SLOVENSKI STANDARD
oSIST prEN 13598-2:2019

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Cevni sistemi iz polimernih materialov za odpadno vodo in kanalizacijo, ki delujejo po težnostnem principu in so položeni v zemljo - Nemehčan polivinilklorid (PVC-U), polipropilen (PP) in polietilen (PE) - 2. del: Specifikacije za vstopne in revizijske jaške

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

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

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

Ta slovenski standard je istoveten z: **prEN 13598-2**

ICS:

23.040.05	Cevovodi za zunanje sisteme za odpadno vodo in njihovi deli	Pipeline and its parts for external sewage systems
93.030	Zunanji sistemi za odpadno vodo	External sewage systems

oSIST prEN 13598-2:2019 **en,fr,de**

EUROPEAN STANDARD

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EUROPÄISCHE NORM

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This draft European Standard is submitted to CEN members for enquiry. It has been drawn up by the Technical Committee CEN/TC 155.

If this draft becomes a European Standard, 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.

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Recipients of this draft are invited to submit, with their comments, notification of any relevant patent rights of which they are aware and to provide supporting documentation.

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

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European foreword

This document (prEN 13598-2:2018) has been prepared by Technical Committee CEN/TC 155 "Plastics piping systems and ducting systems", the secretariat of which is held by NEN.

This document is currently submitted to the CEN Enquiry.

This document will supersede EN 13598-2:2016.

Compared to the previous version, the main changes are listed below:

1) test methods have been updated to the latest EN ISO Standards where applicable;

2) the scope has been amended to clarify the products covered in this part and avoid confusion with the scope of part 1;

3) terms and definitions have been updated and explanatory diagrams are now included;

4) material durability test requirements have been included for riser, cone and telescopic adaptor components. The durability test method (Annex A) has also been updated;

5) the permitted use of non-virgin materials has been clarified and a new Annex D included, with conditions and requirements for non-virgin materials;

6) fitness for purpose testing of factory fabricated components is now included;

7) the minimum marking requirement for components other than bases has been updated.

This document is part of a System Standard 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 Organization for Standardization (ISO).

They are supported by separate standards on test methods 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.

EN 13598 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 and shallow chambers* (under revision);

— *Part 2: Specifications for manholes and inspection chambers* (this document);

— *Part 3: Assessment of conformity* (CEN/TS under revision).

1 Scope

This document specifies the definitions and requirements for unplasticized poly(vinyl chloride) (PVC-U), polypropylene (PP) and polyethylene (PE) manholes and inspection chambers intended for non-pressure underground drainage and sewerage systems to a maximum depth of 6 m from ground level to the invert of the manhole or inspection chamber.

This document covers manholes and inspection chambers with flow profile bases, and their joints to the piping system.

Manholes and inspection chambers are intended to be used in pedestrian or vehicular traffic areas outside the building structure.

NOTE 1 The intended use in underground installation outside the building structure is reflected in the marking of products by the application area code "U".

NOTE 2 Products complying with this document may also be used in non-traffic areas.

NOTE 3 Products complying with this standard can be installed in underground applications without additional static calculation.

NOTE 4 Shallow chambers are specified in EN 13598-1.

Manholes and inspection chambers complying with EN 13598-2 are made from a prescribed set of components that are manufactured from unplasticized poly(vinyl chloride) (PVC-U), polypropylene (PP), polypropylene with mineral modifier (PP-MD) or polyethylene (PE) and assembled together.

NOTE 5 The complete manhole or inspection chamber assembly can also include non-plastic items (near surface or surface components for example) which are not covered by this document.

NOTE 6 Manholes and inspection chambers can be supplied with covers, frame covers and gratings complying with the relevant part of EN 124 [1].

Manholes and inspection chambers complying with EN 13598-2 comply with the general requirements given in EN 476.

Manholes and inspection chambers complying with EN 13598-2 may be used for storm-water systems.

Manhole and inspection chamber components can be manufactured by various methods e.g. extrusion, injection moulding, rotational moulding, low-pressure moulding or fabricated.

NOTE 7 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 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 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 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 12099, *Plastics piping systems — Polyethylene piping materials and components — Determination of volatile content*

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 13476-2, *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, *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 15346:2014, *Plastics — Recycled plastics — Characterization of poly(vinyl chloride) (PVC) recyclates*

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)*

EN ISO 1183-1, *Plastics — Methods for determining the density of non-cellular plastics — Part 1: Immersion method, liquid pyknometer 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 2507-1, *Thermoplastics pipes and fittings — Vicat softening temperature — Part 1: General test method (ISO 2507-1)*

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

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

EN ISO 3451-1, *Plastics — Determination of ash — Part 1: General methods (ISO 3451-1)*

EN ISO 3451-5, *Plastics — Determination of ash — Part 5: Poly(vinyl chloride) (ISO 3451-5)*

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)*

EN ISO 13254, *Thermoplastics piping systems for non-pressure applications — Test method for watertightness (ISO 13254)*

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

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

prEN 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 13266)*

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

prEN 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 (ISO 13268)*

3 Terms and definitions

For the purposes of this document, the terms, definitions and abbreviations given in EN ISO 1043-1 and the following 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 http://www.iso.org/obp

3.1
manhole
chamber with a removable cover constructed in a drain or sewer to permit entry by personnel, with a riser of 800 mm minimum inner diameter

Note 1 to entry: Figure 1 shows typical manholes.

Note 2 to entry: See EN 476 for dimensions of non-circular manholes.

Note 3 to entry: Manholes are subject to national safety regulations and / or local provisions regarding man-entry limitations.

3.2
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, with a riser of 200 mm minimum outer diameter and an inner diameter of less than 800 mm

Note 1 to entry: Figure 2 shows typical inspection chambers.

Note 2 to entry: See EN 476 for non-circular chambers.

Note 3 to entry: Inspection chambers are subject to national safety regulations and / or local provisions.

3.3
base
bottom part of a manhole or inspection chamber, allowing direct connection to buried drain or sewer pipes and including integrally formed channels with benching as appropriate

Note 1 to entry: In case of a one-piece manhole or inspection chamber, for testing purposes the base component ends at a distance of 300 mm measured from the top of the main channel. Above 300 mm the section should be considered as a riser and tested accordingly.

3.4
riser
component which is connected onto a base and which defines the nominal size of the manhole or inspection chamber

Note 1 to entry: The riser can be supplied either as one or more separate items, for site jointing to the base, or integrated with the base.

Note 2 to entry: In case of a one-piece manhole or inspection chamber, for testing purposes the riser component starts at a distance of 300 mm measured from the top of the main channel. Below 300 mm the section should be considered as a base and tested accordingly.

3.5
telescopic adaptor
part of the assembly on top of the riser or cone that allows adjustment of the surface components or near surface components

Note 1 to entry: Telescopic adaptors allows accommodation of settlement during lifetime and eliminate the transmission of vehicular loading down the riser.

3.6
cone
adapter allowing change in diameter, close to ground level

3.7
near-surface components
components intended to spread vehicular loading directly to the soil and/or provide a seating for the cover and its frame

3.8
assembly
items collectively forming a manhole or inspection chamber (see examples in Figures 1 and 2)

3.9
invert
lowest point of the internal surface of the barrel of a pipe or channel at any cross section

3.10
maximum height of groundwater above invert
H_w
height of water column above the invert that the manhole or inspection chamber can withstand during use

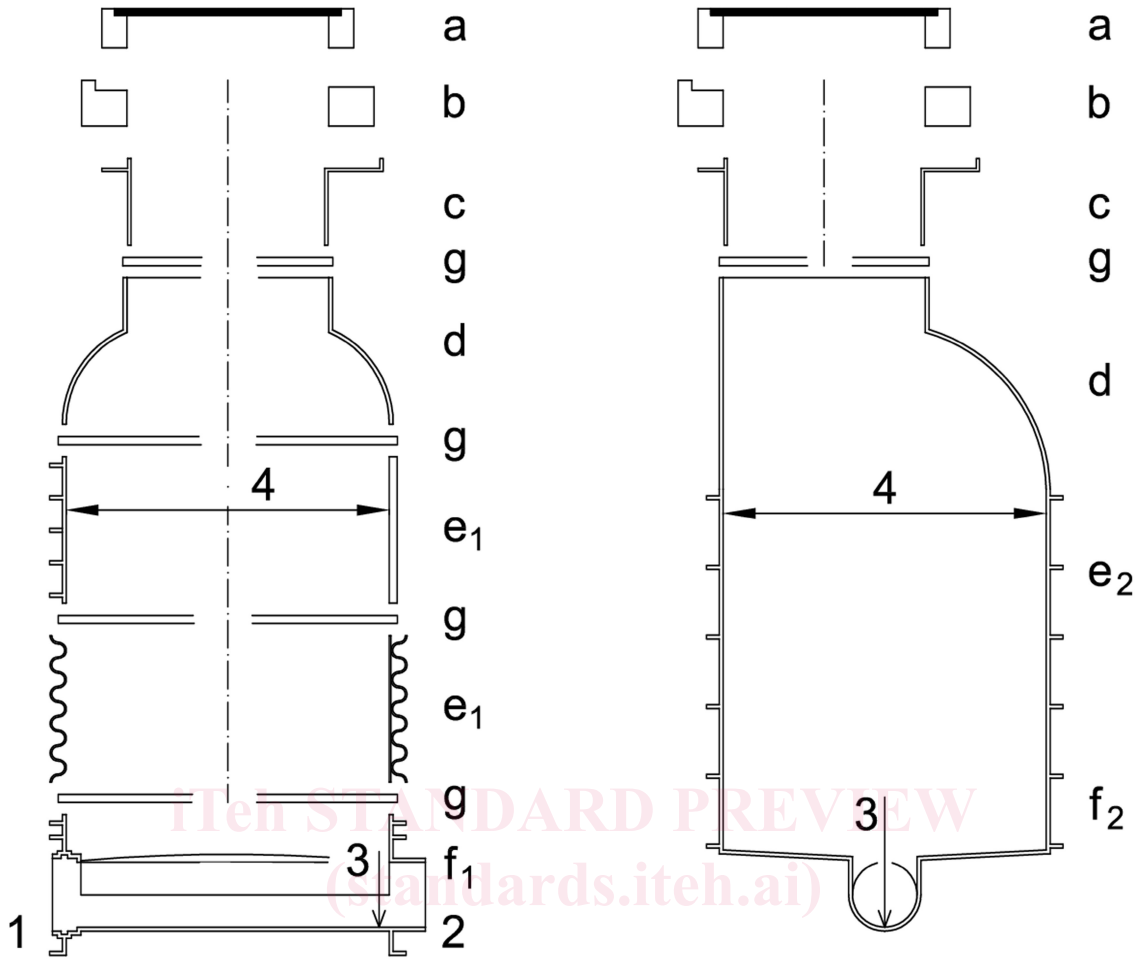
3.11
virgin material
material in a form such as granules or powder that has not been subjected to use or processing other than that required for its manufacture and to which no reprocessed or recycled material has been added

Note 1 to entry: It is understood that the addition of additives such as stabilizers and pigments is still resulting into a virgin material.

3.12
own reprocessed material
material prepared from unused products, including trimmings from the production, that will be reprocessed in a manufacturer's plant after having been previously processed by the same manufacturer

3.13
recycled material
material prepared from used thermoplastic products which have been cleaned and crushed or ground

3.14
agreed specification
specification of the relevant material characteristics agreed between the supplier of the non-virgin material and the manufacturer



Key

a	cover (not part of this standard)
b	near surface component
c	telescopic adaptor
d	cone
e_1	riser
e_2	considered as riser
f_1	base
f_2	considered as base
g	connection
1	inlet
2	outlet
3	invert
4	DN/ID

Figure 1 — Typical manholes