

# DIN EN 14844:2012-02 (E)

## Precast concrete products - Box culverts (includes Amendment A2:2011)

---

### 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 may result in a gap on numbering." Foreword .....		4
Introduction .....		6
1	Scope .....	7
2	Normative references .....	7
3	Terms and definitions, symbols and abbreviated terms .....	7
3.1	Terms and definitions .....	7
3.2	Symbols and abbreviations .....	7
4	Requirements .....	8
4.1	Material requirements .....	8
4.1.1	General .....	8
4.2	Production requirements .....	8
4.2.1	Concrete production .....	8
4.2.2	Hardened concrete .....	9
4.3	Finished product requirements .....	9
4.3.1	Geometrical properties .....	9
4.3.2	Surface characteristics .....	11
4.3.3	Mechanical resistance .....	11
4.3.7	Durability .....	12
4.3.8	Other requirements .....	12
5	Test methods .....	12
5.1	Tests on concrete .....	12
5.2	Measuring of dimensions and surface characteristics .....	12
5.3	Weight of the products .....	13
6	Evaluation of conformity .....	13
6.2.2	Initial Type Testing .....	13
7	Marking .....	14
8	Technical documentation .....	14
Annex A (informative) Additional information for the design of box culverts .....		15
A.1	Characteristic horizontal load .....	15
A.2	Reinforcement of inner wall faces .....	15
A.3	Stability .....	15
A.4	Horizontal surface loads .....	15
A.5	Deflection of roof slab .....	15
A.6	Differential settlement .....	16
Annex B (normative) Verification by calculation aided by physical testing .....		17
B.1	Introduction .....	17

B.2	Limit of use of this test .....	17
B.3	Test arrangements .....	17
B.4	Test criteria .....	18
B.5	Definition of the dimensional parameters .....	18
B.6	Definition of the main sections .....	19
B.7	Determination of the test parameters (wp, wa, F) .....	19
B.8	Test method .....	21
B.9	Interpretation of the test results .....	21
Annex C (informative) Installation .....		22
C.1	Products/Units .....	22
C.2	Preparing the site .....	22
C.3	Bedding .....	22
C.4	Laying .....	22
C.5	Backfilling .....	23
Annex ZA (informative) Clauses of this European Standard addressing the provisions of the EU Construction Products Directive .....		25
ZA.1	Scope and relevant characteristics .....	25
ZA.2	Procedure(s) for the attestation of conformity of box culvert units .....	27
ZA.2.1	Systems of attestation of conformity .....	27
ZA.2.2	EC Certificate and Declaration of conformity .....	29
ZA.3	CE marking and labelling .....	30
ZA.3.1	General .....	30
ZA.3.2	Declaration of geometrical data and material properties (method 1) .....	32
ZA.3.3	Declaration of product properties (method 2) .....	34
ZA.3.4	Declaration of compliance with a given design specification provided by the client (method 3a) .....	36
ZA.3.5	Declaration of compliance with a given design specification provided by the manufacturer according to the client's order (method 3b) .....	37
Bibliography .....		40