



BSI Standards Publication

Drain and sewer systems outside buildings - Design

Part 2: Hydraulic design

National foreword

This British Standard is the UK implementation of EN 16933-2:2017.

The UK participation in its preparation was entrusted to Technical Committee B/505/22.

The UK committee draws users' attention to the National Annex NA, which provides further guidance to assist users in the application of BS EN 16933-2:2017.

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

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English Version

**Drain and sewer systems outside buildings - Design - Part
2: Hydraulic design**

Réseaux d'évacuation et d'assainissement à l'extérieur
des bâtiments - Conception - Partie 2 : Conception
hydraulique

Entwässerungssysteme außerhalb von Gebäuden -
Planung - Teil 2: Hydraulische Planung

This European Standard was approved by CEN on 30 July 2017.

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Contents	Page
European foreword.....	5
Introduction	6
1 Scope.....	8
2 Normative references.....	8
3 Terms and definitions	8
4 Symbols and units	10
5 General.....	11
6 Design criteria.....	12
7 Hydraulic capacity of pipelines.....	12
7.1 Introduction.....	12
7.2 Pipeline headlosses.....	12
7.2.1 General.....	12
7.2.2 The Colebrook-White formula.....	12
7.2.3 The Manning formula	13
7.2.4 Pipeline roughness values	13
7.2.5 Pipeline headloss values	13
7.3 Local headlosses.....	13
7.4 Total headlosses.....	13
8 Incoming flows.....	14
8.1 Foul wastewater flows.....	14
8.1.1 General.....	14
8.1.2 Calculation of foul wastewater flow rates based on the appliances connected	14
8.1.3 Calculation of foul wastewater flow rates from population and average flows	14
8.2 Rainfall and runoff from precipitation.....	15
8.2.1 Rainfall.....	15
8.2.2 Runoff.....	15
8.3 Extraneous flows	16
9 Hydraulic calculation of drain and sewer systems	17
9.1 General.....	17
9.2 Flow in sewer systems.....	17
9.3 Flow simulation methods.....	19
9.3.1 Introduction.....	19
9.3.2 Simple/empirical methods.....	19
9.3.3 Other simplified methods	19
9.3.4 Dynamic wave methods.....	19
9.3.5 Selection of calculation method.....	19
9.4 Surface flood routing	20
9.5 Validation of models	20
10 Hydraulic design.....	21
10.1 Capacity of drains and sewers.....	21
10.1.1 General.....	21
10.1.2 Foul drains and sewers	21
10.1.3 Surface water drains and sewers	21

10.1.4 Combined drains and sewers	22
10.2 Design for self-cleansing	22
10.2.1 Sediment transport	22
10.2.2 Minimization of blockages	22
10.3 Sewers with steep gradients	23
10.4 Surface water inlets	23
10.5 Separators, screens and pretreatment devices	23
10.5.1 General	23
10.5.2 Control of sediments	24
10.5.3 Control of grease and fats	24
10.5.4 Control of light liquids	25
10.5.5 Treatment of surface water to remove dissolved pollutants	25
10.5.6 Screening	26
10.6 Infiltration drainage systems	26
10.7 Evaporation systems	26
10.8 Manholes and inspection chambers	26
10.9 Combined sewer overflows	27
10.10 Tanks and ponds	27
10.10.1 General	27
10.10.2 Detention tanks	27
10.10.3 Ponds	28
10.11 Outfalls	28
11 Sources of additional information	28
Annex A (informative) Sources of additional information	29
A.1 National Standards Bodies	29
A.2 Austria	29
A.2.1 Regulatory Bodies	29
A.2.2 Other organisations	29
A.3 Denmark	29
A.3.1 Regulatory Bodies	29
A.3.2 Other organisations	30
A.4 France	31
A.4.1 Regulatory Bodies	31
A.4.2 Other organisations	31
A.5 Germany	31
A.5.1 Regulatory Bodies	31
A.5.2 Other organisations	32
A.6 Ireland	32
A.6.1 Regulatory Bodies	32
A.7 Italy	33
A.7.1 Regulatory Bodies	33
A.7.2 Other organisations	33
A.8 The Netherlands	33

A.8.1	Regulatory Bodies.....	33
A.8.2	Other organisations.....	33
A.9	Norway	34
A.9.1	Regulatory Bodies.....	34
A.9.2	Other organisations.....	34
A.10	Portugal	34
A.10.1	Regulatory Bodies.....	34
A.10.2	Other organisations.....	35
A.11	Sweden	35
A.11.1	Regulatory Bodies.....	35
A.11.2	Other organisations.....	35
A.12	Switzerland.....	35
A.12.1	Regulatory Bodies.....	35
A.12.2	Other organisations.....	36
A.13	United Kingdom	36
A.13.1	Regulatory Bodies.....	36
A.13.1.1	General	36
A.13.1.2	England.....	36
A.13.1.3	Wales	37
A.13.1.4	Scotland.....	37
A.13.1.5	Northern Ireland.....	38
A.13.2	Other organisations.....	38
	Bibliography	40

European foreword

This document (EN 16933-2:2017) 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 2018 and conflicting national standards shall be withdrawn at the latest by March 2018.

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 European Standard EN 16933, *Drain and sewer systems outside buildings — Design*, contains the following parts:

- Part 1: Physical design¹⁾
- Part 2: Hydraulic design.

According to the CEN-CENELEC Internal Regulations, the national standards organisations 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, Serbia, Slovakia, Slovenia, Spain, Sweden, Switzerland, Turkey and the United Kingdom.

¹⁾ Currently in preparation.

Introduction

Drain and sewer systems are part of the overall wastewater system that provides a service to the community. This can be briefly described as:

- removal of wastewater from premises for public health and hygienic reasons;
- prevention of flooding in urbanised areas;
- protection of the environment.

The overall wastewater system has four successive functions:

- collection;
- transport;
- treatment;
- discharge.

Collection and transport of wastewater is provided by drain and sewer systems.

EN 752:2017 provides a framework for the design, construction, maintenance, operation and rehabilitation of drain and sewer systems outside buildings. This is illustrated in the upper part of the diagram in Figure 1. EN 752:2017 is supported by more detailed standards for the investigation, design, construction, organization and control of drain and sewer systems.

Investigation and assessment standards include:

- EN 13508, *Investigation and assessment of drain and sewer systems outside buildings*.

Design and construction standards include:

- EN 16932²⁾, *Drain and sewer systems outside buildings — Pumping systems*;
- EN 16933³⁾, *Drain and sewer systems outside buildings — Design*;
- EN 1295⁴⁾, *Structural design of buried pipelines under various conditions of loading*;
- EN 1610, *Construction and testing of drains and sewers*;
- EN 12889, *Trenchless construction and testing of drains and sewers*;
- EN 15885, *Classification and characteristics of techniques for renovation, repair and replacement of drains and sewers*.

Management and control standards include:

- EN 14654, *Management and control of operational activities in drain and sewer systems outside buildings*.

²⁾ Currently in preparation.

³⁾ Currently in preparation.

⁴⁾ Currently in preparation.