



BSI Standards Publication

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

Part 1: General

National foreword

This British Standard is the UK implementation of EN ISO 15877-1:2009+A1:2010. It is identical to ISO 15877-1:2009, incorporating amendment 1:2010. It supersedes BS EN ISO 15877-1:2009, which is withdrawn.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, Plastics piping systems.

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

As the scope of this standard does not cover chlorinated poly(vinyl chloride) (PVC-C) piping systems for installations having service conditions in excess of those in Table 1 of BS EN ISO 15877-1:2009+A1:2010, the UK committee advises users to consult BS 7291-1:2010+A1:2023 when applying this standard.

BS 7291-1:2010+A1:2023 gives the Class “S” service conditions for sealed central heating systems and indirect hot water primary circuits in which the maximum system service temperature is 105 °C and the system malfunction temperature is 114 °C. As both of these temperatures are significantly in excess of those specified in Table 1 of BS EN ISO 15877-1:2009+A1:2010, and sealed central heating systems and indirect hot water primary circuits are therefore not covered by it, the UK committee advises that PVC-C piping systems conforming to the requirements of this standard should also be subjected to the temperatures given in Table 1 of BS 7291-1:2010+A1:2023.

The UK committee also advises users that:

- a) The normal maximum operating cold water supply pressure in the UK is 12.5 bar (1 bar = 100 kPa), which some categories of piping systems in the BS EN ISO 15877 series of standards do not meet.
- b) There is a disparity between the malfunction temperature quoted in Table 1 of BS EN ISO 15877-1:2009+A1:2010 (100 °C) and the malfunction temperatures applicable to boilers conforming to the requirements of BS EN 15502-1:2021+A1:2023, BS EN 15502-2-1:2022+A1:2023 and BS EN 15502-2-2:2014 (110 °C). Consequently, piping systems used with these gas-fired central heating boilers could be subjected to temperatures in service for which they have not been tested.
- c) Piping systems conforming to the requirements of the BS EN ISO 15877 series of standards are designed for hot and cold water installations and are not suitable for waste discharge from unvented hot water systems (i.e. downstream pipe D2).
- d) Continuously operated recirculating domestic hot water systems (known as recirculating, secondary hot circulation, return or ring main systems) carry pumped hot potable water to outlets where the temperature is between 60 °C and 70 °C, and is replenished by an incoming water supply to replace the water drawn to outlets. For piping systems conforming to the requirements of

the BS EN ISO 15877 series of standards, the manufacturer and their technical information should always be consulted for specific limitations.

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Amendments/corrigenda issued since publication

Date	Text affected
31 January 2011	Implementation of ISO amendment 1:2010 with CEN endorsement A1:2010
31 July 2024	Correction to national foreword

English Version

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

Systèmes de canalisations en plastique pour les
installations d'eau chaude et froide - Poly(chlorure de
vinyle) chloré (PVC-C) - Partie 1: Généralités (ISO 15877-
1:2009)

Kunststoff-Rohrleitungssysteme für die Warm- und
Kaltwasserinstallation - Chloriges Polyvinylchlorid (PVC-
C) - Teil 1: Allgemeines (ISO 15877-1:2009)

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

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This European Standard exists in three official versions (English, French, German). A version in any other language made by translation under the responsibility of a CEN member into its own language and notified to the CEN Management Centre has the same status as the official versions.

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COMITÉ EUROPÉEN DE NORMALISATION
EUROPÄISCHES KOMITEE FÜR NORMUNG

Management Centre: Avenue Marnix 17, B-1000 Brussels

European foreword

This document (EN ISO 15877-1:2009) 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 15877-1:2003.

According to the CEN/CENELEC Internal Regulations, the national standards organizations of the following countries are bound to implement this European Standard: Austria, Belgium, Bulgaria, Cyprus, Czech Republic, Denmark, Estonia, Finland, France, Germany, Greece, Hungary, Iceland, Ireland, Italy, Latvia, Lithuania, Luxembourg, Malta, Netherlands, Norway, Poland, Portugal, Romania, Slovakia, Slovenia, Spain, Sweden, Switzerland and the United Kingdom.

European foreword to amendment A1

This document (EN ISO 15877-1:2009/A1:2010) 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 15877-1:2009 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.

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.

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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.

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 15877-1 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 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 15877-1:2003).

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* [Technical Specification]

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 ^[3].