



# SLOVENSKI STANDARD

## SIST-TS CEN/TS 1566-2:2012

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### Cevni sistemi iz polimernih materialov za (nizko- in visokotemperaturne) odvodne sisteme v zgradbah - Klorirani polivinilklorid (PVC-C) - 2. del: Navodilo za ugotavljanje skladnosti

Plastics piping systems for soil and waste discharge (low and high temperature) within the building structure - Chlorinated poly(vinyl chloride) (PVC-C) - Part 2: Guidance for assessment of conformity

Kunststoff-Rohrleitungssysteme zum Ableiten von Abwasser (niedriger und hoher Temperatur) innerhalb der Gebäudestruktur — Chloriertes Polyvinylchlorid (PVC-C) — Teil 2: Empfehlungen für die Beurteilung der Konformität

Systèmes de canalisations en plastique pour l'évacuation des eaux-vannes et des eaux usées (à basse et à haute température) à l'intérieur de la structure des bâtiments — Poly(chlorure de vinyle) chloré (PVC-C) — Partie 2 : Guide pour l'évaluation de la conformité

**Ta slovenski standard je istoveten z: CEN/TS 1566-2:2012**

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#### **ICS:**

23.040.20	Cevi iz polimernih materialov	Plastics pipes
91.140.80	Drenažni sistemi	Drainage systems

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TECHNICAL SPECIFICATION  
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**CEN/TS 1566-2**

May 2012

ICS 23.040.20; 91.140.80

Supersedes ENV 1566-2:2001

English Version

**Plastics piping systems for soil and waste discharge (low and high temperature) within the building structure - Chlorinated poly(vinyl chloride) (PVC-C) - Part 2: Guidance for assessment of conformity**

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This Technical Specification (CEN/TS) was approved by CEN on 9 January 2012 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.

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



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## Foreword

This document (CEN/TS 1566-2:2012) 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 1566-2:2001.

Compared with ENV 1566-2:2001, 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) Addition of a table (Table 1) for Formulation specification;
- c) Size groups have been redefined (Table 2);
- d) Deletion of requirements for Vicat Softening Temperature (VST) after conditioning 16 h in water at 90 °C as they are no longer required (Tables 4, 9 and 12);
- e) Deletion of requirements for water absorption as they are no longer required (Tables 4 and 5);
- f) Deletion of requirements for TPE seals as they are no longer required (Tables 6, 11 and 14);
- g) Addition of an informative Annex A: Basic test matrix.

EN 1566 *Plastics piping systems for soil and waste discharge (low and high temperature) within the building structure — Chlorinated poly(vinyl chloride) (PVC-C)* consists of the following Parts:

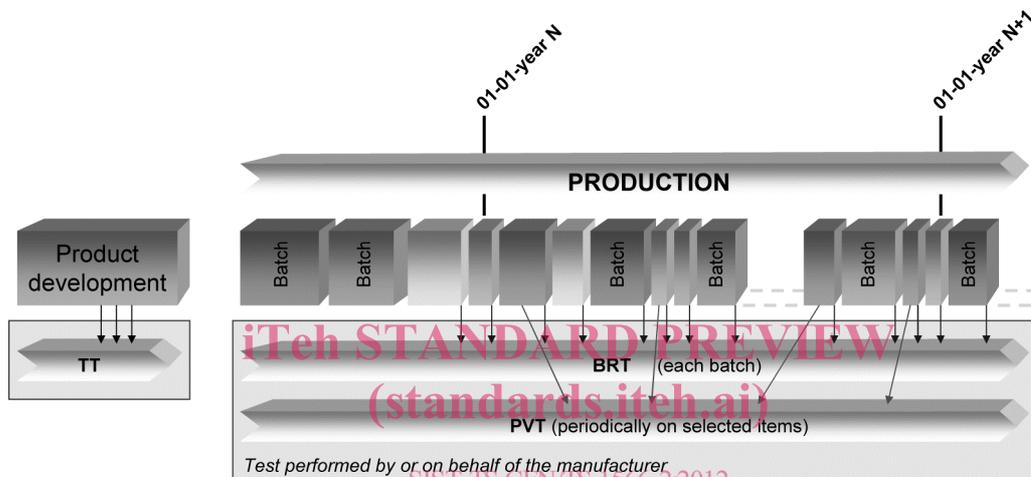
- Part 1: Specifications for pipes, fittings and the system
- Part 2: Guidance for the assessment of conformity (the present Technical Specification)

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, 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, Turkey and the United Kingdom.

## Introduction

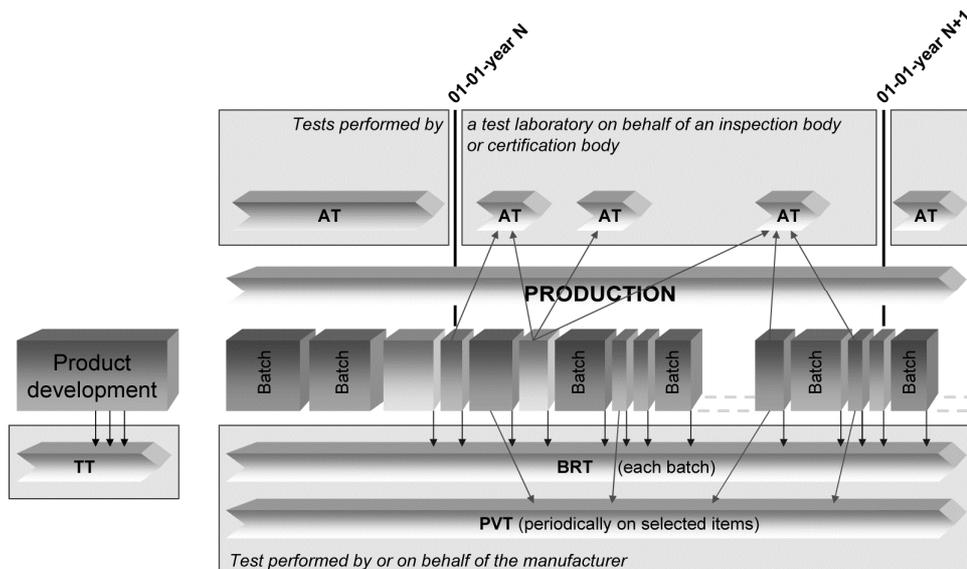
Figures 1 and 2 are intended to provide general information on the concept of testing and organisation of those tests used for the purpose of the assessment of conformity. For each type of test, i.e. type test (TT), batch release test (BRT), process verification test (PVT) and audit test (AT), this document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

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



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

A typical scheme for the assessment of conformity of materials (compounds/formulations), pipes, fittings, joints or assemblies by manufacturers, including a third-party certification, is given in Figure 2.



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

## 1 Scope

This Technical Specification gives guidance for the assessment of conformity of materials (compounds/formulations), products and assemblies in accordance with EN 1566-1 intended to be included in the manufacturer's quality plan as part of the quality management system and for the establishment of third-party certification procedures.

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

NOTE 2 If third-party certification is involved, it is recommended that the certification body is accredited to EN 45011 [2], EN 45012 [3] or EN ISO/IEC 17021 [4], as applicable.

NOTE 3 In order to help the reader, a basic test matrix is given in Annex A.

In conjunction with EN 1566-1, this document is applicable to solid-wall piping systems made of chlorinated poly(vinyl chloride) (PVC-C) intended to be used for the following purposes:

- for soil and waste discharge systems (low and high temperature) inside buildings (application area code "B");
- for soil and waste discharge systems (low and high temperature) for both inside buildings and buried in ground within the building structure (application area code "BD").

NOTE 4 This is reflected in the marking of products by "B" or "BD".

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## 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 1566-1:1998, *Plastics piping systems for soil and waste discharge (low and high temperature) within the building structure — Chlorinated poly(vinyl chloride) (PVC-C) — Part 1: Specifications for pipes, fittings and the system*

## 3 Terms and definitions

For the purposes of this Technical Specification, the terms and definitions given in EN 1566-1:1998 and the following apply.

### 3.1

#### certification body

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

Note 1 to entry: A certification body is preferably accredited to EN 45011 [2].

### 3.2

#### inspection body

impartial organisation or company approved by the 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 standard

Note 1 to entry: An inspection body is preferably accredited to EN ISO/IEC 17020 [5].

**CEN/TS 1566-2:2012 (E)**

**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 1566, the materials and products can be subjected to type testing, batch release testing, process verification testing, audit testing and/or witness testing, as applicable.

Note 2 to entry: A testing laboratory is preferably accredited to EN ISO/IEC 17025 [6].

**3.4**  
**quality management system**  
 a 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 verify that the material, 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 materials or products, which needs to be satisfactorily completed before the batch can be released

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**3.8**  
**process verification test**  
**PVT**  
 test performed by or on behalf of the manufacturer on materials, products, 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 materials or products and 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 material, 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

**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 test specified

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

testing 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 compounds/formulations grouped by families, expressed by generic names, e.g. polypropylene, stainless steel, brass or EPDM

[SOURCE: European Commission, Directorate-General for Enterprise and Industry, Sub-group on Product Testing Procedures (EC, DG ENT and IND, SG PTP)]

**3.13****compound/ 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

**3.14****material batch**

clearly identified quantity of a given homogeneous compound/formulation manufactured under uniform conditions and defined and identified by the compound/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 materials and conforming to the same specification

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

**3.17****lot**

clearly identifiable sub-division of a batch for inspection purposes

**3.18****sample**

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

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

**3.19****group**

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

**3.20****component**

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

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**CEN/TS 1566-2:2012 (E)****3.21****joint**

connection between two products

**3.22****assembled product**

assembled final product using two or more single parts

**3.23****thermoplastics fabricated fitting**

fitting produced from pipe and/or from injection-moulded fittings by thermoforming, solvent-cementing or welding

**3.24****assembly**

product that can be dismantled into a set of components

EXAMPLE A test piece consisting of various products.

**3.25****sampling plan**

specification of the type of sampling to be used combined 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.

**3.26****product type**

generic description of a product

EXAMPLE A pipe or fitting or their main parts, of the same design, from a particular compound.

**3.27****cavity**

(moulding) space within a mould to be filled to form the moulded product

EXAMPLE That part of the injection mould which gives the form to the injection moulded product

**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

## 5 General

**5.1** Materials (compounds/formulations), products, joints and assemblies shall conform to the requirements given in EN 1566-1.

**5.2** Products shall be produced by the manufacturer under a quality management system which includes a quality plan (including specifications on joints and assemblies).

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

## 6 Testing and inspection

### 6.1 Material specification

For the purposes of this Technical Specification, the material specification consists of a formulation which defines PVC-C and PVC resins and additives and their dosage levels.

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

The values of the parts  $X$  added to 100 parts by mass of total PVC and PVC-C shall be specified by the manufacturer in the quality plan.

Table 1 — Formulation specification

Ingredients	Type	Band
PVC-C resin	Nominal Chlorine content as specified by the manufacturer	$\pm 3$ units
PVC resin	Nominal K value as specified by the manufacturer	$\pm 3$ units
Type of stabiliser or master batch	1) OBS (Organic Based Stabilisers) 2) Ca-Zn 3) Sn 4) Ca-Sn 5) Others	$X_1 : \pm 25 \%$
Lubricants	All	$X_2 : \pm 50 \%$ for $X_2 \leq 0,2$ $X_2 : \pm 0,1$ part for $X_2 > 0,2$
Fillers	1) $\text{CaCO}_3$ 2) Others	$X_3 : \pm 3$ parts $X_4 : \pm 25 \%$
Impact modifiers	All	$X_5 : \pm 1$ part
Flow agents	All	$X_6 : \pm 25 \%$ for $X_6 \leq 2$ $X_6 : \pm 0,5$ part for $X_6 > 2$
Pigments	No requirements	-
Others	To be separately specified by the manufacturer	$X_{7,n} : \pm 25 \%$