# SLOVENSKI STANDARD

## SIST EN 14844:2006/kprA1:2008

## 01-maj-2008

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**Montažni betonski izdelki - Škatlasti nosilci**

Precast concrete products - Box culverts

Betonfertigteile - Hohlkastenelemente

Produits préfabriqués en béton - Cadres enterrés

**Ta slovenski standard je istoveten z:** **EN 14844:2006/prA1**

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**ICS:**
91.100.30

**SIST EN 14844:2006/kprA1:2008** **en,fr,de**

EUROPEAN STANDARD

NORME EUROPÉENNE

EUROPÄISCHE NORM

# FINAL DRAFT
# EN 14844:2006

## prA1

February 2008

ICS 91.100.30

English Version

# Precast concrete products - Box culverts

Produits préfabriqués en béton - Cadres enterrés

Betonfertigteile - Hohlkastenelemente

This draft amendment is submitted to CEN members for unique acceptance procedure. It has been drawn up by the Technical Committee CEN/TC 229.

This draft amendment A1, if approved, will modify the European Standard EN 14844:2006. If this draft becomes an amendment, CEN members are bound to comply with the CEN/CENELEC Internal Regulations which stipulate the conditions for inclusion of this amendment into the relevant national standard without any alteration.

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EUROPEAN COMMITTEE FOR STANDARDIZATION
COMITÉ EUROPÉEN DE NORMALISATION
EUROPÄISCHES KOMITEE FÜR NORMUNG

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Ref. No. EN 14844:2006/prA1:2008: E

# Foreword

This document (EN 14844:2007/prA1:2008) has been prepared by Technical Committee CEN/TC 229 “Precast concrete products”, the secretariat of which is held by AFNOR.

This document is currently submitted to the Unique Acceptance Procedure.

## 1 Modification to Foreword

*In the 9th paragraph, replace*

"prEN 14843" *with* "EN 14843",

"prEN 14991" *with* "EN 14991",

"prEN 14992" *with* "EN 14992" and

"prEN 15050" *with* "EN 15050".

## 2 Modification to 4.3.1.1, Production tolerances

*In the 3rd paragraph, delete the sentence* "The length of the nib should normally be in the range from 1.3 to 2 times the nib root dimension.".

*After the 3rd paragraph add the following Note:*

"NOTE It is suitable that, except for dimensions close to the minimum specified hereafter, the length d of the nib should be in the range from 1,3 to 2 times the nib root dimension a + b.".

*In the 4th paragraph*

— *in the 2nd indent replace* "(max 15 mm)" *with* "(min. -10, max. + 15 mm)";

— *in the 3rd indent add* "(min. ± 15 mm)" *after* "± 1 %";

— *in the 4th indent replace* "± 6 mm" *with* "± 10 mm".

## 3 Modification to Annex ZA, Relationship between this European Standard and the essential requirements of EC Directive 89/106/EEC, Construction Products Directive

*Replace the whole Annex ZA with the following new text:* "

# Annex ZA
(informative)

# Relationship between this European Standard and the essential requirements of EU Directive 89/106/EEC, EU Construction Products Directive

## ZA.1 Scope and relevant characteristics

This European Standard has been prepared under the mandate M/100 "Precast Concrete Products"[1] given to CEN by the European Commission and the European Free Trade Association.

The clauses of this European Standard shown in this annex meet the requirements of the mandate given under the EU Construction Products Directive (89/106/EEC).

Compliance with these clauses confers a presumption of fitness of the box culvert units covered by this Annex for the intended uses indicated herein; reference shall be made to the information accompanying the CE marking.

WARNING — Other requirements and other EU Directives, not affecting the fitness for intended uses, may be applicable to the box culverts falling within the scope of this standard.

NOTE 1 In addition to any specific clauses relating to dangerous substances contained in this European Standard, there may be requirements applicable to the products falling within its scope (e.g. transposed European legislation and national laws, regulations and administrative provisions). In order to meet the provisions of the EU Construction Products Directive, these requirements need also to be complied with, when and where they apply.

NOTE 2 An informative database of European and national provisions on dangerous substances is available at the Construction web site on EUROPA (accessed through http://ec.europa.eu/enterprise/construction/internal/dangsub/dangmain_en.htm ).

This annex establishes the conditions for the CE marking of the box culvert units of reinforced concrete used for the creation of voids below ground for the purposes of conveyance or storage and shows the relevant clauses applicable.

This annex has the same scope as Clause 1 of this European Standard and is defined by Table ZA.1.

[1] As amended

**Table ZA.1 — Clauses of this European Standard addressing the provisions of the EU Construction Products Directive**

| Essential characteristics | | Requirement clauses in this European Standard | Levels and/or class(es) | Notes and unit |
|---|---|---|---|---|
| Compressive strength (of concrete) | All methods | 4.2 Production requirements | None | $N/mm^2$ |
| Ultimate tensile and tensile yield strength (of steel) | All methods | 4.1.3 Reinforcing steel<br>4.1.4 Prestressing steel<br>of EN 13369:2004 | None | $N/mm^2$ |
| Load bearing capacity (by tests) or mechanical strength (by calculation) | Method 1 | Information listed in ZA.3.2 | None | Geometry and materials |
| | Method 2 | 4.3.3 Mechanical resistance | None | kNm, kN, kN/m |
| | Method 3 | 4.3.3 Mechanical resistance | None | Design specification |
| Detailing | All methods | 4.3.1 Geometrical properties<br>8 Technical documentation | None | mm |
| Durability against corrosion | All methods | 4.3.7 Durability | None | Ambient conditions |
| Durability against freeze-thaw (for exposed applications) | All methods | 4.3.7 Durability | None | Exposure classes |
| Drying shrinkage (in end use conditions and only for lightweight concrete) | All methods | 4.2.2.3 Drying shrinkage | None | mm/m |

The manufacturer or his authorized representative in the EEA shall select for CE marking the declaration method(s) he applies among the followings:

Method 1 = declaration of geometrical data and material properties (see ZA.3.2);

Method 2 = declaration of geometry, material properties and product properties determined following this standard and EN Eurocodes (see ZA.3.3);

Method 3 = declaration of product compliance with a given design specification distinguishing:

Method 3a = declaration of product compliance with a given design specification provided by the client (ZA.3.4);

Method 3b = declaration of product compliance with a given design specification provided by the manufacturer according to the client's order (ZA.3.5).

The requirement on a certain characteristic is not applicable in those Member States (MSs) where there are no regulatory requirements for that characteristic for the intended use of the product. In this case, manufacturers placing their products on the market of these MSs are not obliged to determine nor to declare the performance of their products with regard to this characteristic and the option “No performance determined” (NPD) in the information accompanying the CE marking (see ZA.3) may be used. The NPD option may not be used, however, where the characteristic is subject to a threshold level.

## ZA.2 Procedure(s) for the attestation of conformity of box culvert units

### ZA.2.1 Systems of attestation of conformity

The systems of attestation of conformity of the box culvert units, for the essential characteristics indicated in Table ZA.1, in accordance with the Decision of the Commission 1999/94/EC of 25 January 1999 as given in Annex III of the Mandate M/100 "Precast concrete products", is shown in Table ZA.2 for the indicated intended uses and relevant levels or classes:

**Table ZA.2 — Systems of attestation of conformity**

| Products | Intended uses | Levels or classes | Attestation of conformity systems |
|---|---|---|---|
| Large box culverts | structural | – | 2+ |
| Small box culverts | non-structural or light structural | – | 4 |
| System 2+: see Directive 89/106 (CPD), annex III.2.(ii), First possibility, including certification of the factory production control by an approved body on the basis of initial inspection of factory and of factory production control as well as of continuous surveillance, assessment and approval of factory production control.<br>System 4: see Directive 89/106 (CPD), annex III.2.(ii), Third possibility. | | | |

The attestation of conformity of the box culvert units for the essential characteristics indicated in Table ZA.1 shall be based on the evaluation of conformity procedures indicated in Tables ZA.3a and ZA.3b resulting from application of the clauses of this or other European Standard indicated therein.

**Table ZA.3a — Assignment of evaluation of conformity tasks for box culverts under system 2+**

| Tasks | | | Content of the tasks | Evaluation of conformity clauses to apply |
|---|---|---|---|---|
| Tasks under the responsibility of the manufacturer | | Initial type testing [a] | All characteristics of Table ZA.1 | 6.2 |
| | | Factory production control | Parameters related to all characteristics of Table ZA.1 | 6.3 |
| | | Further testing of samples taken at the factory | All characteristics of Table ZA.1 | 6.2.3 |
| Tasks under the responsibility of the notified body | Certification of factory production control on the basis of: | Initial inspection of factory and of factory production control [b] | — Compressive strength (of concrete);<br>— Ultimate tensile and tensile yield strength;<br>— Mechanical resistance [c]<br>— Detailing;<br>— Durability;<br>— Load bearing capacity (when verified by testing). | 6.3 |
| | | Continuous surveillance, assessments and approval of factory production control | — Compressive strength (of concrete);<br>— Ultimate tensile and tensile yield strength;<br>— Mechanical resistance [c]<br>— Detailing;<br>— Durability;<br>— Load bearing capacity (when verified by testing). | 6.3 |

[a] Initial Type Testing (ITT) includes calculation and/or testing. ITT by calculation is not required when only methods 1 and 3a are used.

[b] Includes assessment that the factory production control system contains documented procedures related to ITT (calculation and/or testing) and that these procedures are followed. Reference to ITT of mechanical resistance can be omitted when only methods 1 and 3a are used.

[c] Only for methods 2 and 3b.

**Table ZA.3b — Assignment of evaluation of conformity tasks for box culverts under system 4**

| Tasks | | Content of the tasks | Evaluation of conformity clauses to apply |
|---|---|---|---|
| Tasks for the manufacturer | Initial type testing [a] | All characteristics of Table ZA.1 | 6.2 |
| | Factory production control | Parameters related to all characteristics of Table ZA.1 | 6.3 |

[a] Initial Type Testing (ITT) includes calculation and/or testing. ITT by calculation is not required when only methods 1 and 3a are used.

### ZA.2.2 EC Certificate and Declaration of conformity

**Large box culverts under system 2+***:* When compliance with the conditions of this annex is achieved, and once the notified body has drawn up the certificate mentioned below, the manufacturer or his agent established in the EEA shall prepare and retain a declaration of conformity, which entitles the manufacturer to affix the CE marking. This declaration shall include:

— name and address of the manufacturer, or his authorised representative established in the EEA, and the place of production;

NOTE 1 The manufacturer may also be the person responsible for placing the product onto the EEA market, if he takes responsibility for CE marking.

— description of the product (type, identification, use etc.), and a copy of the information accompanying the CE marking;

NOTE 2 Where some of the information required for the Declaration is already given in the CE marking information, it does not need to be repeated

— provisions to which the product conforms (e.g. Annex ZA of this EN);

— particular conditions applicable to the use of the product (e.g. provisions for use under certain conditions etc.);

— the number of the accompanying factory production control certificate;

— name of, and position held by, the person empowered to sign the declaration on behalf of the manufacturer or his authorised representative.

The declaration shall be accompanied by a factory production control certificate, drawn up by the notified body, which shall contain, in addition to the information above, the following:

— name and address of the notified body;

— name and address of the manufacturer;

— the number of the factory production control certificate;

— conditions and period of validity of the certificate, where applicable;

— name of, and position held by, the person empowered to sign the certificate;

— identification of the products covered by the Factory Production Control Certificate and for each product, identification of:

  — the method(s) of CE marking applied by the manufacturer;

  — whether the product is reinforced or not;

  — other distinguished product families as identified in 6.2.1 or by the manufacturer himself and affect the content and/or procedures of the factory production control including the procedure of type testing.