



**BSI Standards Publication**

# **Plastic 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

## National foreword

This Published Document is the UK implementation of CEN/TS 1451-2:2019. It supersedes PD CEN/TS 1451-2:2012, which is withdrawn.

The UK participation in its preparation was entrusted to Technical Committee PRI/88/1, Plastics piping for non-pressure applications.

A list of organizations represented on this committee can be obtained on request to its secretary.

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

© The British Standards Institution 2019  
Published by BSI Standards Limited 2019

ISBN 978 0 539 04442 3

ICS 23.040.20; 91.140.80; 83.140.30

**Compliance with a British Standard cannot confer immunity from legal obligations.**

This Published Document was published under the authority of the Standards Policy and Strategy Committee on 31 December 2019.

### Amendments/corrigenda issued since publication

Date	Text affected
------	---------------

---

TECHNICAL SPECIFICATION

**CEN/TS 1451-2**

SPÉCIFICATION TECHNIQUE

TECHNISCHE SPEZIFIKATION

December 2019

ICS 23.040.20; 91.140.80

Supersedes CEN/TS 1451-2:2012

English Version

**Plastic 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

Kunststoff-Rohrleitungssysteme zum Ableiten von Abwasser (niedriger und hoher Temperatur) innerhalb der Gebäudestruktur - Polypropylen (PP) - Teil 2: Empfehlungen für die Beurteilung der Konformität

This Technical Specification (CEN/TS) was approved by CEN on 7 October 2019 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, Republic of North Macedonia, Romania, Serbia, Slovakia, Slovenia, Spain, Sweden, Switzerland, Turkey and United Kingdom.



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

**CEN-CENELEC Management Centre: Rue de la Science 23, B-1040 Brussels**

<b>Contents</b>	<b>Page</b>
<b>Foreword</b> .....	<b>3</b>
<b>Introduction</b> .....	<b>4</b>
<b>1 Scope</b> .....	<b>6</b>
<b>2 Normative references</b> .....	<b>6</b>
<b>3 Terms and definitions</b> .....	<b>6</b>
<b>4 Abbreviated terms</b> .....	<b>10</b>
<b>5 General</b> .....	<b>10</b>
<b>6 Testing and inspection</b> .....	<b>10</b>
<b>6.1 Material specification</b> .....	<b>10</b>
<b>6.2 Grouping</b> .....	<b>11</b>
<b>6.2.1 General</b> .....	<b>11</b>
<b>6.2.2 Size groups</b> .....	<b>11</b>
<b>6.2.3 Fitting groups</b> .....	<b>11</b>
<b>6.3 Type testing</b> .....	<b>11</b>
<b>6.4 Batch release tests</b> .....	<b>14</b>
<b>6.5 Process verification tests</b> .....	<b>16</b>
<b>6.6 Audit tests</b> .....	<b>17</b>
<b>6.7 Indirect tests</b> .....	<b>20</b>
<b>6.8 Test records</b> .....	<b>20</b>
<b>Annex A (informative) Survey of test regime</b> .....	<b>21</b>
<b>Bibliography</b> .....	<b>22</b>

## European foreword

This document (CEN/TS 1451-2:2019) 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 shall not be held responsible for identifying any or all such patent rights.

This document supersedes CEN/TS 1451-2:2012. The main technical changes in the latest version of CEN/TS 1451-2 are due the revision of EN 1451-1 from 1998.

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)*

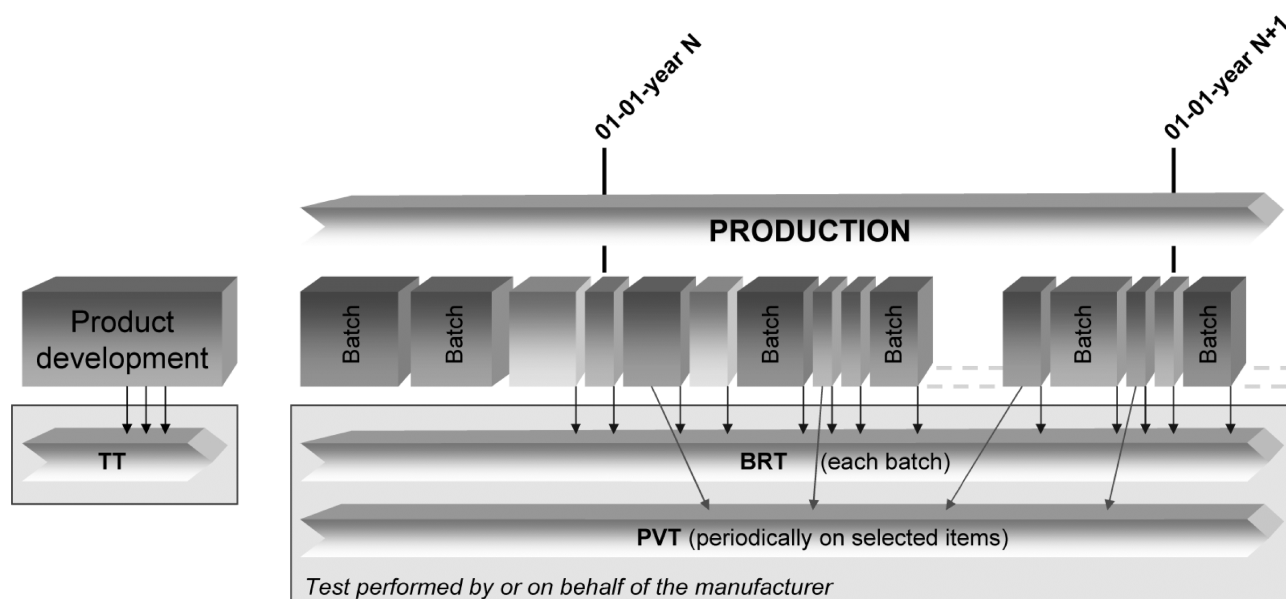
- Part 1: *Specifications for pipes, fittings and the system*
- Part 2: *Guidance for the assessment of conformity* (the present TS)

According to the CEN/CENELEC Internal Regulations, the national standards organisations of the following countries are bound to announce this Technical Specification: 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, Republic of North Macedonia, Romania, Serbia, Slovakia, Slovenia, Spain, Sweden, Switzerland, Turkey and the United Kingdom.

## Introduction

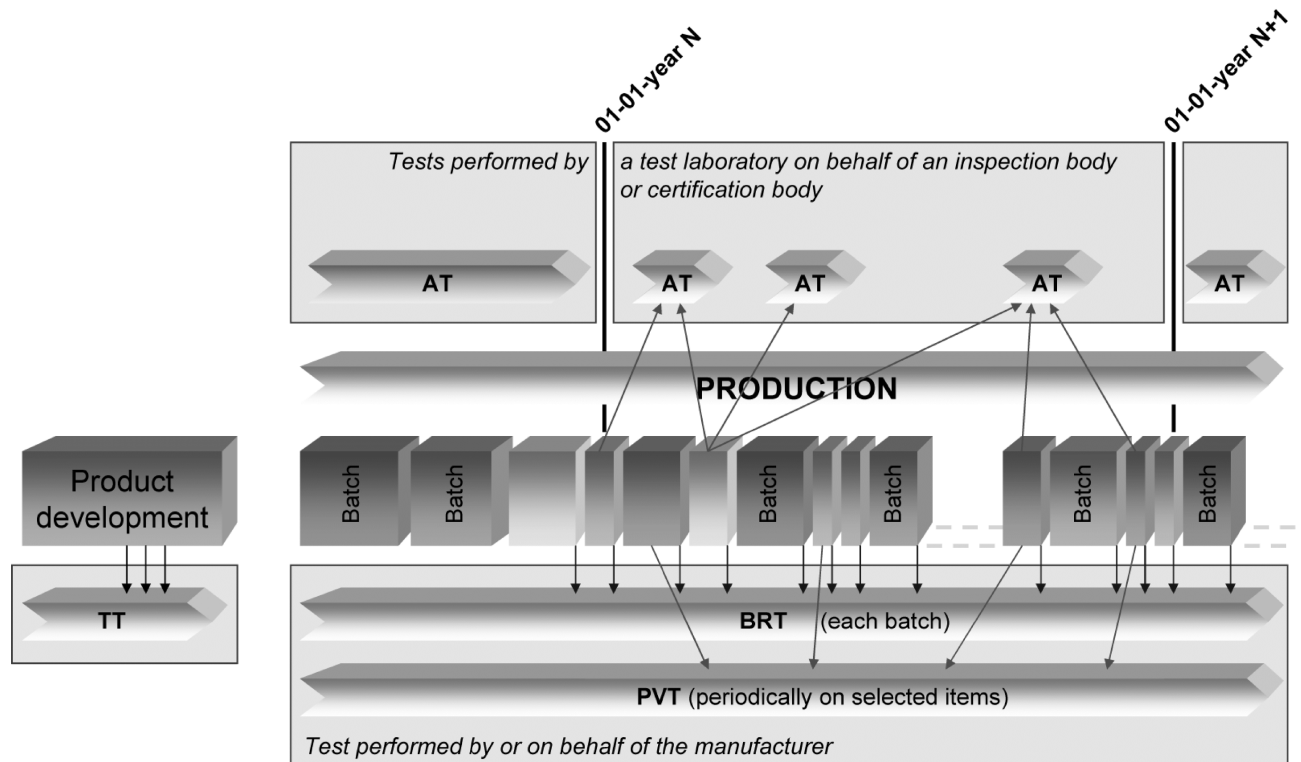
Figures 1 and 2 are intended to provide general information on the concept of testing and organization of those tests used for the purpose of the assessment of conformity. For each type of test, i.e. type testing (TT), batch release test (BRT), process verification test (PVT), and audit test (AT), this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

A typical scheme for the assessment of conformity of materials, pipes, fittings, joints 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, 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 document gives guidance for the assessment of conformity of materials, products, joints 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 The quality management system is expected to conform to or is no less stringent than the relevant requirements to EN ISO 9001 [1].

NOTE 2 If third-party certification is involved, the certification body is expected to be accredited to EN ISO/IEC 17065 [2] or EN ISO/IEC 17021 [3], as applicable.

NOTE 3 In order to help the readers, a summary of the test regime is given in Annex A.

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

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

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

## 2 Normative references

The following documents are referred to in the text in such a way that some or all of their content constitutes requirements 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 1451-1:2017,<sup>1</sup> *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 and the following apply.

ISO and IEC maintain terminological databases for use in standardization at the following addresses:

- IEC Electropedia: available at <http://www.electropedia.org/>
- ISO Online browsing platform: available at <https://www.iso.org/obp>

---

<sup>1</sup> As impacted by EN 1451-1:2017/AC:2018.