



BSI Standards Publication

Plastics piping systems for hot and cold water installations — Chlorinated poly(vinyl chloride) (PVC-C)

Part 5: Fitness for purpose of the system

National foreword

This British Standard is the UK implementation of EN ISO 15877-5:2009+A2:2020. It is identical to ISO 15877-5:2009, incorporating amendments 1:2010 and 2:2020. It supersedes BS EN ISO 15877-5:2009+A1:2010, which is withdrawn.

The start and finish of text introduced or altered by amendment is indicated in the text by tags. Tags indicating changes to ISO text carry the number of the ISO amendment. For example, text altered by ISO amendment 1 is indicated by A1 A1.

The UK participation in its preparation was entrusted to Technical Committee PRI/88/2, Plastics piping for pressure applications.

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

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Date	Text affected
31 January 2011	Implementation of ISO amendment 1:2010 with CEN endorsement A1:2010
31 December 2020	Implementation of ISO amendment 2:2020 with CEN endorsement A2:2020

English Version

**Plastics piping systems for hot and cold water
installations - Chlorinated poly(vinyl chloride) (PVC-C)
- Part 5: Fitness for purpose of the system (ISO
15877-5:2009)**

Systèmes de canalisations en plastique pour les
installations d'eau chaude et froide - Poly(chlorure
de vinyle) chloré (PVC-C) - Partie 5: Aptitude
à l'emploi du système (ISO 15877-5:2009)

Kunststoff-Rohrleitungssysteme für die Warm- und
Kaltwasserinstallation - Chloriertes Polyvinylchlorid
(PVC-C) - Teil 5: Gebrauchstauglichkeit
des Systems (ISO 15877-5:2009)

This European Standard was approved by CEN on 28 February 2009.

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COMITÉ EUROPÉEN DE NORMALISATION
EUROPÄISCHES KOMITEE FÜR NORMUNG

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

European foreword

This document (EN ISO 15877-5:2009) has been prepared by Technical Committee CEN/TC 155 "Plastics piping systems and ducting systems", the secretariat of which is held by NEN, in collaboration with Technical Committee ISO/TC 138 "Plastics pipes, fittings and valves for the transport of fluids".

This European Standard shall be given the status of a national standard, either by publication of an identical text or by endorsement, at the latest by September 2009, and conflicting national standards shall be withdrawn at the latest by September 2009.

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 EN ISO 15877-5:2003.

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Foreword to amendment A1

This document (EN ISO 15877-5:2009/A2:2020) has been prepared by Technical Committee CEN/TC 155 "Plastics piping systems and ducting systems" the secretariat of which is held by NEN, in collaboration with Technical Committee ISO/TC 138 "Plastics pipes, fittings and valves for the transport of fluids".

This Amendment to the European Standard EN ISO 15877-5:2009 shall be given the status of a national standard, either by publication of an identical text or by endorsement, at the latest by May 2011, and conflicting national standards shall be withdrawn at the latest by May 2011.

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Foreword to amendment A2

This document (EN ISO 15877-5:2009/A2:2020) has been prepared by Technical Committee ISO/TC 138 "Plastics pipes, fittings and valves for the transport of fluids" in collaboration with Technical Committee CEN/TC 155 "Plastics piping systems and ducting systems" the secretariat of which is held by NEN.

This Amendment to the European Standard EN ISO 15877-5:2009 shall be given the status of a national standard, either by publication of an identical text or by endorsement, at the latest by June 2021, and conflicting national standards shall be withdrawn at the latest by June 2021.

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Endorsement notice

The text of ISO 15877-5:2009/Amd 2:2020 has been approved by CEN as EN ISO 15877-5:2009/A2:2020 without any modification.

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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.

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ISO 15877-5 was prepared by the European Committee for Standardization (CEN) Technical Committee CEN/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).

This part of ISO 15877 is part of a System Standard for plastics piping systems of a particular material for a specified application. There are a number of such System Standards.

The System Standards are consistent with general standards on functional requirements and recommended practices for installation.

This second edition cancels and replaces the first edition (ISO 15877-5:2003).

ISO 15877 consists of the following parts ¹⁾, under the general title *Plastics piping systems for hot and cold water installations — Chlorinated poly(vinyl chloride) (PVC-C)*:

- *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 (ISO/TS 15877-7)*

At the date of publication of this part of ISO 15877, System Standards Series 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)*

1) This System Standard does not incorporate a Part 4: *Ancillary equipment* or a Part 6: *Guidance for installation*. For ancillary equipment, separate standards can apply. Guidance for installation of plastics piping systems made from different materials, intended to be used for hot and cold water installations, is covered by ENV 12108 [\[2\]](#).

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

2) To be published. (Revisions of ISO 22391-1:2007, ISO 22391-2:2007, ISO 22391-3:2007, ISO 22391-5:2007.)

Introduction

The System Standard, of which this is Part 5, specifies the requirements for a piping system and its components when made from chlorinated poly(vinyl chloride) (PVC-C). The piping system is intended to be used for hot and cold water installations and heating system installations.

In respect of potential adverse effects on the quality of water intended for human consumption caused by the product covered by ISO 15877, the following are relevant.

- a) This part of ISO 15877 provides no information as to whether the product may be used without restriction in any of the Member States of the EU or EFTA.
- b) It should be noted that, while awaiting the adoption of verifiable European criteria, existing national regulations concerning the use and/or the characteristics of this product remain in force.

Requirements and test methods for components of the piping system are specified in ISO 15877-1, ISO 15877-2 and ISO 15877-3 of this System Standard. ISO/TS 15877-7 gives guidance for the assessment of conformity.

This part of ISO 15877 specifies the characteristics of fitness for purpose of the piping systems.

Plastics piping systems for hot and cold water installations — Chlorinated poly(vinyl chloride) (PVC-C) —

Part 5: Fitness for purpose of the system

1 Scope

This part of ISO 15877 specifies the characteristics of the fitness for purpose of chlorinated poly(vinyl chloride) (PVC-C) piping systems, intended to be used for hot and cold water installations within buildings for the conveyance of water, whether or not intended for human consumption, (domestic systems) and for heating systems, under design pressures and temperatures according to the class of application (see Table 1 of ISO 15877-1:2009).

This part of ISO 15877 covers a range of service conditions (application classes) and design pressure classes. For values of T_D , T_{max} and T_{mal} in excess of those in Table 1 of ISO 15877-1:2009, this part of ISO 15877 does not apply.

NOTE 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.

It also specifies the test parameters for the test methods referred to in this part of ISO 15877.

In conjunction with the other parts of ISO 15877, it is applicable to PVC-C pipes, fittings, their joints and joints with components of other plastics and non-plastics materials intended to be used for hot and cold water installations.

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 1167-1, *Thermoplastics pipes, fittings and assemblies for the conveyance of fluids — Determination of the resistance to internal pressure — Part 1: General method*

ISO 15877-1:2009, *Plastics piping systems for hot and cold water installations — Chlorinated poly(vinyl chloride) (PVC-C) — Part 1: General*

ISO 15877-2:2009, *Plastics piping systems for hot and cold water installations — Chlorinated poly(vinyl chloride) (PVC-C) — Part 2: Pipes*

ISO 3501, *Plastics piping systems — Mechanical joints between fittings and pressure pipes — Test method for resistance to pull-out under constant longitudinal force*

ISO 19893, *Plastics piping systems — Thermoplastics pipes and fittings for hot and cold water — Test method for the resistance of mounted assemblies to temperature cycling*

ISO 13056, *Plastics piping systems — Pressure systems for hot and cold water — Test method for leaktightness under vacuum*

ISO 19892, *Plastics piping systems — Thermoplastics pipes and fittings for hot and cold water — Test method for the resistance of joints to pressure cycling*