

English Version

Plastics piping systems for the supply of gaseous fuels -  
Polyethylene (PE) - Part 7: Guidance for the assessment of  
conformity

Systèmes de canalisations en plastique pour la  
distribution de combustibles gazeux - Polyéthylène  
(PE) - Teil 7: Guide pour l'évaluation de la conformité

Kunststoff-Rohrleitungssysteme für die Gasversorgung  
- Polyethylen (PE) - Teil 7: Empfehlungen für die  
Beurteilung der Konformität

This Technical Specification (CEN/TS) was approved by CEN on 17 October 2021 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>European 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>7</b>
<b>4 Abbreviated terms</b> .....	<b>10</b>
<b>5 General</b> .....	<b>11</b>
<b>6 Testing and inspection</b> .....	<b>11</b>
<b>6.1 Grouping</b> .....	<b>11</b>
<b>6.1.1 General</b> .....	<b>11</b>
<b>6.1.2 Size groups</b> .....	<b>11</b>
<b>6.1.3 Fitting groups</b> .....	<b>11</b>
<b>6.1.4 Fitting types</b> .....	<b>11</b>
<b>6.2 Type testing</b> .....	<b>12</b>
<b>6.3 Batch release tests</b> .....	<b>22</b>
<b>6.4 Process verification tests</b> .....	<b>26</b>
<b>6.5 Audit tests</b> .....	<b>30</b>
<b>6.6 Indirect tests</b> .....	<b>35</b>
<b>6.7 One-off products and products produced in very low quantity</b> .....	<b>36</b>
<b>6.8 Large diameter products</b> .....	<b>36</b>
<b>6.9 Documentation</b> .....	<b>36</b>
<b>6.9.1 Type test results</b> .....	<b>36</b>
<b>6.9.2 Test records</b> .....	<b>36</b>
<b>6.9.3 Technical file for certification purposes</b> .....	<b>36</b>
<b>Annex A (normative) Change of compound</b> .....	<b>37</b>
<b>A.1 General</b> .....	<b>37</b>
<b>A.2 Change</b> .....	<b>37</b>
<b>A.2.1 Change of base polymer</b> .....	<b>37</b>
<b>A.2.2 Change of grade</b> .....	<b>37</b>
<b>A.2.3 Change of pigment</b> .....	<b>37</b>
<b>A.2.4 Change of additives other than pigments</b> .....	<b>37</b>
<b>A.3 Type testing required for re-evaluation</b> .....	<b>37</b>
<b>A.3.1 Changes A.2.1 and A.2.3.1</b> .....	<b>37</b>
<b>A.3.2 Changes A.2.2.1, A.2.2.2, A.2.2.3, A.2.3.2, A.2.4.1, A.2.4.2 and A.2.4.3</b> .....	<b>38</b>
<b>Annex B (informative) Basic test matrix for PE compounds and piping products</b> .....	<b>39</b>
<b>Bibliography</b> .....	<b>43</b>

## European foreword

This document (CEN/TS 1555-7:2021) 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 1555-7:2013.

EN 1555 is composed of the following parts:

- EN 1555-1, *Plastics piping systems for the supply of gaseous fuels — Polyethylene (PE) — Part 1: General*;
- EN 1555-2, *Plastics piping systems for the supply of gaseous fuels — Polyethylene (PE) — Part 2: Pipes*;
- EN 1555-3, *Plastics piping systems for the supply of gaseous fuels — Polyethylene (PE) — Part 3: Fittings*;
- EN 1555-4, *Plastics piping systems for the supply of gaseous fuels — Polyethylene (PE) — Part 4: Valves*;
- EN 1555-5, *Plastics piping systems for the supply of gaseous fuels — Polyethylene (PE) — Part 5: Fitness for purpose of the system*;
- CEN/TS 1555-7, *Plastics piping systems for the supply of gaseous fuels — Polyethylene (PE) — Part 7: Guidance for the assessment of conformity* (the present Technical Specification).

This issue of CEN/DTS 1555-7 takes into account the technical changes made in the revision of EN 1555-1, -2, -3, -4 and -5, published in 2021. Guidance for the assessment of conformity given in this document has been revised to reflect the changes made to test methods and requirements given in EN 1555-1, -2, -3, -4 and -5.

The revision of this System Standard has been carried out to add the PE 100-RC type materials with enhanced resistance to slow crack growth. The size range has been increased to 800 mm diameter, test methods have been updated, and new test methods have been added for PE 100-RC materials.

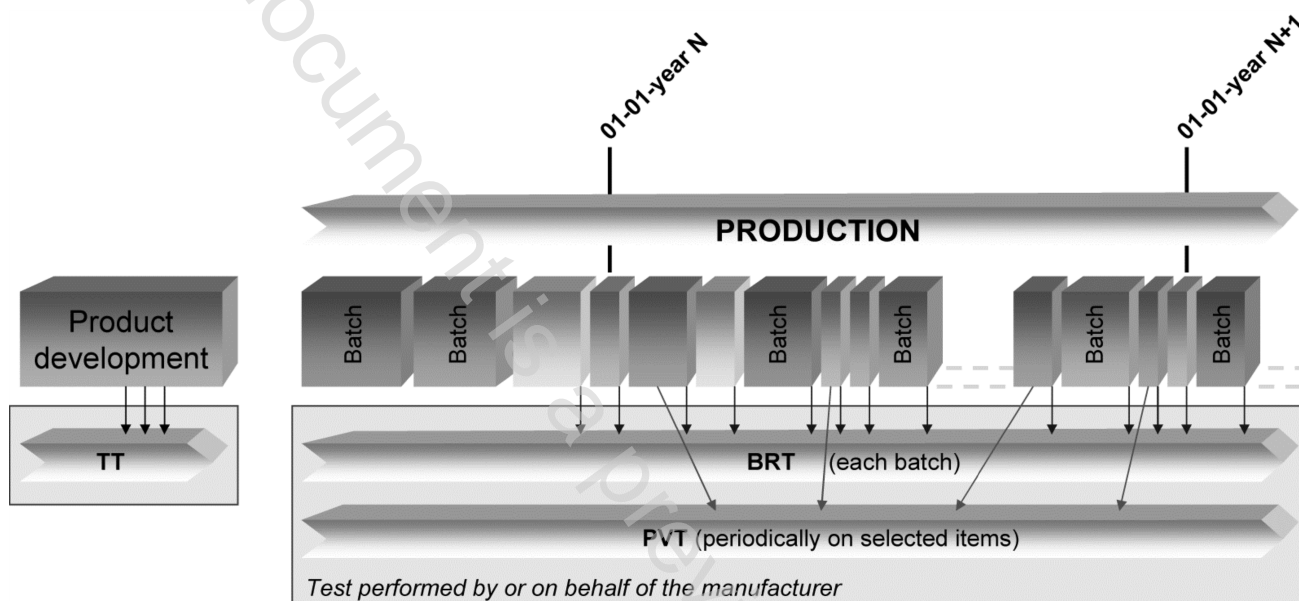
Any feedback and questions on this document should be directed to the users' national standards body. A complete listing of these bodies can be found on the CEN website.

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

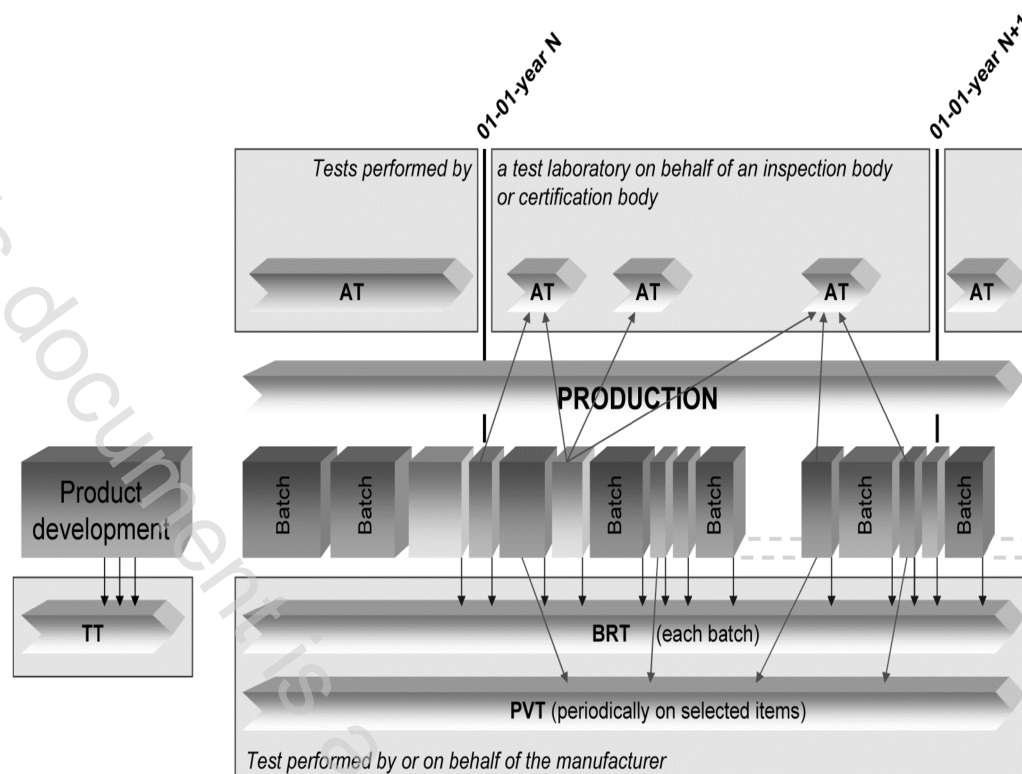
Figures 1 and 2 are intended to provide general information on the concept of testing and organization of those tests used for the purpose of the assessment of conformity. For each type of test, i.e. type testing (TT), batch release test (BRT), process verification test (PVT), and audit test (AT), this part of EN 1555 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 compounds, pipes, fittings, valves, 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 compounds, pipes, fittings, valves, joints 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**

## 1 Scope

This document gives guidance for the assessment of conformity of compounds, products, joints and assemblies in accordance with the applicable part(s) of EN 1555 intended to be included in the manufacturer's quality plan as part of the quality management system and for the establishment of certification procedures.

This document gives recommendations that the quality management system conforms to or is no less stringent than the relevant requirements to EN ISO 9001 [1].

NOTE 1 If certification is involved, the certification and inspection body is preferably compliant with EN ISO/IEC 17065 [2], EN ISO/IEC 17021 [3] or EN ISO/IEC 17020 [4], as applicable.

In conjunction with Parts 1 to 5 of EN 1555 (see Foreword), this document is applicable to polyethylene (PE) plastics piping systems for the supply of gaseous fuels. It is applicable to PE pipes, fittings, and valves, their joints and to joints with components of other materials intended to be used under the following conditions:

- a) a maximum operating pressure, MOP, up to and including 10 bar<sup>1</sup>;
- b) an operating temperature of 20 °C as reference temperature.

NOTE 2 For other operating temperatures, derating coefficients can be used; see EN 1555-5.

For mechanical fittings conforming to ISO 17885, guidance for assessment of conformity is not given in this part of EN 1555. When requested, a quality plan based on the tests mentioned should be set up in agreement between user and manufacturer.

EN 1555 covers a range of maximum operating pressures and gives requirements 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.

## 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 1555-1:2021, *Plastics piping systems for the supply of gaseous fuels — Polyethylene (PE) — Part 1: General*

EN 1555-2:2021, *Plastics piping systems for the supply of gaseous fuels — Polyethylene (PE) — Part 2: Pipes*

EN 1555-3:2021, *Plastics piping systems for the supply of gaseous fuels — Polyethylene (PE) — Part 3: Fittings*

EN 1555-4:2021, *Plastics piping systems for the supply of gaseous fuels — Polyethylene (PE) — Part 4: Valves*

EN 1555-5:2021, *Plastics piping systems for the supply of gaseous fuels — Polyethylene (PE) — Part 5: Fitness for purpose of the system*

---

<sup>1</sup> 1 bar = 0,1 MPa. = 10<sup>5</sup> Pa; 1 MPa = 1 N/mm<sup>2</sup>