SLOVENSKI STANDARD
SIST EN 13476-1:2018

01-junij-2018

Nadomešča:

SIST EN 13476-1:2007

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 nemehčanega 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 plastiques pour les branchements et les collecteurs d'assainissements sans pression enterrés - Systèmes de canalisation 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: EN 13476-1:2018

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

SIST EN 13476-1:2018 en,fr,de

EUROPEAN STANDARD

NORME EUROPÉENNE

EUROPÄISCHE NORM

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Supersedes EN 13476-1:2007

English Version

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 European Standard was approved by CEN on 8 February 2018.

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.

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.

CEN members are the national standards bodies of 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, Serbia, Slovakia, Slovenia, Spain, Sweden, Switzerland, Turkey and United Kingdom.

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

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Ref. No. EN 13476-1:2018 E

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European foreword

This document (EN 13476-1:2018) has been prepared by Technical Committee CEN/TC 155 “Plastics piping systems and ducting systems”, the secretariat of which is held by NEN.

This 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 October 2018, and conflicting national standards shall be withdrawn at the latest by October 2018.

Attention is drawn to the possibility that some of the elements of this document may be the subject of patent rights. CEN not be held responsible for identifying any or all such patent rights.

This document supersedes EN 13476-1:2007.

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

a) updating of references in Clause 2, Table 2 and Bibliography;

b) deletion of Note 3 (Scope);

c) definition fabricated fitting changed (3.1.1.3);

d) clarification requirements sealing ring (4.4);

e) extension of nominal sizes range (Table 1, Table 2);

f) substitute “DURABILITY” Table 2;

g) new reference for hydraulic roughness (A.5);

h) text updated and new reference (Annex B);

i) adhesives PVC-U added (4.6);

j) saddle branches deleted (8.1);

k) updated with new CEN template (entire document).

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 standard);*

— *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.*

National standards specifically for pipes and fittings for the transport of surface water are not considered to be conflicting with this standard and may thus be allowed to coexist.

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, Serbia, Slovakia, Slovenia, Spain, Sweden, Switzerland, Turkey and the United Kingdom.

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.

1 Scope

This European Standard, together with EN 13476-2 and EN 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 to be used for non-pressure underground drainage and sewerage systems.

This standard 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 EN 13476-2 and EN 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.

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

NOTE 1 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 2 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*

EN 13476-2:2018, *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 13476-3:2018, *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 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 ISO 9969, *Thermoplastics pipes — Determination of ring stiffness (ISO 9969)*

EN ISO 13967, *Thermoplastics fittings — Determination of ring stiffness (ISO 13967)*

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 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 Terms and definitions

3.1.1 General definitions

3.1.1.1
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.

3.1.1.2
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 EN 13476-2:2018 and EN 13476-3:2018.

3.1.1.3
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.

3.1.2 Geometrical definitions

3.1.2.1
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 mm

3.1.2.2
nominal size, DN/OD
nominal size, related to the outside diameter

3.1.2.3
nominal size, DN/ID
nominal size, related to the inside diameter

3.1.2.4
nominal diameter
d_n
specified diameter, in mm, assigned to a nominal size (DN/OD or DN/ID)

3.1.2.5
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 EN 13476-3.

3.1.2.6
mean outside diameter
d_{em}
value of the measurement of the outer circumference of a pipe or spigot in any cross-section divided by π (pi ≈3,142), rounded to the next greatest 0,1 mm

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