SLOVENSKI STANDARD
SIST-TS CEN/TS 12201-7:2026

01-april-2026

Cevni sistemi iz polimernih materialov za oskrbo z vodo in za odvodnjavanje in kanalizacijo pod tlakom - Polietilen (PE) - 7. del: Ugotavljanje skladnosti

Plastics piping systems for water supply, and for drains and sewers under pressure - Polyethylene (PE) - Part 7: Assessment of conformity

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

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 : Évaluation de la conformité

Ta slovenski standard je istoveten z: **CEN/TS 12201-7:2026**

ICS:

23.040.05	Cevovodi za zunanje sisteme za odpadno vodo in njihovi deli	Pipeline and its parts for external sewage systems
91.140.60	Sistemi za oskrbo z vodo	Water supply systems
93.030	Zunanji sistemi za odpadno vodo	External sewage systems

SIST-TS CEN/TS 12201-7:2026 **en,fr,de**

TECHNICAL SPECIFICATION

SPÉCIFICATION TECHNIQUE

TECHNISCHE SPEZIFIKATION

CEN/TS 12201-7

February 2026

ICS 91.140.60

Supersedes CEN/TS 12201-7:2014

English Version

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This Technical Specification (CEN/TS) was approved by CEN on 21 December 2025 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.

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

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Ref. No. CEN/TS 12201-7:2026 E

Contents

Page

European foreword

This document (CEN/TS 12201-7:2026) 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 12201-7:2014.

This document includes the following significant technical changes with respect to CEN/TS 12201-7:2014:

— 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.

— PE 100-RC type materials have been added.

The EN 12201 series consists of the following parts, under the general title “*Plastics piping systems for water supply, and for drains and sewers under pressure — Polyethylene (PE)*”:

— EN 12201-1, *Plastics piping systems for water supply, and for drains and sewers under pressure — Polyethylene (PE) — Part 1: General*

— EN 12201-2, *Plastics piping systems for water supply, and for drains and sewers under pressure — Polyethylene (PE) — Part 2: Pipes*

— EN 12201-3, *Plastics piping systems for water supply, and for drains and sewers under pressure — Polyethylene (PE) — Part 3: Fittings*

— EN 12201-4, *Plastics piping systems for water supply, and for drains and sewers under pressure — Polyethylene (PE) — Part 4: Valves*

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

— CEN/TS 12201-7, *Plastics piping systems for water supply, and for drains and sewers under pressure — Polyethylene (PE) — Part 7: Assessment of conformity*

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, Türkiye and the United Kingdom.

Introduction

This document details the applicable characteristics to be assessed for type testing (TT), batch release test (BRT), process verification test (PVT), and audit test (AT), as well as the frequency and sampling for testing.

The concept of testing and organization of those tests used for the AoC is shown, without or with certification, in Figures 1 and 2.

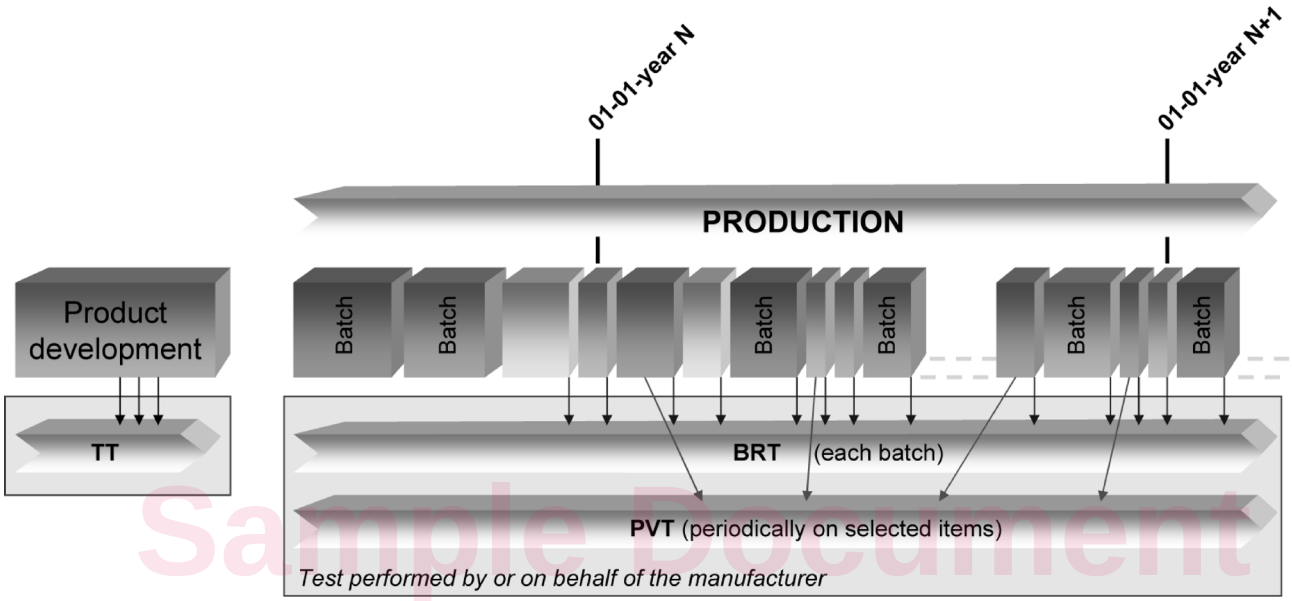

Figure 1 — Typical scheme for the AoC by a manufacturer, without certification

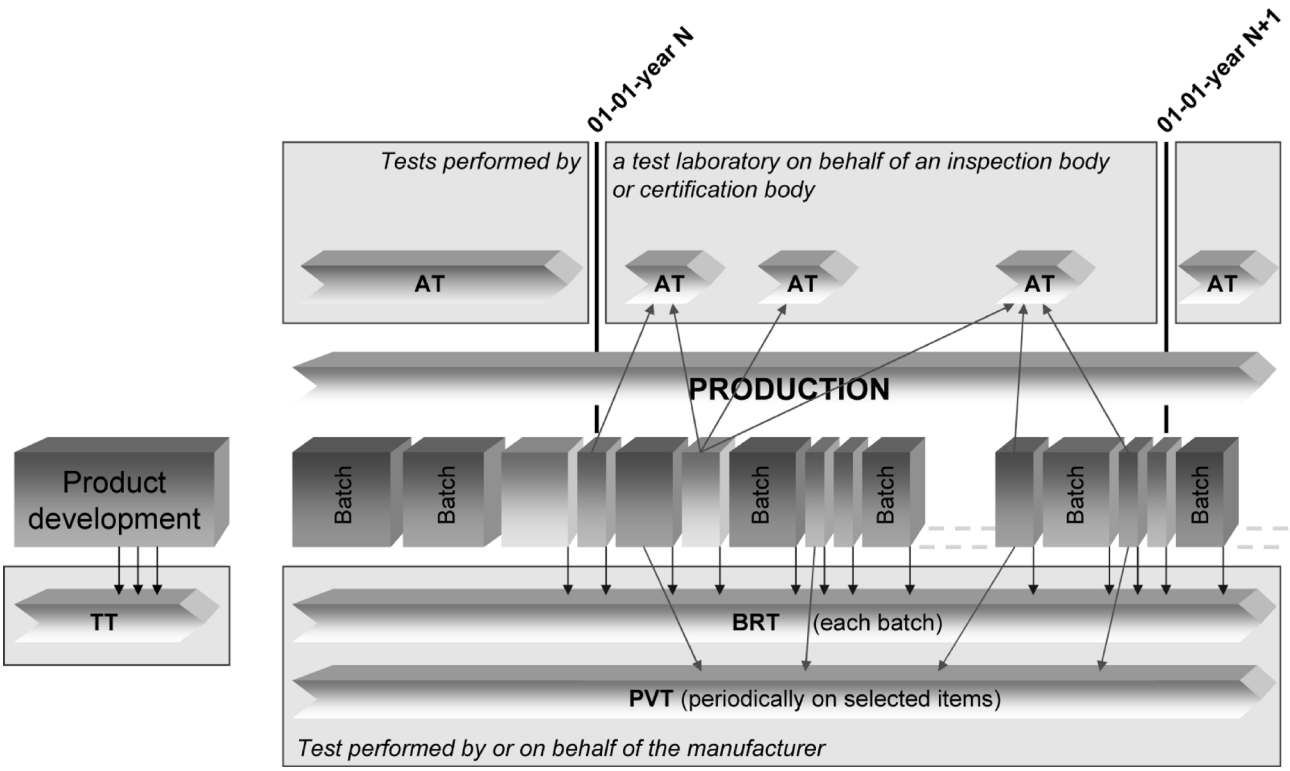

Figure 2 — Typical scheme for the AoC by a manufacturer, including certification

1 Scope

This document gives guidance and requirements 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.

NOTE 1 A test matrix provides an overview of the testing scheme in Annex C, Table C.1.

NOTE 2 If certification is involved, the certification bodies and inspection bodies operating in accordance with EN ISO/IEC 17065 [6] and EN ISO/IEC 17020 [4] are considered to be competent.

Socket fusion fittings according to EN 12201-3:2024, Annex A, and mechanical fittings according to ISO 17885 are not covered in this document.

In conjunction with EN 12201-1, EN 12201-2, EN 12201-3, EN 12201-4 and EN 12201-5, this document is applicable to polyethylene (PE) pressure piping systems (mains and service pipes) for buried or above ground applications, intended for the conveyance of water for human consumption, raw water prior to treatment, drains and sewers under pressure, vacuum sewer systems, and water for other purposes, with the exception of industrial application. The intended use includes sea outfalls, laid in water and pipes suspended below bridges. It is applicable to PE pipes, fittings, and valves, their joints and joints with components of PE and other materials intended to be used under the following conditions:

a) allowable operating pressure, PFA, up to 25 bar[1];

b) an operating temperature of 20 °C as a reference temperature.

NOTE 3 Industrial application is covered by EN ISO 15494 [3].

NOTE 4 For applications operating at constant temperature greater than 20 °C and up to and including 50 °C, see EN 12201-1:2024, Annex A.

NOTE 5 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 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 12201-1:2024, *Plastics piping systems for water supply, and for drains and sewers under pressure — Polyethylene (PE) — Part 1: General*

EN 12201-2:2024, *Plastics piping systems for water supply, and for drains and sewers under pressure — Polyethylene (PE) — Part 2: Pipes*

EN 12201-3:2024, *Plastics piping systems for water supply, and for drains and sewers under pressure — Polyethylene (PE) — Part 3: Fittings*

[1] 1 bar = 0,1 MPa = 10^5 Pa; 1 MPa = 1 N/mm^2

EN 12201-4:2024, *Plastics piping systems for water supply, and for drains and sewers under pressure — Polyethylene (PE) — Part 4: Valves for water supply systems*

EN 12201-5:2024, *Plastics piping systems for water supply, and for drains and sewers under pressure — Polyethylene (PE) — Part 5: Fitness for purpose of the system*

ISO 17885, *Plastics piping systems — Mechanical fittings for pressure piping systems — Specifications*

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, EN 12201-3 and EN 12201-4 and the following apply.

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

— IEC Electropedia: available at https://www.electropedia.org/

— ISO Online browsing platform: available at https://www.iso.org/obp

3.1
certification body
third-party conformity assessment body operating certification schemes

Note 1 to entry: A certification body can be non-governmental or governmental (with or without regulatory authority).

[SOURCE: EN ISO/IEC 17065:2012, 3.12]

3.2
laboratory
body that performs one or more of the following activities:

— testing;

— calibration;

— sampling, associated with subsequent testing or calibration

Note 1 to entry: In the context of this document, the materials and products can be subjected to type testing, batch release testing, process verification testing, audit testing, and witness testing, as applicable.

[SOURCE: EN ISO/IEC 17025:2017, 3.6, modified — Note 1 to entry is changed here]

3.3
quality management system
part of a management system with regard to quality

Note 1 to entry: Requirements for quality management systems are given in EN ISO 9001 [2].

[SOURCE: EN ISO 9000:2015 [1], definition 3.5.4, modified — Note 1 to entry is added here]

3.4
quality plan
document setting out the specific quality practices, responsibilities, resources and sequence of activities relevant to a particular product or range of products

3.5
type test
TT
test performed to prove that the material, product, joint or assembly is capable of conforming to the requirement(s) given in the relevant standard or if applicable to determine the manufacturer's declared values

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.

3.6
batch release test
BRT
test performed on a batch of compound or products, which has to be satisfactorily completed before the batch can be released

Note 1 to entry: A batch release test can be performed by the manufacturer or outsourced on behalf of the manufacturer.

3.7
process verification test
PVT
test performed by or on behalf of the manufacturer on compound or products or joints or assemblies at specific intervals to confirm that type tests originally performed continue to be valid

Note 1 to entry: Process verification tests can be performed by the manufacturer or outsourced on behalf of the manufacturer.

Note 2 to entry: Such tests are carried out as a measure of process control and are not related to release batches of compound or products.

3.8
audit test
AT
test performed on behalf of a certification body

Note 1 to entry: Audit tests are generally required to confirm that the compound, 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.

3.9
indirect test
batch release test performed which differs from that specified test for that particular characteristic, having previously verified its correlation with the specified test

Note 1 to entry: Indirect tests can be performed by the manufacturer or outsourced on behalf of the manufacturer.

3.10
witness test
type test or audit test which is performed in the presence of a representative of the certification body

3.11
material
generic term for compounds grouped by families, expressed by generic names

Note 1 to entry: Examples of generic names are PE, PVC-U, polypropylene and EPDM.

3.12
material batch
quantity of a given homogeneous compound manufactured continuously under uniform conditions defined and identified by the compound manufacturer

3.13
product
item as defined in the scope of the standard, e.g. pipe, fitting or valve

3.14
product batch
clearly identified collection of products, manufactured consecutively or continuously under the same conditions, using the same compound conforming to the same specification

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

3.15
lot
identified sub-division of a batch for inspection purposes

3.16
sample
one or more components or products drawn from the same production batch or a lot, selected at random without regard to their quality

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

Note 2 to entry: The number of test pieces required for each test are taken from the sample. This information is given in this document, in the product standard or in the relevant test method standard.

3.17
sampling group
defined collection of similar products from which samples are selected for testing purposes

3.18
component
item manufactured or supplied as part of a product or as a spare part for that product

Note 1 to entry: Depending on the context, components can be considered as products and be individually approved (e.g. o-ring, gaskets) or they are tested as integral part of a finished product (e.g. in a valve).

3.19
joint
connection between two products

3.20
assembled product
product comprising two or more components

3.21
assembly
set of components that forms a product or a test piece

3.22
product type
generic description of a product

EXAMPLE A pipe or fitting or valve or their main parts, of the same design.

3.23
body type
generic description of a body

EXAMPLE A valve body of a particular design, which can have different end connections.

3.24
cavity
space within a mould to be filled to form the moulded product

EXAMPLE That part of an 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
AoC	assessment of conformity	évaluation de la conformité	Beurteilung der Konformität
AT	audit test	essai d'audit	Überwachungsprüfung
BRT	batch release test	essai de libération de campagne de fabrication	Freigabeprüfung einer Charge
PVT	process verification test	essai de verification du procédé de fabrication	Prozessüberprüfung
TT	type test	essai de type	Typprüfung

5 General

Materials, products and fitness for purpose shall conform to the requirements given in EN 12201-1, EN 12201-2, EN 12201-3, EN 12201-4, and EN 12201-5.

Socket fusion fittings according to EN 12201-3:2024, Annex A, and mechanical fittings according to ISO 17885 are not covered in this document. Assessment of conformity may be agreed between the manufacturer and the end user.

Materials and products shall be produced by the manufacturer under a quality management system, which includes a quality plan.

6 Testing and inspection

6.1 Grouping

6.1.1 General

For the purposes of this document, the sampling groups and types specified in 6.1.2, 6.1.3 and 6.1.4 applies.

6.1.2 Size groups

Five size groups are defined for pipes and fittings, as given in Table 1. For testing purposes, one individual nominal diameter, d_n, shall be selected from each group.

Table 1 — Size groups

Size group	Nominal diameter, d_n mm
1	d_n < 75
2	75 ≤ d_n < 250
3	250 ≤ d_n < 710
4	710 ≤ d_n < 1 800
5	1 800 ≤ d_n ≤ 3 000

6.1.3 Fitting groups

Four groups of fittings each having a similar design are defined, as given in Table 2. For testing purposes, one individual fitting shall be selected from each group.

Table 2 — Fitting groups

Fitting groups	
(A)	Electrofusion socket fitting
(B)	Electrofusion saddle fitting
(C)	Spigot end fitting
(D)	Fabricated fitting

6.1.4 Fitting types

Fitting groups are divided in fitting types.

Fitting group (A) includes the following fitting types: Electrofusion couplers, electrofusion 45° elbows, electrofusion 90° elbows, electrofusion tees, electrofusion reducers, electrofusion end caps, etc.

Fitting group (B) includes the following fitting types: Electrofusion tapping saddles, electrofusion branch saddles, etc.

Fitting group (C) includes the following fitting types: 45° elbows, 90° elbows, tees, reducers, end caps, etc.

Fitting group (D) includes the following fitting types: Swept bends, segmented bends, segmented tees, etc.

6.2 Type testing

Type testing shall be performed as described in Tables 3 to 6, as applicable, whenever there is:

a) a new system or product (N);

b) a change in design (D);

c) a change of compound (M) in accordance with Annex A;

d) a change in production processing method (P), other than routine in-process adjustments;

e) an extension of the product range (E), except the products already covered by the scheme of sampling procedure.

When a change of production site occurs, the manufacturer shall determine which type tests need to be revalidated. If certification is involved the scheme should be agreed between the parties concerned.

Unless any of the conditions a) to e) above occurs, the type test results remain valid.

A type test may be performed by the manufacturer or outsourced on behalf of the manufacturer.

A type test can be performed as a witness test if accepted by the certification body.

In case of a change in compound as defined in A.2, relevant type testing requirements as defined in A.3, and in Tables 3 to 6 as applicable, shall apply.

Effect on water quality shall only be considered for compounds and products intended for the conveyance of water for human consumption.

For the purposes of a change in design, the following characteristics are relevant:

— dimensions and geometry (see column D1 of Tables 5 and 6), as: change of visual and functional optimisations, change of overall dimensions, change of a non-PE part;

— joint affected part (see column D2 of Tables 5 and 6), as: change of the dimensions of the fusion zone (e.g. wire pitch, wire depth), the electrical characteristics (e.g. wire, resistance), the fusion parameters (e.g. time, voltage).

For the extension of the production range, the relevant characteristics given in Tables 4 to 6, column E, as applicable, shall be retested. If certification is involved, retesting shall be agreed between the certification body and the manufacturer.

For fabricated fittings, guidance for type testing given in Annex B shall be followed.

Table 3 — Characteristics of compounds that require type testing (TT) by the compound manufacturer

Characteristic	Reference	Sampling procedure
Compound density	EN 12201-1:2024, 5.2.3.1	Once/compound
Oxidation induction time (OIT) (thermal stability)	EN 12201-1:2024, 5.2.3.1	Once/compound
Melt mass-flow rate (MFR)	EN 12201-1:2024, 5.2.3.1	Once/compound
Volatile content	EN 12201-1:2024, 5.2.3.1	Once/compound
Water content [a]	EN 12201-1:2024, 5.2.3.1	Once/compound
Carbon black content [b]	EN 12201-1:2024, 5.2.3.1	Once/compound
Carbon black dispersion [b]	EN 12201-1:2024, 5.2.3.1	Once/compound
Pigment dispersion [c]	EN 12201-1:2024, 5.2.3.1	Once/compound
Resistance to weathering [c]	EN 12201-1:2024, 5.2.3.2	Once/compound [d]
Resistance to weathering of the stripe compound	EN 12201-2:2024, 5.2	Once/compound [d]
Resistance to rapid crack propagation (critical pressure, p_c)	EN 12201-1:2024, 5.2.3.2	Once/compound [e]
Resistance to SCG for PE 40, PE 80 and PE 100 Notched pipe test (NPT)	EN 12201-1:2024, 5.2.3.2	Once/compound [e]
Resistance to SCG for PE 100-RC Strain hardening test (SHT)	EN 12201-1:2024, 5.2.3.1	Once/compound [e]
Resistance to SCG for PE 100-RC Cracked round bar test (CRB)	EN 12201-1:2024, 5.2.3.1	Once/compound [e]
Resistance to SCG for PE 100-RC Accelerated FNCT (AFNCT)	EN 12201-1:2024, 5.2.3.1	Once/compound [e]