Betoonist kaevud ja kontrollkaevud, sarrustamata ja teraskiu või sarrusega sarrustatud

Concrete manholes and inspection chambers, unreinforced, steel fibre and reinforced

EESTI STANDARDI EESSÕNA **NATIONAL FOREWORD**

Käesolev Eesti standard EVS-EN 1917:2003 sisaldab Euroopa standardi EN 1917:2002 + AC:2003 + AC:2006 ingliskeelset teksti. Käesolev dokument on jõustatud 18.02.2003 ja selle kohta on avaldatud teade Eesti standardiorganisatsiooni ametlikus väljaandes. Standard on kättesaadav Eesti standardiorganisatsioonist.	This Estonian standard EVS-EN 1917:2003 consists of the English text of the European standard EN 1917:2002 + AC:2003 + AC:2006. This document is endorsed on 18.02.2003 with the notification being published in the official publication of the Estonian national standardisation organisation. The standard is available from Estonian standardisation organisation.

Käsitlusala: This European Standard specifies performance requirements as defined in Table 1 and describes test methods for precast concrete units for inspection chambers designed to be used for inverts not exceeding 2 metres deep and manholes, of circular, rectangular (with or without chamfered or rounded corners) or elliptical internal shape, unreinforced, steel fibre and reinforced, with nominal sizes not exceeding DN 1 250 (circular) or LN 1 250 (rectangular or elliptical)	**Scope:** This European Standard specifies performance requirements as defined in Table 1 and describes test methods for precast concrete units for inspection chambers designed to be used for inverts not exceeding 2 metres deep and manholes, of circular, rectangular (with or without chamfered or rounded corners) or elliptical internal shape, unreinforced, steel fibre and reinforced, with nominal sizes not exceeding DN 1 250 (circular) or LN 1 250 (rectangular or elliptical)

ICS 93.030

Võtmesõnad: access openings, conformity, conformity tests, definitions, dimensions, manholes, marking, piping system, production, properties, reinforced concrete, sewer pipes, sewers, specification (approval), specifications, steel fibre concretes, steel-fibre, testing

EUROPEAN STANDARD

NORME EUROPÉENNE

EUROPÄISCHE NORM

EN 1917

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English version

Concrete manholes and inspection chambers, unreinforced, steel fibre and reinforced

Regards de visite et boîtes de branchement en béton non armé, béton fibré acier et béton armé

Einsteig- und Kontrollschächte aus Beton, Stahlfaserbeton und Stahlbeton

This European Standard was approved by CEN on 18 August 2002.

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 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 Management Centre has the same status as the official versions.

CEN members are the national standards bodies of Austria, Belgium, Czech Republic, Denmark, Finland, France, Germany, Greece, Iceland, Ireland, Italy, Luxembourg, Malta, Netherlands, Norway, Portugal, Spain, Sweden, Switzerland and United Kingdom.

EUROPEAN COMMITTEE FOR STANDARDIZATION
COMITÉ EUROPÉEN DE NORMALISATION
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Contents

Foreword

This document EN 1917:2002 has been prepared by Technical Committee CEN/TC 165 "Wastewater engineering", the secretariat of which is held by DIN.

It is a companion standard to EN 1916 “Concrete pipes and fittings, unreinforced, steel fibre and reinforced”.

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 April 2003, and conflicting national standards shall be withdrawn at the latest by October 2004.

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.

This European Standard includes ten normative annexes and one informative annex. Annexes A, B, C, D, E, F, G, H, I and J are normative, annex ZA is informative.

When the text of this European Standard was approved, complete agreement could not be achieved for all requirements in the existing national specifications of CEN members and so it includes only those requirements and associated test methods for which a consensus could be reached. Consensus was achieved on the requirements for quality control.

NOTE For the time being, for specification purposes, complementary (i.e. non-conflicting) requirements and associated test methods outside the scope of this European Standard (see Table 1) will be needed at national level. In order not to create any barrier to trade, any call for conformity to complementary requirements should always be qualified by incorporating the words 'or equivalent' after the reference to them.

According to the CEN/CENELEC Internal Regulations, the national standards organizations of the following countries are bound to implement this European Standard: Austria, Belgium, Czech Republic, Denmark, Finland, France, Germany, Greece, Iceland, Ireland, Italy, Luxembourg, Malta, Netherlands, Norway, Portugal, Spain, Sweden, Switzerland and the United Kingdom.

1 Scope

This European Standard specifies performance requirements as defined in Table 1 and describes test methods for precast concrete units for inspection chambers designed to be used for inverts not exceeding 2 metres deep and manholes, of circular, rectangular (with or without chamfered or rounded corners) or elliptical internal shape, unreinforced, steel fibre and reinforced, with nominal sizes and normal length not exceeding DN 1 250 (circular) or LN 1 250 (rectangular or elliptical). The intended use is to permit access to, and to allow aeration of, drain or sewer systems for the conveyance of sewage, rainwater and surface water under gravity or occasionally at low head of pressure, mainly installed in areas subjected to vehicular and/or pedestrian traffic. Requirements for joints (elastomeric, plastomeric or other sealing materials, either integrated in the unit or supplied separately) are also specified.

Provision is made for the evaluation of conformity of units to this European Standard.

Marking conditions are included.

Table 1 — Specified characteristics and exclusions

Characteristic	Exclusions
Materials	— Specifications where relevant European Standards have not yet been published; — any classification of double steps.
Concrete	Types and value(s) of minimum content of cement plus any pozzolanic or latent hydraulic addition, according to serviceability conditions.
Finish	Limitations on size of blemishes.
Geometrical characteristics	— Nominal sizes; — internal dimensions with tolerances; — shape and position of openings in slabs and adjusting units; —benchings; — tolerances on wall thickness of units, and on thickness of slabs and adjusting units; — tolerances on internal height; — deviation from straightness, from squareness of ends and from flatness of end faces.
Joints and joint seals	Provisions for interchangeability.
Crushing strength	Specific strength classes and corresponding minimum crushing loads.
Vertical strength	Vertical loading requirements for units to be installed in areas other than those for all types of road vehicles.
Watertightness	None.
Special requirements for steel fibre concrete units and reinforced concrete units	— Value(s) of minimum concrete cover for reinforced concrete units; — requirements for weld testing of reinforcement cages.
Marking	— Symbols or letters for identifying the material of a unit; — symbols or letters for identifying serviceability conditions other than normal conditions as stated in 4.3.9.

NOTE Provisions for the following are also outside the scope of this European Standard:
- units with nominal sizes or nominal lengths greater than DN 1 250 or LN 1 250;
- units for manholes and inspection chambers with a cross-section other than circular, rectangular or elliptical;
- inspection chambers designed to be used for inverts other than those not exceeding 2 metres deep;
- lifting facilities;
- circumstances other than those stated;
- any receiving inspection by, or on behalf of, the purchaser;
- durability of joints between vertical units and connecting pipes or adaptors not conforming to EN 1916.

2 Normative references

This European Standard incorporates, by dated or undated reference, provisions from other publications. These normative references are cited at the appropriate places in the text, and the publications are listed hereafter. For dated references, subsequent amendments to or revisions of any of these publications apply to this European Standard only when incorporated in it by amendment or revision. For undated references the latest edition of the publication referred to applies (Including amendments).

EN 681-1, *Elastomeric seals - Materials requirements for pipe joint seals used in water and drainage applications - Part 1: Vulcanized rubber.*

EN 1916, *Concrete pipes and fittings, unreinforced, steel fibre and reinforced.*

EN 10002-1, *Metallic materials - Tensile testing - Part 1: Method of test at ambient temperature.*

ISO 4012, *Concrete - Determination of compressive strength of test specimens.*

ISO 10544, *Cold reduced steel wire for the reinforcement of concrete and the manufacture of welded fabric.*

3 Terms, definitions and symbols

3.1 Terms and definitions

For the purposes of this European Standard, the following terms and definitions apply.

3.1.1
manhole
vertical watertight structure used to connect pipelines, to change direction and/or level, to permit access for personnel and/or equipment for inspection and maintenance and to allow aeration and ventilation

NOTE For the purposes of this European Standard a precast manhole or inspection chamber consists of units defined in this clause and as shown in Figure 1. Typical joint assemblies are shown in Figure 2.