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Construction and testing of drains and sewers



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Denna standard ersätter SS-EN 1610, utgåva 1.

The European Standard EN 1610:2015 has the status of a Swedish Standard. This document contains the official English version of EN 1610:2015.

This standard supersedes the Swedish Standard SS-EN 1610, edition 1.

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Denna standard är framtagen av kommittén för Avloppsteknik, SIS/TK 198/AG 165.

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EUROPEAN STANDARD

EN 1610

NORME EUROPÉENNE

EUROPÄISCHE NORM

September 2015

ICS 93.030

Supersedes EN 1610:1997

English Version

Construction and testing of drains and sewers

Mise en oeuvre et essai des branchements et
canalisations d'assainissementEinbau und Prüfung von Abwasserleitungen und -
kanälen

This European Standard was approved by CEN on 24 July 2015.

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 CEN-CENELEC 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 CEN-CENELEC Management Centre has the same status as the official versions.

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COMITÉ EUROPÉEN DE NORMALISATION
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European foreword

This document (EN 1610:2015) has been prepared by Technical Committee CEN/TC 165 “Wastewater engineering”, the secretariat of which is held by DIN.

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of an identical text or by endorsement, at the latest by March 2016, and conflicting national standards shall be withdrawn at the latest by March 2016.

Attention is drawn to the possibility that some of the elements of this document may be the subject of patent rights. CEN [and/or CENELEC] shall not be held responsible for identifying any or all such patent rights.

This document supersedes EN 1610:1997.

The main changes with respect to the previous edition are listed below:

- updating of references and their associated requirements;
- addition of requirements for the soil-pipe-system.

According to the CEN-CENELEC Internal Regulations, the national standards organizations of the following countries are bound to implement this European Standard: Austria, Belgium, Bulgaria, Croatia, Cyprus, Czech Republic, Denmark, Estonia, Finland, Former Yugoslav Republic of Macedonia, France, Germany, Greece, Hungary, Iceland, Ireland, Italy, Latvia, Lithuania, Luxembourg, Malta, Netherlands, Norway, Poland, Portugal, Romania, Slovakia, Slovenia, Spain, Sweden, Switzerland, Turkey and the United Kingdom.

1 Scope

This European Standard is applicable to the construction and related testing of drains and sewers usually buried in the ground and usually operating under gravity but up to 0,5 kPa when surcharged.

The construction of pipelines operating under pressure is covered by this European Standard together with EN 805 as appropriate (e.g. for testing).

This European Standard is applicable to drains and sewers installed in trenches, under embankments or above ground. For trenchless construction EN 12889 applies. Additionally, other local or national regulations may apply, e.g. concerning health and safety, pavement reinstatement and requirements for tightness testing.

NOTE Further information is given by reference to national documents listed in Annex D.

2 Normative references

The following documents, in whole or in part, are normatively referenced in this document and are indispensable for its application. For dated references, only the edition cited applies. For undated references, the latest edition of the referenced document (including any amendments) applies.

EN 476:2011, *General requirements for components used in drains and sewers*

EN 752, *Drain and sewer systems outside buildings*

EN 805, *Water supply – Requirements for systems and components outside buildings*

EN 1295-1, *Structural design of buried pipelines under various conditions of loading – Part 1: General requirements*

3 Terms and definitions

For the purposes of this document, the following terms and definitions apply. The same definitions apply for trenches with vertical or sloping sides and for pipes laid below embankments. Some of these terms are illustrated in Figure 1.

3.1 bedding

part of the construction which supports the pipe between the trench bottom and the sidefill or initial backfill

Note 1 to entry: The bedding consists of upper and lower bedding. In the case of the pipe laid on natural trench bottom, the trench bottom is the lower bedding.

3.2 compaction layer thickness

thickness of each new layer of fill material prior to its compaction

3.3 depth of cover

vertical distance from the top of the pipe barrel to the surface

3.4 embedment

fill around the pipe including bedding, sidefill and initial backfill

3.5**initial backfill**

layer of fill material immediately above the crown of the pipe

3.6**main backfill**

fill between the top of the embedment and the level of the ground, top of embankment or, when applicable, the bottom of the road or railway construction

3.7**minimum trench width**

minimum distance needed for safety and construction between the trench walls at the top of the lower bedding or when applicable between the trench support systems at any level

3.8**native soil**

soil from the excavation of the trench

3.9**nominal size****DN**

numerical designation of size of component, which is a convenient integer approximately equal to a manufacturing dimension in mm

Note 1 to entry: This may apply to either the internal diameter (DN/ID) or the external diameter (DN/OD).

[Source: EN 476:2011]

3.10**pipeline**

assembly of pipes, fittings and joints between manholes or other structures

[SOURCE: EN 16323:2014, definition 2.2.3.6, modified]

3.11**prefabricated component**

product manufactured separately from the installation process, generally in circumstances where a product standard applies and/or a manufacturer's quality control is in place

3.12**sidefill**

material between bedding and initial backfill

3.13**trench depth**

vertical distance from the bottom of the trench to the surface

3.14**minimum working space****x/2**

horizontal distance from the pipe outside wall to the side wall of the trench, or when applicable, between the trench support systems on the top of the lower bedding

Note 1 to entry: See Figure 2.