

English Version

Plastics piping systems for water supply, and for drainage and sewerage under pressure - Polyethylene (PE) - Part 7: Guidance for the assessment of conformity

Systèmes de canalisations en plastique pour l'alimentation en eau et pour les branchements et les collecteurs d'assainissement avec pression - Polyéthylène (PE) - Partie 7: Guide pour l'évaluation de la conformité

Kunststoff-Rohrleitungssysteme für die Wasserversorgung und für Entwässerungs- und Abwasserdruckleitungen - Polyethylen (PE) - Teil 7: Empfehlungen für die Beurteilung der Konformität

This Technical Specification (CEN/TS) was approved by CEN on 19 August 2013 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, Former Yugoslav Republic of Macedonia, 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.



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

CEN-CENELEC Management Centre: Avenue Marnix 17, B-1000 Brussels

Contents

Page

| | |
|---|----|
| Foreword..... | 3 |
| Introduction | 4 |
| 1 Scope | 6 |
| 2 Normative references | 6 |
| 3 Terms and definitions | 7 |
| 4 Abbreviated terms | 10 |
| 5 General..... | 11 |
| 6 Testing and inspection..... | 11 |
| 6.1 Grouping | 11 |
| 6.1.1 General..... | 11 |
| 6.1.2 Size groups..... | 11 |
| 6.1.3 Fitting groups..... | 11 |
| 6.1.4 Fitting types..... | 12 |
| 6.2 Type testing..... | 12 |
| 6.3 Batch release tests | 21 |
| 6.4 Process verification tests | 24 |
| 6.5 Audit tests | 27 |
| 6.6 Indirect tests..... | 30 |
| 6.7 One-off products and products produced in very low quantity | 30 |
| 6.8 Mechanical fittings..... | 30 |
| 6.9 Documentation..... | 31 |
| 6.9.1 Type test results | 31 |
| 6.9.2 Test records | 31 |
| 6.9.3 Technical file for certification purposes | 31 |
| A.1 General..... | 32 |
| A.2 Change..... | 32 |
| A.2.1 Change of base polymer | 32 |
| A.2.2 Change of grade..... | 32 |
| A.2.3 Change of pigment | 32 |
| A.2.4 Change of additives other than pigments | 32 |
| A.3 Type testing required for re-evaluation | 33 |
| A.3.1 Changes A.2.1 and A.2.3.1 | 33 |
| 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..... | 33 |
| B.1 Grouping | 34 |
| B.2 Type tests | 34 |
| B.3 Batch release tests | 36 |
| B.4 Process verification tests | 36 |
| B.5 Audit tests | 36 |
| Bibliography | 40 |

Foreword

This document (CEN/TS 12201-7:2014) 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 CEN/TS 12201-7:2003 and CEN/TS 13244-7:2003.

EN 12201, *Plastics piping systems for water supply, and for drainage and sewerage under pressure — Polyethylene (PE)*, consists of the following parts:

- EN 12201-1, *Plastics piping systems for water supply, and for drainage and sewerage under pressure — Polyethylene (PE) — Part 1: General*
- EN 12201-2, *Plastics piping systems for water supply, and for drainage and sewerage under pressure — Polyethylene (PE) — Part 2: Pipes*
- EN 12201-3, *Plastics piping systems for water supply, and for drainage and sewerage under pressure — Polyethylene (PE) — Part 3: Fittings*
- EN 12201-4, *Plastics piping systems for water supply, and for drainage and sewerage under pressure — Polyethylene (PE) — Part 4: Valves*
- EN 12201-5, *Plastics piping systems for water supply, and for drainage and sewerage under pressure — Polyethylene (PE) — Part 5: Fitness for purpose of the system*
- CEN/TS 12201-7, *Plastics piping systems for water supply, and for drainage and sewerage under pressure — Polyethylene (PE) — Part 7: Guidance for the assessment of conformity*

This issue of CEN/TS 12201-7 takes into account the technical changes made in the revision of EN 12201-1, EN 12201-2, EN 12201-3, EN 12201-5 and EN 12201-4, published in 2011 and respectively in 2012. 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 12201-1, EN 12201-2, EN 12201-3, EN 12201-4 and EN 12201-5. Two new types of pipe have been introduced, i.e. coextruded pipes and peelable layer pipes. The sampling procedures and sampling frequencies for these types of pipes have been introduced into the tables for TT, BRT, PVT and AT for pipes.

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, Slovakia, Slovenia, Spain, Sweden, Switzerland, Turkey and the United Kingdom.

Introduction

Figure 1 and Figure 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 12201 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.

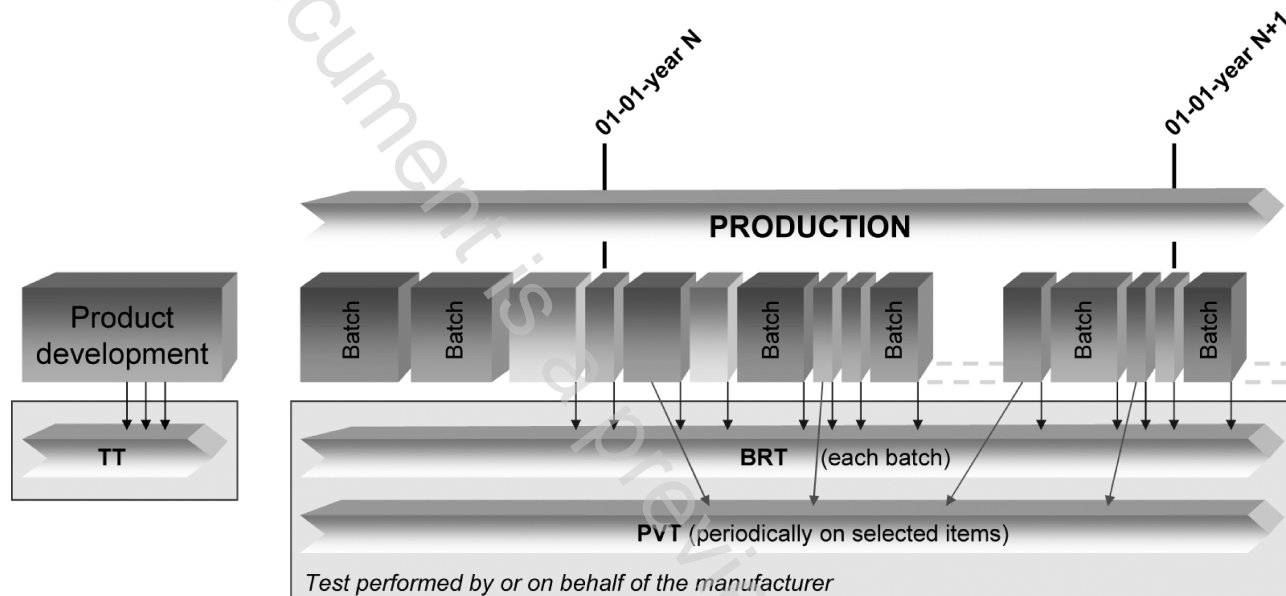


Figure 1 — Typical scheme for the assessment of conformity by a manufacturer

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.

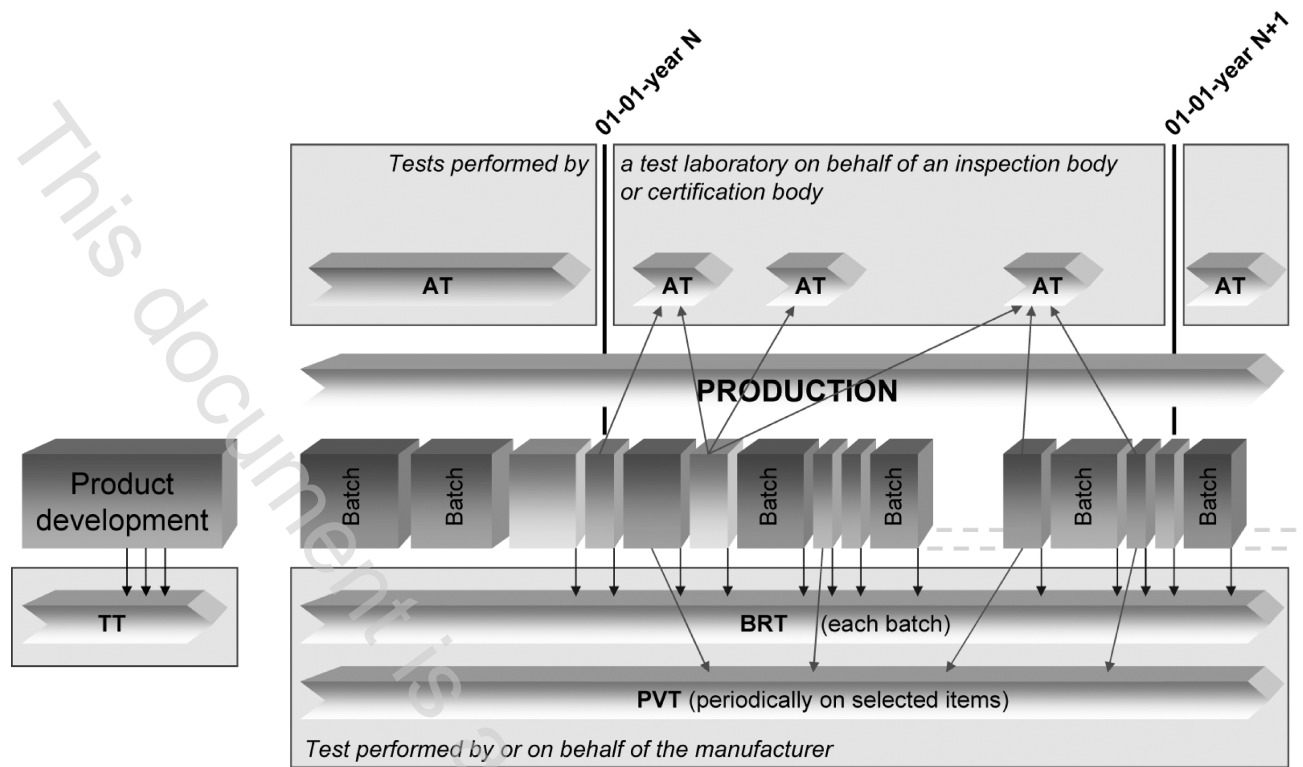


Figure 2 — Typical scheme for the assessment of conformity by a manufacturer, including certification

1 Scope

This part of EN 12201 gives guidance for the assessment of conformity of compounds, products, joints and assemblies in accordance with the applicable part(s) of EN 12201 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].

NOTE 1 If certification is involved, the certification and inspection body is preferably compliant with EN ISO/IEC 17065 [5], EN ISO/IEC 17021 [3] or EN ISO/IEC 17020 [2], as applicable.

In conjunction with Parts 1 to 5 of EN 12201 (see Foreword) this document is applicable to polyethylene (PE) plastics piping systems for water supply, and for drainage and sewerage under pressure. 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) allowable operating pressure, PFA, up to 25 bar¹⁾;
- b) an operating temperature of 20 °C as a reference temperature;
- c) buried in the ground;
- d) sea outfalls;
- e) laid in water;
- f) above ground, including pipes suspended below bridges.

NOTE 2 For applications operating at constant temperature greater than 20 °C and up to 40 °C, see EN 12201-1:2011, Annex A.

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 guidance or regulations and installation practices or codes.

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 12201-1:2011, *Plastics piping systems for water supply, and for drainage and sewerage under pressure - Polyethylene (PE) - Part 1: General*

EN 12201-2:2011+A1:2013, *Plastics piping systems for water supply, and for drainage and sewerage under pressure - Polyethylene (PE) - Part 2: Pipes*

EN 12201-3:2011+A1:2012, *Plastics piping systems for water supply, and for drainage and sewerage under pressure - Polyethylene (PE) - Part 3: Fittings*

1) 1 bar = 0,1 MPa = 10⁵ Pa; 1 MPa = 1 N/mm²

EN 12201-4:2012, *Plastics piping systems for water supply, and for drainage and sewerage under pressure - Polyethylene (PE) - Part 4: Valves*

EN 12201-5:2011, *Plastics piping systems for water supply, and for drainage and sewerage under pressure - Polyethylene (PE) - Part 5: Fitness for purpose of the system*

EN ISO 6259-1, *Thermoplastics pipes - Determination of tensile properties - Part 1: General test method (ISO 6259-1)*

EN ISO 12162, *Thermoplastics materials for pipes and fittings for pressure applications - Classification, designation and design coefficient (ISO 12162)*

EN ISO 13477, *Thermoplastics pipes for the conveyance of fluids - Determination of resistance to rapid crack propagation (RCP) - Small-scale steady-state test (S4 test) (ISO 13477)*

EN ISO 13478, *Thermoplastics pipes for the conveyance of fluids - Determination of resistance to rapid crack propagation (RCP) - Full-scale test (FST) (ISO 13478)*

ISO 14236, *Plastics pipes and fittings - Mechanical-joint compression fittings for use with polyethylene pressure pipes in water supply systems*

ISO 17885, *Plastics piping systems - Mechanical fittings for pressure piping systems - Specifications* ²⁾

ISO 21751, *Plastics pipes and fittings - Decohesion test of electrofusion assemblies - Strip-bend test*

3 Terms and definitions

For the purposes of this document, the terms and definitions given in EN 12201-1:2011, EN 12201-2:2011+A1:2013, EN 12201-3:2011+A1:2012, EN 12201-4:2012 and EN 12201-5:2011 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 12201, the materials and products can be subjected to type testing, batch release testing, process verification testing, audit testing, and witness testing, as applicable.

2) At the time of publication of this Technical Specification, this document is still in development and can be found under ISO/DIS 17885.