

DIN EN 15037-1:2008-07 (E)

Precast concrete products - Beam-and-block floor systems - Part 1: Beams

Contents

Page

The numbering of clauses is strictly related to EN 13369: 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 4

Introduction 6

1 Scope 7

2 Normative references 7

3 Terms and definitions 7

4 Requirements 10

4.1 Material requirements 10

4.2 Production requirements 11

4.3 Finished product requirements 16

5 Test methods 24

5.1 Tests on concrete 24

5.2 Measuring of dimensions and surface characteristics 24

5.3 Weight of the products 25

5.4 Prestressing 25

6 Evaluation of conformity 26

6.1 General 26

6.2 Type testing 26

6.3 Factory production control 26

7 Marking 26

8 Technical documentation 26

A.1 General 28

A.2 Process inspection 28

A.3 Finished product inspection 28

B.1 General 30

B.2 Floor systems with cast in-situ structural topping 30

B.3 Floor systems with composite topping 31

B.4 B.5 Floors with self-bearing beams 33

C.1 General 34

C.2 Strength of connecting reinforcement 36

C.3 Anchorage of connecting reinforcement 36

D.1 General 39

D.2 Construction of supports 39

D.3 Anchorage of reinforcements 47

E.1 General 49

E.2 Resisting section of the finished floor system 49

Floor systems with partial topping	32
Annex E (informative) Design of composite floor systems	49
Annex D (informative) Detailing of supports and anchorage of reinforcement	39
Annex C (informative) Monolithism of composite floor systems	34
Annex B (informative) Typology of beam-and-block floor systems	30
Annex A (normative) Inspection schemes for beams	28
E.3 Design value of the ULS mid-span bending moment (MRd)	53
E.4 Serviceability limit states	54
E.5 Verification of the shear strength in composite systems	58
F.1 General	65
F.2 Design value of the ultimate limit state bending moment	65
F.3 Serviceability limit state of prestressed beams	65
F.4 Design value of the resisting shear force	65
G.1 General	66
G.2 Case of low rise building	67
H.1 General	68
H.2 Determination of erection span	68
H.3 Apparatus	69
H.4 Test arrangement	69
H.5 Loading procedure	70
H.6 Interpretation of results	71
H.7 Test report	73
J.1 General	74
K.1 General	76
K.2 Fire resistance of beam-and-block floor systems	76
K.3 Determination by testing	76
K.4 Evaluation by calculation	76
K.5 Tabulated data	78
L.1 General	79
L.2 Airborne sound insulation	79
L.3 Impact sound insulation	79
Y.1 General	81
Y.2 Method 1	81
Y.3 Method 2	81
Y.4 Method 3	81
Requirements of EU Directive 89/109/EEC, EU Construction Products Directive	82
ZA.1 Scope and relevant characteristics	82
ZA.2 Procedure for attestation of conformity of beams for beam-and-block floor systems	84
ZA.3 CE marking and labelling	85
Annex ZA (informative) Relationship between this European Standard and the Essential Annex F (informative) Design of self-bearing beams	65
Annex G (informative) Diaphragm action	66

Annex J (informative) Concrete strength at time of release of tendons74
Annex K (informative) Resistance to fire 76
Annex L (informative) Acoustic insulation 79
Annex Y (informative) Choice of CE marking method 81
Annex H (normative) Testing to determine erection spans 68