

Thermoplastics pipes and associated fittings for hot and cold water for domestic purposes and heating installations in buildings —

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

ICS 83.140.30; 91.140.60

Committees responsible for this British Standard

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- British Adhesives and Sealants Association
- British Plastics Federation
- British Plumbing Fittings Manufacturer’s Association
- Chartered Institution of Water and Environment
- Health and Safety Executive
- Institution of Civil Engineers
- Institution of Gas Engineers
- Institute of Materials
- National Association of Plumbing and Heating
- Standards Association of Australia
- Water UK

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Foreword

This part of BS 7291 has been prepared under the direction of Subcommittee PRI/88/2, Plastics piping systems for pressure applications, under the direction of the Plastics Standards Committee. It supersedes the 1990 edition, which is now withdrawn.

It specifies, in accordance with BS 7291-1, specific requirements for pipes made of polybutylene and associated fittings intended for systems based on pipes having a nominal outside diameter between 10 mm and 110 mm inclusive for the use of hot and cold water in mechanical properties and performance requirements, based on mechanical or fusion jointing, to supplement the general requirements of part 1, which are also applicable.

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

No dimensional requirements are specified for fittings, because the performance requirements included 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.

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

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

In preparing this British Standard, account has been taken of concurrent work by Technical Committee 138 of the International Organization for Standardization (ISO) and by CEN/TC 155.

Annex A, Annex B and Annex C are normative. Annex D is informative.

This British Standard calls for the use of substances and/or procedures that may be injurious to health if adequate precautions are not taken. It refers only to technical suitability and does not absolve the user from legal obligations relating to health and safety at any stage.

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Summary of pages

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1 Scope

NOTE Before reading this part, it is essential to read BS 7291-1, issued separately. In this standard, all unqualified references to “part 1” relate to BS 7291-1:2001.

This part of BS 7291 specifies requirements for polybutylene (PB) pipes and associated fittings intended for the conveyance of cold water, including drinking water, and heated water, for use in domestic hot and cold water distribution and heating installations within buildings. These requirements supplement the general requirements in part 1 of BS 7291, which are also applicable.

It gives general requirements for materials to be used for or in the form of PB pipes with or without a barrier layer or associated fittings and components. It also gives specific requirements for PB pipes alone or jointed with push-fit, fusion or compression fittings conforming to this part or to other parts of BS 7291 or other British Standards intended for use with pipes conforming to this part.

The dimensions of the pipes specified range from 10 mm to 110 mm outside diameter inclusive, in accordance with either ISO 4065 or BS EN 1057 (metric series for copper tubes).

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

No dimensional requirements are specified for fittings, because the performance requirements included 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.

Methods of test, associated guidance and information on quality control testing are given in the annexes.

2 Normative references

The following normative documents contain provisions which, through reference in this text, constitute provisions of this British Standard. For dated references, subsequent amendments to, or revisions of, any of these publications do not apply. For undated references, the latest edition of the publication referred to applies.

BS 2782-11: Method 720A:1979, *Methods of testing plastics — Part 11: Method 720A. Determination of melt flow rate (MFR) and the melt volume-flow rate (MVR) of thermoplastics.*

BS 2782-11: Method 1101A:1981, *Methods of testing plastics — Part 11: Method 1101A. Measurement of dimensions of pipes.*

BS 2782-11: Method 1106A:1983, *Methods of testing plastics — Part 11: Method 1106A. Assessment of pigment dispersion in polyolefin pipes and fittings: microtome method.*

BS 5214-2, *Specification for testing machines for rubbers and plastics — Part 2: Constant rate of force application machines.*

BS 5955-8, *Plastics pipework (thermoplastics materials) — Part 8: Specification for the installation of thermoplastics pipes and associated fittings for use in domestic hot and cold water services and heating systems in buildings.*

BS 7291-1:2001, *Thermoplastics pipes and associated fittings for hot and cold water for domestic purposes and heating installations in buildings — Part 1: General requirements.*

BS 7291-3, *Thermoplastics pipes and associated fittings for hot and cold water for domestic purposes and heating installations in buildings — Part 3: Specification for cross-linked polyethylene (PE-X) pipes and associated fittings.*

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 921:1995, *Plastics piping systems — Thermoplastics pipes — Determination of resistance to internal pressure at constant temperature.*

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

BS EN 1254-2, *Copper and copper alloys — Plumbing fittings — Part 2: Fittings with compression ends for use with copper tubes.*