



**SLOVENSKI STANDARD**  
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**Cevni sistemi iz polimernih materialov za nizko- in visokotemperaturne odvodne sisteme v zgradbah - Polipropilen (PP) - 2. del: Navodilo za ugotavljanje skladnosti**

Plastics piping systems for soil and waste discharge (low and high temperature) within the building structure - Polypropylene (PP) - Part 2: Guidance for the assessment of conformity

Kunststoff-Rohrleitungssysteme zum Ableiten von Abwasser (niedriger und hoher Temperatur) innerhalb der Gebäudestruktur - Polypropylen (PP) - 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 - Polypropylène (PP) - Partie 2: Guide pour l'évaluation de la conformité

**Ta slovenski standard je istoveten z: FprCEN/TR 1451-2**

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**ICS:**

23.040.20	Cevi iz polimernih materialov	Plastics pipes
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**FprCEN/TR 1451-2**

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English Version

## Plastics piping systems for soil and waste discharge (low and high temperature) within the building structure - Polypropylene (PP) - Part 2: Guidance for the assessment of conformity

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 - Polypropylène (PP) - Partie 2: Guide pour l'évaluation de la conformité

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This draft Technical Report is submitted to CEN members for Technical Committee Approval. It has been drawn up by the Technical Committee CEN/TC 155.

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COMITÉ EUROPÉEN DE NORMALISATION  
EUROPÄISCHES KOMITEE FÜR NORMUNG

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<b>Contents</b>		<b>Page</b>
Foreword.....		3
Introduction .....		4
1 Scope .....		5
2 Normative references .....		5
3 Terms and definitions .....		5
4 Abbreviated terms .....		8
5 General.....		8
6 Testing and inspection.....		8
6.1 Material specification .....		8
6.2 Grouping.....		9
6.2.1 General.....		9
6.2.2 Size groups.....		9
6.2.3 Fitting groups.....		9
6.3 Type testing (TT).....		9
6.4 Batch release tests (BRTs) .....		12
6.5 Process verification tests (PVTs).....		14
6.6 Audit tests (ATs) .....		15
6.7 Indirect tests (ITs).....		16
6.8 Test records .....		17
Bibliography.....		18

## Foreword

This document (FprCEN/TR 1451-2:2010) 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 is currently submitted to the Technical Committee Approval.

This document will supersede ENV 1451-2:2001.

This Technical Report can be used to support elaboration of national third party certification procedures for products conforming to EN 1451-1:1998.

This Technical Report 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 1451 consists of the following Parts, under the general title *Plastics piping systems for soil and waste discharge (low and high temperature) within the building structure — Polypropylene (PP)*:

- *Part 1: Specifications for pipes, fittings and the system*
- *Part 2: Guidance for the assessment of conformity* (this CEN/TR)

## 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 tests (i.e. type testing (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, pipes, fittings, valves or assemblies by manufacturers is given in Figure 1.

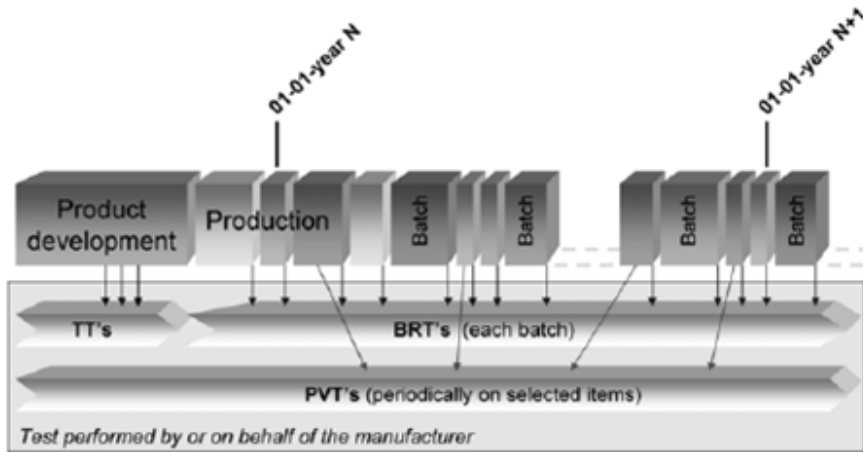


Figure 1 — Typical scheme for the assessment of conformity by a manufacturer

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

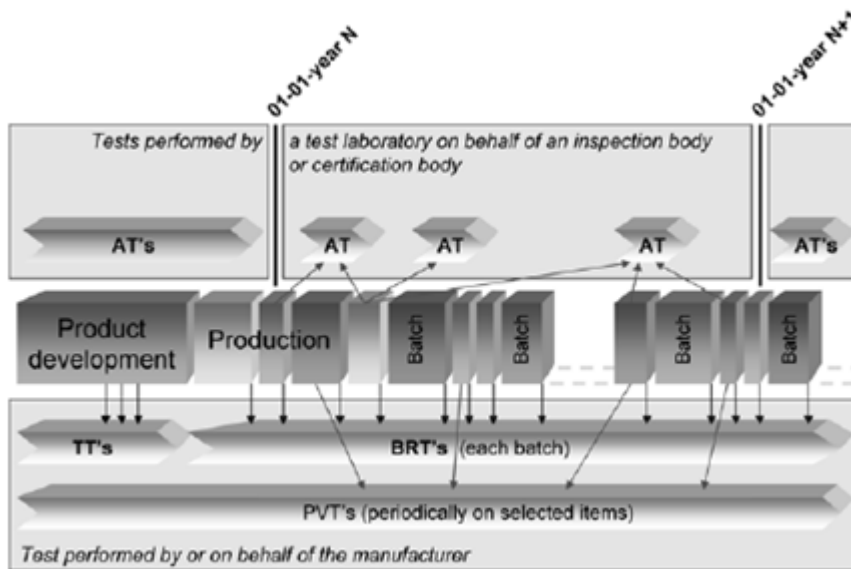


Figure 2 — Typical scheme for the assessment of conformity by a manufacturer, including a third-party certification

## 1 Scope

This Technical Report gives guidance for the assessment of conformity of materials, products and assemblies in accordance with the applicable part(s) of EN 1451 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.

In conjunction with EN 1451-1 this document is applicable to piping systems made of polypropylene (PP) intended to be used for:

- inside buildings (marked with "B");
- for both inside buildings and buried in ground within the building structure (marked with "BD").

## 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 1451-1:1998, *Plastics piping systems for soil and waste discharge (low and high temperature) within the building structure — Polypropylene (PP) — Part 1: Specifications for pipes, fittings and the system*

## 3 Terms and definitions

For the purposes of this document, the terms and definitions given in EN 1451-1:1998 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, preferably accredited to EN 45011 [2]

### 3.2

#### **inspection body**

impartial organisation or company, preferably accredited to EN ISO/IEC 17020 [5], approved by the certification body as possessing the necessary competence to carry out examination of a product design, product, process or installation and determination of its conformity with specific requirements in accordance with the relevant standard

### 3.3

#### **testing laboratory**

laboratory that measures, tests, calibrates or otherwise determines the characteristics of the performance of materials and products for type testing, batch release testing, process verification testing, audit testing and/or witness testing purpose(s), as applicable, preferably accredited to EN ISO/IEC 17025 [6]

### 3.4

#### **quality management system**

organizational structure, responsibilities, procedures, processes and resources for implementing quality management

**FprCEN/TR 1451-2:2010 (E)**

NOTE An example of a quality management system is 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 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 has 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 materials, products or joints at specific intervals to confirm that type test originally performed on these materials, products or joints continue to be valid and that the process continues to be capable of producing products which conform to the requirements given in the relevant standard

NOTE Such tests are not required to release batches of 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**  
clearly defined type of compound or formulation



**3.13****compound/formulation**

clearly defined homogenous mixture of base polymer with additives, i.e. anti-oxidants, pigments, stabilisers 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, fitting, or valve of a clearly identified type intended to be a part of a piping system

**3.16****product batch**

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

NOTE 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 The number of products in the sample is the sample size.

**3.19****pipe batch**

quantity of pipes, all of them of the same characteristics, and manufacturing process from the same compound/formulation on the same machine.

NOTE The pipe batch is defined and identified by the pipe manufacturer.

**3.20****fitting batch**

quantity of fittings of the same characteristics, and manufacturing process from the same compound/formulation, on the same machine.

NOTE The fitting batch is defined and identified by the fitting manufacturer.

**3.21****group**

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

**3.22****assembly**

test piece consisting of various products

**3.23****sampling plan**

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

## FprCEN/TR 1451-2:2010 (E)

### 3.24

#### product type

pipe or fitting or valve or their main parts, of the same design, from a particular compound

### 3.25

#### cavity

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

## 4 Abbreviated terms

NOTE For reasons of avoiding misunderstanding the following abbreviations are kept the same in each language. For the same reason the terms are given in the three languages.

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
PVT	en : process verification test fr : essai de vérification du procédé de fabrication de : Prozessüberprüfung
TT	en : type test fr : essai de type de : Typprüfung
WT	en : witness testing fr : essai témoin de : Prüfung unter Aufsicht

## 5 General

**5.1** Materials, products, and joints/assemblies shall conform to the requirements given in EN 1451-1.

**5.2** Products and/or assemblies shall be produced by the manufacturer under a quality management system which includes a quality plan.

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 Report, the material specification consists of a compound comprising a polypropylene (PP) compound with specific trade name and additives with know dosage level.