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Wastewater treatment plants - Part 3: Preliminary treatment

Táto norma obsahuje anglickú verziu európskej normy.
This standard includes the English version of the European Standard.

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English Version

Wastewater treatment plants - Part 3: Preliminary treatment

Stations d'épuration - Partie 3 : Prétraitements

Kläranlagen - Teil 3: Abwasservorreinigung

This European Standard was approved by CEN on 3 December 2023.

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European foreword

This document (EN 12255-3:2024) 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of an identical text or by endorsement, at the latest by July 2024, and conflicting national standards shall be withdrawn at the latest by July 2024.

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

This document supersedes EN 12255-3:2000.

EN 12255-3:2024 includes the following significant technical changes with respect to EN 12255-3:2000:

- a) comprehensive revision and additions in all sections;
- b) the addition of design recommendations;
- c) adaptation to the current state of the art;
- d) updating of the Normative references;
- e) editorial revision.

It is the third part prepared by Working Group CEN/TC 165/WG 40 relating to the general requirements and processes for treatment plants for a total number of inhabitants and population equivalents (PT) over 50. EN 12255 with the generic title “Wastewater treatment plants” consists of the following Parts:

- *Part 1: General design and construction principles*
- *Part 2: Storm water management systems*
- *Part 3: Preliminary treatment*
- *Part 4: Primary treatment*
- *Part 5: Lagooning processes*
- *Part 6: Activated sludge process*
- *Part 7: Biological fixed-film reactors*
- *Part 8: Sludge treatment and storage*
- *Part 9: Odour control and ventilation*
- *Part 10: Safety principles*
- *Part 11: General data required*

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- *Part 12: Control and automation*
- *Part 13: Chemical treatment — Treatment of wastewater by precipitation/flocculation*
- *Part 14: Disinfection*
- *Part 15: Measurement of the oxygen transfer in clean water in aeration tanks of activated sludge plants*
- *Part 16: Physical (mechanical) filtration*

NOTE 1 Part 2 is under preparation.

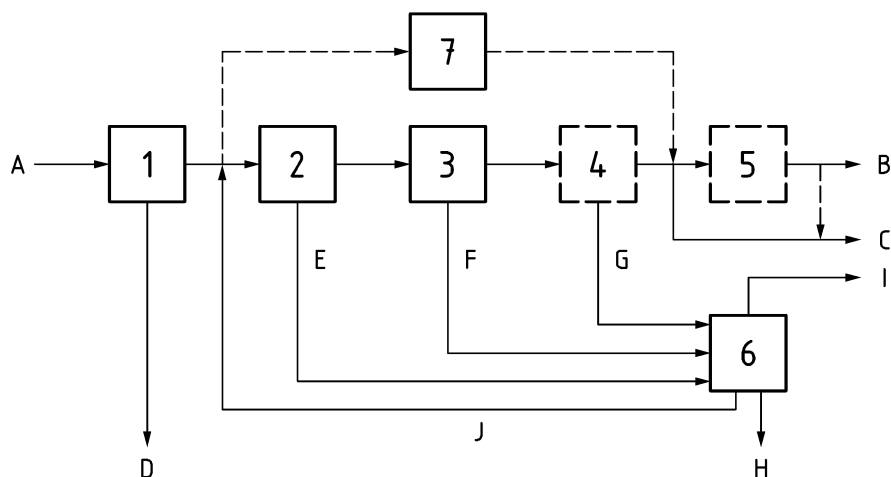
NOTE 2 For requirements on pumping installations at wastewater treatment plants see EN 752 “Drain and sewer systems outside buildings — Sewer system management” and EN 16932 (all parts) “Drain and sewer systems outside buildings — Pumping systems”.

Any feedback and questions on this document should be directed to the users’ national standards body. A complete listing of these bodies can be found on the CEN website.

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, France, Germany, Greece, Hungary, Iceland, Ireland, Italy, Latvia, Lithuania, Luxembourg, Malta, Netherlands, Norway, Poland, Portugal, Republic of North Macedonia, Romania, Serbia, Slovakia, Slovenia, Spain, Sweden, Switzerland, Türkiye and the United Kingdom.

Introduction

Differences in wastewater treatment throughout Europe have led to a variety of systems being developed. This document gives fundamental information about the systems; this document has not attempted to specify all available systems. A generic arrangement of wastewater treatment plants is illustrated in Figure 1:



Key

- | | |
|---|--|
| 1 | preliminary treatment |
| 2 | primary treatment |
| 3 | secondary treatment |
| 4 | tertiary treatment |
| 5 | additional treatment (e.g. disinfection or removal of micropollutants) |
| 6 | sludge treatment |
| 7 | lagoons (as an alternative) |
| A | raw wastewater |
| B | effluent for re-use (e.g. irrigation) |
| C | discharged effluent |
| D | screenings and grit |
| E | primary sludge |
| F | secondary sludge |
| G | tertiary sludge |
| H | digested sludge |
| I | digester gas |
| J | returned water from dewatering |

Figure 1 — Schematic diagram of wastewater treatment plants

Detailed information additional to that contained in this document can be obtained by referring to the bibliography.

EN 12255-3:2024 (E)**1 Scope**

This document specifies design principles and performance requirements for preliminary wastewater treatment using screens with a mesh size above 50 µm, at plants serving more than 50 PT. It also includes grit removal and grease separation.

NOTE 1 For micro-screens with a mesh size below 50 microns see EN 12255-16.

NOTE 2 The primary application of this document is for wastewater treatment plants designed for the treatment of domestic and municipal wastewater. However, it contains information that can also be useful for commercial and industrial wastewater pretreatment and for combined sewer overflows (CSO).

This document applies in combination with EN 12255-1 and EN 12255-10.

2 Normative references

The following documents are referred to in the text in such a way that some or all of their content constitutes requirements of this document. For dated references, only the edition cited applies. For undated references, the latest edition of the referenced document (including any amendments) applies.

EN 12255-1, *Wastewater treatment plants — Part 1: General construction principles*

EN 12255-10, *Wastewater treatment plants — Part 10: Safety principles*

EN 16323, *Glossary of wastewater engineering terms*

koniec náhľadu – text ďalej pokračuje v platenej verzii STN