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Avlopp – Förvaltning och kontroll av rensning i avloppssystem utanför byggnad – Del 2: Förnyelse

Management and control of operational activities in drain and sewer systems outside buildings – Part 2: Rehabilitation

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EUROPEAN STANDARD

EN 14654-2

NORME EUROPÉENNE

EUROPÄISCHE NORM

January 2013

ICS 93.030

English Version

Management and control of operational activities in drain and sewer systems outside buildings - Part 2: Rehabilitation

Gestion et contrôle des opérations de nettoyage des canalisations d'évacuation et d'assainissement - Partie 2: Réhabilitation

Management und Überwachung von betrieblichen Maßnahmen in Abwasserleitungen und -kanälen - Teil 2: Sanierung

This European Standard was approved by CEN on 17 November 2012.

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 CEN-CENELEC Management Centre 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 CEN-CENELEC Management Centre has the same status as the official versions.

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COMITÉ EUROPÉEN DE NORMALISATION
EUROPÄISCHES KOMITEE FÜR NORMUNG

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Foreword

This document (EN 14654-2:2013) 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of an identical text or by endorsement, at the latest by July 2013, and conflicting national standards shall be withdrawn at the latest by July 2013.

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.

The standard series EN 14654 contains the following parts:

- EN 14654-1, *Management and control of operational activities in drain and sewer systems outside buildings — Part 1: Sewer cleaning*;
- EN 14654-2, *Management and control of operational activities in drain and sewer systems outside buildings — Part 2: Rehabilitation* (the present document).

Other parts dealing with other activities may be added later.

In drafting this part of this European Standard account has been taken of other available standards, in particular EN 752, *Drain and sewer systems outside buildings*, and EN 13508, *Investigation and assessment of drain and sewer systems outside buildings*.

According to the CEN/CENELEC Internal Regulations, the national standards organisations 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.

1 Scope

This European Standard establishes the general principles for the management and control of operational activities in drain and sewer systems outside buildings and specifies requirements for development and implementation of work programmes, and the selection of techniques.

This part covers the management and control of rehabilitation activities.

It is applicable to drain and sewer systems, which operate essentially under gravity, from the point where wastewater leaves a building, roof drainage system, or paved area, 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 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 752:2008, *Drain and sewer systems outside buildings*

EN 13508-1:2012, *Investigation and assessment of drain and sewer systems outside buildings — Part 1: General requirements*

3 Terms and definitions

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

3.1

extraneous water

unwanted flow in a drain or sewer system

[SOURCE: EN 752:2008, definition 3.25]

3.2

inspection chamber

chamber with a removable cover constructed on a drain or sewer that permits the introduction of cleaning and inspection equipment from surface level, but does not provide access for personnel

[SOURCE: EN 752:2008, definition 3.34]

3.3

maintenance

routine work undertaken to ensure the continuing performance of drain and sewer systems

[SOURCE: EN 752:2008, definition 3.40]

3.4

manhole

chamber with a removable cover constructed on a drain or sewer to permit entry by personnel

[SOURCE: EN 752:2008, definition 3.41]

3.5

pipeline length

continuous section of drain or sewer between two adjacent nodes

[SOURCE: EN 13508-2:2003, definition 3.26]

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3.6 rehabilitation

all measures for restoring or upgrading the performance of existing drain and sewer systems

[SOURCE: EN 752:2008, definition 3.50]

3.7 renovation

work incorporating all or part of the original fabric of the drain or sewer by means of which its current performance is improved

[SOURCE: EN 752:2008, definition 3.52]

3.8 repair

rectification of local damage

[SOURCE: EN 752:2008, definition 3.53]

3.9 replacement

construction of a new drain or sewer, on or off the line of an existing drain or sewer, the function of the new drain or sewer incorporating that of the old

[SOURCE: EN 752:2008, definition 3.54]

4 General

Rehabilitation includes a wide range of activities to restore or upgrade the performance of a drain or sewer system including those examples shown in Table 1.

Table 1 — Scope of rehabilitation

	Examples of system related measures	Examples of component related measures
Restore original Performance	<ul style="list-style-type: none"> • Remove extraneous flows • ... 	<ul style="list-style-type: none"> • Cleaning • Repair • Renovation • Replacement (like for like).
Upgrade original Performance	<ul style="list-style-type: none"> • Maximise use of existing flow capacity • Reduce hydraulic input to the drain or sewer system • Attenuate peak flows • ... 	<ul style="list-style-type: none"> • Replacement (increased capacity).

EN 752:2008, Clause 6, outlines the process for preparation and implementation of an integrated drain and sewer system management plan which includes, at a strategic level, a plan for rehabilitation of the drain and sewer system. The amount of detail in the rehabilitation plan in the integrated drain and sewer system plan can vary.

This European Standard sets out a process for implementing the rehabilitation proposals in the integrated drain and sewer system management plan. The process is based on a staged application of the process outlined in Figure 1.

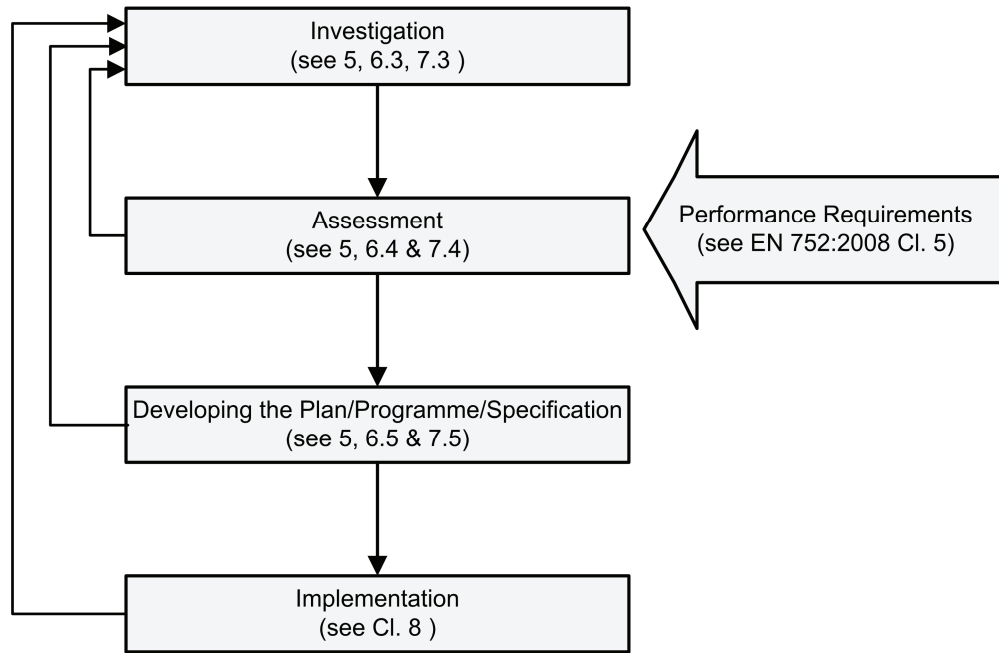


Figure 1 — The integrated sewer system management process (based on EN 752:2008, Figure 5)

The integrated sewer system management process is applied successively to develop a rehabilitation programme based on the integrated sewer system management plan. The programme outlines a series of discrete rehabilitation projects to implement the rehabilitation proposals in the plan. Following this, the integrated sewer system management process is then used to produce a detailed specification for each of these projects in the programme. Finally, following the implementation of each project, the rehabilitation programme and the integrated sewer system management plan are reviewed and updated where necessary. The performance requirements for the rehabilitated systems should be in accordance with EN 752:2008, 5.2. At each stage further investigation and assessment is carried out in accordance with EN 13508-1.

This staged process is summarised in Figure 2.