

Drain and sewer systems outside buildings

Generalities and definitions
English version of DIN EN 752-1

DIN
EN 752-1

ICS 13.060.30

Supersedes parts of DIN 4045,
December 1985 edition.

Descriptors: Drainage systems, terminology.

Entwässerungssysteme außerhalb von Gebäuden.
Teil 1: Allgemeines und Definitionen

European Standard EN 752-1 : 1995 has the status of a DIN Standard.

National foreword

This standard has been prepared by CEN/TC 165.

The responsible German body involved in its preparation was the *Normenausschuß Wasserwesen* (Water Practice Standards Committee), Technical Committee *Planung und Betrieb*.

Amendments

In comparison with DIN 4045, December 1985 edition, a number of definitions have been modified.

Previous editions

DIN 4045: 1937-5, 1943-10, 1955-09, 1964-12, 1985-12.

EN comprises 4 pages.

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English version

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Part 1: Generalities and definitions

Réseaux d'évacuation et d'assainissement
à l'extérieur des bâtiments. Partie 1:
Généralités et définitions

Entwässerungssysteme außerhalb von
Gebäuden. Teil 1: Allgemeines und
Definitionen

This European Standard was approved by CEN on 1995-11-11.

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 Central Secretariat 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 Central Secretariat has the same status as the official versions.

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CEN

European Committee for Standardization
Comité Européen de Normalisation
Europäisches Komitee für Normung

Central Secretariat: rue de Stassart 36, B-1050 Brussels

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Foreword

This European Standard has been prepared by the Technical Committee CEN/TC 165 "Waste water engineering" of which the secretariat 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 May 1996, and conflicting national standards shall be withdrawn at the latest by May 1996.

This part is the first in a series relating to the functional requirements of drain and sewer systems outside buildings that operate essentially under gravity. There will be seven parts, as follows:

- Part 1 Generalities and definitions
- Part 2 Performance requirements
- Part 3 Planning
- Part 4 Hydraulic design and environmental considerations
- Part 5 Rehabilitation
- Part 6 Pumping installations
- Part 7 Maintenance and operations.

In drafting this part account has been taken of other available draft standards, in particular prEN 476 "General requirements for components used in discharge pipes, drains and sewers for gravity systems".

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

1 Scope

This European Standard applies to drain and sewer systems, which operate essentially under gravity, from the point where the sewage leaves a building or roof drainage system, or enters a road gully, to the point where it is discharged into a treatment works or receiving water.

Drains and sewers below buildings are included provided that they do not form part of the drainage system of the building.

This part covers general matters and sets out definitions of terms that relate to the functional requirements of drain and sewer systems outside buildings. These definitions are not intended to be legal definitions.

2 Normative references

There are no normative references in this standard.

3 Definitions

For the purposes of this standard the following definitions apply. These should be read in conjunction with supplementary definitions appearing in other parts of this standard.

3.1 aquifer: Water-bearing stratum within the earth's crust.

3.2 backdrop manhole: Manhole with a connection, by means of a vertical pipe, at or just above invert, from a drain or sewer at a higher level.

3.3 backwater level: Sewage level predicted or occurring in a drain or sewer system upstream of a given control section.

3.4 catchment area: Area draining to a drain, sewer or watercourse.

3.5 combined sewer overflow; stormwater overflow: Device, on a combined or partially separate sewer system or at a sewage treatment works, that relieves the system of excess flow.

3.6 combined system: Sewer system designed to carry both waste water and surface water in the same pipeline(s).

3.7 common trench: Trench in which more than one pipe is located.

3.8 control section: Section of a drain or sewer system where hydraulic conditions are known and where any change in those conditions influences the upstream and/or downstream water levels.

3.9 detention tank: Tank or reservoir for the temporary storage of sewage.

3.10 domestic wastewater: Wastewater discharged from kitchens, laundry rooms, lavatories, bathrooms, toilets and similar facilities.

3.11 drain: Pipeline, usually underground, designed to carry wastewater and/or surface water from a source to a sewer.

3.12 drainage service: Natural or artificial system for the draining of a catchment area.

3.13 drain system: Network of pipelines and ancillary works that conveys wastewater and/or surface water to a cesspool, sewer system or other place of disposal.

3.14 dry weather flow: Rate of flow in a drain or sewer system in specified dry weather conditions.

3.15 exfiltration: Escape of sewage from a drain or sewer system into surrounding ground.

3.16 extraneous water: Unwanted flow in a drain or sewer system.

3.17 flooding: Condition where wastewater and/or surface water escapes from or cannot enter a drain or sewer system and either lies on the surface or enters buildings (see also surface flooding).

3.18 flow simulation: Modelling of flows in drain or sewer systems.

3.19 gradient: Ratio between the vertical and the horizontal projections of a pipe length.

3.20 gravity system: Drain or sewer system where flow is caused by the force of gravity and where the pipeline is designed normally to operate partially full.

3.21 groundwater: Water present in the sub-surface strata.

3.22 infiltration: Ingress of groundwater into a drain or sewer system.

3.23 inspection chamber: Chamber with a removable cover constructed on a drain or sewer that provides access from surface level only, but does not permit entry of a person.

3.24 inverted siphon: Length of gravity drain or sewer which is lower than upstream or downstream lengths to allow the pipeline to pass below an obstacle, and which consequently operates under pressure.

3.25 maintenance: Routine work undertaken to ensure the continuing performance of drain and sewer systems.

3.26 manhole: Chamber with a removable cover constructed on a drain or sewer to permit entry by personnel.

3.27 outfall: Final length of pipeline from which sewage is discharged to a treatment works or receiving water.

3.28 partially separate system: A sewer system, normally of two pipelines, where one pipeline carries wastewater together with a designed volume of surface water and the other pipeline carries the balance of the surface water.

3.29 ramp manhole: Manhole with a steeply inclined pipe or channel from a drain or sewer at a higher level.

3.30 receiving water: Any body of water such as the sea, a river, stream or lake as well as an aquifer into which drain or sewer systems discharge.

3.31 rehabilitation: All measures for restoring or upgrading the performance of existing drain and sewer systems.

3.32 relevant authority: Organisation with appropriate statutory powers of control.

3.33 rising main: Pipe through which sewage is pumped.

3.34 runoff: Water from precipitation which flows off a surface to reach a drain, sewer or receiving water.

3.35 runoff coefficient: Factor dependent on the ground catchment, and by which the rain water quantity per unit of time is multiplied in order to indicate the flow expected to be carried to the drain or sewer system.

3.36 self-cleansing: Ability of the flow in a drain or sewer to carry away solid particles, which would otherwise be deposited in the pipe.

3.37 separate system: Sewer system, normally of two pipelines, one carrying wastewater and the other surface water.

3.38 septic sewage: Anaerobic sewage containing sulphides.

3.39 sewage: Wastewater and/or surface water conveyed by a drain or sewer.

3.40 sewer: Pipeline or other construction, usually underground, designed to carry wastewater and/or surface water from more than one source.

3.41 sewer system: Network of pipelines and ancillary works which conveys wastewater and/or surface water from drains to a treatment works or other place of disposal.

3.42 surcharge: Condition in which wastewater and/or surface water is held under pressure within a gravity drain or sewer system, but does not escape to the surface to cause flooding.

3.43 surface flooding: Condition where wastewater and/or surface water escapes from, or cannot enter, a drain or sewer system and either lies on the surface or enters buildings from the surface (see also flooding).

3.44 surface water: Water from precipitation, which has not seeped into the ground and which is discharged to the drain or sewer system directly from the ground or from exterior building surfaces.

3.45 total cost: Aggregate cost of a scheme over its design life, being the sum of the construction, operating and maintenance costs all calculated at the same time base.

3.46 trade effluent: Wastewater discharge resulting wholly, or in part, from any industrial or commercial activity.

3.47 utility services: Services provided to customers and industry such as gas, electricity, telephone, cable TV and water.

3.48 wastewater: Water changed by use and discharged to a drain or sewer system.

4 Sources of additional information

The several parts of this standard cover general rules for the planning, design and maintenance of drain and sewer systems.

Detailed information additional to that contained in other parts of this standard may be obtained by referring to the technical documents in annex A of other parts of this standard.