

Drain and sewer systems outside buildings —

Part 7: Maintenance and operations

The European Standard EN 752-7:1998 has the status of a British Standard

ICS 93.030

National foreword

This British Standard is the English language version of EN 752-7:1998.

The UK participation in its preparation was entrusted to Technical Committee B/505, Wastewater engineering, to Subcommittee B/505/22, Drain and sewer systems outside buildings, which has the responsibility to:

- aid enquirers to understand the text;
- present to the responsible European committee any enquiries on the interpretation, or proposals for change, and keep the UK interests informed;
- monitor related international and European developments and promulgate them in the UK.

A list of organizations represented on this subcommittee can be obtained on request to its secretary.

Cross references

The British Standards which implement international or European publications referred to in this document may be found in the BSI Standards Catalogue under the section entitled “International Standards Correspondence Index”, or by using the “Find” facility of the BSI Standards Electronic Catalogue.

A British Standard does not purport to include all the necessary provisions of a contract. Users of British Standards are responsible for their correct application.

Compliance with a British Standard does not of itself confer immunity from legal obligations.

Summary of pages

This document comprises a front cover, an inside front cover, pages i and ii, the EN title page, pages 2 to 20 and a back cover.

This standard has been updated (see copyright date) and may have had amendments incorporated. This will be indicated in the amendment table on the inside front cover.

This British Standard, having been prepared under the direction of the Sector Board for Building and Civil Engineering, was published under the authority of the Standards Board and comes into effect on 15 September 1998

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Amendments issued since publication

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10440 Corrigendum	February 1999	Annex A: addition of pages 19 and 20

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l'extérieur des bâtiments —
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Entwässerungssysteme außerhalb von
Gebäuden — Teil 7: Betrieb und Unterhalt

This European Standard was approved by CEN on 5 March 1998.

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.

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.

CEN

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

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

Foreword

This European Standard has been prepared by Technical Committee CEN/TC 165, Waste water 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 October 1998, and conflicting national standards shall be withdrawn at the latest by October 1998.

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.

This part is the seventh 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:

Drain and sewer systems outside buildings —

- *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 of this European Standard account has been taken of other available standards, in particular EN 476 *General requirements for components used in discharge pipes, drains and sewers for gravity systems.*

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1 Scope

This European Standard is applicable 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 European Standard sets out the principles for the operation and maintenance of drain and sewer systems.

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.

EN 752-1, *Drain and sewer systems outside buildings — Part 1: Generalities and definitions*.

EN 752-2:1996, *Drain and sewer systems outside buildings — Part 2: Performance requirements*.

EN 752-4:1997, *Drain and sewer systems outside buildings — Part 4: Hydraulic design and environmental considerations*.

EN 752-5, *Drain and sewer systems outside buildings — Part 5: Rehabilitation*.

EN 752-6, *Drain and sewer systems — Part 6: Pumping installations*.

3 Definitions

For the purposes of this European Standard, the following definitions, together with those given in EN 752-1 apply.

3.1

dam board

removable plank or section placed across a sewer or drain to divert or hold back the flow

3.2

cleaning ball

spherical device, having an indented surface, designed to be carried through a drain or sewer by the flow to facilitate removal of sediments

3.3

confined space

space with restricted ventilation where special safety precautions may need to be taken

3.4

flushing

use of a temporary substantially increased flow to facilitate removal of obstructions or sediments from drains or sewers

3.5

jetting

use of high pressure water jetting equipment to facilitate removal of obstructions or sediments from drains or sewers

3.6

pumping installation

pumping station together with any associated rising main(s)

[EN 752-6]

3.7

pumping station

building, structures and equipment used to transfer sewage through a rising main or otherwise to raise the sewage

[EN 752-6]

3.8

renovation

work incorporating all or part of the original fabric of the drain or sewer by means of which its current performance is improved

[EN 752-5]

3.9

rehabilitation

all measures for restoring or upgrading the performance of existing drain and sewer systems

[EN 752-1]

3.10

repair

rectification of local damage

[EN 752-5]

3.11

replacement

construction of a new drain or sewer, on or off the line of an existing drain or sewer, the function of the new drain or sewer incorporating that of the old

[EN 752-5]

3.12

rodding

use of appropriate device on the end of flexible rods to facilitate removal of obstructions (or sediments) from drains or sewers

3.13**winching**

use of a bucket or other device pulled through a drain or sewer to facilitate removal of sediments (or obstructions)

4 Sources of additional information

This European Standard sets out the essential requirements for good practice in various engineering activities relating to the planning, design and operation of drain and sewer systems. For supplementary detail and guidance reference should be made to national documents until such time as fully comprehensive European Standards are available.

The documents listed in Annex A contain details which may be used in the framework of this part, given approval by the relevant authority.

5 General**5.1 Objectives**

The purpose of operations and maintenance is to ensure that the drain and sewer system performs in accordance with the requirements defined in EN 752-2, as follows:

- a) the pipework operates without blocking;
- b) flooding frequencies shall be limited to prescribed values;
- c) public health and life shall be safeguarded;
- d) sewer surcharge frequencies should be limited to prescribed values;
- e) the health and safety of operator personnel shall be safeguarded;
- f) receiving waters shall be protected from pollution within prescribed limits;
- g) drains and sewers shall not endanger existing adjacent structures and utility services;
- h) the required design life and structural integrity shall be achieved;
- i) drains and sewers shall be watertight in accordance with testing requirements;
- j) odour nuisance and toxicity do not arise;
- k) appropriate access shall be provided for maintenance purposes.

In particular operations and maintenance has the following objectives:

- to ensure that the entire system is operationally ready at all times and functions within the performance requirements;
- to ensure that the operation of the system is safe, environmentally acceptable, and economically efficient;

- to ensure that as far as possible the failure of one section of a sewer system will not adversely affect the performance of the other parts.

Planning, design, construction and rehabilitation shall take into account the operation and maintenance requirements.

5.2 Operations

Operations involves the monitoring and regulation or diversion of wastewater by for example:

- starting or stopping pumps;
- inserting dam boards;
- regulating valves and weirs;
- the use of detention tanks;
- action taken in accordance with contingency and emergency plans;
- wastewater quality measurement;
- periodical inspections.

5.3 Maintenance

Maintenance involves a combination of planned and reactive tasks necessary to ensure that the system is kept in such a condition that it can perform its function satisfactorily. The tasks may include:

- local repair or replacement of damaged pipes or other structures;
- removal of sediments, obstructions etc. to restore hydraulic capacity;
- maintenance of mechanical plant (e.g. pumps);
- rodent and insect control.

5.4 Requirements

The effective operation and maintenance of the drain and sewer system will require:

- planning;
- rights of access;
- sufficient number of competent personnel;
- clear assignment of responsibilities;
- suitable equipment;
- knowledge of the system, its operational components and the users connected;
- adequate records and analysis.

There may also be requirements relating to the resolution of performance deficiencies. For example to remedy failures and problems within acceptable timescales.