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NSAI Standards

Irish Standard
I.S. EN 14701-4:2018

Characterization of sludges - Filtration properties - Part 4: Determination of the drainability of flocculated sludge

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National Foreword

I.S. EN 14701-4:2018 is the adopted Irish version of the European Document EN 14701-4:2018, Characterization of sludges - Filtration properties - Part 4: Determination of the drainability of flocculated sludge

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EUROPEAN STANDARD

NORME EUROPÉENNE

EUROPÄISCHE NORM

EN 14701-4

December 2018

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Supersedes EN 14701-4:2010

English Version

Characterization of sludges - Filtration properties - Part 4: Determination of the drainability of flocculated sludge

Caractérisation des boues - Propriétés de filtration - Partie 4 : Détermination de l'aptitude à l'égouttage des boues floculées

Charakterisierung von Schlämmen - Filtrationseigenschaften - Teil 4: Bestimmung der Entwässerbarkeit geflockter Schlämme

This European Standard was approved by CEN on 5 November 2018.

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European foreword

This document (EN 14701-4:2018) has been prepared by Technical Committee CEN/TC 308 "Characterization and management of sludge", the secretariat of which is held by AFNOR.

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of an identical text or by endorsement, at the latest by June 2019 and conflicting national standards shall be withdrawn at the latest by June 2019.

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 14701-4:2010.

EN 14701, *Characterization of sludges — Filtration properties* consists of the following parts:

— *Part 1: Capillary suction time (CST);*

— *Part 2: Determination of the specific resistance to filtration;*

— *Part 3: Determination of the compressibility;*

— *Part 4: Determination of the drainability of flocculated sludges.*

According to the CEN-CENELEC Internal Regulations, the national standards organizations 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.

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Introduction

The determination of drainability of flocculated sludge is an important parameter for evaluating their ability to be thickened by means of a draining process. It gives indications for the choice of flocculant or their dosage in view of the thickening of the sludge through a filtering medium. These easy and quick tests are the best means to narrow the number of products to be tested in full scale experiments and to adapt the pre-treatment to the sludge variability.

The results of measurements obtained are the mass of filtrate collected in a standard time or the time required to recover a given volume of filtrate (commonly 50 % of the water content of the sludge), the maximum volume of filtrate and the corresponding wet and dry mass of the sludge, the undissolved solids remaining in the filtrate and the best flocculant and its optimum dose in the case of comparative tests. In order to ease the comparison of products and their dosing, an adimensional number gathering the different information obtained during a drainage test: kinetics data of filtrate release, filtrate and thickened sludge quality can be used.

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1 Scope

This document specifies a method for the determination of drainability of flocculated sludge. It is applicable to sludge and sludge suspensions from:

— storm water handling;

— urban wastewater collecting systems;

— urban wastewater treatment plants;

— treating industrial wastewater similar to urban wastewater (as defined in Directive 91/271/EEC);

— water supply treatment plants.

This method is also applicable to sludge suspensions from other origins.

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 872, *Water quality — Determination of suspended solids — Method by filtration through glass fibre filters*

EN 14742, *Characterization of sludges — Laboratory chemical conditioning procedure*

EN 15934, *Sludge, treated biowaste, soil and waste — Calculation of dry matter fraction after determination of dry residue or water content*

EN 16323, *Glossary of wastewater engineering terms*

3 Terms and definitions

For the purposes of this document, the terms and definitions given in EN 16323 and the following apply.

ISO and IEC maintain terminological databases for use in standardization at the following addresses:

- IEC Electropedia: available at http://www.electropedia.org/
- ISO Online browsing platform: available at http://www.iso.org/obp

3.1
drainability
ability of treated sludge to separate from sludge liquor by gravity filtration

3.2
flocculation
coagulation by means of inorganic flocculants or organic ones (polyelectrolytes)

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