

# SLOVENSKI STANDARD

## SIST-TS CEN/TS 1453-2:2017

01-junij-2017

Nadomešča:  
SIST ENV 1453-2:2001

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**Cevni sistemi iz polimernih materialov s strukturirano steno cevi za nizko- in visokotemperaturne odvodne sisteme v stavbah - Nemehčan polivinilklorid (PVC-U) - 2. del: Navodilo za ugotavljanje skladnosti**

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 2: Guidance for the assessment of conformity

Kunststoff-Rohrleitungssysteme mit Rohren mit profilierter Wandung zum Ableiten von Abwasser (niedriger und hoher Temperatur) innerhalb von Gebäuden - Weichmacherfreies Polyvinylchlorid (PVC-U) - Teil 2 - Empfehlungen für die Beurteilung der Konformität

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 2 : Guide pour l'évaluation de la conformité

**Ta slovenski standard je istoveten z: CEN/TS 1453-2:2017**

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**ICS:**

23.040.01	Deli cevovodov in cevovodi na splošno	Pipeline components and pipelines in general
91.140.80	Drenažni sistemi	Drainage systems

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TECHNICAL SPECIFICATION  
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**CEN/TS 1453-2**

March 2017

ICS 23.040.01; 91.140.80

Supersedes ENV 1453-2:2000

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 2: Guidance for the assessment of conformity

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 2: Guide pour l'évaluation de la conformité

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This Technical Specification (CEN/TS) was approved by CEN on 30 November 2016 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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EUROPEAN COMMITTEE FOR STANDARDIZATION  
COMITÉ EUROPÉEN DE NORMALISATION  
EUROPÄISCHES KOMITEE FÜR NORMUNG

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## European foreword

This document (CEN/TS 1453-2:2017) 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 document supersedes ENV 1453-2:2000.

Compared with ENV 1453-2:2000, the following changes have been made:

- a) use of the template drafted by CEN/TC 155/WG 21 for assessment of conformity documents (change of “Terms and definitions” and addition of 1 column “Sampling procedures” in Tables);
- b) introduction of “Limits of addition of PVC reprocessed and recycled material” in a separate table (Table 2);
- c) deletion of all requirements for TPE seals as they are no longer required;
- d) addition of an informative Annex A: Basic test matrix.

EN 1453, *Plastics piping systems with structured wall pipes for soil and waste discharge (low and high temperature) inside buildings — Unplasticized poly(vinyl chloride) (PVC-U)*, consists of the following Parts:

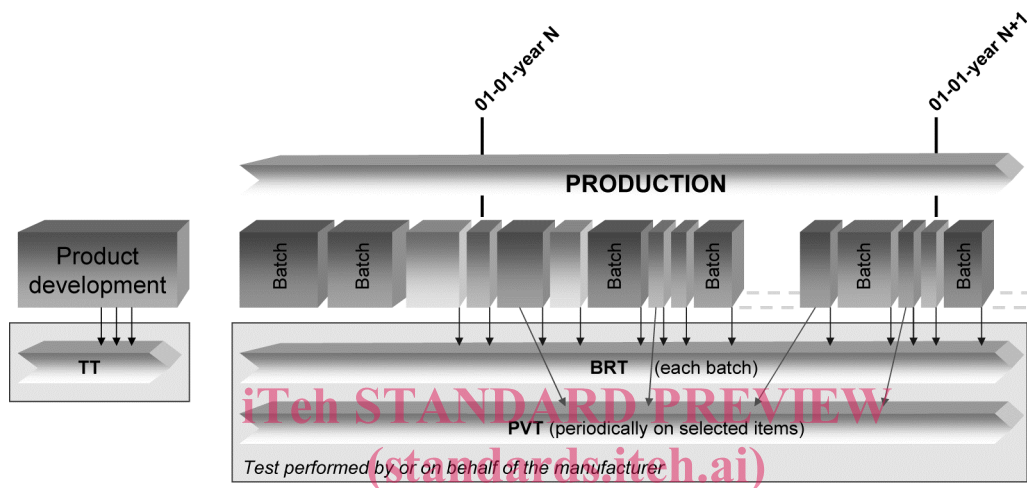
- Part 1: Specifications for pipes and the system
- Part 2: Guidance for the assessment of conformity (the present Technical Specification)

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, 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

Figures 1 and 2 are intended to provide general information on the concept of testing and organization of those tests used for the purpose of the assessment of conformity. For each type of test, i.e. type test (TT), batch release test (BRT), process verification test (PVT) and audit test (AT), this part of EN 1453 details the applicable characteristics to be assessed and the frequency and sampling of testing.

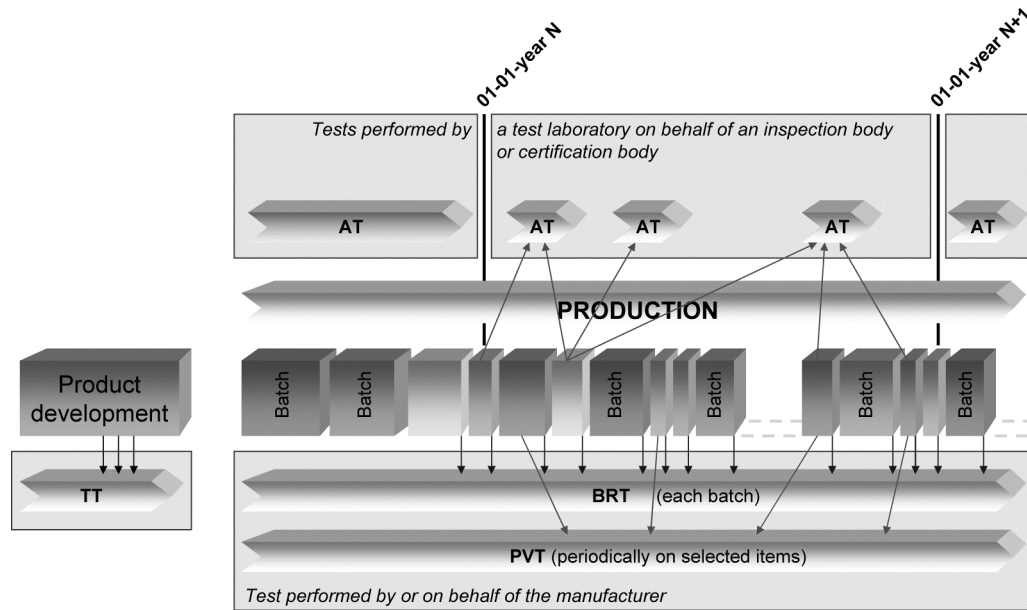
A typical scheme for the assessment of conformity of materials (formulations), pipes, fittings, valves or assemblies by manufacturers is given in Figure 1.



**Figure 1 — Typical scheme for the assessment of conformity by a manufacturer**

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A typical scheme for the assessment of conformity of materials (formulations), pipes, fittings, valves or assemblies by manufacturers, including certification, is given in Figure 2.



**Figure 2 — Typical scheme for the assessment of conformity by a manufacturer, including certification**

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**CEN/TS 1453-2:2017 (E)****1 Scope**

This Technical Specification gives guidance for the assessment of conformity of formulations, products and assemblies in accordance with EN 1453-1 intended to be included in the manufacturer's quality plan as part of the quality management system and for the establishment of certification procedures.

It is recommended that the quality management system conforms to or is no less stringent than the relevant requirements to EN ISO 9001 [1].

If certification is involved, it is recommended that the certification body is preferably compliant with EN ISO/IEC 17065 [5] or EN ISO/IEC 17021 [3], as applicable.

In order to help the reader, a basic test matrix is given in Annex A, Table A.1.

In conjunction with EN 1453-1, this document is applicable to piping systems made of unplasticized poly(vinyl chloride) (PVC-U) intended to be used for the following purposes:

- for soil and waste discharge systems (low and high temperature) inside buildings (application area code "B");

This is reflected in the marking of products by "B".

**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 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*

**3 Terms and definitions**

For the purposes of this Technical Specification, the terms and definitions given in EN 1453-1 and the following apply.

**3.1 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

Note 1 to entry: A certification body is preferably compliant with EN ISO/IEC 17065 [5].

**3.2 inspection body**

body, that performs inspection

Note 1 to entry: A body can be an organization, or part of an organization.

Note 2 to entry: An inspection body is preferably compliant with EN ISO/IEC 17020 [2].



### 3.3

#### **testing laboratory**

laboratory which measures, tests, calibrates or otherwise determines the characteristics of the performance of materials and products

Note 1 to entry: In the context of this part of EN 1453, the materials and products can be subjected to type testing, batch release testing, process verification testing, audit testing and witness testing, as applicable.

Note 2 to entry: A testing laboratory is preferably compliant with EN ISO/IEC 17025 [5].

### 3.4

#### **quality management system**

management system to direct and control an organization with regard to quality

Note 1 to entry: Requirements for quality management systems are given in EN ISO 9001 [1].

### 3.5

#### **quality plan**

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

### 3.6

#### **type testing**

##### **TT**

testing performed to prove that the formulation, product, joint or assembly is capable of conforming to the requirements given in the relevant standard

Note 1 to entry: The type test results remain valid until there is a change in the material or product or assembly provided that the process verification tests are done regularly.

### 3.7

#### **batch release test**

##### **BRT**

test performed by or on behalf of the manufacturer on a batch of formulations or products, which needs to be satisfactorily completed before the batch can be released

### 3.8

#### **process verification test**

##### **PVT**

test performed by, or on behalf of the manufacturer on formulation, products or joints or assemblies at specific intervals to confirm that the process continues to be capable of producing products which conform to the requirements given in the relevant standard

Note 1 to entry: Such tests are not required to release batches of formulations or products; rather they are carried out as a measure of process control.

### 3.9

#### **audit test**

##### **AT**

test performed by a test laboratory on behalf of an inspection body or certification body to confirm that the formulation, product, joint or assembly continues to conform to the requirements given in the relevant standard and to provide information to assess the effectiveness of the quality management system

**CEN/TS 1453-2:2017 (E)****3.10****indirect test****IT**

test performed by or on behalf of the manufacturer, different from that specified test for that particular characteristic, having previously verified its correlation with the specified test

**3.11****witness test****WT**

test accepted by an inspection or a certification body for type testing and/or audit testing, which is carried out by or on behalf of the manufacturer and supervised by a representative of the inspection or certification body, qualified in testing

**3.12****material**

generic term for formulations grouped by families, expressed by generic names, e.g. polypropylene, stainless steel, brass or EPDM

Note 1 to entry: Definition from European Commission, Directorate-General for Enterprise and Industry, Sub-group on Product Testing Procedures (EC, DG ENT and IND, SG PTP)

**3.13****formulation**

clearly defined homogenous mixture of base polymer with additives, i.e. anti-oxidants, pigments, stabilizers and others, at a dosage level necessary for the processing and the intended use of the final product

Note 1 to entry: The term “compound” is sometime used with similar meaning as “formulation”.

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**3.14****material batch**

clearly identified quantity of a given homogeneous formulation manufactured under uniform conditions and defined and identified by the formulation manufacturer

**3.15****product**

pipe or fitting of a clearly identified type intended to be a part of a piping system which the manufacturer puts on the market

**3.16****product batch**

clearly identified collection of products, manufactured consecutively or continuously under the same conditions, using the same formulation conforming to the same specification

Note 1 to entry: The production batch is defined and identified by the product manufacturer.

**3.17****sample**

one or more products drawn from the same production batch, selected at random without regard to their quality

Note 1 to entry: The number of products in the sample is the sample size.

### 3.18 group

collection of similar products from which samples are selected for testing purposes

Note 1 to entry: Similar products are products which are not identical, but may be grouped for testing one or several characteristics, such as products having different diameters.

### 3.19 component

product manufactured out of a specific formulation, brought to the market as part of another product or as a spare part

### 3.20 joint

connection between two products

### 3.21 assembly

product that can be dismantled into a set of components

EXAMPLE A test piece consisting of various products.

### 3.22 sampling plan

specification of the type of sampling to be used in combination with the operational specification of the entities or increments to be taken, the samples to be constituted and the measurements or tests to be made

EXAMPLE A specific plan which indicates the number of units of products or assemblies to be inspected.

### 3.23 product type

generic description of a product

EXAMPLE A pipe or its main parts, of the same design, from a particular formulation.

## 4 Abbreviated terms

To avoid misunderstanding, the abbreviations in this Clause are defined as being the same in each language. For the same reason, the terms are given in the three languages, English, French and German.

	EN	FR	DE
AT	audit test	essai d'audit	Überwachungsprüfung
BRT	batch release test	essai de libération de campagne de fabrication	Freigabepfung einer Charge
IT	indirect test	essai indirect	indirekte Prüfung
PVT	process verification test	essai de vérification du procédé de fabrication	Prozessüberprüfung
TT	type test	essai de type	Typprüfung
WT	witness testing	essai témoin	Prüfung unter Aufsicht