

Wastewater treatment plants - Part 5: Lagooning processes

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EESTI STANDARDI EESSÕNA

NATIONAL FOREWORD

<p>Käesolev Eesti standard EVS-EN 12255-5:2000 sisaldab Euroopa standardi EN 12255-5:1999 ingliskeelset teksti.</p> <p>Käesolev dokument on jõustatud 18.02.2000 ja selle kohta on avaldatud teade Eesti standardiorganisatsiooni ametlikus väljaandes.</p> <p>Standard on kättesaadav Eesti standardiorganisatsioonist.</p>	<p>This Estonian standard EVS-EN 12255-5:2000 consists of the English text of the European standard EN 12255-5:1999.</p> <p>This document is endorsed on 18.02.2000 with the notification being published in the official publication of the Estonian national standardisation organisation.</p> <p>The standard is available from Estonian standardisation organisation.</p>
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<p>Käsitlusala: This European Standard specifies the requirements for the installation of lagooning processes. This part applies to wastewater lagooning processes treating municipal wastewater from combined or separate sewerage systems and when used as a tertiary treatment. NOTE: Lagooning processes are especially suitable for treatment of wastewater where large variations in flow are experienced (e.g. resulting from storwater).</p>	<p>Scope: This European Standard specifies the requirements for the installation of lagooning processes. This part applies to wastewater lagooning processes treating municipal wastewater from combined or separate sewerage systems and when used as a tertiary treatment. NOTE: Lagooning processes are especially suitable for treatment of wastewater where large variations in flow are experienced (e.g. resulting from storwater).</p>
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English version

Wastewater treatment plants

Part 5: Lagooning processes

Stations d'épuration – Partie 5:
Lagunage

Kläranlagen – Teil 5: Abwasser-
behandlung in Teichen

This European Standard was approved by CEN on 1999-08-13.

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.

The European Standards exist 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

CONTENTS

	Page
Foreword	3
1 Scope	3
2 Normative references	4
3 Definitions	4
4 Process description	4
4.1 Natural lagoons	4
4.2 Aerated lagoons	4
4.3 Polishing ponds	5
4.4 Combinations with other systems	5
5 Requirements	5
5.1 General	5
5.2 Siting	5
5.3 Accessibility	5
5.4 Design	5
BIBLIOGRAPHY	7

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 March 2000, and conflicting national standards shall be withdrawn at the latest by December 2001.

It is the fifth part prepared by these Working Groups relating to the general requirements and processes for treatment plants for over 50 PT. The standard consists of the following parts:

- Part 1: General construction principles
- Part 3: Preliminary treatment
- Part 4: Primary settlement
- 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 for the construction of wastewater treatment plants
- Part 11: General data
- Part 12: Control and automation
- Part 13: Chemical treatment of wastewater by coagulation/precipitation
- Part 14: Disinfection
- Part 15: Measurement of the oxygen transfer in clean water in activated sludge aeration tanks
- Part 16: Wastewater filtration

NOTE : For requirements on pumping installations at wastewater treatment plants and in their water feed field, provided initially as part 2 "Pumping installations for wastewater treatment plants", see EN 752-6 „Drain and sewer systems outside buildings - Part 6: Pumping installations“.

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.

1 Scope

This European Standard specifies the performance requirements for the installation of lagooning processes.

This part applies to wastewater lagooning processes treating municipal wastewater from combined or separate sewerage systems and when used as a tertiary treatment.

NOTE : Lagooning processes are especially suitable for treatment of wastewater where large variations in flow are experienced (e.g. resulting from stormwater).

2 Normative references

This European Standard incorporates by dated or undated references provision 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 1085 : 1997 Wastewater treatment - Vocabulary
prEN 12255-1:1996 Wastewater treatment plants - Part 1: General construction principles
prEN 12255-3:1995 Wastewater treatment plants - Part 3: Preliminary treatment
prEN 12255-6:1997 Wastewater treatment plants - Part 6: Activated sludge process
prEN 12255-10:1996 Wastewater treatment plants - Part 10: Safety principles for the construction of wastewater treatment plants
prEN 12255-11:1998 Wastewater treatment plants - Part 11: General data

3 Definitions

The definitions given in EN 1085:1997 apply. In addition, for the purposes of this standard, the following definition also applies:

3.1 maturation pond : Wastewater lagoon used as tertiary treatment, typically for the removal of pathogenic micro-organisms by exposure to solar radiation by competition and predation mechanisms.

4 Process description

4.1 Natural lagoons

Natural lagooning for wastewater treatment is designed as a cascade of singular ponds operated consecutively. The first pond may be either a settlement or anaerobic pond. The following pond is partly aerobic (facultative pond) and serves for the degradation of carbon and nitrogen. Subsequent ponds serve for advanced treatment including the reduction of pathogens and/or organisms by exposure to solar radiation.

4.2 Aerated lagoons

Aerated lagoons consist of at least two singular ponds, one with artificial air supply by technical devices and the second for sedimentation.