BS EN ISO 22391-2:2009+A1:2020
Incorporating corrigendum May 2024

BSI Standards Publication

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

Part 2: Pipes

bsi.

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Full document details: BS EN ISO 22391-2:2009+A1:2020

National foreword

This British Standard is the UK implementation of EN ISO 22391-2:2009+A1:2020. It is identical to ISO 22391-2:2009, incorporating amendment 1:2020. It supersedes BS EN ISO 22391-2:2009, which is withdrawn.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/88/2, Plastics piping for pressure applications.

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 polyethylene of raised temperature resistance (PE-RT) piping systems for installations having service conditions in excess of those in Table 1 of BS EN ISO 22391-1:2009, 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 22391-1:2009, and sealed central heating systems and indirect hot water primary circuits are therefore not covered by it, the UK committee advises that PE-RT 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 22391 series of standards do not meet.

b) There is a disparity between the malfunction temperature quoted in Table 1 of BS EN ISO 22391-1:2009 (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 22391 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. Piping systems conforming to the requirements of the BS EN ISO 22391 series of standards are not suitable for this use.

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Amendments/corrigenda issued since publication

Date	Text affected
31 December 2020	Implementation of ISO amendment 1:2020 with CEN endorsement A1:2020
31 May 2024	Correction to national foreword. Corrections to amendment tags.

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EUROPEAN STANDARD

NORME EUROPÉENNE

EUROPÄISCHE NORM

EN ISO 22391-2:2009+A1

December 2020

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English Version

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

Systèmes de canalisations en plastique pour les installations d'eau chaude et froide - Polyéthylène de meilleure résistance à la température (PE-RT) - Partie 2: Tubes (ISO 22391-2:2009)

Kunststoff-Rohrleitungssysteme für die Warm- und Kaltwasserinstallation - Polyethylen erhöhter Temperaturbeständigkeit (PE-RT) - Teil 2: Rohre (ISO 22391-2:2009)

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Ref. No. EN ISO 22391-2:2009/A1:2020 E

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Foreword

This document (EN ISO 22391-2:2009) 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 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 June 2010, and conflicting national standards shall be withdrawn at the latest by June 2010.

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Endorsement notice

The text of ISO 22391-2:2009 has been approved by CEN as a EN ISO 22391-2:2009 without any modification.

Foreword to amendment A1

This document (EN ISO 22391-2:2009/A1:2020) 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 22391-2:2009 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 22391-2:2009/Amd 1:2020 has been approved by CEN as EN ISO 22391-2:2009/A1:2020 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.

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ISO 22391-2 was prepared by 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*.

This second edition cancels and replaces the first edition (ISO 22391-2:2007), which is extended from only dealing with PE-RT material (referred to as Type I) to cover PE-RT materials Type I and Type II.

ISO 22391 consists of the following parts[1)], 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*

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.

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