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

GB/T 45342-2025

**Vitreous and porcelain enamels - Inside and outside enamelled
valves and pressure pipe fittings for untreated and potable
water supply - Requirements and testing**

搪瓷制品和瓷釉 未处理饮用水供应系统用内外表面搪瓷的阀门和压力管配件 要
求和试验方法

(English Translation)

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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 modifies ISO 11177:2019 "Valves with internal and external enamels for use in untreated drinking water supply systems" Quality requirements and test methods for valves and pressure pipe fittings.

Compared with ISO 11177:2019, this document has more structural adjustments. The structural number changes between the two documents are shown in the table below. See Appendix A.

The technical differences between this document and ISO 11177:2019 and their reasons are as follows.

--- Deleted the normative references EN15771, ISO 13807, ISO 15695, ISO 6370-1, ISO 6370-2,

ISO 16474-1, ISO 16474-2 (see 5.3, 5.4, 5.9, 5.10, 5.11 of ISO 11177:2019) to adapt to my country's standards system;

--- Added normative references GB/T 16422.1 and GB/T 16422.2 (see 5.11) to adapt to my country's technical conditions, and added Operability;

--- Increased the scope of application (see Chapter 1) to adapt to my country's technical conditions;

--- Deleted some terms (see 3.3 of ISO 11177:2019) to adapt to my country's technical conditions;

--- The test specimen (see Chapter 4 of ISO 11177:2019) has been deleted to adapt to the technical conditions of my country;

--- Added the test method for enamel surface quality (see 5.1) to increase operability;

--- ISO 2178 (see 5.2) has been replaced by the normative reference GB/T 4956 to adapt to my country's technical conditions and increase operability Sexuality;

--- Replaced ISO 28706-1:2008 (see 5.6) with the normative reference GB/T 9989.1 to adapt to my country's technical conditions, and added Increase operability;

--- Replaced ISO 28706-2 (see 5.5) with the normative reference GB/T 9989.2 to adapt to my country's technical conditions and increase the Operability;

--- The test method for resistance to sudden temperature change has been changed (see 5.4, 5.4 of ISO 11177:2019) to increase operability.

--- Deleted some technical requirements (see 5.12 of ISO 11177:2019) to adapt to my country's technical conditions.

--- The test report (see Chapter 6 of ISO 11177:2019) has been deleted to adapt to my country's national conditions.

--- Added Mohs hardness method for determining enamel surface hardness (see Appendix B), and deleted the reference in 5.3 of ISO 11177:2019 accordingly.

EN15771, easy to operate;

--- Added the enamel scratch test (see Appendix C), and deleted the ISO 15695 referenced in 5.9 of ISO 11177:2019 to facilitate operate;

--- Added enamel wear test (see Appendix D), and deleted ISO 6370-1, ISO 6370-1 and ISO 6370-2 referenced in 5.10 of ISO 11177:2019.

ISO 6370-2, easy to operate. The following editorial changes were made to this document.

--- The name of the standard was changed to "Valves and pressure pipe fittings with internal and external enamels for untreated drinking water supply systems with enamel products Parts Requirements and Test Methods";

--- Deleted the notes on resistance to weathering exposure and ultraviolet radiation (see 5.11 of ISO 11177:2019).

1 Scope

This document specifies the requirements for valves and pressure pipe fittings with internal and external enamel for use in raw drinking water supply systems and describes the corresponding Test method.

This document applies to the production, inspection and sale of valves and pressure pipe fittings with internal and external enamel for untreated drinking water supply systems.

This document does not apply to enameled products and accessories for chemical use.

2 Normative references

The contents of the following documents constitute 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 4956 Measurement of coating thickness of non-magnetic coatings on magnetic substrates - Magnetic method (GB/T 4956-2003, ISO 2178:1982, IDT)

GB/T 9989.1 Determination of chemical corrosion resistance of enamel Part 1: Determination of acid corrosion resistance at room temperature (GB/T 9989.1-2015, ISO 28706-1:2008, IDT)

GB/T 9989.2 Determination of resistance to chemical attack by enamels Part 2: Resistance to chemical attack by boiling acids, boiling neutral liquids and their vapors Determination (GB/T 9989.2-2015, ISO 28706-2:2008, IDT)

GB/T 16422.1 Plastics laboratory light source exposure test method Part 1: General

GB/T 16422.2 Plastics laboratory light source exposure test method Part 2: Xenon arc lamp

DIN50929-3 Corrosion of metals - Potential for corrosion of metallic materials when subjected to external attack - Part 3: Buried and underwater pipelines and Structural parts (Corrosion of metals-Corrosion likelihood of metallic materials when subject to corrosion from the outside-Part 3: Buried and underwater pipelines and structural components)

3 Terms and definitions

The following terms and definitions apply to this document.

3.1 Micropore

Porous defects in the enamel layer originating from the base metal.

3.2 Corrosion

Reaction with environmental media causes changes in the quality of the enamel material and further leads to the destruction of the functions of the enameled parts or the entire system.