
**Plastics piping systems for hot and cold
water installations — Polyethylene of
raised temperature resistance (PE-RT) —**

**Part 7:
Guidance for the assessment of
conformity**

*Systèmes de canalisations en plastique pour les installations d'eau
chaude et froide — Polyéthylène de meilleure résistance à la
température (PE-RT) —*

Partie 7: Guide pour l'évaluation de la conformité





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ISO copyright office
Case postale 56 • CH-1211 Geneva 20
Tel. + 41 22 749 01 11
Fax + 41 22 749 09 47
E-mail copyright@iso.org
Web www.iso.org

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Foreword

ISO (the International Organization for Standardization) is a worldwide federation of national standards bodies (ISO member bodies). The work of preparing International Standards is normally carried out through ISO technical committees. Each member body interested in a subject for which a technical committee has been established has the right to be represented on that committee. International organizations, governmental and non-governmental, in liaison with ISO, also take part in the work. ISO collaborates closely with the International Electrotechnical Commission (IEC) on all matters of electrotechnical standardization.

International Standards are drafted in accordance with the rules given in the ISO/IEC Directives, Part 2.

The main task of technical committees is to prepare International Standards. Draft International Standards adopted by the technical committees are circulated to the member bodies for voting. Publication as an International Standard requires approval by at least 75 % of the member bodies casting a vote.

In other circumstances, particularly when there is an urgent market requirement for such documents, a technical committee may decide to publish other types of normative document:

- an ISO Publicly Available Specification (ISO/PAS) represents an agreement between technical experts in an ISO working group and is accepted for publication if it is approved by more than 50 % of the members of the parent committee casting a vote;
- an ISO Technical Specification (ISO/TS) represents an agreement between the members of a technical committee and is accepted for publication if it is approved by 2/3 of the members of the committee casting a vote.

An ISO/PAS or ISO/TS is reviewed after three years in order to decide whether it will be confirmed for a further three years, revised to become an International Standard, or withdrawn. If the ISO/PAS or ISO/TS is confirmed, it is reviewed again after a further three years, at which time it must either be transformed into an International Standard or be withdrawn.

Attention is drawn to the possibility that some of the elements of this document may be the subject of patent rights. ISO shall not be held responsible for identifying any or all such patent rights.

ISO/TS 22391-7 was prepared by the European Committee for Standardization (CEN) Technical Committee TC 155, *Plastics piping systems and ducting systems*, in collaboration with ISO Technical Committee ISO/TC 138, *Plastics pipes, fittings and valves for the transport of fluids*, Subcommittee SC 2, *Plastics pipes and fittings for water supplies*, in accordance with the Agreement on technical cooperation between ISO and CEN (Vienna Agreement).

ISO 22391 consists of the following parts, under the general title *Plastics piping systems for hot and cold water installations — Polyethylene of raised temperature resistance (PE-RT)*:

- *Part 1: General*
- *Part 2: Pipes*
- *Part 3: Fittings*
- *Part 5: Fitness for purpose of the system*
- *Part 7: Guidance for the assessment of conformity* [Technical Specification]

Introduction

At the date of publication of this part of ISO 22391, System Standards for piping systems of other plastics materials used for the same application are the following:

ISO 15874 (all parts), *Plastics piping systems for hot and cold water installations — Polypropylene (PP)*

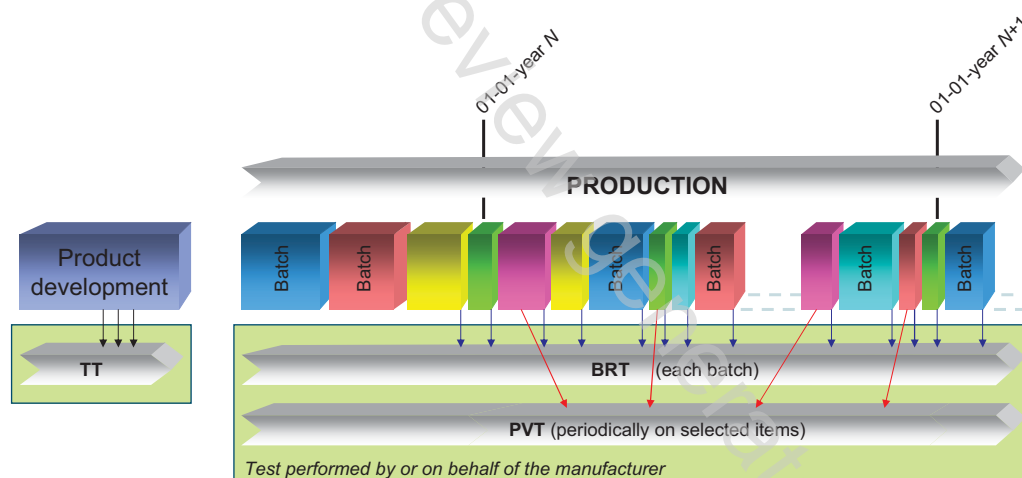
ISO 15875 (all parts), *Plastics piping systems for hot and cold water installations — Crosslinked polyethylene (PE-X)*

ISO 15876 (all parts), *Plastics piping systems for hot and cold water installations — Polybutylene (PB)*

ISO 15877 (all parts), *Plastics piping systems for hot and cold water installations — Chlorinated poly(vinyl chloride) (PVC-C)*

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 kind of test, i.e. type test (TT), batch release test (BRT), process verification test (PVT), and audit test (AT), this part of ISO 22391 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 pipes, fittings or assemblies by manufacturers is given in Figure 1.

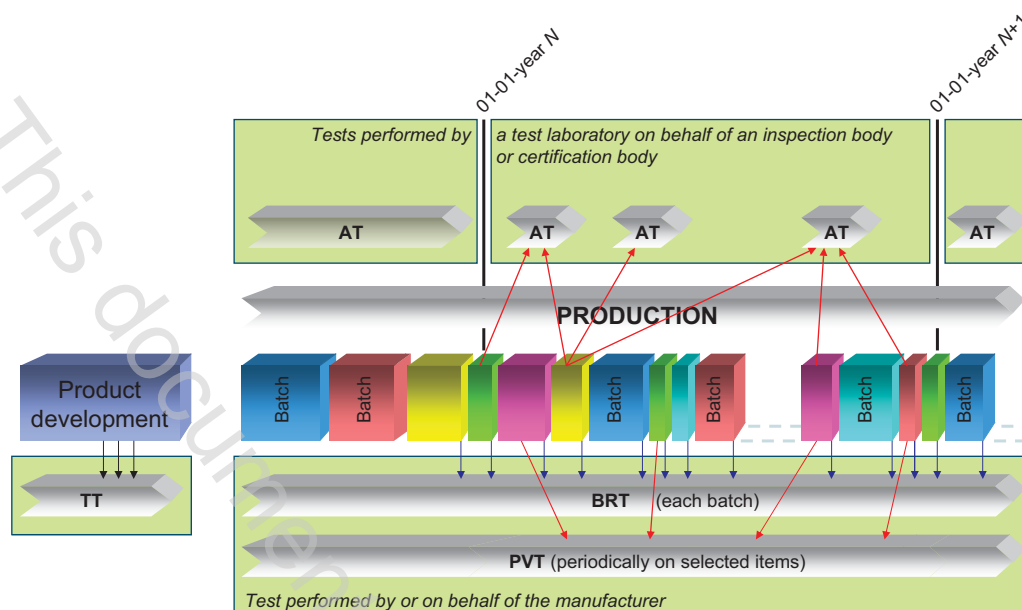


Key

- BRT batch release test
- PVT process verification test
- TT type testing

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

A typical scheme for the assessment of conformity of pipes, fittings or assemblies by manufacturers, including certification, is given in Figure 2.



Key
 AT audit test
 BRT batch release test
 PVT process verification test
 TT type testing

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

This part of ISO 22391 specifies the requirements for a piping system when made from polyethylene (PE-RT). The piping system is intended to be used for hot and cold water installations and heating system installations.

See the foreword for a complete listing of all available parts of ISO 22391.

This part of ISO 22391 gives guidance for the assessment of conformity of materials, components, joints, and assemblies. It is intended for use by certification bodies, inspection bodies, testing laboratories, and manufacturers.

Plastics piping systems for hot and cold water installations — Polyethylene of raised temperature resistance (PE-RT) —

Part 7: Guidance for the assessment of conformity

1 Scope

This part of ISO 22391 gives guidance on the assessment of conformity of products and assemblies in accordance with other applicable part(s) of ISO 22391 intended to be included in the manufacturer's quality plan as part of the quality management system and for the establishment of certification procedures.

In conjunction with the other parts, this part of ISO 22391 is applicable to hot and cold water installations within buildings for the conveyance of water, whether or not intended for human consumption (domestic systems), under design pressures and temperatures appropriate to the class of application.

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.

ISO 2859-1, *Sampling procedures for inspection by attributes — Part 1: Sampling schemes indexed by acceptance quality limit (AQL) for lot-by-lot inspection*

ISO 3951-1, *Sampling procedures for inspection by variables — Part 1: Specification for single sampling plans indexed by acceptance quality limit (AQL) for lot-by-lot inspection for a single quality characteristic and a single AQL*

ISO 3951-2, *Sampling procedures for inspection by variables — Part 2: General specification for single sampling plans indexed by acceptance quality limit (AQL) for lot-by-lot inspection of independent quality characteristics*

ISO 3951-3, *Sampling procedures for inspection by variables — Part 3: Double sampling schemes indexed by acceptance quality limit (AQL) for lot-by-lot inspection*

ISO 3951-5, *Sampling procedures for inspection by variables — Part 5: Sequential sampling plans indexed by acceptance quality limit (AQL) for inspection by variables (known standard deviation)*

ISO 22391-1:2009, *Plastics piping systems for hot and cold water installations — Polyethylene of raised temperature resistance (PE-RT) — Part 1: General*

ISO 22391-2:2009, *Plastics piping systems for hot and cold water installations — Polyethylene of raised temperature resistance (PE-RT) — Part 2: Pipes*

ISO 22391-3:2009, *Plastics piping systems for hot and cold water installations — Polyethylene of raised temperature resistance (PE-RT) — Part 3: Fittings*

ISO 22391-5:2009, *Plastics piping systems for hot and cold water installations — Polyethylene of raised temperature resistance (PE-RT) — Part 5: Fitness for purpose of the system*

3 Terms and definitions

For the purposes of this document, the terms and definitions given in ISO 22391-1, ISO 22391-2, ISO 22391-3 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 A certification body is preferably compliant with ISO/IEC 17021^[5].

3.2 inspection body

body, that performs inspection

NOTE 1 A body can be an organization, or part of an organization.

[ISO/IEC 17020:1998^[4], 2.2]

NOTE 2 An inspection body is preferably compliant with ISO/IEC 17020^[4].

3.3 testing laboratory

laboratory which measures, tests, calibrates or otherwise determines the characteristics of the performance of materials and products

NOTE 1 In the context of this part of ISO/TS 22391, the materials and products can be subjected to type testing, batch release testing, process verification testing, audit testing, and witness testing, as applicable.

NOTE 2 A testing laboratory is preferably compliant with ISO/IEC 17025^[6].

3.4 quality management system

management system to direct and control an organization with regard to quality

[ISO 9000:2005^[2], 3.2.3]

NOTE Requirements for quality management systems are given in ISO 9001^[3].

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 prove that the material, component, 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 process verification tests are done regularly.