



SLOVENSKI STANDARD

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Management and control of cleaning operations in drains and sewers - Part 1: Sewer cleaning

Management und Überwachung von Reinigungsmaßnahmen in Abwasserkanälen und -leitungen - Teil 1: Reinigung von Kanälen

Gestion et contrôle des opérations de nettoyage des canalisations d'évacuation et d'assainissement - Partie 1: Nettoyage des canalisations

Ta slovenski standard je istoveten z: EN 14654-1:2005

ICS:

93.030 Zunanji sistemi za odpadno vodo External sewage systems

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Management and control of cleaning operations in drains and sewers - Part 1: Sewer cleaning

Gestion et contrôle des opérations de nettoyage des canalisations d'évacuation et d'assainissement - Partie 1: Nettoyage des canalisations

Management und Überwachung von Reinigungsmaßnahmen in Abwasserkanälen und -leitungen - Teil 1: Reinigung von Kanälen

This European Standard was approved by CEN on 28 July 2005.

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.

CEN members are the national standards bodies of Austria, Belgium, Cyprus, Czech Republic, Denmark, Estonia, Finland, France, Germany, Greece, Hungary, Iceland, Ireland, Italy, Latvia, Lithuania, Luxembourg, Malta, Netherlands, Norway, Poland, Portugal, Slovakia, Slovenia, Spain, Sweden, Switzerland and United Kingdom.

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

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Foreword

This European Standard (EN 14654-1:2005) has been prepared by Technical Committee CEN/TC 165 “Wastewater 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 2006, and conflicting national standards shall be withdrawn at the latest by March 2006.

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

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Introduction

This European Standard deals with the management and control of cleaning operations in drain and sewer systems. Cleaning operations are a part of the general management of drain and sewer systems.

The owner sets the aims of the cleaning operations, expressed in terms of the end result, necessary to achieve the performance requirements for the drain and sewer system (see EN 752-2) and develops a strategy to meet these aims. The owner also produces a specification for cleaning operations taking account of the aims and the strategy, and including indicators for controlling the quality of the results.

Before commencing cleaning operations, the owner should have a thorough knowledge of the drain and sewer system and an assessment of the hydraulic conditions and other relevant factors in order to understand the type and frequency of cleaning necessary (see EN 752-7). However it is sometimes necessary to carry out some work in order to obtain this knowledge.

On completion, a report of the cleaning operations is produced, providing information on the works, on any difficulties encountered and any anomalies.

This information is used to improve the management of drain and sewer systems.

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EN 14654-1:2005 (E)**1 Scope**

This European Standard specifies the general principles for the management and control of cleaning operations in drain and sewer systems and specifies requirements for implementation of cleaning programmes and for working practices.

It is applicable to drain and sewers systems outside buildings, which operate essentially under gravity, from the point where the sewage leaves a building or roof drainage system, or enters a road gully, to the point where it is discharged into a treatment works or receiving water. Drains and sewers below buildings are included provided that they do not form part of the drainage system of the building.

2 Normative references

The following referenced documents are indispensable for the application of this European Standard. For dated references, only the edition cited applies. For undated references, the latest edition of the referenced document (including any amendments) applies.

EN 752-5, *Drain and sewer systems outside buildings – Part 5: Rehabilitation*

EN 752-7:1998, *Drain and sewer systems outside buildings — Part 7: Maintenance and operations*

prEN 1829-1, *High pressure cleaners — High pressure water jet machines — Safety requirements — Part 1: General description*

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3 Terms and definitions

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For the purposes of this European Standard, the following terms and definitions apply.

3.1 General**3.1.1****cleaning aims**

general aims of cleaning which are the same for the whole drain and sewer system and which form the basis for the cleaning plan

3.1.2**cleaning objectives**

application of the plan to specific drains and sewers in a form that can be measured

3.1.3**cleaning operations**

removal or partial removal of settled deposits, attached deposits, roots and other obstacles from a drain or sewer system

3.1.4**cleaning plan**

plan derived from the cleaning aims and the selected cleaning strategy

3.1.4**degree of cleaning**

extent to which complete removal of deposits is achieved

3.1.5**removal**

extraction of deposits after collecting at the working area or the intentional use of the flow in the drain or sewer to carry the re-entrained solids to a specified point of extraction

3.1.7**self-cleansing**

ability of the flow in a drain or sewer to carry away solid particles, which would otherwise be deposited in the pipe
[EN 752-1:1995]

3.2 Deposits**3.2.1****attached deposits**

material attached to the wall of elements of the drain or sewer system by physical or chemical bonding

3.2.2**roots**

roots of trees or other plants growing into the elements of the drain or sewer system through joints, defects or connections

3.2.3**settled deposits**

material deposited by gravity in the invert or benching of elements of the drain or sewer system

3.2.4**other obstacles**

objects not included in the definitions above, in elements of the drain or sewer system causing obstruction of the cross sectional area

3.3 Cleaning methods**3.3.1****cleaning ball**

spherical device, having an indented surface, designed to be carried through a drain or sewer by the flow to facilitate removal of sediments
[EN 752-7:1998]

3.3.2**combined jetting**

simultaneous use of high pressure water jetting equipment together with a suction action, to remove obstructions or sediments from drains or sewers

3.3.3**flushing**

use of a temporary substantially increased flow to facilitate the removal of obstructions or sediments from drains or sewers
[EN 752-7:1998]

3.3.4**jetting**

use of high pressure water jetting equipment to facilitate removal of obstructions or sediments from drains or sewers
[EN 752-7:1998]

3.3.5**rodding**

use of appropriate device on the end of flexible rods to facilitate the removal of obstructions (or sediments) from drains or sewers
[EN 752-7:1998]

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EN 14654-1:2005 (E)**3.3.6****scouring plate**

device used to clean a drain or sewer by concentrating the flow into a small cross section thereby increasing the flow velocity

3.3.7**winching**

use of bucket or other device pulled through a drain or sewer to facilitate removal of sediments (or obstructions) [EN 752-7:1998]

4 Management of cleaning operations**4.1 General**

Cleaning operations in drains and sewers can be carried out pro-actively, to prevent problems occurring or to clean a drain or sewer before particular operations (e.g. an inspection programme or renovation work), or reactively in response to problems which have occurred.

The requirements for pro-active cleaning can be identified through a rehabilitation plan in accordance with EN 752-5 or through the development and implementation of an operations and maintenance plan involving periodic monitoring in accordance with EN 752-7:1998.

Consideration shall also be given to the feasibility of preventing deposition of sediments for example by rehabilitation of the sewer.

A cleaning strategy is illustrated in Figure 1.

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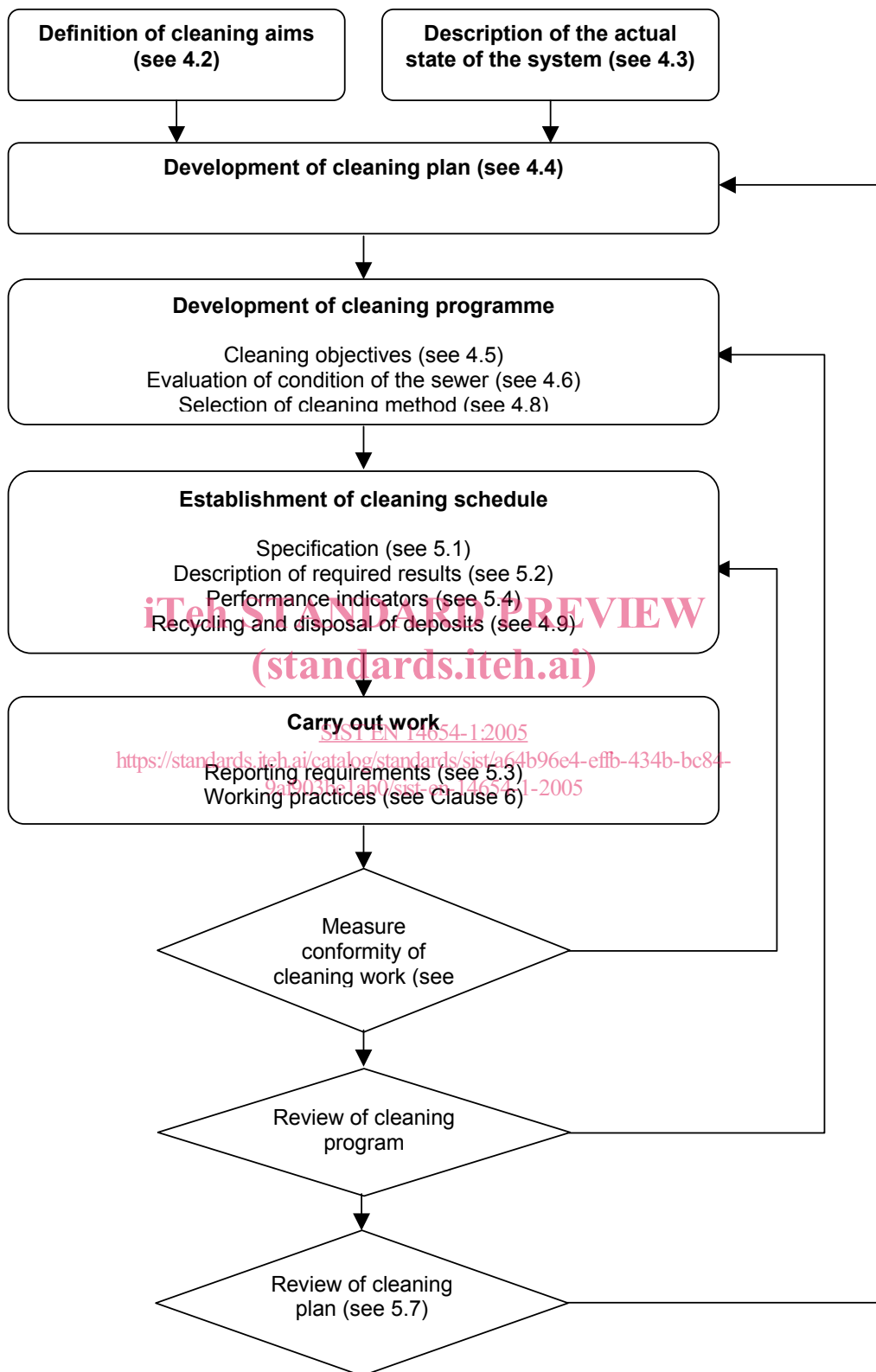


Figure 1 —A cleaning strategy