



**NATIONAL STANDARD OF THE
PEOPLE'S REPUBLIC OF CHINA**

GB/T 19473.2-2020

Replacing GB/T 19473.2-2004

**Polybutene (PB) piping system for hot and cold water - Part 2:
Pipes**

Issued on: November 19, 2020

Implemented on: June 1, 2021

**Issued by: State Administration for Market Regulation, China National
Standardization Administration**

Table of Contents

Foreword

1 Scope

2 Normative references

Foreword

GB/T 19473 "Polybutene (PB) Piping System for Hot and Cold Water" is divided into the following parts.

---Part 1.General Provisions;

---Part 2.Pipes;

---Part 3.Pipe fittings;

---Part 5.System applicability.

This part is Part 2 of GB/T 19473.

This section was drafted in accordance with the rules given in GB/T 1.1-2009.

This part replaces GB/T 19473.2-2004 "Polybutene (PB) Piping System for Hot and Cold Water Part 2.Pipes", and

Compared with GB/T 19473.2-2004, the main technical changes are as follows.

--- Deleted "GB/T 19473 does not apply to fire extinguishing systems and non-aqueous fluid delivery systems" in the scope (see.2004 edition

Chapter 1);

---Added the requirement that "graded polybutene blends that meet the requirements of Chapter 5 in GB/T 19473.1-2020 should be used"

(See 4.1);

---Added regulations for the use of recycled materials (see 4.2);

---Added the requirements for barrier layer and adhesive layer materials (see 4.3);

--- Deleted the regulations on the classification of pipes by size and conditions of use (see Chapter 5 of the.2004 edition);

--- PB-R pipes have been added (see Chapter 5);

---Adjust the selection of tube series S in.2004 version 5.2 to Chapter 6, and add the

corresponding tube series S for use condition level 3

Selection (see Chapter 6, 5.2 of the.2004 edition);

---Added the selection of PB-R tube series S (see Chapter 6);

---Added the design stress σ_D corresponding to each use condition level (see Table 1, Table 2);

---Added the method of calculating the design stress σ_D and the tube series S under other temperature-time combination conditions (see Chapter 6);

---Modified the color regulations (see 7.1, 6.1 of the.2004 edition);

---Expanded the outer diameter size range of the pipe (see Table 3);

---Added the regulation of pipe length (see 7.3.3);

---Modified the wall thickness allowable deviation table (see Table 4, Table 3 of the.2004 edition);

--- Modify "mechanical properties" to "hydrostatic strength" (see 7.4, 6.5 in.2004 edition);

---The 20 degrees C/22h hydrostatic strength requirement of PB-H pipe has been increased (see Table 5);

---Added the hydrostatic strength requirements of PB-R pipes (see Table 5);

---Added the requirements for the ash content, oxidation induction time, pigment dispersion, light transmittance, and oxygen transmittance of the pipe (see Table 6);

---Adjust the system applicability into a separate chapter, and delete the specific content of the system applicability requirements (see Chapter 8,.2004 edition 6.8);

---Modified the test method (see Chapter 9, Chapter 8 of the.2004 edition);

--- Modified the group batch (see 10.2.1, 8.2 in the.2004 edition);

---The size grouping is modified (see 10.2.2, 8.5.1 of the.2004 edition);

---Modified the requirements for type inspection (see 10.3, 8.3 of the.2004 edition);

---Modified the item requirements of the factory inspection (see 10.4.1, 8.4.1 of the.2004 edition);

--- Amend "Qualified Quality Level 6.5" to "Acceptance Quality Limit (AQL) 4.0", and expand the batch range (see 10.4.2,.2004 edition

8.4.2);

---Modified the requirements of type inspection (see 10.5, 8.5 in.2004 edition);

- Modified the judgment rules (see 10.6, 8.6 in the.2004 edition);
- Modified the content of the logo (see 11.1, 9.1 of the.2004 edition);
- Modified the packaging regulations (see 11.2, 9.2 of the.2004 edition);
- Added the requirements for storage and stacking height (see 11.4);
- Adjusted Appendix A of the.2004 edition to Appendix C, and added an optional method for determining the wall thickness of barrier pipes (see Appendix C, Appendix A of the.2004 edition).

This part uses the redrafting method to amend and adopt ISO 15876-2.2017 ``Plastic Piping System for Cold and Hot Water (PB) No. 2

Part. Pipes.

Compared with ISO 15876-2.2017, this part has many structural adjustments. Appendix A lists this part and ISO 15876-1.

The.2017 chapter number comparison list.

Compared with ISO 15876-2.2017, there are technical differences between this part and ISO 15876-2.2017.The corresponding technical differences and their reasons are given in Appendix B.

List.

This section has made the following editorial changes.

---In order to be consistent with my country's technical standard system, the standard name is changed to "Polybutene (PB) Piping System for Cold and Hot Water Part 2.Pipe material".

Please note that certain contents of this document may involve patents. The issuing agency of this document is not responsible for identifying these patents.

This part was proposed by the China National Light Industry Council.

This part is under the jurisdiction of the National Plastic Products Standardization Technical Committee (SAC/TC48).

Drafting organizations of this section. Baolu Qixing Pipe Industry Co., Ltd., Shanghai Baidie Pipe Industry Technology Co., Ltd., Zhejiang Weixing New Building Materials Co., Ltd.

Co., Ltd., Wuhan Jinniu Economic Development Co., Ltd., Zhejiang Zhongcai Pipeline Technology Co., Ltd., Akcome Enterprise Group (Shanghai) Co., Ltd.

Company, Yonggao Co., Ltd., Chengdu Chuanlu Plastic Group Co., Ltd., Tianjin Junxing Pipe Industry Group Co., Ltd., Liansu Municipal Pipeline (He

North) Co., Ltd., Shanghai George Fischer Piping System Co., Ltd., Beijing Building Materials Inspection and Research Institute Co., Ltd., and Rifeng Enterprise Group have Limited company, Hongyue Plastic Group Co., Ltd.

1 Scope

This part of GB/T 19473 specifies the polybutene pipes (hereinafter referred to as pipes) that are made of polybutene blends as raw materials and formed by extrusion.

Terms and definitions, symbols and abbreviations, materials, product classification, selection of tube series S-value, requirements, system applicability, test methods, inspection regulations

Rules and signs, packaging, transportation and storage.

This part, together with other parts of GB/T 19473, applies to building cold and hot water pipe systems, including drinking water and heating pipes system.

Note. The purchaser is responsible for selecting this product appropriately according to specific application requirements and in conjunction with relevant laws, standards or specifications.

2 Normative references

The following documents are indispensable for the application of this document. For dated reference documents, only the dated version applies to this article

Pieces. For undated references, the latest version (including all amendments) applies to this document.

GB/T 2828.1 Sampling inspection procedure by attributes Part 1.Batch inspection sampling plan retrieved by acceptance quality limit (AQL)

(GB/T 2828.1-2012, ISO 2859-1.1999, IDT)

GB/T 2918 Standard environment for condition adjustment and testing of plastic specimens (GB/T 2918-2018, ISO 291.2008, MOD)

GB/T 3682.1 Determination of Melt Mass Flow Rate (MFR) and Melt Volume Flow Rate (MVR) of Plastic Thermoplastics

Part 1.Standard method (GB/T 3682.1-2018, ISO 1133-1.2011, MOD)

GB/T 6111-2018 Determination of internal pressure resistance of thermoplastic piping systems for fluid transportation (ISO 1167-1.2006;

ISO 1167-2.2006; ISO 1167-3.2007; ISO 1167-4.2007, NEQ)