

STN	Potrubné systémy z plastov pre beztlakové kanalizačné potrubia a stoky uložené v zemi Potrubné systémy so štruktúrovanou stenou z nemäkčeného polyvinylchloridu (PVC-U), polypropylénu (PP) a polyetylénu (PE) Časť 1: Všeobecné požiadavky a funkčné charakteristiky	STN EN 13476-1 64 3218
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Plastics piping systems for non-pressure underground drains and sewers - Structured-wall piping systems of plasticized poly(vinyl chloride) (PVC-U), polypropylene (PP) and polyethylene (PE) - Part 1: General requirements and performance characteristics

Táto norma obsahuje anglickú verziu európskej normy.
This standard includes the English version of the European Standard.

Táto norma bola oznámená vo Vestníku ÚNMS SR č. 12/25

Obsahuje: EN 13476-1:2025

Oznámením tejto normy sa ruší
STN EN 13476-1 (64 3218) z októbra 2018

141603

Úrad pre normalizáciu, metrológiu a skúšobníctvo Slovenskej republiky, 2026
Slovenská technická norma a technická normalizačná informácia je chránená zákonom č. 60/2018 Z. z. o technickej normalizácii
v znení neskorších predpisov.

EUROPEAN STANDARD
NORME EUROPÉENNE
EUROPÄISCHE NORM

EN 13476-1

October 2025

ICS 23.040.01; 93.030

Supersedes EN 13476-1:2018

English Version

**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 1: General requirements
and performance characteristics**

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

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

This European Standard was approved by CEN on 23 June 2025.

This European Standard was corrected and reissued by the CEN-CENELEC Management Centre on 15 October 2025.

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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

EN 13476-1:2025 (E)

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EN 13476-1:2025 (E)**European foreword**

This document (EN 13476-1:2025) 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 April 2026, and conflicting national standards shall be withdrawn at the latest by April 2026.

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 13476-1:2018.

The main changes with respect to EN 13476-1:2018 are listed below:

- a) updating of the “terms” and “definition” in line with EN 14541-1;
- b) “drainage and sewerage” changed into “drains and sewers” through the document;
- c) NOTE 1 introduced in Scope;
- d) definitions updated;
- e) 6.1 Appearance updated;
- f) Annex B updated;
- g) editorial updates through the document.

This document 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 drains and sewers — 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). (CEN/TS 13476-4:2025).

Any feedback and questions on this document should be directed to the users' national standards body. A complete listing of these bodies can be found on the CEN website.

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, Türkiye and the United Kingdom.

EN 13476-1:2025 (E)**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 preferred for each project, 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 document, 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 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 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 EN 13476-2 and EN 13476-3 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, respectively.

This document, together with EN 13476-2 and EN 13476-3, is applicable to 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 document, when they conform to the requirements for joint dimensions given in EN 13476-2 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 476:2022, *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 681-4, *Elastomeric seals — Materials requirements for pipe joint seals used in water and drainage applications — Part 4: Cast polyurethane sealing elements*

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

EN 13476-2:2025, *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*

EN 13476-3:2025, *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 580, *Plastics piping and ducting systems — Injection-moulded thermoplastics fittings — Methods for visually assessing the effects of heating (ISO 580)*

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

EN ISO 1167-1, *Thermoplastics pipes, fittings and assemblies for the conveyance of fluids — Determination of the resistance to internal pressure — Part 1: General method (ISO 1167-1)*

EN ISO 1167-2, *Thermoplastics pipes, fittings and assemblies for the conveyance of fluids — Determination of the resistance to internal pressure — Part 2: Preparation of pipe test pieces (ISO 1167-2)*

EN ISO 2505, *Thermoplastics pipes — Longitudinal reversion — Test method and parameters (ISO 2505)*

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 6259-1, *Thermoplastics pipes — Determination of tensile properties — Part 1: General test method (ISO 6259-1)*

EN ISO 6259-2, *Thermoplastics pipes — Determination of tensile properties — Part 2: Pipes made of unplasticized poly(vinyl chloride) (PVC-U), oriented unplasticized poly(vinyl chloride) (PVC-O), chlorinated poly(vinyl chloride) (PVC-C) and high-impact poly(vinyl chloride) (PVC-HI) (ISO 6259-2)*

EN ISO 9852, *Unplasticized poly(vinyl chloride) (PVC-U) pipes — Dichloromethane resistance at specified temperature (DCMT) — Test method (ISO 9852)*

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

EN ISO 9969, *Thermoplastics pipes — Determination of ring stiffness (ISO 9969)*

EN ISO 11173, *Thermoplastics pipes — Determination of resistance to external blows — Staircase method (ISO 11173)*

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 13257:2018, *Thermoplastics piping systems for non-pressure applications — Test method for resistance to elevated temperature cycling (ISO 13257:2018)*

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 13260, *Thermoplastics piping systems for non-pressure underground drainage and sewerage — Test method for resistance to combined temperature cycling and external loading (ISO 13260)*

EN ISO 13262, *Thermoplastics piping systems for non-pressure underground drainage and sewerage — Thermoplastics spirally-formed structured-wall pipes — Determination of the tensile strength of a seam (ISO 13262)*

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

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)*

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

EN ISO 13968, *Plastics piping and ducting systems — Thermoplastics pipes — Determination of ring flexibility (ISO 13968)*

ISO 12091, *Structured-wall thermoplastics pipes — Oven test*

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

ISO/TR 10358, *Plastics pipes and fittings for industrial applications — Collection of data on combined chemical-resistance*

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