Beams*

prEN 15037-2, *Precast concrete products - Beam-and-block floor systems - Part 2: Blocks*

EN 13224, *Precast concrete products — Ribbed floor elements*

EN 13225, *Precast concrete products — Linear structural elements*

prEN 14992, *Precast concrete products — Wall elements : Products properties and performances*

WI00229014, *Retaining wall elements*

EN 13693, *Precast concrete products — Special roof elements*

prEN 14844, *Precast concrete products — Box culverts*

prEN 13978, *Precast concrete products — Precast concrete garages*

prEN 14991, *Precast concrete products — Foundation elements*

prEN 15050, *Precast concrete bridge elements*

WI00229019, *Precast concrete products - Silos*

prEN14843, *Precast concrete products — Stairs*

This document defines in Annex ZA the application methods of CE marking to products designed using the relevant EN Eurocodes (EN 1992-1-1). 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.3.4.

According to the CEN/CENELEC Internal Regulations, the national standards organizations of the following countries are bound to implement this European Standard: Austria, Belgium, Cyprus, Czech Republic, Denmark, Estonia, Finland, France, Germany, Greece, Hungary, Iceland, Ireland, Italy, Latvia, Lithuania, Luxembourg, Malta, Netherlands, Norway, Poland, Portugal, Slovakia, Slovenia, Spain, Sweden, Switzerland and United Kingdom.

Introduction

This document specifies the requirements, the basic performance criteria and detailing provisions for precast concrete foundation piles manufactured in a factory environment, stored, transported and ultimately installed on a construction site. The design of structural products shall ensure their fitness for the particular application. Particular attention is to be paid to design co-ordination with other parts of the construction.

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1 Scope

This document specifies the terminology, requirements, basic performance criteria, test methods and evaluation of conformity that will be applied to precast concrete foundation piles, factory produced for building and civil engineering works and installed at the site by the use of impact, vibration, pressing or other suitable techniques. This document may also be applied to products manufactured in temporary plants on site where production is controlled in accordance with the provisions of Clause 6 and is protected against adverse weather conditions as necessary.

This document applies to foundation piles produced in a plant as reinforced or prestressed concrete elements. The cross-section may be solid or provided with a hollow core, either prismatic or cylindrical. The cross-section may be constant over the full length or tapered partly or wholly along the pile or pile segment length.

This document deals with foundation piles manufactured either in one length or in segments with cast-in pile joints. The foundation piles may have an enlarged toe or a pile shoe.

This document applies to normal weight concrete as defined in EN 206-1 compacted so as to retain no appreciable amount of entrapped air other than entrained air.

2 Normative references

The following referenced documents are indispensable for the application 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 1992-1-1:2004, *Eurocode 2: Design of concrete structures — Part 1-1: General rules and rules for buildings*

EN 1997-1:2004, *Eurocode 7: Geotechnical design — Part 1: General rules*

EN 13369:2004, *Common rules for precast concrete products*

3 Terms and definitions

For the purposes of this document, the terms and definitions given in EN 13369:2004 and the following apply. In general the term “product” refers to an element which is produced in large numbers.

3.1 Foundation piles

A number of these definitions are illustrated in Figure 1.

3.1.1

pile

long element to be driven in the ground to provide support to the foundation

3.1.2

single length pile

pile without joints

3.1.3

segmental pile

pile with joints

3.1.4

pile length

distance between pile top and pile bottom