

**MAA-ALUSED SURVETA DRENAAŽI JA
KANALISATSIOONI PLASTTORUSTIKUD.
PLASTIFITSEERIMATA POLÜVINÜÜLKLORIID (PVC-U),
POLÜPROPÜLEEN (PP) JA POLÜETÜLEEN (PE). OSA 2:
HOOLDUS- JA KONTROLLKAEVUDE
SPETSIFIKATSIOONID**

**Plastics piping systems for non-pressure underground
drainage and sewerage - Unplasticized poly(vinyl
chloride) (PVC-U), polypropylene (PP) and
polyethylene (PE) - Part 2: Specifications for manholes
and inspection chambers**

EESTI STANDARDI EESSÕNA**NATIONAL FOREWORD**

See Eesti standard EVS-EN 13598-2:2016 sisaldab Euroopa standardi EN 13598-2:2016 ingliskeelset teksti.	This Estonian standard EVS-EN 13598-2:2016 consists of the English text of the European standard EN 13598-2:2016.
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

Plastics piping systems for non-pressure underground drainage and sewerage - Unplasticized poly(vinyl chloride) (PVC-U), polypropylene (PP) and polyethylene (PE) - Part 2: Specifications for manholes and inspection chambers

Systèmes de canalisations en plastique pour les branchements et les collecteurs d'assainissement enterrés sans pression - Poly(chlorure de vinyle) non plastifié (PVC-U), polypropylène (PP) et polyéthylène (PE) - Partie 2: Spécifications relatives aux regards et aux boîtes d'inspection et de branchement

Kunststoff-Rohrleitungssysteme für erdverlegte drucklose Abwasserkanäle und -leitungen - Weichmacherfreies Polyvinylchlorid (PVC-U), Polypropylen (PP) und Polyethylen (PE) - Teil 2: Anforderungen an Einsteigschächte und Kontrollschächte

This European Standard was approved by CEN on 12 May 2016.

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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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European foreword

This document (EN 13598-2:2016) has been prepared by Technical Committee CEN/TC 155 “Plastics piping systems and ducting systems”, the secretariat of which is held by NEN.

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 January 2017, and conflicting national standards shall be withdrawn at the latest by January 2017.

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 supersedes EN 13598-2:2009.

EN 13598-2:2016 includes the following significant technical changes with respect to EN 13598-2:2009:

- 1) Test methods have been updated to those of the latest EN ISO Standards;
- 2) The confusion generated by having different classes of chamber in Part 1 and Part 2 and their possible misuse because of this has been clarified. This will necessitate a revision of the current Part 1;
- 3) The limiting clauses on the use of reclaim materials have been updated to help promote the use of reclaim and recycled materials.

This European standard is a supplementary standard for System Standards for plastics piping systems of a particular material for a specified application. There are a number of such System Standards.

System Standards are based on the results of the work being undertaken in ISO/TC 138 “*Plastics pipes, fittings and valves for the transport of fluids*”, which is a Technical Committee of the International Organisation for Standardisation (ISO).

They are supported by separate standards on test methods and by European Standards for thermoplastic underground drainage and sewerage systems, to which references are made throughout the System Standard.

The System Standards are consistent with general standards on functional requirements and on recommended practice for installation.

This European Standard consists of the following parts under the general title *Plastics piping systems for non-pressure underground drainage and sewerage — Unplasticized poly(vinyl chloride) (PVC-U), polypropylene (PP) and polyethylene (PE)*:

- *Part 1: Specification for ancillary fittings including shallow inspection chambers*
- *Part 2: Specifications for manholes and inspection chambers* (this standard)
- *Part 3: Assessment of conformity* (CEN/TS)

According to the CEN/CENELEC Internal Regulations, the national standards organizations 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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1 Scope

This European Standard specifies the definitions and requirements for buried manholes and inspection chambers installed in non-pressure drainage and sewerage systems to a maximum depth of 6 m from ground level to the invert of the main chamber and manufactured from unplasticized poly(vinyl chloride) (PVC-U), polypropylene (PP), polypropylene with mineral modifier (PP-MD) or polyethylene (PE). These products are intended for use in pedestrian or vehicular traffic areas and underground installations conforming to the general requirements given in EN 476 and are used outside the building structure (application area code "U"). They are therefore marked accordingly with a "U". Such products are also deemed to meet the requirements of EN 13598-1 for application area U without the need for further testing.

These manholes and inspection chambers may also be used for storm-water systems.

This European Standard is only applicable to those chamber / manhole components (base, riser, cone telescopic part and other near surface components) where the manufacturer has clearly stated in the documentation how the components shall be assembled to create a complete manhole or inspection chamber. This European standard only covers manholes and chambers with flow profile bases with or without sloping channels. It also covers the jointing of the component to the pipework system.

The frame cover and grating components shall, unless otherwise specified, comply with EN 124-1, EN 124-2, EN 124-3, EN 124-4, EN 124-5 and EN 124-6 [1] or EN 1253-4[2].

The products covered by this European standard comprise the following:

- manholes constructed on a drain or sewer to permit entry by personnel.
- inspection chambers providing access to the drainage or sewerage system by means of inspection and cleaning equipment.

NOTE 1 Shallow inspection chambers for use in non-roadway situations down to a depth of 1,25 m max are specified in EN 13598-1.

The manhole and inspection chamber components can be manufactured by various methods e.g. injection moulding, rotational moulding, low-pressure moulding or fabricated from components made in accordance with other standards.

NOTE 2 Both manholes and inspection chambers can be site assembled from different components, but can also be manufactured as a single unit.

2 Normative references

The following referenced documents are indispensable for the application 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 681-1, *Elastomeric seals — Materials requirements for pipe joint seals used in water and drainage applications — Part 1: Vulcanized rubber*

EN 681-2, *Elastomeric Seals — Materials requirements for pipe joint seals used in water and drainage applications — Part 2: Thermoplastic elastomers*

EN 681-3, *Elastomeric seals — Materials requirements for pipe joint seals used in water and drainage applications — Part 3: Cellular materials of vulcanized rubber*

EN 681-4, *Elastomeric seals — Materials requirements for pipe joint seals used in water and drainage applications — Part 4: Cast polyurethane sealing elements*

EN 1401-1, *Plastics piping systems for non-pressure underground drainage and sewerage — Unplasticized poly(vinyl chloride) (PVC-U) — Part 1: Specifications for pipes, fittings and the system*

EN 1852-1, *Plastics piping systems for non-pressure underground drainage and sewerage — Polypropylene (PP) — Part 1: Specifications for pipes, fittings and the system*

EN 12666-1, *Plastics piping systems for non-pressure underground drainage and sewerage Polyethylene (PE) — Part 1: Specifications for pipes, fittings and the system*

EN 13101:2002, *Steps for underground man entry chambers — Requirements, marking, testing and evaluation of conformity*

EN 13476-1, *Plastics piping systems for non-pressure underground drainage and sewerage — Structured-wall piping systems of unplasticized poly(vinyl chloride) (PVC-U), polypropylene (PP) and polyethylene (PE) — Part 1: General requirements and performance characteristics*

EN 13476-2, *Plastics piping systems for non-pressure underground drainage and sewerage — Structured-wall piping systems of unplasticized poly(vinyl chloride) (PVC-U), polypropylene (PP) and polyethylene (PE) — Part 2: Specifications for pipes and fittings with smooth internal and external surface and the system, Type A*

EN 13476-3, *Plastics piping systems for non-pressure underground drainage and sewerage — Structured-wall piping systems of unplasticized poly(vinyl chloride) (PVC-U), polypropylene (PP) and polyethylene (PE) — Part 3: Specifications for pipes and fittings with smooth internal and profiled external surface and the system, Type B*

EN 13598-1:2010, *Plastics piping systems for non-pressure underground drainage and sewerage — Unplasticized poly(vinyl chloride) (PVC-U), polypropylene (PP) and polyethylene (PE) — Part 1: Specifications for ancillary fittings including shallow inspection chambers*

EN 14396, *Fixed ladders for manholes*

EN 14758-1, *Plastics piping systems for non-pressure underground drainage and sewerage — Polypropylene with mineral modifiers (PP-MD) — Part 1: Specifications for pipes, fittings and the system*

EN ISO 580:2005, *Plastics piping and ducting systems — Injection-moulded thermoplastics fittings — Methods for visually assessing the effects of heating (ISO 580:2005)*

EN ISO 1043-1, *Plastics — Symbols and abbreviated terms — Part 1: Basic polymers and their special characteristics (ISO 1043-1)*

EN ISO 1133-1:2011, *Plastics — Determination of the melt mass-flow rate (MFR) and melt volume-flow rate (MVR) of thermoplastics — Part 1: Standard method (ISO 1133-1:2011)*

EN ISO 1183-1, *Plastics — Methods for determining the density of non-cellular plastics — Part 1: Immersion method, liquid pycnometer method and titration method (ISO 1183-1)*

EN ISO 1183-2, *Plastics — Methods for determining the density of non-cellular plastics — Part 2: Density gradient column method (ISO 1183-2)*

EN ISO 3126, *Plastics piping systems — Plastics components — Determination of dimensions (ISO 3126)*

EN ISO 9967, *Thermoplastics pipes — Determination of creep ratio (ISO 9967)*

EN ISO 11357-6, *Plastics — Differential scanning calorimetry (DSC) — Part 6: Determination of oxidation induction time (isothermal OIT) and oxidation induction temperature (dynamic OIT) (ISO 11357-6)*

EN ISO 13229, *Thermoplastics piping systems for non-pressure applications — Unplasticized poly(vinyl chloride) (PVC-U) pipes and fittings — Determination of the viscosity number and K-value (ISO 13229)*

ISO 3127, *Thermoplastics pipes — Determination of resistance to external blows — Round-the-clock method*

ISO 13259, *Thermoplastics piping systems for underground non-pressure applications — Test method for leaktightness of elastomeric sealing ring type joints*

ISO 13263, *Thermoplastics piping systems for non-pressure underground drainage and sewerage — Thermoplastics fittings — Test method for impact strength*

ISO 13266, *Thermoplastics piping systems for non-pressure underground drainage and sewerage — Thermoplastics shafts or risers for inspection chambers and manholes — Determination of resistance against surface and traffic loading*

ISO 13267, *Thermoplastics piping systems for non-pressure underground drainage and sewerage — Thermoplastics inspection chamber and manhole bases — Test methods for buckling resistance*

ISO 13268, *Thermoplastics piping systems for non-pressure underground drainage and sewerage — Thermoplastics shafts or risers for inspection chambers and manholes — Determination of ring stiffness*

3 Terms, definitions, and abbreviations

For the purposes of this document, the terms, definitions and abbreviations given in EN 1401-1, EN 1852-1, EN 12666-1, EN 13476-1, EN 13476-2, EN 13476-3, EN 14758-1, EN ISO 1043-1 and the following apply:

3.1 Terms and definitions

3.1.1

inspection chamber

chamber with a removable cover constructed in a drain or sewer that permits the introduction of cleaning and inspection equipment from surface level, but does not provide access for personnel and which terminates at ground level with a riser shaft of 200 mm minimum outer diameter and an inner diameter of less than 800 mm

Note 1 to entry: See also EN 476 for non-circular chambers.

Note 2 to entry: Chamber components are normally installed at changes of direction of the pipeline

Note 3 to entry: Chamber components are subject to national safety regulations and / or local provisions. The installer should check for compliance prior to installation.