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

GB/T 9711-2023

**Petroleum and natural gas industries - Steel pipe for pipeline
transportation systems
(English Translation)**

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Foreword

This document was drafted in accordance with the rules provided in GB/T 1.1-2020 Directives

for Standardization - Part 1.Rules for the Structure and Drafting of Standardizing Documents.

This document serves as a replacement of GB/T 9711-2017 Petroleum and Natural Gas Industries - Steel Pipe for Pipeline Transportation Systems. In comparison with GB/T 9711-2017, apart from structural adjustments and editorial modifications, the main technical changes

are as follows.

- a) The Scope is modified (see Chapter 1; Chapter 1 of Version 2017);
- b) Some terms and definitions are deleted (see Chapter 4 of Version 2017);
- c) Some symbols and abbreviations are added (see Chapter 3);
- d) The information provided by the purchaser is modified (see Chapter 4; Chapter 7 of Version 2017);
- e) The content of heat treatment of laser welded steel pipes and PSL 2 high frequency welded steel pipe welds and HAZ is modified (see 5.1; 8.8.2 of Version 2017);
- f) The requirements for the local straightness deviation of the pipe end are modified (see 5.1; 9.11.3.4 of Version 2017);

- g) The requirements for the perpendicularity of the pipe end are added (see 5.1);
- h) The dimensions of the impact specimens are modified (see 5.1; Table 22 of Version 2017);
- i) The dimensions of the bending dies of the wall thickness reduction specimens in the guided bending test are modified (see 5.1; 10.2.4.6 of Version 2017);
- j) The requirements for welded butt steel pipes are modified (see 5.1; Appendix A of Version 2017);
- k) The position drawing of the weld hardness test of the HFW pipe that is normalized or quenched and tempered throughout the pipe is added [see 5.1; Figure H.1 d) and Figure J.1 d) of Version 2017];
- l) The content of ordering PSL 2 steel pipes with longitudinal plastic strain capacity service conditions is added (see 5.1);
- m) The steel grade when ordering PSL 2 steel pipes resistant to ductile fracture propagation for gas pipelines when the agreement stipulates the banded structure, grain size and inclusion requirements of raw materials (see 5.2; 8.3.3 of Version 2017);
- n) The requirements for hydrostatic pressure test of butt-joined steel pipes are modified (see 5.3; 9.4.2 of Version 2017);
- o) The content of PSL 2 steel pipe hardness test is added (see 5.4);
- p) The requirements for bevel cutting are deleted (see 9.12.1.4 of Version 2017);
- q) The requirements for the maximum allowable outer weld bead height at the pipe ends of SAW pipes and COW pipes are modified (see 5.5; 9.13.2.2 of Version 2017);
- r) The requirements for the sampling location of impact specimens in the heat affected zone during weld misalignment are added (see 5.6);
- s) The requirements for the actual pressure when using end seal plugs for hydrostatic pressure tests are added (see 5.7);
- t) The requirements for the re-test of the guided bending test are modified (see 5.8);

10.2.12.5 of Version 2017);

u) The inspection of the skill assessment of repair welding operators is modified (see 5.9; D.3.1.2 of Version 2017);

v) An equivalent standard for qualification accreditation of non-destructive testing personnel is added (see 5.10; E.1.1 of Version 2017);

w) The specific requirements for ISO wire type image quality meter for real-time imaging inspection of weld radiographic inspection are added (see 5.11.1);

x) The requirements for digital radiographic inspection calibration are modified (see 5.11.2; E.4.4.3 of Version 2017);

y) The content of Method 1 of The European Pipeline Research Group (EPRG) Guidelines is modified (see 5.12; G.7 of Version 2017);

z) The requirements for the local straightness deviation of the pipe end of PSL 2 steel pipes under offshore service conditions are deleted [see J.6.4 b) of Version 2017].

This document modifies and adopts ISO 3183.2019 Petroleum and Natural Gas Industries - Steel Pipe for Pipeline Transportation Systems.

In comparison with ISO 3183.2019, this document makes the following structural adjustments.

---Chapter 4 corresponds to 4.3 of ISO 3183.2019;

---Chapter 5 corresponds to Chapter 4 of ISO 3183.2019.

The technical differences between this document and ISO 3183.2019, and the causes for these

differences are as follows.

---The Scope is modified (see Chapter 1) and the content of steel pipes for pure hydrogen transportation pipelines is added;

---The normative reference GB/T 9253 is added to satisfy the actual demands;

---The information provided by the purchaser is modified (see Chapter 4) to satisfy the actual demands;

---The circumstance that when ordering PSL 2 steel pipes resistant to ductile fracture propagation for gas pipelines, if agreed upon, the purchaser may specify the banded

structure, grain size and inclusion requirements of the raw materials is added (see 5.2) to satisfy the actual demands;

---The requirements for hydrostatic pressure test of butt-joined steel pipes are modified (see 5.3) to satisfy the actual demands;

---The content of PSL 2 steel pipe hardness test is added (see 5.4) to satisfy the actual demands;

---The requirements for the maximum allowable outer weld bead height at the pipe ends of SAW pipes and COW pipes are modified (see 5.5) to satisfy the actual demands;

---The requirements for the sampling location of impact specimens in the heat affected zone during weld misalignment are added (see 5.6) to satisfy the actual demands;

---The requirements for the actual pressure when using end seal plugs for hydrostatic pressure test are added (see 5.7) to satisfy the actual demands;

---The inspection of the skill assessment of repair welding operators is modified (see 5.9) to satisfy the actual demands;

---An equivalent standard for the qualification accreditation of non-destructive testing personnel is added (see 5.10) to satisfy the actual demands;

---The specific requirements for ISO wire type image quality meter for real-time imaging inspection of weld radiographic inspection are added (see 5.11.1) to satisfy the actual demands;

---The content of Method 1 of The European Pipeline Research Group (EPRG) Guidelines is modified (see 5.12) to satisfy the actual demands;

---The content regarding the ordering of PSL 2 steel pipes for European land natural gas transmission pipelines is deleted (see 4.2 and Appendix A of ISO 3183.2019), because there is no such demand in China.

This document makes the following editorial modifications.

---Appendix A (informative) "Ordering of PSL 2 Steel Pipes for Pure Hydrogen Transmission Pipelines" is added;

---Appendix B (informative) "Recommended Practice for Evaluation of Abnormal