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

GB/T 27572-2025

Replacing GB/T 27572-2011

**Rubber seals - Joint rings for pipelines for hot-water supply up
to 110-degree Celcius - Specification for the materials**
(English Translation)

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Foreword

This document complies with the provisions of GB/T 1.1-2020 "Standardization Work Guidelines Part 1: Structure and Drafting Rules of Standardization Documents".

Drafting.

This document replaces GB/T 27572-2011 "Rubber Seals - Pipe Interface Sealing Ring Material Specification for 110°C Hot Water Supply Pipelines".

Compared with GB/T 27572-2011, the main technical changes in the "Standard" are as follows, apart from structural adjustments and editorial modifications.

a) Added the statement that "the material requirements specified in Appendix A are designed for a potential lifespan of 30 years in hot water at a maximum temperature of 130°C".

Scope of application (see Chapter 1 and Appendix A);

b) The ratings of elastomeric seals, determined by application and requirements, have been changed (see 4.2 and Table 2, Table 3 in the 2011 edition);

c) The material physical performance requirements for a continuous supply of hot water at 110°C have been removed (see Chapter 3 and Table 2 of the 2011 edition);

d) Two new material types and classifications for pipe joint sealing rings have been added (see 4.3);

e) Added the requirement that "if the product with the pipe joint sealing ring is used in drinking water, add 'D' after the grade, separated by a comma" (see [link to product description]).

f) Increased physical property requirements for Type A and Type B materials used in T1, T2, and T3 applications (see Tables 3-8);

g) The relevant content in the chapters and clauses regarding the requirements for finished sealing rings has been revised and adjusted (see 5.2, see 4.2 in the 2011 edition);

h) Change the finished seal's "Compression set in water (for IIR seals)" to "Compression set in water".

The requirements were revised, and related testing requirements were added (see 5.2.11, 4.2.11 in the 2011 version);

i) Added hardness classification and low ozone resistance to the identification code [see 9f) and 9g)];

j) The title of Appendix B has been changed from "Determination of Compression Permanent Deformation of Butyl Rubber Sealing Rings in Hot Water at 110°C" to "□".

Revised to "Determination of compression set of the sealing ring in hot water at 110°C (see Appendix B, Appendix B of the 2011 edition);"

k) The materials of the pressure plate and the limiter of the compression clamp have been changed from "copper or aluminum" to "stainless steel".

The diameter was changed from "phi32" to "phi90", the thickness was changed from "3" to "8", and the compression screw was changed from "single screw" to "three screw" (see Figure B.1).

Figure B.1 (2011 edition)

l) The material and volume requirements for the aging tank have been added to Appendix B (see B.2.2);

(m) Appendix B has been amended to specify the requirements for the test specimens. The specimens are finished O-rings with an inner diameter of 20mm~40mm and a cross-sectional diameter of (3 ± 0.1) mm (see B.3).

This document is modified to adopt ISO 9631:2018 "Rubber seals - Pipe joint sealing ring material specification for hot water supply pipes at 110°C".

Compared with ISO 9631:2018, this document has undergone the following structural adjustments.

---Appendix A (Normative) has been added. "Technical Requirements for the Use of Sealing Rings in Hot Water Up to 130°C";

---Appendix C corresponds to Appendix A in ISO 9631:2018;

---Appendix D corresponds to Appendix C in ISO 9631:2018;

---Appendix E corresponds to Appendix D in ISO 9631:2018.

The main technical differences between this document and ISO 9631:2018, and the reasons therefor, are as follows.

---Added. "The material requirements specified in Appendix A are designed for a potential lifespan of 30 years in hot water up to 130°C." (See Chapter 1 and Appendix A) to adapt to my country's technological conditions;

---The normatively referenced GB/T 18991-2003 has replaced ISO 10508:2006 (see Tables 2, 4.2, and ISO 9631:2018).

Tables 2 and 4.2) are used to adapt to my country's technological conditions.

---ISO 7743 has been replaced with the normative reference GB/T 7757, and the reference references have been changed to normative references (see 5.2.2).

ISO 9631:2018, 5.2.2), to adapt to my country's technical conditions;

---The normative reference GB/T 6031 has replaced ISO 48 (see Tables 3-8, 5.2.3, and Table 3 of ISO 9631:2018).

Table 8, 5.2.3), to adapt to my country's technological conditions;

---The normative reference GB/T 528 has replaced ISO 37 (see Tables 3-8, 5.2.4, Tables 3-8 of ISO 9631:2018).

5.2.4), to adapt to my country's technological conditions;

---The normatively referenced GB/T 7759.1 replaces ISO 815-1 (see Tables 3-8, 5.2.5, ISO 9631:2018).

Tables 3-8, 5.2.5), to adapt to my country's technological conditions;

---The normative reference GB/T 3512 has replaced ISO 188:2011 (see Tables 3-8, 5.2.6, ISO 9631:2018).

Tables 3-8, 5.2.6), to adapt to my country's technological conditions;

---ISO 3384-1:2011 (see Tables 3-8, 5.2.7, ISO 9631.) has been replaced by the normatively referenced GB/T 1685-2008.

Tables 3-8 (2018, 5.2.7) are used to adapt to my country's technological conditions;

---The normative reference GB/T 1690 has replaced ISO 1817 (see Tables 3-8, 5.2.8, Table 3 of ISO 9631:2018).

Table 8, 5.2.8), to adapt to my country's technological conditions;

---The normatively referenced GB/T 7762 has replaced ISO 1431-1 (see Tables 3-8, 5.2.9, Table 3 of ISO 9631:2018).

Table 8, 5.2.9), to adapt to my country's technological conditions;

---The normative reference GB/T 12829 has replaced ISO 34-2 (see Tables 3-8, 5.2.10, Table 3 of ISO 9631:2018).

Table 8, 5.2.10), to adapt to my country's technological conditions;

---ISO 3302-1 (see 5.2.1, ISO 9631:2018) has been replaced with the normatively referenced GB/T 3672.1 to accommodate [the new standard].

my country's technological conditions;

---The normatively referenced standard GB/T 9871-2008 replaces ISO 6914:2013 (see