
Cevni sistemi iz polimernih materialov za odvodnjavanje in kanalizacijo, ki delujejo po težnostnem principu in so položeni v zemljo - Cevni sistemi s strukturirano steno iz nemehčane polivinilklorida (PVC-U), polipropilena (PP) in polietilena (PE) - 1. del: Splošne zahteve in zahtevane lastnosti

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

Kunststoff-Rohrleitungssysteme für erdverlegte drucklose Abwasserkanäle und -leitungen - Rohrleitungssysteme mit profilierter Wandung aus weichmacherfreiem Polyvinylchlorid (PVC-U), Polypropylen (PP) und Polyethylen (PE) - Teil 1: Allgemeine Anforderungen und Leistungsmerkmale

Systèmes de canalisations en plastique pour les branchements et les collecteurs d'assainissements sans pression enterrés - Systèmes de canalisations à parois structurées en poly(chlorure de vinyle) non plastifié (PVC-U), polypropylène (PP) et polyéthylène (PE) - Partie 1 : Exigences générales et caractéristiques de performance

Ta slovenski standard je istoveten z: prEN 13476-1

ICS:

23.040.01	Deli cevovodov in cevovodi na splošno	Pipeline components and pipelines in general
91.140.80	Drenažni sistemi	Drainage systems
93.030	Zunanji sistemi za odpadno vodo	External sewage systems

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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

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

CEN-CENELEC Management Centre: Rue de la Science 23, B-1040 Brussels

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prEN 13476-1:2024 (E)

European foreword

This document (prEN 13476-1:2024) 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 supersedes EN 13476-1:2018.

The main changes with respect to the previous edition are listed below:

- a) updating of the terms and definition with the material definitions in EN 14541-1.

This standard is a part of a System Standard for plastics piping systems of particular materials for specified applications. 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 13476 consists of the following parts under the general title “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 (this document);*
- *Part 2: Specifications for pipes and fittings with smooth internal and external surface and the system, Type A;*
- *Part 3: Specifications for pipes and fittings with smooth internal and profiled external surface and the system, Type B;*
- *Part 4: Assessment of conformity (CEN/TS). (prCEN/TS 13476-4:2023).*

Introduction

Due to the variety in materials, pipe constructions, application areas and classes, several combinations are possible.

The purchaser or specifier may select between these possibilities by designating the pipe and fitting he or she prefers to use for each case, as described in Annex C “Designation of pipes and corresponding fittings”, taking into account any particular requirements and relevant national regulations and installation practices or codes.

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prEN 13476-1:2024 (E)

1 Scope

This document, together with prEN 13476-2 and prEN 13476-3, specifies the definitions and general requirements for pipes, fittings and the system based on unplasticized poly(vinyl chloride) (PVC-U), polypropylene (PP) and polyethylene (PE) structured-wall piping systems that are intended for use in non-pressure underground drains and sewers for foul wastewater.

NOTE 1 Products complying with this document can also be used in non-pressure underground drains and sewers for surface water.

This document is applicable to:

- a) structured-wall pipes and fittings, which are to be used buried in the ground outside a building structure only; reflected by the marking of products by “U”;
- b) structured-wall pipes and fittings, which are to be used buried in ground both outside (application area code “U”) and within a building structure (application area code “D”); reflected in the marking of products by “UD”.

In conjunction with prEN 13476-2 and prEN 13476-3, it is applicable to structured-wall pipes and fittings with or without an integral socket with elastomeric ring seal joints, as well as welded and fused joints.

This part specifies general aspects and gives guidance concerning a national selection of requirement levels and classes where part 2 and part 3 of this standard provide options.

prEN 13476-2 and prEN 13476-3 specify material characteristics, dimensions and tolerances, test methods, test parameters and requirements for pipes with smooth internal and external surfaces, Type A, and pipes with smooth internal and profiled external surfaces, Type B.

This document, together with prEN 13476-2 and prEN 13476-3, covers a range of pipe and fitting sizes, materials, pipe constructions, stiffness classes and tolerance classes and offers recommendations concerning colours.

NOTE 2 It is the responsibility of the purchaser or specifier to make the appropriate selections from these aspects, taking into account their particular requirements and any relevant national regulations and installation practices or codes.

NOTE 3 Pipes, fittings and other components conforming to any plastic product standards referred to in Clause 2 can be used with pipes and fittings conforming to this standard, when they conform to the requirements for joint dimensions given in part 2 and part 3 of this standard and to the performance requirements given in Clause 9.

2 Normative references

The following documents, in whole or in part, are normatively referenced in this document and are indispensable for its application. For dated references, only the edition cited applies. For undated references, the latest edition of the referenced document (including any amendments) applies.

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

prEN 13476-2:2023, *Plastics piping systems for non-pressure underground drains and sewers — 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

prEN 13476-3:2023, *Plastics piping systems for non-pressure underground drains and sewers — 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 ISO 472, *Plastics — Vocabulary (ISO 472)*

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

EN 14541-1:2022, *Plastics pipes and fittings — Utilisation of thermoplastics recyclates — Part 1: Terminology*

ISO 11922-1, *Thermoplastics pipes for the conveyance of fluids — Dimensions and tolerances — Part 1: Metric series*

3 Terms and definitions

For the purposes of this document, the terms and definitions given in EN ISO 472, EN ISO 1043-1, ISO 11922-1, EN 14541-1 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 General definitions

3.1.1

application area code

code used to mark pipes and fittings to indicate the permitted application area(s) for which they are intended

Example 1: U: code for the area more than 1 m from the building to which the buried piping system is connected

Example 2: D: code for the area under and within 1 m from the building where the pipes and fittings are buried underground and are connected to the soil and waste discharge system of the building

Note 1 to entry: In the “D” application area, the existence of hot water discharge in addition to external forces from the surroundings is usual.

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3.1.2

structured-wall pipes and fittings

products which have an optimized design with regard to material usage to achieve the physical, mechanical and performance requirements of this standard

Note 1 to entry: For a description of the particular designs covered by this standard, see Clause 5 in prEN 13476-2:2024 and prEN 13476-3:2024.

3.1.3

fabricated fitting

fitting produced from pipe and/or from injection-moulded fittings by thermoforming, solvent-cementing or welding

Note 1 to entry: Sealed ring retaining components are not considered as a piece.

3.1.4

foul wastewater

wastewater comprising domestic wastewater and/or industrial wastewater

3.1.5

surface water

inland waters, except groundwater; transitional waters and coastal waters, except in respect of chemical status for which it should also include territorial waters

3.2 Geometrical definitions

3.2.1

nominal size, DN

numerical designation of the size of a component, other than a component designated by thread size, which is approximately equal to the manufacturing dimension in millimetres

3.2.2

nominal size, DN/OD

nominal size, related to the outside diameter

3.2.3

nominal size, DN/ID

nominal size, related to the inside diameter

3.2.4

nominal diameter

d_n

specified diameter, in mm, assigned to a nominal size (DN/OD or DN/ID)

3.2.5

outside diameter

d_e

value of the measurement of the outside diameter through its cross-section at any point of a pipe or spigot, rounded to the next greatest 0,1 mm

Note 1 to entry: For Type B constructions, see prEN 13476-3.