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**Vlaknatocementne cevi za odvod odpadne vode in kanalizacijo - 2. del: Vstopni in revizijski jaški**

Fibre cement pipes for drains and sewers - Part 2: Manholes and inspection chambers

Faserzementrohre für Abwasserkanäle und Abwasserleitungen - Teil 2: Einsteig- und Kontrollschächte

**iTeh STANDARD PREVIEW**

Tuyaux en fibres-ciment pour branchements et collecteurs - Partie 2: Regards de visite et chambres d'inspection

[SIST EN 588-2:2002](https://standards.iteh.ai/catalog/standards/sist/58f21c03-24a7-4a14-9751-b7c291426c3c/sist-en-588-2-2002)**Ta slovenski standard je istoveten z: EN 588-2:2001****ICS:**

23.040.50	Cevi in fitingi iz drugih materialov	Pipes and fittings of other materials
91.100.40	Cementni izdelki, ojačani z vlakni	Products in fibre-reinforced cement
93.030	Zunanji sistemi za odpadno vodo	External sewage systems

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EUROPEAN STANDARD  
NORME EUROPÉENNE  
EUROPÄISCHE NORM

**EN 588-2**

December 2001

ICS 13.060.30; 93.030

English version

## Fibre cement pipes for drains and sewers - Part 2: Manholes and inspection chambers

Tuyaux en fibres-ciment pour réseaux d'assainissement et  
branchements - Partie 2: Regards et boîtes de  
branchements

Faserzementrohre für Abwasserkanäle und  
Abwasserleitungen - Teil 2: Einsteig- und Kontrollschächte

This European Standard was approved by CEN on 17 February 2001.

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, Netherlands, Norway, Portugal, Spain, Sweden, Switzerland and United Kingdom.

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

Management Centre: rue de Stassart, 36 B-1050 Brussels

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**EN 588-2:2001 (E)****Foreword**

This European Standard has been prepared by Technical Committee CEN /TC 165, "Wastewater engineering", the secretariat of which is held by DIN.

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 shall be given the status of a national standard, either by publication of an identical text or by endorsement, at the latest by June 2002, and conflicting national standards shall be withdrawn at the latest by September 2003.

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, Netherlands, Norway, Portugal, Spain, Sweden, Switzerland and the United Kingdom.

A distinction has been made between initial testing (type tests) and routine quality control requirements (acceptance tests).

Attention is drawn to the need for observance of EEC and/or EFTA and national legal requirements restricting the use of certain materials and to the related marking and labelling requirements.

The performance of a sewage network constructed with these products depends not only on the properties of the product as required by this standard but also on the design and construction of the network as a whole in relation to the environment and conditions of use.

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## 1 Scope

This Standard gives specifications for asbestos free fibre-cement manholes and inspection chambers for use in buried drains and sewers with gravity flow at atmospheric pressure.

Products covered by this standard include prefabricated elements in as well as prefabricated complete manholes and inspection chambers.

It specifies definitions, descriptions, composition, general appearance and finish, geometrical characteristics, mechanical characteristics, acceptance tests, type tests and quality control requirements.

NOTE Complete manholes or prefabricated elements may also be used for other purposes such as pumping stations, items of drainage, items for sewage treatment or sewage disposal, when corresponding additional requirements according to the relevant European Standards are fulfilled.

## 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 124:1994, *Gully tops and manhole tops for vehicular and pedestrian areas - Design requirements, type testing, marking, quality control.*

EN 197-1:2000, *Cement - Part 1: Composition, specifications and conformity criteria for common cements.*

EN 476:1997, *General Requirements for Components used in Discharge Pipes, Drains and Sewers for Gravity System.*

EN 588-1:1996, *Fibre-cement pipes for sewers and drains - Part 1: Pipes, joints and fittings for gravity systems.*

EN 681-1:1996, *Elastomeric seals – Material requirements for pipe joint seals used in water and drainage applications – Part 1: Vulcanized rubber (modified by 681-1/A1 of June 1998).*

prEN 1917:1995, *Concrete manholes and inspection chambers, unreinforced, steel fibre and reinforced.*

ISO 390:1993, *Products in fibre reinforced cement - Sampling and inspection.*

## 3 Terms and definitions

For the purposes of this European Standard, the definitions given in EN 588-1:1996 apply:

## 4 Symbols and abbreviations

DN	nominal diameter of shaft or base element
$d_1$	internal diameter of shaft or base element
$e$	wall thickness of base element or shaft
$h$	height, invert to ground level
$h_a$	effective height of reducer-slab

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$h_c$	effective height of connecting ring
$h_{co}$	effective height of cone section
$h_{cs}$	effective height of cover slab
$h_g$	height to channel
$h_{r1}$	height of base element
$h_{r2}, h_{r3}, \text{ etc.}$	height of shaft
$h_{up}$	height of saddle element
$p_{max}$	perpendicularity deviation

**5 Description and requirements for components****5.1 Manholes with access for inspection by personnel**

Manholes with access for personnel shall be suitable for all maintenance work on the system.

The nominal size shall be DN 1 000 or greater.

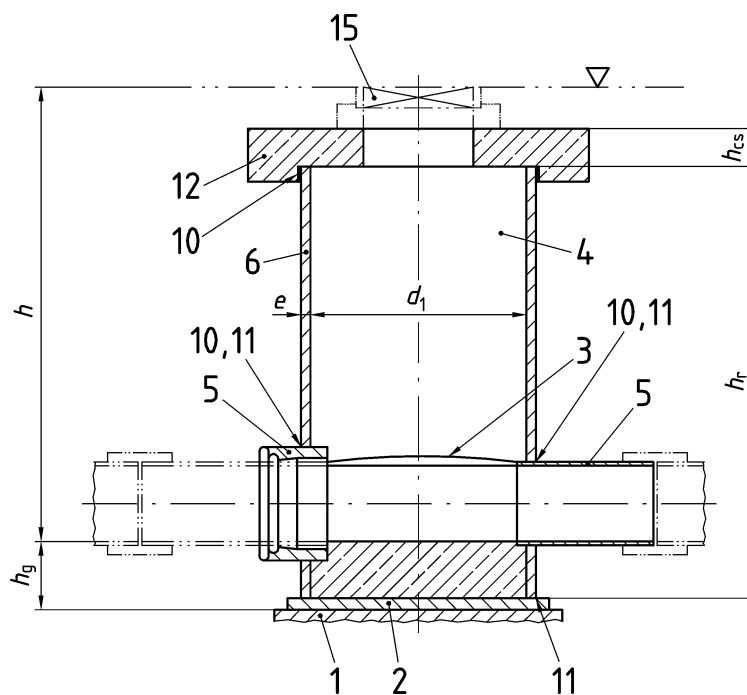
**5.2 Manholes with access for cleaning and inspection**

Manholes for the introduction of cleaning equipment, inspection and test equipment shall allow occasional access for a man equipped with a harness. The nominal size shall be DN 800 or DN 900.

**5.3 Inspection chambers**

Inspection chambers having a nominal diameter less than DN 800 shall allow the introduction of cleaning, inspection and test equipment but do not provide access for personnel (see Figure 1 as example).



**Key**

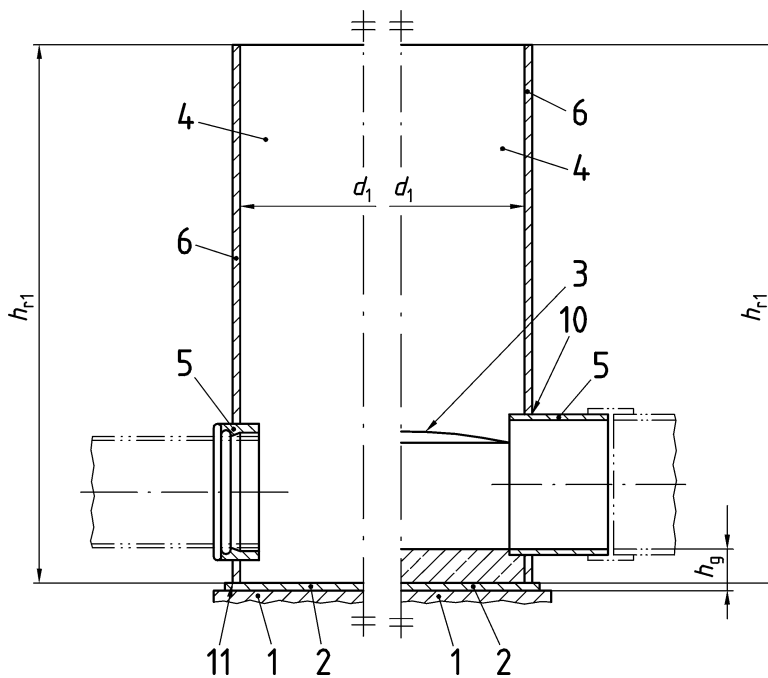
- 1 base slab
- 2 channel
- 3 benching and channel
- 4 base/chamber element
- 5 connection to sewer

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- 6 shaft
  - 10 sealant
  - 11 joining element
  - 12 cover slab
  - 15 manhole cover
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**Figure 1 — Inspection chambers**





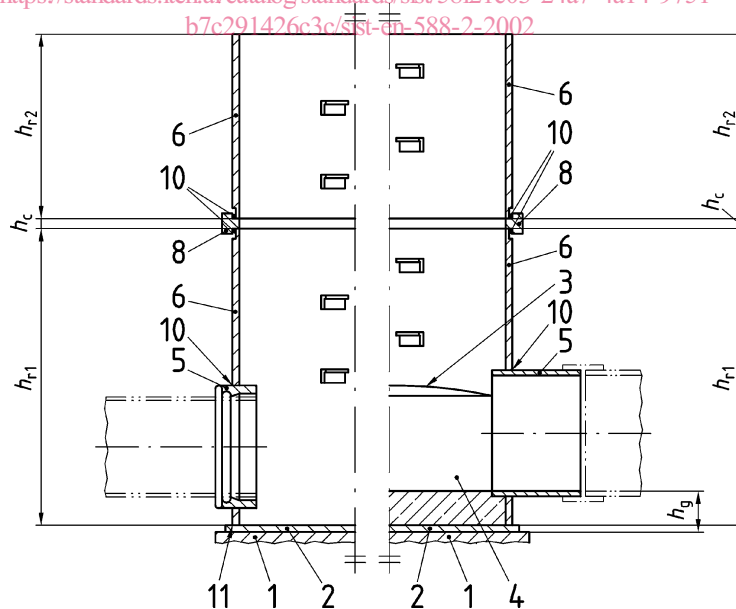
**Key**

- 1 base slab
- 2 channel
- 4 base/chamber element
- 5 connection to sewer

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**Figure 3 — Prefabricated base element**

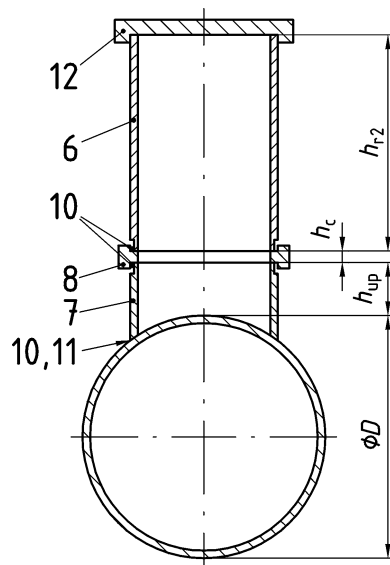
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**Key**

- 1 base slab
- 2 channel
- 3 benching and channel
- 4 base/chamber element
- 5 connection to sewer
- 6 shaft
- 8 connecting ring
- 10 sealant
- 11 jointing element

**Figure 4 — Prefabricated base element and shaft**

**Key**

- 6 shaft
- 7 saddle element
- 8 connecting ring

- 10 sealant
- 11 jointing element
- 12 corer slab

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**Figure 5 — Prefabricated saddle element<sup>1)</sup>**

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1) Figure 5 shows a centric saddle manhole, Eccentric access shafts are also possible