MAA-ALUSED SURVETA ÄRAVOOLU JA KANALISATSIOONI PLASTTORUSTIKUD. PLASTIFITSEERIMATA POLÜ(VINÜÜLKLORIID) (PVC-U), POLÜPROPÜLEEN (PP) JA POLÜETÜLEEN (PE). OSA 1: HOOLDUSLIITMIKE JA MADALATE KONTROLLKAEVUDE SPETSIFIKATSIOONID

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 and shallow chambers

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NATIONAL FOREWORD

See Eesti standard EVS-EN 13598-1:2020 sisaldab Euroopa standardi EN 13598-1:2020 ingliskeelset teksti.	This Estonian standard EVS-EN 13598-1:2020 consists of the English text of the European standard EN 13598-1:2020.
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.
Euroopa standardimisorganisatsioonid on teinud Euroopa standardi rahvuslikele liikmetele kättesaadavaks 06.05.2020.	Date of Availability of the European standard is 06.05.2020.
Standard on kättesaadav Eesti Standardikeskusest.	The standard is available from the Estonian Centre for Standardisation.

Tagasisidet standardi sisu kohta on võimalik edastada, kasutades EVS-i veebilehel asuvat tagasiside vormi või saates e-kirja meiliaadressile standardiosakond@evs.ee.

ICS 23.040.05, 23.040.20, 93.030

EUROPEAN STANDARD

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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 1: Specifications for ancillary fittings and shallow 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 1: Spécifications relatives aux raccords auxiliaires et aux boîtes d'inspection de branchement peu profondes

Kunststoff-Rohrleitungssysteme für erdverlegte drucklose Abwasserkanäle und -leitungen - Weichmacherfreies Polyvinylchlorid (PVC-U), Polypropylen (PP) und Polyethylen (PE) - Teil 1: Anforderungen an Schächte und Zubehörteile und flache Kammern

This European Standard was approved by CEN on 14 March 2020.

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European foreword

This document (EN 13598-1:2020) 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 November 2020, and conflicting national standards shall be withdrawn at the latest by November 2020.

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.

This document supersedes EN 13598-1:2010.

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 2;

3) terms and definitions have been updated and also now include the product diagrams;

4) dimensional requirements have been updated and clarified;

5) the mechanical characteristics tables have been updated;

6) Annex A has been updated with requirements for the utilization of non-virgin materials for shallow chambers.

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: Specifications for ancillary fittings and shallow chambers* (this document);

— *Part 2: Specifications for manholes and inspection chambers* (under revision);

— *Part 3: Guidance for assessment of conformity* (CEN/TS under revision).

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.

1 Scope

This document specifies the definitions and requirements for ancillary fittings and shallow chambers installed underground in non-pressure drainage and sewerage systems and manufactured from unplasticized poly(vinyl chloride) (PVC-U), polypropylene (PP), polypropylene with mineral modifier (PP-MD) or polyethylene (PE) intended for use for:

— non-pressure underground drainage and sewerage outside the building structure (application area code “U”), and

— non-pressure underground drainage and sewerage for both buried in ground within the building structure (application area code “D”) and outside the building structure.

This is reflected in the marking of products by “U” and “UD”.

It also covers the jointing of the ancillary fittings and shallow chambers to the pipework system.

The ancillary fittings covered by this standard are the following:

— sealed access fittings;

— rodding point covers;

— rodding tees;

— mechanical saddles.

Ancillary fittings according to this document are intended for use in pedestrian areas, except rodding tees and mechanical saddles which can also be used in vehicular trafficked areas.

NOTE 1 Pedestrian areas are as defined in EN 124-1.

Ancillary fittings can be installed to a maximum depth of 6,0 m from ground level, with the exception of rodding point covers.

Shallow chambers according to this document are intended for use in private drains located in pedestrian areas above the ground water table, to a maximum depth of 2,0 m from ground level to the invert of the main channel. This document covers shallow chambers with flow profile bases, and their joints to the piping system.

NOTE 2 Manholes and inspection chambers are specified in EN 13598-2 [1].

Ancillary fittings and shallow chambers complying with this document also comply with the general requirements given in EN 476.

Ancillary fittings and shallow chambers can be manufactured by various methods e.g. injection moulding, rotational moulding, spiral winding or fabricated from components made to other standards.

NOTE 3 Products complying with this document can be used with pipes, fittings and other components conforming to any of the plastics products standards listed in Clause 2, providing their dimensions are compatible.

NOTE 4 Products complying with this document can be installed in underground applications without additional static calculation.

NOTE 5 Ancillary fittings and shallow chambers can be subject to national safety regulations and / or local provisions.

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 124 (series), *Gully tops and manhole tops for vehicular and pedestrian areas*

EN 295-3:2012, *Vitrified clay pipe systems for drains and sewers - Part 3: Test methods*

EN 476:2011, *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 1253-2:2015, *Gullies for buildings - Part 2: Roof drains and floor gullies without trap*

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 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 14680, *Adhesives for non-pressure thermoplastics piping systems - Specifications*

EN 14814, *Adhesives for thermoplastic piping systems for fluids under pressure - Specifications*

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 472, *Plastics - Vocabulary (ISO 472:2013)*

EN ISO 1043-1, *Plastics - Symbols and abbreviated terms - Part 1: Basic polymers and their special characteristics (ISO 1043-1:2011)*

EN ISO 1133-1, *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 1183-1:2019, Corrected version 2019-05)*

EN ISO 1183-2, *Plastics - Methods for determining the density of non-cellular plastics - Part 2: Density gradient column method (ISO 1183-2:2019)*

EN ISO 2507-1, *Thermoplastics pipes and fittings - Vicat softening temperature - Part 1: General test method (ISO 2507-1:1995)*

EN ISO 3126, *Plastics piping systems - Plastics components - Determination of dimensions (ISO 3126:2005)*

EN ISO 3451-1, *Plastics - Determination of ash - Part 1: General methods (ISO 3451-1:2019)*

EN ISO 3451-5, *Plastics - Determination of ash - Part 5: Poly(vinyl chloride) (ISO 3451-5:2002)*

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 11357-6:2018)*

EN ISO 13254, *Thermoplastics piping systems for non-pressure applications - Test method for watertightness (ISO 13254:2010)*

EN ISO 13257:2017, *Thermoplastics piping systems for non-pressure applications — Test method for resistance to elevated temperature cycling (ISO 13257:2010)*

EN ISO 13259, *Thermoplastics piping systems for underground non-pressure applications - Test method for leaktightness of elastomeric sealing ring type joints (ISO 13259:2018)*

EN ISO 13263, *Thermoplastics piping systems for non-pressure underground drainage and sewerage - Thermoplastics fittings - Test method for impact strength (ISO 13263:2010)*

EN ISO 13264, *Thermoplastics piping systems for non-pressure underground drainage and sewerage - Thermoplastics fittings - Test method for mechanical strength or flexibility of fabricated fittings (ISO 13264:2010)*

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*