SLOVENSKI STANDARD
SIST-TS CEN/TS 13476-4:2009

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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) - 4. del: Navodilo za ugotavljanje skladnosti

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 4: Guidance for the assessment of conformity

Kunststoff-Rohrleitungssysteme für erdverlegte drucklose Abwasserkanäle und -leitungen - Rohrleitungssysteme mit profilierter Wandung aus weichmacherfreiem Polyvinylchlorid (PVC-U), Polypropylen (PP) und Polyethylen (PE) - Teil 4: Empfehlungen für die Beurteilung der Konformität

Systemes de canalisations en plastique pour les branchements et les collecteurs d'assainissement sans pression enterrés - Systemes de canalisations a parois structurées en poly(chlorure de vinyle) non plastifié (PVC-U), polypropylene (PP) et polyéthylene (PE) - Partie 4 : Guide pour l'évaluation de la conformité

Ta slovenski standard je istoveten z: **CEN/TS 13476-4:2008**

ICS:

23.040.20	Cevi iz polimernih materialov	Plastics pipes
91.140.80	Drenažni sistemi	Drainage systems
93.030	Zunanji sistemi za odpadno vodo	External sewage systems

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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 4: Guidance for the assessment of conformity

Systèmes de canalisations en plastique pour les branchements et les collecteurs d'assainissement sans pression enterrés - Systèmes de canalisations à parois structurées en poly(chlorure de vinyle) non plastifié (PVC-U), polypropylène (PP) et polyéthylène (PE) - Partie 4 : Guide pour l'évaluation de la conformité

Kunststoff-Rohrleitungssysteme für erdverlegte drucklose Abwasserkanäle und -leitungen - Rohrleitungssysteme mit profilierter Wandung aus weichmacherfreiem Polyvinylchlorid (PVC-U), Polypropylen (PP) und Polyethylen (PE) - Teil 4: Empfehlungen für die Beurteilung der Konformität

This Technical Specification (CEN/TS) was approved by CEN on 20 October 2007 for provisional application.

The period of validity of this CEN/TS is limited initially to three years. After two years the members of CEN will be requested to submit their comments, particularly on the question whether the CEN/TS can be converted into a European Standard.

CEN members are required to announce the existence of this CEN/TS in the same way as for an EN and to make the CEN/TS available promptly at national level in an appropriate form. It is permissible to keep conflicting national standards in force (in parallel to the CEN/TS) until the final decision about the possible conversion of the CEN/TS into an EN is reached.

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Foreword

This document (CEN/TS 13476-4:2008) has been prepared by Technical Committee CEN/TC 155 “Plastics piping systems and ducting systems”, the secretariat of which is held by NEN.

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

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*;

— *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: Guidance for the assessment of conformity* (this Technical Specification);

— *Part 5: Guidance for installation* (CEN/TS).[1)].

According to the CEN/CENELEC Internal Regulations, the national standards organizations of the following countries are bound to announce this Technical Specification: Austria, Belgium, Bulgaria, Cyprus, Czech Republic, Denmark, Estonia, Finland, France, Germany, Greece, Hungary, Iceland, Ireland, Italy, Latvia, Lithuania, Luxembourg, Malta, Netherlands, Norway, Poland, Portugal, Romania, Slovakia, Slovenia, Spain, Sweden, Switzerland and the United Kingdom.

[1] The feasibility of this project is under study.

Introduction

This Technical Specification gives guidance for the assessment of conformity. It is intended to serve as a guide for the assessment of conformity of products covered by EN 13476-1, EN 13476-2 and EN 13476-3.

It can be used integrally and/or be used for inclusion of conformity assessment in the manufacturer's quality plan as part of the quality system for attestation purposes. The use of this Technical Specification does not presume the involvement of a third party.

It can also be used to support the elaboration of national third party certification procedures for products conforming to EN 13476-1, EN 13476-2 and EN 13476-3. It is the responsibility of the manufacturer to choose, or not to choose for the involvement of a third party for certification purposes.

1 Scope

This CEN Technical Specification gives guidance for the assessment of conformity to be included in the manufacturer's quality plan as part of the quality system.

This Technical Specification includes:

a) requirements for materials, components and joints given in EN 13476-1, EN 13476-2 and EN 13476-3;

b) requirements for the manufacturer's quality;

NOTE 1 It is recommended that the quality system conforms to EN ISO 9001:2000 [1].

c) definitions and procedures to be applied if third party certification is involved.

NOTE 2 If third party certification is involved, it is recommended that the certification body is accredited to EN 45011 [2] or EN 45012 [3], as applicable.

This standard is applicable to:

d) structured-wall pipes and fittings, which are intended to be used buried in ground outside the building structure only; reflected in the marking of products by “U”;

e) structured-wall pipes and fittings, which are intended to be used buried in ground both outside (application area code “U”) and within the 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.

2 Normative references

The following referenced documents are indispensable for the application 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 13476-1:2007, *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 13476-2:2007, *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 13476-3:2007, *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*

3 Terms, definitions and abbreviations

For the purposes of this standard, the following definitions, symbols and abbreviations given in EN 13476-1:2007, EN 13476-2:2007 and EN 13476-3:2007 together with the following apply.

3.1 Terms and Definitions

3.1.1
certification body
impartial body, governmental or non-governmental, possessing the necessary competence and responsibility to carry out certification of conformity according to given rules of procedure and management

3.1.2
inspection body
impartial organization or company, approved by a certification body as possessing the necessary competence to verify and/or to carry out initial type testing, audit testing and inspection of the manufacturer's factory production control in accordance with the relevant European Standard

3.1.3
testing laboratory
laboratory that measures, tests, calibrates or otherwise determines the characteristics of the performance of materials and products

3.1.4
quality system
organisational structure, responsibilities, procedures, processes and resources for implementing quality management (see EN ISO 8402:1995 [4])

3.1.5
quality plan
document setting out the specific quality practices, resources and sequence of activities relevant to a particular product or range of products

3.1.6
type testing (TT)

3.1.6.1
general type testing (TT)
tests performed to prove that the material, component, joint or assembly is capable of conforming to the requirements given in the relevant standard

3.1.6.2
preliminary type testing (PTT)
type testing carried out by or on behalf of the manufacturer

3.1.6.3
initial type testing (ITT)
type testing carried out by or on behalf of a certification body for certification purposes

3.1.6.4
batch release test (BRT)
test performed by the manufacturer on a batch of components, which has to be satisfactorily completed before the batch can be released

3.1.7
process verification test (PVT)
test performed by the manufacturer on compounds, components, joints or assemblies at specific intervals to confirm that the process continues to be capable of producing components conforming to the requirements given in the relevant standard

NOTE Such tests are not required to release batches of components and are carried out as a measure of process control.

3.1.8
audit test (AT)
test performed by or on behalf of a certification body to confirm that the compound, component, joint or assembly continues to conform with the requirements given in the relevant standard and to provide information to assess the effectiveness of the quality system

3.1.9
indirect test (IT)
test performed by the manufacturer different from that specified for that particular characteristic, having verified its correlation with the specified test

3.1.10
witness testing (WT)
testing accepted by the certification body for initial type testing and/or audit testing which is carried out by or on behalf of the manufacturer and supervised by a representative of the certification body, qualified in testing

3.1.11
material
defined type of polymer or additive or constituent thereof

3.1.12
compound (blend)
recipe which defines types of polymer, additives and constituents at specified dosage levels

3.1.13
material batch or compound batch
clearly identifiable quantity of a particular material or compound

3.1.14
production batch
clearly identifiable collection of units, manufactured consecutively under the same conditions, using material or compounds conforming to the same specification

3.1.15
lot
clearly identifiable sub-division of a batch for inspection purposes

3.1.16
sample
one or more units of product drawn from a batch or lot, selected at random without regard to quality

NOTE The number of units of product in the sample is the sample size.

3.1.17
group
collection of similar components from which samples are selected for testing purposes

3.2 Abbreviations

NOTE To avoid any misunderstanding the following abbreviations are kept the same for each language. For the same reason, the terms are given in the three languages (“en” for English, “fr” for French and “de” for German).

AT en : audit test
fr : essai d'audit
de : Überwachungsprüfung

BRT en : batch release test
fr : essai de libération de campagne de fabrication
de : Freigabeprüfung einer Charge

IT en : indirect test
fr : essai indirect
de : indirekte Prüfung

ITT en : initial type testing
fr : essais de type initiaux
de : Erst-Typprüfung

PTT en : preliminary type testing
fr : essais de type preliminaries
de : vorausgehende Typprüfung

PVT en : process verification test
fr : essai de vérification du procédé de fabrication
de : Prüfung zur Prozessüberwachung

TT en : type test
fr : essai de type
de : Typprüfung

WT en : witness testing
fr : essais de témoins
de : Prüfung unter Aufsicht

4 Requirements

4.1 General

4.1.1 Materials, components, joints and assemblies shall conform to the requirements given in EN 13476-1, EN 13476-2 and EN 13476-3, as applicable.

4.1.2 Components and/or assemblies shall be produced by the manufacturer under a quality system that includes a quality plan.

4.2 Testing and inspection

4.2.1 Material specifications

NOTE In the following clauses it is defined when a modification of a compound is to be considered as a change of compound.

4.2.1.1 Compound specification PVC

For the purposes of this standard the compound specification consists of a recipe/compound that defines types of PVC and additives and their dosage levels.

The dosage level of ingredients of a compound shall not exceed the tolerance bands given in Table 1. If any level exceeds the dosage band or if a type is changed, this variation in formulation constitutes a change in compound.

The use of reprocessable and/or recyclable material with agreed specification shall be considered as a change in compound when the change in addition exceeds the tolerance bands given in Table 2.

The values of the parts X to be added to 100 parts of PVC resin shall be specified by the manufacturer in their quality plan.

Table 1 — Material specification PVC compound

Ingredients	Type	Band
PVC resin	Nominal K value: as specified	$^{+3}_{0}$ units
Type and content of stabiliser or masterbatch	1) Pb 2) Ca-Zn 3) Sn 4) Ca-Sn 5) others	X_1: ± 25 %
Lubricants	All	X_2: ± 50 % for $X_2 \leq 0{,}2$ X_2: ± 0,1 parts for $X_2 > 0{,}2$
Mineral modifiers	1) $CaC0_3$ 2) others	X_3: $^{0}_{-6}$ parts $X_{4,1}$: $^{0}_{-50}$ %
		$X_{4,n}$: $^{0}_{-50}$ %
Impact modifiers	All	X_5: ± 1 part
Flow agents	All	X_6: ± 25 % for $X_6 \leq 2$ X_6: ± 0,5 parts for $X_6 > 2$
Pigments		No requirement
Others	To be separately specified by the manufacturer	$X_{7,1}$: ± 12,5 % $X_{7,n}$: ± 12,5 %

Table 2 — Specification of PVC reprocessable and recycling material

Ingredients	Type	Band
External reprocessable and recyclable material from pipes and fittings	With or without an agreed specification External and internal layers [a]	X_8: $^{0}_{-X_8}$ [b] See limitations in B.2.1 of EN 13476-2:2007 and /or EN 13476-3:2007.
External reprocessable and recyclable material	With an agreed specification [a]	X_9: $^{0}_{-X_9}$ [b]

[a] The specification shall be declared by the manufacturer to the certification body.

[b] Provided the tolerances of Table 1 are still met.