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Characterization of sludges - Physical consistency - Part 1: Determination of flowability - Method by extrusion tube apparatus

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

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English Version

Characterization of sludges - Physical consistency - Part 1: Determination of flowability - Method by extrusion tube apparatus

Caractérisation des boues - Consistance physique - Partie 1: Détermination de l'aptitude à l'écoulement - Méthode utilisant un appareil à tube d'extrusion

Charakterisierung von Schlämmen - Physikalische Beschaffenheit - Teil 1: Bestimmung des Fließverhaltens - Verfahren mit Gerät mit Extrusionsrohr

This European Standard was approved by CEN on 19 March 2016.

EUROPEAN COMMITTEE FOR STANDARDIZATION
COMITÉ EUROPÉEN DE NORMALISATION
EUROPÄISCHES KOMITEE FÜR NORMUNG

CEN-CENELEC Management Centre: Avenue Marnix 17, B-1000 Brussels

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European foreword

This document (EN 16720-1:2016) 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of an identical text or by endorsement, at the latest by November 2016 and conflicting national standards shall be withdrawn at the latest by November 2016.

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.

EN 16720, *Characterization of sludges - Physical consistency* consists of the following two parts:

— *Part 1: Determination of flowability - Method by extrusion tube apparatus*

— *Part 2: Determination of solidity* (in preparation)

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, Slovakia, Slovenia, Spain, Sweden, Switzerland, Turkey and the United Kingdom.

Introduction

The evaluation of physical consistency is recognized to be very important since it affects almost all treatment, utilization and disposal operations, such as storage, pumping, transportation, handling, land spreading, de-watering, drying, landfilling. It is also to be pointed out that in many analytical methods for sludge characterization (e.g. pH, dry matter, leachability, etc.), different procedures are required depending on whether the sample to be examined is liquid or not. No standardized procedures have previously been available for the evaluation of this sludge property.

Physical consistency is a characteristic strictly linked to the rheological properties of fluids. Details on flow behaviour of fluids are available in Annex A (informative).

Flowability represents the boundary area between the liquid and the paste-like physical state, i.e. the state in which a sludge is able to “flow” under the effect of gravity or pressure below a certain threshold (CEN/TR 15463).

This document defines a method for determining the flowability of sludge (Flowability index, F_i) by means of an extrusion tube apparatus.

1 Scope

This part of the European Standard specifies a method for determining the flowability, as defined in CEN/TR 15463, of sludge by means of the extrusion tube apparatus.

This part of this European Standard is applicable to sludge and sludge suspensions from:

— storm water handling;

— urban wastewater collecting systems;

— urban wastewater treatment plants;

— 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 and sludge suspensions of other origins.

2 Normative references

The following documents, in whole or in part, are normatively referenced in this document and are indispensable for its application. For dated references, only the edition cited applies. For undated references, the latest edition of the referenced document (including any amendments) applies.

EN 16323:2014, *Glossary of wastewater engineering terms*

CEN/TR 15463:2007, *Characterization of sludges - Physical consistency - Thixotropic behaviour and piling behaviour*