

Characterization of sludges — Filtration properties —

Part 2: Determination of the specific resistance to filtration

The European Standard EN 14701-2:2006 has the status of a
British Standard

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National foreword

This British Standard was published by BSI. It is the UK implementation of EN 14701-2:2006.

The UK participation in its preparation was entrusted to Technical Committee EH/5, Sludge characterization.

A list of organizations represented on EH/5 can be obtained on request to its secretary.

The UK committee has never seen the need to standardize this method at a European level and, as a consequence, has not been actively involved in the development of this standard. However, the UK committee is pleased that a classic British method was selected. The method has long been used as a valuable operational-control method and is available in existing technical literature (see reference [1] in the bibliography of this standard). Due to the difficulty and cost of sending liquid sludge samples (in such a manner that their properties do not change) to laboratories for international interlaboratory trials of the performance of this method, interested parties convened at a workshop to assess the test. Their conclusion was that the results are operationally defined (e.g. by the filter paper used) and, as the document does not specify all such operational details, the performance data are not really applicable outside the context of the workshop. As a result, the members of EH/5 have no information to offer on the reproducibility of the results.

This publication does not purport to include all the necessary provisions of a contract. Users are responsible for its correct application.

Compliance with a British Standard cannot confer immunity from legal obligations.

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Charakterisierung von Schlämmen -
Filtrationseigenschaften - Teil 2: Bestimmung des
spezifischen Filtrationswiderstands

This European Standard was approved by CEN on 24 May 2006.

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.

This European Standard exists 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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Foreword

This document (EN 14701-2:2006) has been prepared by Technical Committee CEN/TC 308 "Characterization of sludges", 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 December 2006, and conflicting national standards shall be withdrawn at the latest by December 2006.

Other parts of this European Standard are:

- Part 1: Capillary suction time (CST);
- Part 3: Determination of the compressibility.

According to the CEN/CENELEC Internal Regulations, the national standards organizations of the following countries are bound to implement this European Standard: Austria, Belgium, Cyprus, Czech Republic, Denmark, Estonia, Finland, France, Germany, Greece, Hungary, Iceland, Ireland, Italy, Latvia, Lithuania, Luxembourg, Malta, Netherlands, Norway, Poland, Portugal, Romania, Slovakia, Slovenia, Spain, Sweden, Switzerland and United Kingdom.

Introduction

The specific resistance to filtration is a parameter, which indicates the suitability of sludge to be dewatered by means of a filtration process. The value of the specific resistance to filtration has great importance in the dewatering processes as it can be useful for estimating the performance of full-scale filtering devices, mainly pressure filters, and comparing dewaterability characteristics of sludges produced in different plants. Specific resistance measurements can also give indications on both the optimal type and dosage of conditioner to be used (prCEN/TR 14742).

1 Scope

This document specifies a method for determining the specific resistance to filtration of sludges, conditioned or non-conditioned.

This document is applicable to sludges 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 and sludge suspensions of other origins.

2 Normative references

The following referenced documents are indispensable for the application 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 12880, *Characterization of sludges — Determination of dry residue and water content*

EN 12832:1999, *Characterization of sludges — Utilization and disposal of sludges — Vocabulary*

3 Terms and definitions

For the purposes of this document, the terms and definitions given in EN 12832:1999 and the following apply.

3.1

specific resistance to filtration

property representing the resistance to filtration of a layer of particles, having a unit mass of dry solids deposited on a unit filtering area

4 Principle

The principle of the method is based on the flow of a liquid through a porous medium according to Darcy's law, determined by pouring a reasonable volume of sludge into a filtering device and recording the amount of filtrate with time.

5 Apparatus

Ordinary laboratory apparatus and the following:

5.1 Filtration apparatus able to contain a maximum sludge volume of 250 ml and filter diameter between 60 mm and 90 mm (see Annex A)