



National Standards Authority of Ireland

IRISH STANDARD

I.S. EN 14843:2007

ICS 91.100.30

PRECAST CONCRETE PRODUCTS - STAIRS

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EUROPEAN STANDARD
NORME EUROPÉENNE
EUROPÄISCHE NORM

EN 14843

April 2007

ICS 91.100.30

English Version

Precast concrete products - Stairs

Produits préfabriqués en béton - Escaliers

Betonfertigteile - Treppen

This European Standard was approved by CEN on 17 February 2007.

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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 Management Centre has the same status as the official versions.

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COMITÉ EUROPÉEN DE NORMALISATION
EUROPÄISCHES KOMITEE FÜR NORMUNG

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Foreword

This document (EN 14843:2007) 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of an identical text or by endorsement, at the latest by October 2007, and conflicting national standards shall be withdrawn at the latest by January 2009.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 Directive(s) (89/106/EEC).

For relationship with EU Directive(s), see informative Annex ZA, which is an integral part of this document.

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

For common aspects reference is made to EN 13369:2004: *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 13369:2004 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 a European Prestandard. In all countries it can be accompanied by alternatives for national application and it should not be treated as a European Standard.

The programme of standards for structural precast concrete products comprises the following standards, in some cases consisting of 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 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 13978, *Precast concrete products — Precast concrete garages*.

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.*

prEN 15037, *Precast concrete products - Beam-and-block floor systems.*

EN 15050, *Precast concrete products — Bridge elements.*

prEN 15258, *Precast concrete products — Retaining wall elements.*

This 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 and/or fire resistance, 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, 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.

EN 14843:2007(E)

Introduction

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

The documentation accompanying a manufactured component will refer to the clauses of this standard with which it complies.

1 Scope

This standard gives specifications for materials, production, properties, requirements and methods of testing for precast concrete monolithic stairs, and for precast concrete elements (e.g. individual steps) used to make reinforced and/or prestressed concrete stairs.

This standard is applicable to structural stairs for indoor or outdoor use.

This standard covers precast concrete stairs and associated landings of monolithic design or constructed from individual steps supported by beams or columns. Supporting elements may include in situ concrete.

This standard covers terminology, performance criteria, verification methods, tolerances, relevant physical properties, special test methods and specific aspects of transport, erection and connection.

Geometrical properties related to functionality of stairs are not covered by this standard and can be found in National regulations or local practice.

Precast concrete stairs are classified into two main product families :

- monolithic stairs constructed from precast concrete components consisting of flights, landings or a combination of these. They may include vertical supporting elements ;
- stairs constructed from individual steps, whether load bearing or not, assembled on site with, for example, carriages or a central column.

Their shape may be straight or winding.

Stairs may incorporate parapets (on one or both sides) and landings.

Stairs may have simple bearings (e.g. on corbels, walls or beams), bolted connections or they may be connected with reinforcement and in situ concrete.

The surfaces of the precast elements may be exposed or covered by finishes.

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

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