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

GB/T 15558.2-2023

Replacing GB/T 15558.1-2015

**Buried polyethylene(PE) piping systems for the supply of
gaseous fuels - Part 2: Pipes**

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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 is Part 2 of GB/T 15558 "Underground polyethylene (PE) piping system for gas use": GB/T 15558 has been released

The following parts:

---Part 1: General provisions;

---Part 2: Pipes;

---Part 3: Pipe fittings;

---Part 4: Valves;

---Part 5: System suitability;

This document replaces GB/T 15558:1-2015 "Buried Polyethylene (PE) Pipeline System for Gas Use Part 1: Pipe Materials" and is consistent with

Compared with GB/T 15558:1-2015, in addition to structural adjustments and editorial changes, the main technical changes are as follows:

a) The nominal outer diameter range has been changed (see Chapter 1, Chapter 1 of GB/T 15558:1-2015);

- b) Changes in terms and definitions (see Chapter 3, Chapter 3 of GB/T 15558:1-2015);
 - c) Contents such as material color, grading and nomenclature, design, performance, welding compatibility and changes in compounding ingredients have been deleted (see Chapter 4 of GB/T 15558:1-2015);
 - d) Added relevant requirements for PE100-RC materials and pipes (see Chapter 4 and Chapter 6);
 - e) Changed the requirements for polyethylene recycled materials/recycled materials and identification color strips (see 4:3, 4:4, 4:1, GB/T 15558:1-2015) 4:8);
 - f) Added general requirements for single-layer solid wall pipes and coated pipes (see 6:1);
 - g) Added the requirement that the length should not have negative deviation (see 6:3:1:3);
 - h) Added the specifications of dn710 and dn800 and the corresponding average outer diameter, out-of-roundness and nominal wall thickness (see 6:3:2, 6:3:3);
 - i) The requirements for the average outer diameter have been changed (see 6:3:2:1, 5:2:2 of GB/T 15558:1-2015);
 - j) The wall thickness corresponding to dn32 and SDR17 has been deleted (see 5:2:3:1 of GB/T 15558:1-2015);
 - k) The hydrostatic strength (20°C, 100h) test parameters have been changed (see 6:4, 5:3 of GB/T 15558:1-2015);
 - l) Added strain hardening test (SHT), slow crack growth resistance (cone test) requirements for PE100-RC pipes and corresponding tests
- Test methods (see 6:4, Chapter 7);
- m) Added requirements for ash content, carbon black content, carbon black dispersion/pigment dispersion, trace metal element content and corresponding test methods (see 6:5, Chapter 7);
 - n) Changed the oxidation induction time test parameters (see 6:5, 5:4 of GB/T 15558:1-2015);
 - o) Changed the system applicability requirements (see 6:6, 5:5 of GB/T 15558:1-2015);
 - p) The material test method is deleted (see 6:1 of GB/T 15558:1-2015);
 - q) The test method for the change rate of melt mass flow rate (MFR) has been changed (see 7:11, 6:1:3 of GB/T 15558:1-2015);

- r) The system suitability test method is deleted (see 6:3 of GB/T 15558:1-2015);
- s) Relevant requirements for test methods have been changed (see Chapter 7);
- t) Added the 4th size group (see 8:2:2);
- u) Added final inspection and type inspection items (see 8:3 and 8:6:2);
- v) Added control point inspection requirements (see 8:5);
- w) Changed the inspection frequency requirements (see 8:6:4, 7:6:2 of GB/T 15558:1-2015);
- x) The recycling material label is deleted (see 8:4 of GB/T 15558:1-2015);
- y) Changes in the material, size, performance and other requirements for the peelable layer of the coated pipe (see Appendix C, Appendix E of GB/T 15558:1-2015);
- z) Added a normative appendix "Non-preferred standard size ratios of pipes and corresponding nominal wall thickness" (see Appendix D):

This document has been modified to adopt ISO 4437-2:2014 "Plastic piping system polyethylene (PE) for gas use Part 2: Pipe materials":

Compared with ISO 4437-2:2014, this document has many structural adjustments:
Comparison list of structure number changes between two files

See Appendix A for the table:

Compared with ISO 4437-2:2014, this document has many technical differences: Vertical text is used in the outer margin of the clauses involved:

Single lines (|) are marked: A list of these technical differences and their causes is shown in Appendix B:

The following editorial changes have been made to this document:

---In order to coordinate with the existing standards, the name of the standard is changed to "Buried Polyethylene (PE) Pipeline System for Gas Use Part 2: Pipe Materials";

---In order to facilitate the understanding and use of the standard, notes that are not in line with my country's national conditions have been deleted, and some notes have been changed or added;

---Added Appendix E "Study on some performance differences between mixed ingredients and their products and non-mixed ingredients and their products";

---Deleted Appendix A "Multilayer Co-extruded Pipes" of ISO 4431-2:2014:

Please note that some content in this document may be subject to patents: The publisher of this document assumes no responsibility for identifying patents:

Introduction

GB/T 15558 "Buried Polyethylene (PE) Pipeline System for Gas" aims to standardize the materials of buried polyethylene (PE) pipeline system for gas:

materials, pipes, fittings, valves and system suitability requirements: During this revision process, GB/T 15558:1-2023 and

2023 replaced GB/T 15558:1-2015, GB/T 15558:2-2005 and GB/T 15558:3-2008 respectively:

GB/T 15558 "Buried Polyethylene (PE) Pipeline System for Gas" was drafted based on the actual production and application of polyethylene pipe products in my country, including

It includes five parts: general principles, pipe materials, pipe fittings, valves and system applicability:

---Part 1: General principles: The purpose is to establish the terms, definitions, symbols and regulations applicable to buried polyethylene (PE) piping systems for gas:

Abbreviations, materials, test methods and inspection report requirements:

---Part 2: Pipes: The purpose is to establish terms, definitions, symbols and abbreviations applicable to buried polyethylene (PE) pipes for gas

language, materials, product classification, requirements, test methods, inspection rules, marking and packaging, transportation and storage:

---Part 3: Pipe fittings: The purpose is to establish terms, definitions, symbols and abbreviations applicable to buried polyethylene (PE) pipe fittings for gas

language, materials, product classification, requirements, test methods, inspection rules, markings, technical documents and packaging, transportation and storage:

---Part 4: Valves: The purpose is to establish terms, definitions, symbols and abbreviations applicable to buried polyethylene (PE) valves for gas use:

language, materials, product classification, requirements, test methods, inspection rules, markings, technical documents and packaging, transportation and storage:

---Part 5: System suitability: The purpose is to establish the system suitability for buried polyethylene (PE) piping systems for gas

Terms, definitions, requirements, test methods and inspection rules:

Buried polyethylene (PE) piping system for gas

Part 2: Pipes