



NSAI
Standards

Irish Standard
I.S. EN 1453-1:2017&AC:2017

Plastics piping systems with structured-wall pipes for soil and waste discharge (low and high temperature) inside buildings -
Unplasticized poly(vinyl chloride) (PVC-U) -
Part 1: Specifications for pipes and the system

I.S. EN 1453-1:2017&AC:2017

Incorporating amendments/corrigenda/National Annexes issued since publication:

EN 1453-1:2017/AC:2017

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This document replaces/revises/consolidates the NSAI adoption of the document(s) indicated on the CEN/CENELEC cover/Foreword and the following National document(s):

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Údarás um Chaighdeáin Náisiúnta na hÉireann

National Foreword

I.S. EN 1453-1:2017&AC:2017 is the adopted Irish version of the European Document EN 1453-1:2017, Plastics piping systems with structured-wall pipes for soil and waste discharge (low and high temperature) inside buildings - Unplasticized poly(vinyl chloride) (PVC-U) - Part 1: Specifications for pipes and the system

This document does not purport to include all the necessary provisions of a contract. Users are responsible for its correct application.

Compliance with this document does not of itself confer immunity from legal obligations.

In line with international standards practice the decimal point is shown as a comma (,) throughout this document.

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EUROPEAN STANDARD

EN 1453-1:2017/AC

NORME EUROPÉENNE

July 2017
Juillet 2017
Juli 2017

EUROPÄISCHE NORM

ICS 23.040.01; 23.040.05; 91.140.80

English version
Version Française
Deutsche Fassung

Plastics piping systems with structured-wall pipes for soil and waste discharge
(low and high temperature) inside buildings - Unplasticized poly(vinyl
chloride) (PVC-U) - Part 1: Specifications for pipes and the system

Systèmes de canalisations en plastique avec
des tubes à paroi structurée pour
l'évacuation des eaux-vannes et des eaux
usées (à basse et à haute température) à
l'intérieur des bâtiments - Poly(chlorure de
vinyle) non plastifié (PVC-U) - Partie 1 :
Spécifications pour tubes et le système

Kunststoff-Rohrleitungssysteme mit Rohren
mit profilierter Wandung zum Ableiten von
Abwasser (niedriger und hoher Temperatur)
innerhalb von Gebäuden -
Weichmacherfreies Polyvinylchlorid (PVC-U)
- Teil 1: Anforderungen an Rohre und das
Rohrleitungssystem

This corrigendum becomes effective on 5 July 2017 for incorporation in the official English version of the EN.

Ce corrigendum prendra effet le 5 juillet 2017 pour incorporation dans la version anglaise officielle de la EN.

Die Berichtigung tritt am 5. Juli 2017 zur Einarbeitung in die offizielle Englische Fassung der EN in Kraft.



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

CEN-CENELEC Management Centre: Avenue Marnix 17, B-1000 Brussels

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Ref. No.: EN 1453-1:2017/AC:2017 E

EN 1453-1:2017/AC:2017 (E)

1 Modification to Clause 2, Normative references

Regarding reference EN ISO 306, delete the date from the ISO reference in brackets to read: "EN ISO 306, Plastics - Thermoplastic materials - Determination of Vicat softening temperature (VST) (ISO 306)"

2 Modification to Annex B, Utilization of non-virgin material

In Table B.1, add the missing value "3" in the column "Requirements" to have "±3 units" for the K-value to read as follows:

"

Characteristic	Requirements	Test method
PVC-content ^a	±4 % absolute by mass	EN 1905
K-value ^a	±3 units	EN ISO 13229
Density ^a	±20 kg/m ³	EN ISO 1183-1
Vicat softening temperature (VST) ^a	±2 °C	ISO 2507-1
Particle size ^b	Requirements and test method shall be agreed and stated in the agreement.	
Type of stabilizer ^{a b}	Requirements and test method shall be agreed and stated in the agreement.	
Impurities ^b	Based on the source of material and the recycling process a relevant test method and requirements shall be agreed and stated in the specification. Both the test method and the requirements shall be published.	
^a If the source of the material is pipes and fittings produced under a European nationally recognized quality mark or a European quality mark, it is not required to test this material characteristic if the requirement covered by the quality mark conforms to the requirement given in this table. ^b The relevant requirements and test methods depend on the recycling process and on the end product.		

"

EUROPEAN STANDARD

EN 1453-1

NORME EUROPÉENNE

EUROPÄISCHE NORM

January 2017

ICS 23.040.01; 23.040.05; 91.140.80

Supersedes EN 1453-1:2000

English Version

**Plastics piping systems with structured-wall pipes for soil
and waste discharge (low and high temperature) inside
buildings - Unplasticized poly(vinyl chloride) (PVC-U) -
Part 1: Specifications for pipes and the system**

Systèmes de canalisations en plastique avec des tubes à paroi structurée pour l'évacuation des eaux-vannes et des eaux usées (à basse et à haute température) à l'intérieur des bâtiments - Poly(chlorure de vinyle) non plastifié (PVC-U) - Partie 1 : Spécifications pour tubes et le système

Kunststoff-Rohrleitungssysteme mit Rohren mit profilierter Wandung zum Ableiten von Abwasser (niedriger und hoher Temperatur) innerhalb von Gebäuden - Weichmacherfreies Polyvinylchlorid (PVC-U) - Teil 1: Anforderungen an Rohre und das Rohrleitungssystem

This European Standard was approved by CEN on 29 October 2016.

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.

This document consolidates EN 1453-1:2017 and the corrigendum EN 1453-1:2017/AC:2017.



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

CEN-CENELEC Management Centre: Avenue Marnix 17, B-1000 Brussels

Contents	Page
European foreword.....	3
1 Scope.....	4
2 Normative references.....	4
3 Terms and definitions, symbols and abbreviations.....	6
3.1 Terms and definitions.....	6
3.2 Symbols.....	8
3.3 Abbreviations.....	9
4 Material.....	9
4.1 Raw material.....	9
4.2 Utilization of non-virgin material.....	9
4.3 Sealing ring retaining means.....	9
5 General characteristics.....	10
5.1 Appearance.....	10
5.2 Colour.....	10
6 Geometrical characteristics.....	10
6.1 General.....	10
6.2 Dimensions of pipes.....	10
6.3 Dimensions of sockets.....	13
7 Mechanical characteristics.....	19
7.1 General requirements.....	19
7.2 Additional requirements.....	20
8 Physical characteristics.....	21
9 Performance requirements.....	22
10 Sealing rings.....	22
11 Adhesives.....	22
12 Marking.....	22
12.1 General.....	22
12.2 Minimum required marking.....	23
12.3 Additional marking.....	23
Annex A (informative) Guidance for calcium carbonate additives.....	24
A.1 Composition of calcium carbonate additives.....	24
A.2 Physical properties of calcium carbonate additive.....	24
Annex B (normative) Utilization of non-virgin material.....	25
B.1 Own reprocessed material.....	25
B.2 External reprocessed and recycled materials with agreed specification.....	25
B.3 External reprocessed and recycled material not covered by an agreed specification.....	28
Annex C (informative) Product standards.....	29
Bibliography.....	30

European foreword

This document (EN 1453-1:2017) 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 supersedes EN 1453-1:2000.

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 July 2017, and conflicting national standards shall be withdrawn at the latest by July 2017.

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 standard is a 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 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 1453 consists of the following parts, under the general title *Plastics piping systems with structured-wall pipes for soil and waste discharge (low and high temperature) inside buildings — Unplasticized poly(vinyl chloride) (PVC-U)*¹:

- *Part 1: Requirements for pipes and the system* (the present standard)
- *Part 2: Guidance for the assessment of conformity* (under preparation)

This document includes the corrigendum EN 1453-1:2017/AC:2017 which corrects a reference in Clause 2 and Table B.1.

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, 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.

1) EN 1453 does not cover a recommended practice for installation. A recommended practice for installation is covered by the following European Technical Report: CEN/TR 13801, *Plastics piping systems for soil and waste discharge (low and high temperature) within the building structure — Thermoplastics — Recommended practice for installation*.

EN 1453-1:2017 (E)

1 Scope

This part of EN 1453 specifies the requirements for structured-wall unplasticized poly(vinyl chloride) (PVC-U) pipes and the system intended to be used for soil and waste discharge applications (low and high temperature) inside buildings (application area code “B”)

NOTE 1 The intended use is reflected in the marking of products by “B”.

This part of EN 1453 is also applicable to structured-wall unplasticized poly(vinyl chloride) (PVC-U) pipes, and the system intended for the following purposes:

- ventilating part of the pipework in association with discharge applications;
- rainwater pipework inside building.

It also specifies the test parameters for the test methods referred to in this standard.

NOTE 2 Single layer foamed PVC-U pipes and spirally-formed PVC-U pipes are not covered by this standard.

This standard covers a range of nominal sizes and gives recommendations concerning colours.

NOTE 3 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.

For external above ground application additional requirements depending on the climatic conditions should be agreed between the manufacturer and the user.

NOTE 4 Pipes conforming to this standard are normally associated with fittings conforming to EN 1329-1 [1]. Pipes, fittings and components conforming to any of the product standards listed in Annex C can also be used with pipes conforming to this standard, provided they conform to the requirements for joint dimensions given in Clause 6 and to the requirements in Table 11.

NOTE 5 Joints and adhesives are considered to be part of the system as covered in the scope.

NOTE 6 Products conforming to this standard may be submitted to national requirements on fire regulation.

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 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 10204:2004, *Metallic products — Types of inspection documents*

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

EN 15346:2014, *Plastics — Recycled plastics — Characterization of poly(vinyl chloride) (PVC) recyclates*

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