

DIN EN 15037-4



ICS 91.100.30

Supersedes
DIN EN 15037-4:2010-05
See start of application

**Precast concrete products –
Beam-and-block floor systems –
Part 4: Expanded polystyrene blocks;
English version EN 15037-4:2010+A1:2013,
English translation of DIN EN 15037-4:2013-08**

Betonfertigteile –
Balkendecken mit Zwischenbauteilen –
Teil 4: Zwischenbauteile aus Polystyrolhartschaum;
Englische Fassung EN 15037-4:2010+A1:2013,
Englische Übersetzung von DIN EN 15037-4:2013-08

Produits préfabriqués en béton –
Systèmes de planchers à poutrelles et entrevous –
Partie 4: Entrevous en polystyrène expansé;
Version anglaise EN 15037-4:2010+A1:2013,
Traduction anglaise de DIN EN 15037-4:2013-08

Document comprises 57 pages

Translation by DIN-Sprachendienst.

In case of doubt, the German-language original shall be considered authoritative.



A comma is used as the decimal marker.

Start of application

It should be noted that, in Germany, CE conformity marking of construction products will be permitted once this standard has been listed in the Official Journal of the European Union and/or the *Bundesanzeiger* (German Federal Gazette) and from the date given therein.

For further information, users of this standard should refer to the websites of the European Commission or of the relevant building authority.

The standard which this document replaces, DIN EN 15037-4:2010-05, may be used in parallel with this standard during a specified transition period where such has been laid down in the Official Journal of the European Union and/or the *Bundesanzeiger* (German Federal Gazette).

National foreword

This document (EN 15037-4:2010+A1:2013) has been prepared by Technical Committee CEN/TC 229 "Precast concrete products" (Secretariat: AFNOR, France).

The responsible German body involved in its preparation was the Normenausschuss Bauwesen (Building and Civil Engineering Standards Committee), Working Committee NA 005-07 FBR *Lenkungsgremium Fachbereich 07 — Beton- und Stahlbetonbau*. The EN Standard was developed without the participation of German experts.

Amendments

This standard differs from DIN EN 15037-4:2010-05 as follows:

- a) Amendment A1:2013 has been incorporated.

Previous editions

DIN EN 15037-4: 2010-05

English Version

Precast concrete products - Beam-and-block floor systems - Part 4: Expanded polystyrene blocks

Produits préfabriqués en béton - Systèmes de planchers à poutrelles et entrevous - Partie 4: Entrevous en polystyrène expansé

Betonfertigteile - Balkendecken mit Zwischenbauteilen - Teil 4: Zwischenbauteile aus Polystyrolhartschaum

This European Standard was approved by CEN on 1 November 2009 and includes Amendment 1 approved by CEN on 14 March 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

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 13369:2004 is not relevant or included in a more general reference of this standard, its number is omitted and this can result in a gap on numbering.

Foreword	3
Introduction	5
1 Scope	6
2 Normative references	6
3 Terms and definitions	6
4 Requirements	8
4.1 Material requirements	8
4.2 Production requirements	8
4.3 Finished product requirements	8
5 Test methods	13
5.1 Measuring of dimensions	13
5.2 Mechanical strength	17
5.3 Compressive resistance test	25
5.4 Thermal conductivity	25
5.5 Thermal resistance of the floor system	25
6 Evaluation of conformity	25
6.1 General	25
6.2 Initial type tests	25
6.3 Factory production control	26
7 Marking	26
8 Technical documentation	26
Annex A (normative) Sampling for initial type testing and for independent testing of consignments	27
A.1 General	27
A.2 Sampling procedure	27
Annex B (normative) Factory production control	29
Annex C (normative) Gravity loading tests	31
C.1 Test rig	31
C.2 Procedure	37
C.3 Test report	37
Annex D (normative) Calibration of concentrated loads testing machine	39
D.1 Sample	39
D.2 Procedure	39
D.3 Validity	40
Annex E (normative) Compliance criteria for resistance to concentrated loads	41
Annex F (informative) Calculation assumptions for calculating the thermal resistance of floors	42
Annex ZA (informative) Clauses of this European Standard addressing the provisions of the EU Construction Products Directive	45
ZA.1 Scope and relevant characteristics	45
ZA.2 Procedure for attestation of conformity of EPS blocks for beam-and-block floor systems	46
ZA.3 CE marking and labelling	51
Bibliography	55

Foreword

This document (EN 15037-4:2010+A1:2013) 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-TC 250, 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 November 2013, and conflicting national standards shall be withdrawn at the latest by November 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 includes Amendment 1, approved by CEN on 2013-03-14.

This document supersedes EN 15037-4:2010.

The start and finish of text introduced or altered by amendment is indicated in the text by tags A1 A1.

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 Directive(s).

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

EN 15037, *Precast concrete products — Beam-and-block floor systems*, consists of five parts:

- *Part 1: Beams*
- *Part 2: Concrete blocks*
- *Part 3: Clay blocks*
- *Part 4: Expanded polystyrene blocks*
- *Part 5: Lightweight blocks for simple formwork* ¹⁾

For common aspects of concrete products, reference is made to EN 13369, from which also the relevant requirements of the EN 206-1 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. In all countries it may be accompanied by alternatives for national application and it should not be treated as a European Standard.

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

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

1) To be developed.

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*

EN 15037, *Precast concrete products — Beam-and-block floor systems*

EN 15050, *Precast concrete products — Bridge elements*

EN 15258, *Precast concrete products — Retaining wall elements*

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.