

---

---

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

**Part 1:  
General**

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

*Partie 1: Généralités*



This document is a preview generated by EBS



**COPYRIGHT PROTECTED DOCUMENT**

© ISO 2017, Published in Switzerland

All rights reserved. Unless otherwise specified, no part of this publication may be reproduced or utilized otherwise in any form or by any means, electronic or mechanical, including photocopying, or posting on the internet or an intranet, without prior written permission. Permission can be requested from either ISO at the address below or ISO's member body in the country of the requester.

ISO copyright office  
Ch. de Blandonnet 8 • CP 401  
CH-1214 Vernier, Geneva, Switzerland  
Tel. +41 22 749 01 11  
Fax +41 22 749 09 47  
copyright@iso.org  
www.iso.org

# Contents

	Page
<b>Foreword</b> .....	<b>iv</b>
<b>Introduction</b> .....	<b>v</b>
<b>1 Scope</b> .....	<b>1</b>
<b>2 Normative references</b> .....	<b>1</b>
<b>3 Terms and definitions, symbols and abbreviated terms</b> .....	<b>1</b>
3.1 Terms and definitions.....	2
3.2 Symbols.....	5
3.3 Abbreviated terms.....	6
<b>4 Classification of service conditions</b> .....	<b>6</b>
<b>5 Material</b> .....	<b>7</b>
5.1 General.....	7
5.2 Influence on water intended for human consumption.....	8
5.3 Crystallisation.....	8
5.4 Reprocessable material.....	8
<b>6 System performance requirements</b> .....	<b>8</b>
<b>Bibliography</b> .....	<b>9</b>

## 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 15876-1 was prepared by the European Committee Standardization (CEN) Technical Committee CEN/TC 155, *Plastics piping 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 15876-1:2003), 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.

It also incorporates the Amendment ISO 15876-1:2003/Amd 1:2007.

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 1, 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 material and components of the piping systems are specified in ISO 15876-2 and ISO 15876-3. 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 general aspects of the plastics piping system.

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 1: General

### 1 Scope

This document specifies the general aspects of 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 [Table 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 and pipe dimension classes. Values of  $T_D$ ,  $T_{max}$  and  $T_{mal}$  in excess of those in [Table 1](#) do 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 test parameters for the test methods referred to in this document.

In conjunction with the other parts of ISO 15876, this document is applicable to PB pipes, fittings, their joints and to joints with components of other plastics and non-plastics materials intended to be used for hot and cold water installations.

### 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 472, *Plastics — Vocabulary*

ISO 1043-1, *Plastics — Symbols and abbreviated terms — Part 1: Basic polymers and their special characteristics*

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

ISO 15876-3, *Plastics piping system for hot and cold water installations — Polybutene (PB) — Part 3: Fittings*

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

### 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 472 and ISO 1043-1 and the following apply.