



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

GB/T 18993.2-2020

Replacing GB/T 18993.2-2003

**Chlorinated Polyvinyl Chloride (PVC-C) Piping System for Hot
and Cold Water - Part 2: Pipes**

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Table of Contents

Foreword

2 .2009 chapter number comparison list.

1 Scope

2 Normative references

Foreword

GB/T 18993 "Chlorinated Polyvinyl Chloride (PVC-C) Piping System for Hot and Cold Water" is divided into 5 parts.

---Part 1.General Provisions;

---Part 2.Pipes;

---Part 3.Pipe fittings;

---Part 4.Valve;

---Part 5.System applicability.

This part is Part 2 of GB/T 18993.

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

This part replaces GB/T 18993.2-2003 "Chlorinated polyvinyl chloride (PVC-C) piping system for cold and hot water Part 2.Pipes",

Compared with GB/T 18993.2-2003, the main technical content changes are as follows.

---Modified the scope (see Chapter 1, Chapter 1 of the.2003 edition);

---Updated normative references (see Chapter 2, Chapter 2 of the.2003 edition);

---Modified terms and definitions, symbols and abbreviations (see Chapter 3, Chapter 3 of the.2003 edition);

---Added the requirements for adhesives (see 4.3);

--- Deleted the product classification (see Chapter 5 of the.2003 edition);

---Added the method of calculating the design stress σ_D and tube series S under other temperature-time combined conditions (see Chapter 5);

---Modified the color requirements (see 6.1, 7.1 of the.2003 edition);

---Modified the requirements of appearance (see 6.2, 7.2 of the.2003 edition);

- Deleted the minimum wall thickness with "*" in dn20 and dn25 (see 7.4.1 of the.2003 edition);
- Deleted the requirement of the wall thickness deviation of the same section (see 7.4.4 of the.2003 edition);
- Added the requirement of curvature (see 6.3.5);
- Modified the requirements of opacity (see 6.5, 7.3 of the.2003 edition);
- Deleted the specific content of the system suitability test (see 7.8 in the.2003 edition);
- Inspection classification has been added (see 9.1);
- Modify "Qualified Quality Level 6.5 Inspection" to "Acceptance Quality Limit (AQL) 4.0" (see 9.4.2, 9.4.2 of the.2003 edition);
- Modified the requirements for type inspection (see 9.5, 9.5 in the.2003 edition);
- Modified the judgment rules (see 9.6, 9.6 in the.2003 edition);
- Modified the content of the logo (see 10.1, 10.1 in the.2003 edition);
- Modified the content of the package (see 10.2, 10.2 in the.2003 edition);
- Added an informative appendix "The derivation of the maximum calculated value Sc_{calc} , max and wall thickness of the pipe series" (see Appendix C).

This part uses the redrafting method to modify and adopt ISO 15877-2:2009 "Plastic piping system for cold and hot water. Chlorinated polyvinyl chloride

(PVC-C) Part 2:Pipes".

Compared with ISO 15877-2:2009, this part has more structural adjustments. Appendix A lists this part and ISO 15877-

2 .2009 chapter number comparison list.

Compared with ISO 15877-2:2009, this part has technical differences, and the clauses related to these differences have been passed on the outer margins.

The vertical single line (|) of the position is marked, and a list of the corresponding technical differences and their reasons is given in Appendix B.

This section has made the following editorial changes.

- Amend the standard name to "Chlorinated Polyvinyl Chloride (PVC-C) Piping System for Cold and Hot Water Part 2:Pipes".

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).

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Shandong Xiangsheng New Material Technology Co., Ltd.

1 Scope

This part of GB/T 18993 stipulates that chlorinated polyvinyl chloride (PVC-C) resin is used as the main raw material and used for hot and cold water after extrusion.

Chlorinated polyvinyl chloride pipes (hereinafter referred to as pipes) terms, definitions, symbols and abbreviations, materials, selection, requirements, and systems of S value of pipe series

Applicability test, test methods, inspection rules and signs, packaging, transportation and storage.

This part and other parts of GB/T 18993 are applicable to chlorinated polyvinyl chloride (PVC-C) piping systems for building hot and cold water.

Note. It is the responsibility of the purchaser to select this product appropriately according to its specific application requirements, combined with relevant regulations, 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 1033.1 Determination of the density of plastic non-foam plastics Part 1.Immersion method, liquid pycnometer method and titration method

(GB/T 1033.1-2008, ISO 1183-1:2004, IDT)

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 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)

GB/T 6671 Thermoplastic pipe longitudinal shrinkage determination (GB/T 6671-2001,
eqvISO 2505.1994)

Determination of the Vicat softening temperature of GB/T 8802 thermoplastic pipes and
fittings (GB/T 8802-2001, eqvISO 2507.1995)

GB/T 8804.1 Determination of the tensile properties of thermoplastic pipes Part 1.General
test methods (GB/T 8804.1-2003, ISO 6295-1.1997, IDT)

GB/T 8804.2 Determination of tensile properties of thermoplastic pipes Part 2.Unplasticized
polyvinyl chloride (PVC-U), chlorinated polyvinyl chloride

(PVC-C) and high impact polyvinyl chloride (PVC.HI) pipes (GB/T 8804.2-2003, ISO
6295-2.1997, IDT)

GB/T 8806 Plastic piping system plastic parts size determination (GB/T 8806-2008, ISO
3126.2005, IDT)

GB/T 14152 Thermoplastic pipe resistance test method for external impact resistance. Hour
hand rotation method (GB/T 14152-2001, eqv ISO 3127.1994)

GB/T 17219 Safety evaluation standard for drinking water distribution equipment and
protective materials

GB/T 18252 Plastic piping systems use extrapolation to determine the long-term hydrostatic
strength of thermoplastic materials in the form of pipes

(GB/T 18252-2020, ISO 9080.2012, IDT)

GB/T 18993.1-2020 Chlorinated Polyvinyl Chloride (PVC-C) Piping System for Hot and
Cold Water Part 1.General (ISO 15877-1.2009, MOD)

GB/T 18993.3-2020 Chlorinated Polyvinyl Chloride (PVC-C) Piping System for Hot and
Cold Water Part 3.Pipe Fittings (ISO 15877-3.2009, MOD)

GB/T 18993.5-2020 Chlorinated Polyvinyl Chloride (PVC-C) Piping System for Hot and
Cold Water Part 5.System Applicability