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ICS 93.030

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**TRENCHLESS CONSTRUCTION AND
TESTING OF DRAINS AND SEWERS**

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EUROPÄISCHE NORM

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English version

Trenchless construction and testing of drains and sewers

Mise en oeuvre sans tranchée et essai des branchements
et collecteurs d'assainissement

Grabenlose Verlegung und Prüfung von Abwasserleitungen
und -kanälen

This European Standard was approved by CEN on 15 November 1999.

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, Czech Republic, Denmark, Finland, France, Germany, Greece, Iceland, Ireland, Italy, Luxembourg, Netherlands, Norway, Portugal, Spain, Sweden, Switzerland and United Kingdom.



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

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Foreword

This European Standard 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of an identical text or by endorsement, at the latest by July 2000, and conflicting national standards shall be withdrawn at the latest by July 2000.

According to the CEN/CENELEC Internal Regulations, the national standards organizations of the following This European Standard has countries are bound to implement this European Standard: Austria, Belgium, Czech Republic, Denmark, Finland, France, Germany, Greece, Iceland, Ireland, Italy, Luxembourg, Netherlands, Norway, Portugal, Spain, Sweden, Switzerland and the United Kingdom.

Annex A is informative.

1 Scope

This European Standard is applicable to the trenchless construction and testing of new drains and new sewers in the ground, which are normally operating as gravity pipelines, formed using prefabricated pipes and their joints. The trenchless construction and testing of drains and sewers operating under pressure is also covered by this European Standard together with prEN 805:1999 as appropriate.

This European Standard also applies to trenchless replacement techniques. Renovation techniques for existing sewers and drains are not covered by this European Standard.

Methods of trenchless construction include

- manned and unmanned techniques;
- steerable and non-steerable techniques.

NOTE 1: Mining or tunnelling (e.g. in situ construction or the use of prefabricated segments) are not covered by this European Standard although some parts may apply to these methods. Additional requirements apply for mining and tunnelling methods for the construction of drains and sewers.

Additionally other local or national regulations should be taken into account, e.g. concerning health and safety, pavement installation, tolerances for deviation in line and level and requirements for leaktightness testing.

NOTE 2: Requirements for associated pipeline installation work other than trenchless construction, e. g. for manholes and inspection chambers, are given in EN 1610 "Construction and testing of drains and sewers".

2 Normative references

This European Standard incorporates by dated or undated reference, provisions from other publications. These normative references are cited at the appropriate places in the text and the publications are listed hereafter. For dated references, subsequent amendments to or revisions of any of these publications apply to this European Standard only when incorporated in it by amendment or revision. For undated references the latest edition of the publication referred to applies.

EN 752-5 : 1997

Drain and sewer systems outside buildings – Part 5: Rehabilitation

prEN 805:1999

Water supply – Requirements for systems and components outside buildings

3 Definitions

For the purposes of this European Standard the following definitions apply:

3.1 Cutting head: A tool or system of tools on a common support, which excavates at the face of a bore. The term usually applies to mechanical methods of excavation.

3.2 Expander: A tool which enlarges a bore by displacement of the surrounding ground rather than by excavation.

3.3 Gravity pipeline: Pipeline where flow is caused by the force of gravity and where the pipeline is designed normally to operate partially full.

3.4 Overbreak: The extent by which the excavated void including accidental ground losses initially exceeds the outside dimension of the pipe.

3.5 Overcut: The annular space around the pipe deliberately created by using a cutting head or shield of greater dimension than the outside dimension of the pipe.

3.6 Pipe jacking: A system of directly installing pipes behind a cutting head and/or shield, by hydraulic jacking from a drive shaft, such that the pipes form a string in the ground.

3.7 Reamer: A cutting head attached to the end of a drill string or pilot rod to enlarge the pilot diameter during a pull-back or pushing operation, to enable a pipe or pipes to be installed.

3.8 Renovation: Work incorporating all or part of the original fabric of the pipeline by means of which its current performance is improved (EN 752-5 : 1997).

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 (EN 752-5 : 1997).

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