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**BS 7291-2:2010+A1:2023**



**BSI Standards Publication**

# **Thermoplastics pipe and fitting systems for hot and cold water for domestic purposes and heating installations in buildings**

Part 2: Specification for polybutylene (PB) pipe and  
associated fittings

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## Foreword

### Publishing Information

This part of [BS 7291](#) is published by BSI Standards Limited, under licence from The British Standards Institution, and came into effect on 30 April 2010. It was prepared by Subcommittee [A1](#) PRI/88/2, *Plastic piping for pressure applications* [A1](#), under the authority of Technical Committee PRI/88, *Plastics piping systems*. A list of organizations represented on these committees can be obtained on request to the committee manager.

### Supersession

BS 7291-2:2010+A1:2023 supersedes [BS 7291-2:2010](#), which is withdrawn.

### Information about this document

Text introduced or altered by Amendment No. 1 is indicated in the text by tags [A1](#) [A1](#). Minor editorial changes are not tagged.

PB polymer is widely known as Polybutylene. It is also referred to as Polybutene, Polybut-1-ene and Polybutene-1 (PB-1).

Attention is drawn to [BS 7291-3](#), which specifies corresponding requirements for cross-linked polyethylene (PE-X) pipes and associated fittings.

Attention is also drawn to [BS 5955-8](#), which specifies requirements and gives guidance on the correct application and installation of thermoplastics pipes and fittings for the conveyance of domestic hot and cold water.

**Product certification/inspection/testing.** Users of this British Standard are advised to consider the desirability of third-party certification/inspection/testing of product conformity to this British Standard. Appropriate conformity attestation arrangements are described in BS EN ISO/IEC 17025. Users seeking assistance in identifying appropriate conformity assessment bodies or schemes may ask BSI to forward their enquiries to the relevant association.

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### Presentational conventions

The provisions of this standard are presented in roman (i.e. upright) type. Its requirements are expressed in sentences in which the principal auxiliary verb is "shall".

*Commentary, explanation and general informative material is presented in smaller italic type, and does not constitute a normative element.*

Where words have alternative spellings, the preferred spelling of the *Shorter Oxford English Dictionary* is used (e.g. "organization" rather than "organisation").

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*drafting of UK standards:2022*, subclause **G.1.1**, which states, "Requirements should be expressed using wording such as: 'When tested as described in Annex A, the product shall ...'". This means that only those products that are capable of passing the specified test will be deemed to conform to this document.

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### **Compliance with a British Standard cannot confer immunity from legal obligations.**

In particular, attention is drawn to the following specific regulations:

- The Health and Safety at Work, etc Act 1974 [1]
- The Water Supply (Water Fittings) Regulations 1999 [2]

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## 1 Scope

This part of [BS 7291](#) specifies general requirements and methods of test for polybutylene (PB) pipe and fitting systems intended for use within buildings for the conveyance of cold water, including drinking water, and heated water for use in domestic hot and cold water distribution and heating installations. These requirements supplement the general requirements in [BS 7291-1](#), which are also applicable.

*NOTE 1 Before reading this part, it is essential to read [BS 7291-1](#).*

*NOTE 2 Methods of test are given in [Annex A](#), [Annex B](#) and [Annex C](#). [Annex D](#) gives guidance on factory control procedures.*

This standard specifies general requirements for materials to be used for, or in the form of, PB monolayer, multilayer or barrier pipes, and associated fittings and components. Particular requirements are also specified for PB pipe alone or jointed with push-fit, fusion or compression fittings conforming to [BS 7291](#) or other British Standards intended for use with pipes conforming to this part.

This part of [BS 7291](#) provides for pipes dimensioned to suit two established metric series: BS ISO 4065 for thermoplastics pipes generally and BS EN 1057, for compatibility with copper pipework systems widely used for these applications.

This British Standard is applicable only to Class "S" pipes and fittings.

It does not specify dimensional requirements for fittings because the performance requirements specified for fittings, when tested individually or in assemblies with pipe, are intended to ensure that the dimensions of the fittings are satisfactory for jointing purposes and pressure containment.

*NOTE 3 Pipes and fittings of non-barrier PB are to some extent permeable to oxygen; hence, if they are used for the primary circuit(s) of a heating system, it might be beneficial to add a corrosion inhibitor to the fluids circulating therein. In such a case the manufacturer(s) of the pipe and/or fitting should, upon request, provide advice in accordance with [BS 5955-8](#). This advice should include selection of a compatible corrosion inhibitor and/or methods for reducing the permeability.*

## 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.

[BS 5214-2](#), *Specification for testing machines for rubbers and plastics – Part 2: Constant rate of force application machines*

[BS 7291-1:2010+A1:2023](#) [A1](#), *Thermoplastics pipes and associated fittings for hot and cold water for domestic purposes and heating installations in buildings – Part 1: General requirements*

BS EN 681-1:1996, *Elastomeric seals – Material requirements for pipe joint seals used in water and drainage applications – Part 1: Vulcanized rubber*

BS EN 1057, *Copper and copper alloys – Seamless, round copper tubes for water and gas in sanitary and heating applications*

[A1](#) Text deleted [A1](#)

BS EN 12294, *Plastic piping systems – Systems for hot and cold water – Test method for leaktightness under vacuum*

BS EN ISO 1043-1, *Plastics – Symbols – Part 1: Basic polymers and their special characteristics*