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**Plastics piping systems for hot  
and cold water installations —  
Polybutene (PB) —**

**Part 3:  
Fittings**

*Systèmes de canalisations en plastique pour les installations d'eau  
chaude et froide — Polybutène (PB) —*

*Partie 3: Raccords*



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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.

The procedures used to develop this document and those intended for its further maintenance are described in the ISO/IEC Directives, Part 1. In particular the different approval criteria needed for the different types of ISO documents should be noted. This document was drafted in accordance with the editorial rules of the ISO/IEC Directives, Part 2 (see [www.iso.org/directives](http://www.iso.org/directives)).

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. Details of any patent rights identified during the development of the document will be in the Introduction and/or on the ISO list of patent declarations received (see [www.iso.org/patents](http://www.iso.org/patents)).

Any trade name used in this document is information given for the convenience of users and does not constitute an endorsement.

For an explanation on the meaning of ISO specific terms and expressions related to conformity assessment, as well as information about ISO's adherence to the World Trade Organization (WTO) principles in the Technical Barriers to Trade (TBT) see the following URL: [www.iso.org/iso/foreword.html](http://www.iso.org/iso/foreword.html).

ISO 15876-3 was prepared by the European Committee Standardization (CEN) Technical Committee CEN/TC 155, *Plastics pipings 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 second edition cancels and replaces the first edition (ISO 15876-3:2003), which has been technically revised with the following changes:

- introduction of polybutene random copolymer (PB-R) and renaming existing polybutene (PB) into polybutene homopolymer (PB-H);
- revision of specifications for conditioning of samples.

A list of all parts in the ISO 15876 series can be found on the ISO website.

## Introduction

The System Standard ISO 15876, of which this document is Part 3, specifies the requirements for a piping system when made from polybutene (PB). The piping system is intended to be used for hot and cold water installations.

In respect of potential adverse effects on the quality of water intended for human consumption, caused by the product covered by ISO 15876 (all parts):

- ISO 15876 (all parts) provides no information as to whether the product may be used without restriction in any of the Member States of the EU or EFTA;
- 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 materials and components, other than fittings, are specified in ISO 15876-1 and ISO 15876-2. Characteristics for fitness for purpose (mainly for joints) are covered in ISO 15876-5. ISO/TS 15876-7 gives guidance for the assessment of conformity.

This document specifies the characteristics of the fittings.

At the date of publication of this standard, System Standards for piping systems of other plastics materials used for the same application include ISO 15874, ISO 15875, ISO 15876, ISO 15877, ISO 21003 and ISO 22391.



# Plastics piping systems for hot and cold water installations — Polybutene (PB) —

## Part 3: Fittings

### 1 Scope

This document specifies the characteristics of fittings for polybutene-1 (PB-1) 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 ISO 15876-1).

The designation polybutene is used together with the abbreviation PB throughout this document.

This document 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 ISO 15876-1:2016, Table 1, this document 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 parameters for the test methods referred to in this document.

In conjunction with the other parts of ISO 15876, this document is applicable to fittings made from PB and to fittings made from other materials which are intended to be fitted to pipes conforming to ISO 15876-2 for hot and cold water installations, whereby the joints conform to the requirements of ISO 15876-5.

This document is applicable to fittings of the following types:

- socket fusion fittings;
- electrofusion fittings;
- mechanical fittings;
- fittings with incorporated inserts.

It is also applicable to fittings made from alternative materials which, when fitted to pipes conforming to ISO 15876-2, conform to the requirements of ISO 15876-5.

### 2 Normative references

The following documents are referred to in the text in such a way that some or all of their content constitutes requirements 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 228-1, *Pipe threads where pressure-tight joints are not made on the threads — Part 1: Dimensions, tolerances and designation*

ISO 1133-1, *Plastics — Determination of the melt mass-flow rate (MFR) and melt volume-flow rate (MVR) of thermoplastics — Part 1: Standard method*

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 1167-3, *Thermoplastics pipes, fittings and assemblies for the conveyance of fluids — Determination of the resistance to internal pressure — Part 3: Preparation of components*

ISO 1167-4, *Thermoplastics pipes, fittings and assemblies for the conveyance of fluids — Determination of the resistance to internal pressure — Part 4: Preparation of assemblies*

ISO 3126, *Plastics piping systems — Plastics components — Determination of dimensions*

ISO 7686, *Plastics pipes and fittings — Determination of opacity*

ISO 9080, *Plastics piping and ducting systems — Determination of the long-term hydrostatic strength of thermoplastics materials in pipe form by extrapolation*

ISO 15876-1:2016, *Plastics piping system for hot and cold water installations — Polybutene (PB) — Part 1: General*

ISO 15876-2, *Plastics piping system for hot and cold water installations — Polybutene (PB) — Part 2: Pipes*

ISO 15876-5, *Plastics piping system for hot and cold water installations — Polybutene (PB) — Part 5: Fitness for purpose of the system*

EN 681-1, *Elastomeric seals — Materials requirements for pipe joint seals used in water and drainage applications — Part 1: Vulcanized rubber*

EN 681-2, *Elastomeric seals — Materials requirements for pipe joint seals used in water and drainage applications — Part 2: Thermoplastic elastomers*

EN 1254-3, *Copper and copper alloys — Plumbing fittings — Part 3: Fittings with compression ends for use with plastics pipes*

EN 1254-6, *Copper and copper alloys — Plumbing fittings — Part 6: Fittings with push-fit ends*

EN 1254-8, *Copper and copper alloys — Plumbing fittings — Part 8: Fittings with press ends for use with plastics and multilayer pipes*

EN 10088-1, *Stainless steels — Part 1: List of stainless steels*

EN 10226-1, *Pipe threads where pressure-tight joints are made on the threads — Part 1: Taper external threads and parallel internal threads — Dimensions, tolerances and designation*

### 3 Terms and definitions, symbols and abbreviated terms

For the purposes of this document, the terms and definitions, symbols and abbreviated terms given in ISO 15876-1 and the following apply.

ISO and IEC maintain terminological databases for use in standardization at the following addresses:

- IEC Electropedia: available at <http://www.electropedia.org/>
- ISO Online browsing platform: available at <http://www.iso.org/obp>

#### 3.1 General

##### 3.1.1 fitting

component of a piping system, which connects two or more pipes and/or fittings together, without any further function