



# SLOVENSKI STANDARD

## SIST EN 12056-5:2001

01-december-2001

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### Težnostni kanalizacijski sistemi v stavbah - 5. del: Vgradnja, preskušanje, navodila za delovanje, vzdrževanje in uporabo

Gravity drainage systems inside buildings - Part 5: Installation and testing, instructions for operation, maintenance and use

Schwerkraftentwässerungsanlagen innerhalb von Gebäuden - Teil 5: Installation und Prüfung, Anleitung für Betrieb, Wartung und Gebrauch

Réseaux d'évacuation gravitaire a l'intérieur des bâtiments - Partie 5: Mise en oeuvre, essai, instructions de service, d'exploitation et d'entretien

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EUROPEAN STANDARD  
NORME EUROPÉENNE  
EUROPÄISCHE NORM

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English version

## Gravity drainage systems inside buildings - Part 5: Installation and testing, instructions for operation, maintenance and use

Réseaux d'évacuation gravitaire à l'intérieur des bâtiments -  
Partie 5: Mise en oeuvre, essai, instructions de service,  
d'exploitation et d'entretien

Schwerkraftentwässerungsanlagen innerhalb von  
Gebäuden - Teil 5: Installation und Prüfung, Anleitung für  
Betrieb, Wartung und Gebrauch

This European Standard was approved by CEN on 27 October 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.

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

Central Secretariat: rue de Stassart, 36 B-1050 Brussels

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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 December 2000, and conflicting national standards shall be withdrawn at the latest by June 2001.

This part is the fifth in a series relating to the fundamental requirements of gravity drainage systems inside buildings. There will be five parts, as follows: Gravity drainage systems inside buildings

Part 1: General and performance requirements

Part 2: Sanitary pipework - Layout and calculation

Part 3: Roof drainage - Layout and calculation

Part 4: Waste water lifting plants - Layout and calculation

Part 5: Installation and testing, instructions for operation, maintenance and use

According to the CEN/CENELEC Internal Regulations, the national standards organizations of the following 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.

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## 1 Scope

This European Standard applies to waste water drainage systems which operate under gravity. It is applicable for drainage systems inside dwellings, commercial, institutional and industrial buildings.

Differences in plumbing within Europe have led to a variety of systems being developed. Some of the major systems in use are described but this Standard has not attempted to detail the intricacies of each system. Detailed information additional to that contained in this Standard may be obtained by referring to the technical documents listed in Annex A.

This fifth part of the Standard sets out the principles, which should be followed when installing and maintaining waste water and rainwater gravity drainage systems. It deals with fixing, support, containment of thermal movement, protection and accessibility of the system.

All drawings in this standard are given as examples and are not intended to exclude any other system configuration.

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## 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 12056-1: Gravity drainage systems inside buildings  
Part 1: General and performance requirements
- EN 12056-2: Gravity drainage systems inside buildings  
Part 2: Sanitary pipework - Layout and calculation
- EN 12056-3: Gravity drainage systems inside buildings  
Part 3: Roof drainage - Layout and calculation
- EN 12056-4: Gravity drainage systems inside buildings  
Part 4: Waste water lifting plants - Layout and calculation

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### 3 Definitions

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

#### 3.1 General

##### 3.1.1 Waste water

Water which is contaminated by use and all water discharging into the drainage system; e.g. domestic and trade effluent, condensate water and also rainwater when discharged in a waste water drainage system.

##### 3.1.2 Domestic waste water

Water which is contaminated by use and normally discharged from WC, shower, bath, bidet, wash basin, sink, floor gully.

##### 3.1.3 Trade effluent

Water after industrial use and processes contaminated / polluted water including cooling water.

##### 3.1.4 Grey water

Waste water not containing faecal matter or urine.

##### 3.1.5 Black water

Waste water containing faecal matter.

##### 3.1.6 Rainwater

Water resulting from natural precipitation that has not been deliberately contaminated.

##### 3.1.7 Flood level

The maximum level to which waste water can rise within a drainage system.

##### 3.1.8 Drainage system

A system composed of drainage equipment and other components collecting waste water and discharging by means of gravity. Effluent lifting plant may be part of a gravity drainage system.

##### 3.1.9 Combined system

A drainage system for both rain and waste water in a single pipe.

##### 3.1.10 Separate system

A drainage system for draining rain and waste water separately by dedicated pipework.

#### 3.2 Pipes and fittings

##### 3.2.1 Sanitary pipework

Arrangement of discharge pipework, with or without ventilating pipes, connected to a drainage system.

Note: For the purposes of this standard "pipework" include pipes and fittings.

##### 3.2.2 Nominal Diameter (DN)

Numerical designation of size which is a convenient round number approximately equal to the diameter in mm.

##### 3.2.3 Internal diameter ( $d_i$ )

Mean internal diameter of the pipe barrel at any cross section.

- 3.2.4 External diameter ( $d_a$ )**  
Mean external diameter of the pipe barrel at any cross section.
- 3.2.5 Minimum internal diameter ( $d_{i\min}$ )**  
Smallest internal diameter allowed with maximum tolerance.
- 3.2.6 Branch discharge pipe**  
Pipe connecting sanitary appliances to a discharge stack or drain.
- 3.2.7 Square entry**  
Equal branch junction that is more than 45°, or has a centre line radius less than the internal pipe diameter.
- 3.2.8 Swept entry**  
Equal branch junction that is at 45° or less, or has a centre line radius not less than the internal pipe diameter.
- 3.2.9 Connection bend**  
First fitting in direction of flow after trap outlet.
- 3.2.10 Discharge stack**  
Main (generally vertical) pipe, conveying discharges from sanitary appliances.
- 3.2.11 Stack offset**  
Non vertical part of a discharge stack.
- 3.2.12 Drain**  
Near horizontal pipe suspended within a building or buried in the ground to which stacks or ground floor appliances are connected.
- 3.2.13 Filling degree**  
Proportion of water depth ( $h$ ) to the inside diameter ( $d_i$ ).
- 3.3 Ventilating pipework and fittings**
- 3.3.1 Ventilating pipe**  
Pipe provided to limit the pressure fluctuations within the discharge pipe system.
- 3.3.2 Branch ventilating pipe**  
Ventilating pipe connected to a branch discharge pipe.
- 3.3.3 Stack vent**  
Extension of a vertical discharge pipe above the highest branch discharge pipe connection that terminates in an end, open to the atmosphere.
- 3.3.4 Ventilating stack**  
Main vertical ventilating pipe, connected to a discharge stack, to limit pressure fluctuations within the discharge stack.
- 3.3.5 Air admittance valve**  
Valve that allows air to enter the system but not to escape in order to limit pressure fluctuations within the sanitary pipework.
- 3.4 Appliances**
- 3.4.1 Domestic sanitary appliances**  
Fixed appliances supplied with water and used cleaning or washing. For example: bath, shower, wash basin, bidet, WC, urinal, sink, dishwasher, washing machine.