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

GB/T 28799.4-2024

Replacing GB/T 28799.4-2012

**Polyethylene of raised temperature resistance (PE-RT) piping
systems for hot and cold water - Part 4: Valves**

冷热水用耐热聚乙烯(PE-RT)管道系统 第4部分：阀门

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Foreword

This document is in accordance with the provisions of GB/T 1.1-2020 "Guidelines for standardization work Part

1. Structure and drafting rules for standardization documents" Drafting. This document is part 4 of GB/T 28799 "Heat-resistant polyethylene (PE-RT) piping systems for hot and cold water". GB/T 28799 has been The following parts were published.

3. Pipe fittings;

5. System suitability. Please note that some of the contents of this document may involve patents. The issuing organization of this document does not assume the responsibility for identifying patents. This document was proposed by China Light Industry Federation. This document is under the jurisdiction of the National Technical Committee for Standardization of Plastic Products (SAC/TC48). This document was drafted by: China Urban Construction Research Institute Co., Ltd., Beijing Songtiancheng Technology Co., Ltd., Beijing Construction Engineering Quality The Fourth Testing Institute Co., Ltd., Asia Plastics Products Co., Ltd., Hanwha Total Energy Chemicals (Shanghai) Co., Ltd., Jilin Songjiang Plastics Pipeline Equipment Co., Ltd., Ningbo Yuhua Industrial Co., Ltd., Gongyuan Co., Ltd., China Municipal Engineering North China Design Research General Institute Co., Ltd., Xinjiang Liansu Technology Development Co., Ltd., Zhejiang Zhongcai Pipeline Technology Co., Ltd., Weihai Shifeng Plastic Co., Ltd., Harbin Jinling Technology Co., Ltd., Jilin Province New Pipe Industry Co., Ltd., Zhengzhou Thermal Power Group Co., Ltd., Weihai Tiangang Instrument Co., Ltd. Co., Ltd. and Haotian Energy Saving Equipment Co., Ltd. The main drafters of this document are. Yang Jian, Bian Xianhua, Bai Dongjun, Li Yu, Zhao Qihui, Zhu

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The content of this document is aimed at the needs of plastic pipe systems for water supply and heating in my country, combined with the plastics currently used in plastic pipe systems. Plastic valves, especially those used in hot water pipe systems, are limited by the strength of plastics. At present, only ball valves have application cases in terms of structure, so the content of this document only involves ball valves. Other structural valves are subject to technical development. After it is mature and has certain engineering use experience, it will be supplemented and improved in a timely manner. GB/T 28799 "Heat-resistant Polyethylene (PE-RT) Pipe Systems for Hot and Cold Water" is based on the actual production and application of plastic pipe products in my country. The grass is planned to consist of the following five parts.

1.General. The purpose is to establish the terms, definitions, Symbols and abbreviations, levels of conditions of use, material requirements.

2.Pipes. The purpose is to establish materials, product classification, Selection, requirements, system suitability, test methods, inspection rules, marking, packaging, transportation and storage of pipe series S.

3.Pipe fittings. The purpose is to establish materials, product classification, Requirements, system suitability, test methods, inspection rules, marking, packaging, transportation and storage.

4.Valves. The purpose is to establish the materials, model compilation, Requirements, system suitability, test methods, inspection rules, marking, packaging, transportation and storage.

5.System suitability. The purpose is to establish the suitability of heat-resistant polyethylene (PE-RT) piping systems for hot and cold water. Requirements and test methods. The use pressure of the valves specified in this document at different temperatures shall be selected with reference to the use conditions of the pipes, fittings and connection systems. Use, such as S level. The performance requirements and test verification specified in this document are based on ball valves produced from heat-resistant polyethylene (PE-RTII) materials. Polyethylene (PE-RTI) materials need further verification of relevant performance and requirements, considering compatibility and system applicability. Heat-resistant polyethylene (PE-RT) piping systems for hot and cold water Part

1 Scope

GB/T 28799.4-2024 is the fourth part of the Chinese standard for PE-RT hot and cold water piping systems and it covers the valves. PE-RT has taken a large share of underfloor heating and domestic hot and cold water plumbing in China because it can be joined by fusion without cross-linking, and the valve is the component that most often decides

whether such a system holds: it is where dissimilar materials meet, where the thermal cycling concentrates, and where a leak is hardest to reach. The standard sets the classification and designation of the valves, the requirements on the materials and their compatibility with the pipe, the dimensional and connection requirements, the mechanical and physical requirements including the pressure resistance at the stated temperature classes, the leak tightness under internal and external pressure, the operating torque, the resistance to thermal cycling and the long-term pressure behaviour, together with the test methods, the inspection rules and the marking, packaging, transport and storage. The 2024 edition replaces GB/T 28799.4-2012.

This document specifies the materials, classifications, models, specifications, dimensions, deviations and The requirements for physical and mechanical properties, inspection rules, marking, packaging, transportation and storage are described, and the corresponding test methods are described. This document is applicable to the manufacture and inspection of ball valves made of PE-RTII material with a nominal size not exceeding 400mm. This document, together with other parts of GB/T 28799, applies to hot and cold water piping systems, including domestic hot and cold water piping systems for civil and industrial buildings. Water, drinking water and heating systems, hot spring water piping systems and central heating secondary pipe network systems.

2 Normative references

The contents of the following documents constitute the essential clauses of this document through normative references in this document. For referenced documents without a date, only the version corresponding to that date applies to this document; for referenced documents without a date, the latest version (including all amendments) applies to This document.

GB/T 2828.1 Sampling procedures for inspection by attributes Part

3 General product requirements

GB/T 27572-2011 Rubber seals Specification for pipe joint sealing ring materials for 110°C hot water supply pipes

GB/T 27726 Thermoplastic valve pressure test methods and requirements

GB/T 28799.1-2020 Heat-resistant polyethylene (PE-RT) piping systems for hot and cold water Part

5 System suitability

GB/T 37842 Thermoplastic Ball Valve