

**REOVEE VÄIKEPUHASTID KUNI 50 PT. OSA 3:
KOMPAKT- JA/VÕI KOHAPEAL MONTEERITAVAD
PUHASTID**

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

EESTI STANDARDI EESSÕNA

NATIONAL FOREWORD

See Eesti standard EVS-EN 12566-3:2005+A2:2013 sisaldab Euroopa standardi EN 12566-3:2005+A2:2013 ingliskeelset teksti.	This Estonian standard EVS-EN 12566-3:2005+A2:2013 consists of the English text of the European standard EN 12566-3:2005+A2:2013.
Standard on jõustunud sellekohase teate avaldamisega EVS Teatajas.	This standard has been endorsed with a notification published in the official bulletin of the Estonian Centre for Standardisation.
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English Version

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

Petites installations de traitement des eaux usées jusqu'à
50 PTE - Partie 3: Stations d'épuration des eaux usées
domestiques prêtes à l'emploi et/ou assemblées sur site

Kleinkläranlagen für bis zu 50 EW - Teil 3: Vorgefertigte
und/oder vor Ort montierte Anlagen zur Behandlung von
häuslichem Schmutzwasser

This European Standard was approved by CEN on 20 June 2005 and includes Amendment 1 approved by CEN on 15 December 2008 and Amendment 2 approved by CEN on 21 April 2013.

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.

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Contents

Page

Foreword.....	4
1 Scope	7
2 Normative references	7
3 Terms and definitions	9
4 Symbols and abbreviations	10
5 [A₂] Declaration of the nominal designation [A₂]	10
6 Requirements	10
6.1 Design	10
6.1.1 General.....	10
6.1.2 Inlets, outlets, internal pipework and connections	10
6.1.3 Access	11
6.1.4 Sizing basis	11
6.1.5 Overall dimensions.....	11
6.2 Load bearing capacity	11
6.2.1 General.....	11
6.2.2 Load bearing capacity determined by calculation	12
6.2.3 Load bearing capacity determined by testing	13
6.3 Treatment efficiency [A₁] deleted text [A₁]	15
6.4 Watertightness	16
6.4.1 General.....	16
6.4.2 Water test.....	16
6.4.3 Vacuum test.....	16
6.4.4 Pneumatic pressure test	16
6.5 Durability	16
6.5.1 General.....	16
6.5.2 Concrete	16
6.5.3 Steel	16
6.5.4 Unplasticized polyvinyl chloride (PVC-U)	16
6.5.5 Polyethylene (PE).....	17
6.5.6 Glass reinforced plastic (GRP).....	18
6.5.7 Polypropylene (PP)	18
6.5.8 PDCPD	19
6.5.9 Flexible sheets	19
6.6 Reaction to fire.....	20
6.6.1 General.....	20
6.6.2 Plants classified as Class A1 without the need for testing	20
6.6.3 Plants classified according to the test results	21
6.7 Power consumption.....	21
6.8 Dangerous substances	21
7 Technical information	22
8 Evaluation of conformity.....	22
8.1 General.....	22
8.2 Initial type tests.....	22
8.3 Factory production control.....	23
8.3.1 General.....	23
8.3.2 Raw materials and components.....	23
8.3.3 Production process	23
8.3.4 Finished product testing	23
8.3.5 Stock control	23
9 Installation instructions	24

10	Operation and maintenance instructions	24
Annex A (normative)	Watertightness test.....	25
A.1	Selection of test.....	25
A.2	Water test	25
A.2.1	Sample	25
A.2.2	Procedure	25
A.2.3	Expression of results	26
A.3	Air permeability vacuum test	26
A.3.1	Sample	26
A.3.2	Procedure	26
A.3.3	Expression of results	27
A.4	Pneumatic pressure test.....	27
A.4.1	Sample	27
A.4.2	Procedure.....	27
A.4.3	Expression of results	27
Annex B (normative)	Treatment efficiency test procedure	28
B.1	Responsibility and testing location	28
B.2	Plant selection and preliminary evaluation	28
B.2.1	General	28
B.2.2	Installation and commissioning.....	28
B.2.3	Operation and maintenance procedures during testing	28
B.2.4	Data to be monitored.....	29
B.3	Test procedure.....	29
B.3.1	Time for establishment	29
B.3.2	Influent characteristics	29
B.3.3	Daily flow pattern for testing	30
B.3.4	Test procedure.....	30
B.3.5	Influent and effluent samplings	32
B.4	Sample analysis.....	33
B.5	Test report.....	33
Annex C (normative)	Calculation and test methods for structural behaviour	35
C.1	General	35
C.2	Concrete plant	35
C.2.1	Crushing test methods	35
C.2.2	Test procedures.....	36
C.3	Polyethylene and polypropylene plant.....	38
C.3.1	Vertical load test.....	38
C.4	Determination of mechanical characteristics of test samples used for calculation	39
C.4.1	Concrete	39
C.4.2	Glass reinforced plastic (GRP)	39
C.4.3	PVC-U.....	40
C.4.4	PE, PP	40
C.4.5	Steel	40
C.5	Vacuum test for Glass Reinforced Plastic	40
C.6	Pit test.....	41
C.6.1	Sample	41
C.6.2	Procedure	41
C.6.3	Expression of results	42
Annex ZA (informative)	Clauses of this European Standard addressing the provisions of the EU	
	Construction Products Directive	43
ZA.1	Scope and relevant characteristics	43
ZA.2	Procedure of attestation of conformity of A_1 packaged and/or site assembled domestic wastewater treatment plants A_1.....	45
ZA.2.1	System of attestation of conformity	45
ZA.2.2	Declaration of conformity	46
ZA.3	CE Marking	46
	Bibliography.....	50

Foreword

This document (EN 12566-3:2005+A2:2013) 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 December 2013 and conflicting national standards shall be withdrawn at the latest by December 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.

This document includes Amendment 1 approved by CEN on 2008-12-15 and Amendment 2, approved by CEN on 2013-04-21.

This document supersedes A_2 EN 12566-3:2005+A1:2009 A_2 .

The start and finish of text introduced or altered by amendment is indicated in the text by tags A_1 A_1 and A_2 A_2 .

This European Standard has been prepared under a mandate given to CEN by the European Commission and the European Free Trade Association, and supports essential requirements of EU Directive(s).

For relationship with EU Directive(s), see informative Annex ZA, which is an integral part of this European Standard.

This European Standard provides the general requirements for packaged and/or site assembled treatment plants used for domestic wastewater treatment up to 50 PT (see Clause 1 "Scope").

The standard EN 12566 "Small wastewater treatment systems up to 50 PT" contains the following Parts:

- Part 1: Prefabricated septic tanks;

NOTE 1 This part specifies the requirements and test methods for prefabricated septic tank units.

- Part 2: Soil infiltration systems

NOTE 2 This CEN/TS is a Code of Practice for in-situ constructed soil infiltration systems. No treatment requirements are specified.

- Part 3: Packaged and/or site assembled domestic wastewater treatment plants;

NOTE 3 This part specifies the requirements and test methods used to evaluate packaged wastewater treatment plants which are required to treat sewage to a predetermined standard.

The following Parts are in preparation:

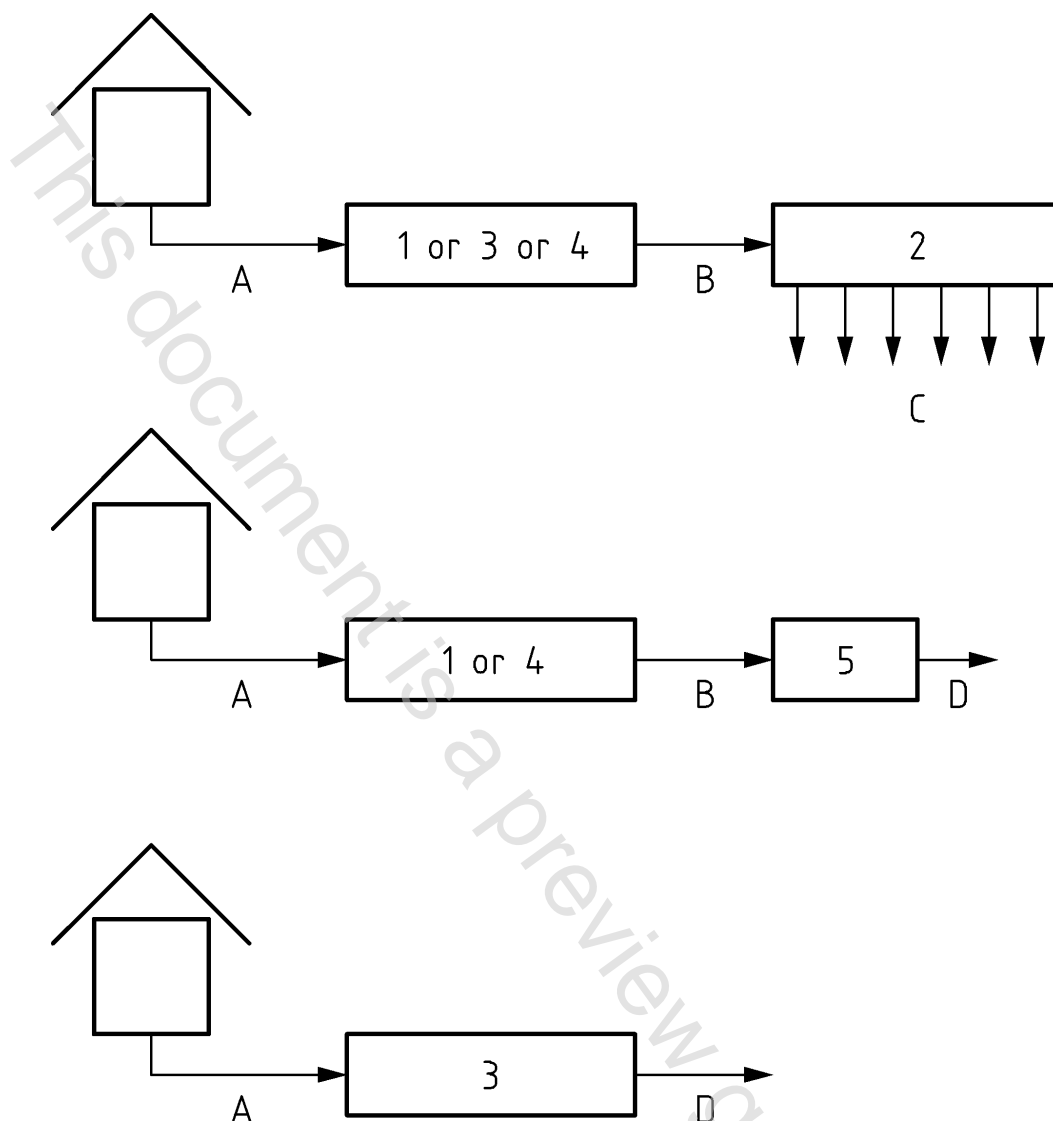
- Part 4: Septic tanks built in situ from prefabricated kits – Execution standard;
- Part 5: Pre-treated Effluent Filtration systems.

Figure 1 shows the relationship between the parts of EN 12566.

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.

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Key

- | | | | |
|---|--|---|--|
| A | Domestic waste water (influent) | 2 | Infiltration system (into the ground) (see Part 2;) |
| B | Pre-treated waste water | 3 | Waste water treatment plant (see Part 3) |
| C | Infiltration into the ground | 4 | Septic tank built in situ (see Part 4; in preparation) |
| D | Outlet of treated waste water (effluent) | 5 | Filtration systems (see Part 5; in preparation) |
| 1 | Prefabricated septic tank (see Part 1) | | |

National regulations may specify different arrangements between the products described in the standards series EN 12566.

Figure 1 – Scheme related to the arrangement of the parts of EN 12566

1 Scope

This European Standard specifies requirements, test methods, the marking and evaluation of conformity for packaged and/or site assembled domestic wastewater treatment plants (including guest houses and businesses) used for populations up to 50 inhabitants. Small wastewater treatment plants according to this European Standard are used for the treatment of raw domestic wastewater.

A2 It covers plants with tanks made of concrete, steel, PVC-U, Polyethylene (PE), Polypropylene (PP), Glass Reinforced Polyester (GRP-UP), Polydicyclopentadiene (PDCPD) and container made of flexible sheets (PEHD, PP, PVC, EPDM). **A2**

The test methods specified in this European Standard establish the performance of the plant, needed to verify its suitability for the end use (see 3.1).

This European Standard applies for small wastewater treatment plants for use buried in the ground where no vehicle loads are applied to the product.

This European Standard applies to plants where all prefabricated components are factory or site-assembled by one manufacturer and which are tested as a whole.

NOTE In some countries, domestic wastewater treatment plants are followed by other systems to conform to national regulations.

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 206-1, *Concrete – Part 1: Specification, performance, production and conformity*

EN 580, *Plastics piping systems – Unplasticized poly(vinyl chloride) (PVC-U) pipes – Test method for the resistance to dichloromethane at a specified temperature (DCMT)*

EN 727, *Plastics piping and ducting systems – Thermoplastics pipes and fittings – Determination of Vicat softening temperature (VST)*

EN 858-1, *Separator systems for light liquids (e.g. oil and petrol) – Part 1: Principles of product design, performance and testing, marking and quality control*

EN 872, *Water quality – Determination of suspended solids – Method by filtration through glass fibre filters*

EN 922, *Plastics piping and ducting systems – Pipes and fittings of unplasticized poly(vinyl chloride) (PVC-U) – Specimen preparation for determination of the viscosity number and calculation of the K-value*

EN 976-1:1997, *Underground tanks of glass-reinforced plastics (GRP) – Horizontal cylindrical tanks for the non-pressure storage of liquid petroleum based fuels – Part 1: Requirements and test methods for single wall tanks*

EN 978:1997, *Underground tanks of glass-reinforced plastics (GRP) – Determination of factor α and factor β*

A1 EN 1085:2007 **A1**, *Wastewater treatment – Vocabulary*

EN 1905, *Plastics piping systems – Unplasticized poly(vinyl chloride) (PVC-U) pipes fittings and material – Method for assessment of the PVC content based on total chlorine content*

EN 12255-1, *Wastewater treatment plants – Part 1: General construction principles*

EN 12255-4, *Wastewater treatment plants – Part 4: Primary settlement*

EN 12255-6, *Wastewater treatment plants – Part 6: Activated sludge process*

EN 12255-7, *Wastewater treatment plants – Part 7: Biological fixed-film reactors*

EN 12255-10, *Wastewater treatment plants – Part 10: Safety principles*

EN 12255-11, *Wastewater treatment plants – Part 11: General data required*

EN 13369, *Common rules for precast concrete products*

EN 12260, *Water quality – Determination of nitrogen – Determination of bound nitrogen (TN_b), following oxidation to nitrogen oxides*

EN 12311-2, *Flexible sheets for waterproofing — Determination of tensile properties — Part 2: Plastic and rubber sheets for roof waterproofing*

EN 14150, *Geosynthetic barriers — Determination of permeability to liquids*

EN 13501-1, *Fire classification of construction products and building elements — Part 1: Classification using data from reaction to fire tests*

EN ISO 178, *Plastics – Determination of flexural properties (ISO 178:2001)*

EN ISO 179 (all parts), *Plastics - Determination of Charpy impact properties*

EN ISO 527-2, *Plastics – Determination of tensile properties – Part 2: Test conditions for moulding and extrusion plastics (ISO 527-2:1993, including Corr 1:1994)*

EN ISO 899-2, *Plastics – Determination of creep behaviour – Part 2: Flexural creep by three-point loading (ISO 899-2:2003)*

EN ISO 1133:2005, *Plastics – Determination of the melt mass-flow rate (MFR) and the melt volume-flow rate (MVR) of thermoplastics (ISO 1133:2005)*

EN ISO 1183, (all parts) *Plastics – Methods for determining the density and relative density of non-cellular plastics (ISO 1183)*

EN ISO 2505:2005, *Thermoplastics pipes - Longitudinal reversion - Test method and parameters (ISO 2505:2005)*

EN ISO 6878:2004, *Water quality - Determination of phosphorus - Ammonium molybdate spectrometric method (ISO 6878:2004)*

EN ISO 9967, *Thermoplastics pipes - Determination of creep ratio (ISO 9967:2007)*

EN ISO 9969, *Thermoplastics pipes - Determination of ring stiffness (ISO 9969:2007)*

EN ISO 11732, *Water quality - Determination of ammonium nitrogen - Method by flow analysis (CFA and FIA) and spectrometric detection (ISO 11732:2005)*

EN ISO 11905-1, *Water quality – Determination of nitrogen – Part 1: Method using oxidative digestion with peroxodisulfate (ISO 11905-1:1997)*

EN ISO 14125:1998, *Fibre-reinforced plastics composites – Determination of flexural properties (ISO 14125:1998)*

ISO 5664, *Water quality – Determination of ammonium – Distillation and titration method*

ISO 5815, (all parts) *Water quality – Determination of biochemical oxygen demand after n days (BOD_n)*

ISO 6060, *Water quality – Determination of the chemical oxygen demand*

ISO 6778, *Water quality – Determination of ammonium – Potentiometric method*

ISO 7150-1, *Water quality – Determination of ammonium – Part 1: Manual spectrometric method*

A1 deleted text **A1**

ISO 7890-3, *Water quality – Determination of nitrate – Part 3: Spectrometric method using sulphosalicylic acid*

3 Terms and definitions

For the purposes of this European Standard, the terms and definitions given in **A1** EN 1085:2007 **A1** and the following apply.

3.1

end use

condition in which a plant is normally installed

NOTE The use of "buried in the ground without vehicles loads" is the only condition of use available according to this European Standard.

3.2

laboratory

body capable of testing a domestic wastewater treatment plant under controlled conditions

3.3

packaged domestic wastewater treatment plant

prefabricated factory-built wastewater treatment installation which accepts domestic wastewater and treats it to a declared quality

3.4

range

group of products in which, for the purpose of evaluation, the selected property(s) is/are similar for all products within the group

NOTE 1 The definition of range takes into account at least similar shape, equipment, materials and conditions of end use and ensures the minimum hydraulic efficiency and minimum structural behaviour for all the products in the range.

NOTE 2 The minimum level of performance (hydraulic efficiency and structural behaviour) are given by the test carried out on one model of the range.

3.5

site assembled domestic wastewater treatment plant

unit composed of prefabricated components assembled on one site by one manufacturer, which accepts domestic wastewater and treats it to a declared quality

3.6

extension shaft

component(s) which, when placed on the top of the plant, allow access from or slightly above the ground surface

NOTE 1 It permits accessibility and maintenance work.