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PUHASTATUD HALLVEE KASUTUSSÜSTEEMID

On-site non-potable water systems - Part 2: Systems for  
the use of treated greywater

## EESTI STANDARDI EESSÕNA

## NATIONAL FOREWORD

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EUROPEAN STANDARD

EN 16941-2

NORME EUROPÉENNE

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## On-site non-potable water systems - Part 2: Systems for the use of treated greywater

Réseaux d'eau non potable sur site - Partie 2 : Systèmes pour l'utilisation des eaux ménagères traitées

Vor-Ort-Anlagen für Nicht-Trinkwasser - Teil 2: Anlagen für die Verwendung von behandeltem Grauwasser

This European Standard was approved by CEN on 20 December 2020.

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EUROPEAN COMMITTEE FOR STANDARDIZATION  
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## European foreword

This document (EN 16941-2:2021) 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of an identical text or by endorsement, at the latest by July 2021, and conflicting national standards shall be withdrawn at the latest by July 2021.

Attention is drawn to the possibility that some of the elements of this document may be the subject of patent rights. CEN shall not be held responsible for identifying any or all such patent rights.

The EN 16941 series, *On-site non-potable water systems*, consists of the following parts:

- *Part 1: Systems for the use of rainwater;*
- *Part 2: Systems for the use of treated greywater.*

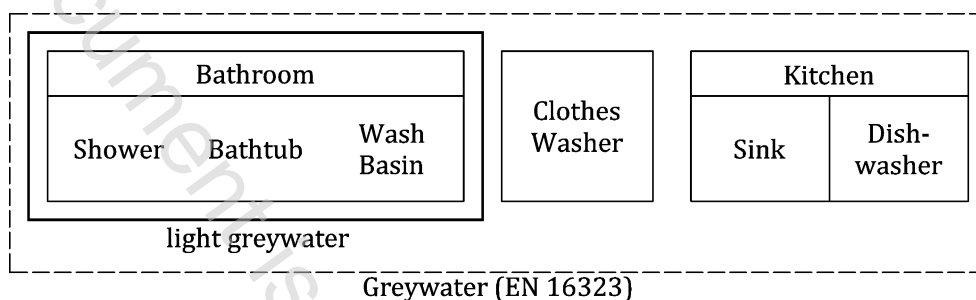
According to the CEN-CENELEC Internal Regulations, the national standards organisations of the following countries are bound to implement this European Standard: Austria, Belgium, Bulgaria, Croatia, Cyprus, Czech Republic, Denmark, Estonia, Finland, France, Germany, Greece, Hungary, Iceland, Ireland,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

## Introduction

Ecological and sustainable water management is a goal of greywater management.

Greywater varies in volume and composition depending on different sources (see Figure 1) which would need different levels of treatment depending on its intended use. Therefore greywater systems can vary significantly in their complexity and size. They can be grouped according to the type of system (see Annex B).

Greywater can also be used for heat recovery and cooling demands. Principles and design for such applications are not covered by this document.



**Figure 1 — Types and sources of light greywater**

## 1 Scope

This document specifies the principles of design, sizing, installation, identification, commissioning and maintenance of greywater systems with the purpose of use of greywater on-site.

It applies preferably for the use of treated greywater for:

- WC flushing;
- garden watering;
- laundry;
- cleaning purposes.

This document also specifies the minimum requirements for greywater systems.

Excluded from the scope of this document are:

- the use as drinking water and for food preparation;
- the use for personal hygiene purposes;
- direct use systems without treatment;
- product design for specific system components;
- industrial effluents;
- heat recovery and cooling demands.

NOTE Conformity with this document does not exempt from compliance with the obligations arising from local or national regulations.

## 2 Normative references

The following documents are referred to in the text in such a way that some or all of their content constitutes requirements 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 476, *General requirements for components used in drains and sewers*

EN 806 (all parts), *Specifications for installations inside buildings conveying water for human consumption*

EN 809, *Pumps and pump units for liquids - Common safety requirements*

EN 1610, *Construction and testing of drains and sewers*

EN 1717, *Protection against pollution of potable water in water installations and general requirements of devices to prevent pollution by backflow*

EN 12050 (all parts), *Wastewater lifting plants for buildings and sites*

EN 12056-2, *Gravity drainage systems inside buildings - Part 2: Sanitary pipework, layout and calculation*



EN 12056-4, *Gravity drainage systems inside buildings - Part 4: Wastewater lifting plants - Layout and calculation*

EN 12056-5, *Gravity drainage systems inside buildings - Part 5: Installation and testing, instructions for operation, maintenance and use*

EN 12566-3, *Small wastewater treatment systems for up to 50 PT - Part 3: Packaged and/or site assembled domestic wastewater treatment plants*

EN 13076, *Devices to prevent pollution by backflow of potable water - Unrestricted air gap-Family A - Type A*

EN 13077, *Devices to prevent pollution by backflow of potable water - Air gap with non-circular overflow (unrestricted) - Family A - Type B*

EN 13564-1, *Anti-flooding devices for buildings - Part 1: Requirements*

EN 60335-2-41, *Household and similar electrical appliances - Safety - Part 2-41: Particular requirements for pumps*

EN ISO 4064-1, *Water meters for cold potable water and hot water - Part 1: Metrological and technical requirements (ISO 4064-1)*

EN ISO 4064-5, *Water meters for cold potable water and hot water - Part 5: Installation requirements (ISO 4064-5)*

ISO 7010, *Graphical symbols - Safety colours and safety signs — Registered safety signs*

### 3 Terms and definitions

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

ISO and IEC maintain terminological databases for use in standardization at the following addresses:

- IEC Electropedia: available at <http://www.electropedia.org/>
- ISO Online browsing platform: available at <https://www.iso.org/obp>

#### 3.1

##### **greywater**

domestic wastewater excluding wastewater from WC and urinal

[SOURCE: EN 16323:2014, 2.1.2.1]

#### 3.2

##### **light greywater**

greywater excluding kitchen and clothes washer wastewater

#### 3.3

##### **storage device**

unit for the storage of treated greywater

#### 3.4

##### **cistern**

fixed container for holding water at atmospheric pressure for use as part of the plumbing system