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**NATIONAL STANDARD OF THE  
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**GB/T 46446.1-2025**

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**Petroleum, petrochemicals and natural gas industries - Internal  
coating and lining of carbon steel process vessels - Part 1:  
Technical requirements**

石油、石化和天然气工业 碳钢过程容器内涂层和衬里 第1部分：技术要求  
**(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 is Part 1 of GB/T 46446 "Coatings and Linings for Carbon Steel Process Vessels in the Petroleum, Petrochemical and Natural Gas Industries".

GB/T 46446 has published the following parts.

---Part 1: Technical Requirements.

This document is modified to adopt ISO 18796-1:2018 "Coatings and linings inside carbon steel process vessels for the petroleum, petrochemical and gas industries - Part 1".

## Part. Technical Requirements.

This document has undergone the following structural adjustments compared to ISO 18796-1:2018.

---Chapter 7 corresponds to Chapters 8 and 9 of ISO 18796-1:2018, with sections 7.1 to 7.4 corresponding to sections of ISO 18796-1:2018.

Chapter 8, section 7.5 corresponds to Chapter 9 of ISO 18796-1:2018;

---Chapter 8 corresponds to Chapter 10 of ISO 18796-1:2018, where 8.6.5 corresponds to 10.7 of ISO 18796-1:2018;

---Chapters 4, 5, 6, 9, and 10 correspond to Chapters 5, 6, 7, and 8 of ISO 18796-1:2018, respectively.

Chapter 11, Chapter 12.

The technical differences between this document and ISO 18796-1:2018, and the reasons therefor, are as follows.

---Unused terms such as "ASTM", "BGAS", "BS", "CV", "DFT", "GRUP", "GRVE", "GSO", and "ISO " have been removed from the text.

The 16 abbreviations are "NACE", "OSHA", "QP", "RH", "RP", "SSPC", and "WFT" (see 3.2);

---ISO 4624 has been replaced by the normatively referenced GB/T 5210 (see Table 1), and GB/T 30648 (all parts) has been replaced by the normatively referenced GB/T 5210 (see Table 1).

The ISO 2812 standard (all parts) has been replaced (see Table 1), and the normatively referenced GB/T 6742 has replaced ASTM D522.

(See Table 1) ASTM D2583 has been replaced with the normatively referenced GB/T 3854 (see Table 1).

GB/T 531.1 replaces ISO 7619-1 (see Table 1), and GB/T 1768, a normative reference, replaces ASTM D4060.

(See Table 1) ISO 8502-9 has been replaced by the normatively referenced GB/T 18570.9 (see 6.3.3, 8.5.4).

GB/T 18570.6 replaces ISO 8502-6 (see 6.3.3, 8.5.4) and uses the normatively referenced GB/T 18838 (all parts).

The ISO 11124 (all parts) (see 6.4.1) standard was replaced by the normatively referenced GB/T 19816 (all parts).

ISO 11125 (all parts) (see 6.4.1) replaces ISO 8503-4 (see GB/T 13288.4, which is

normatively referenced).

6.4.3) ISO 8503-5 has been replaced by the normatively referenced GB/T 13288.5 (see 6.4.3).

GB/T 8923.1 replaces ISO 8501-1 (see 6.4.4, 6.5.2, 8.5.3) and replaces the normatively referenced GB/T 18570.3.

ISO 8502-3 (see 6.4.8, 8.5.5) was replaced, and ISO 2808 (see 7.4.1) was replaced by the normatively referenced GB/T 13452.2.

The normative reference GB 13200 replaces ISO 7027 (see 8.4.2), and the normative reference GB/T 17849 replaces [the previous standard].

ISO 11127 (see 8.4.2) replaces ASTM D5402 (see 8.6.4) with the normatively referenced GB/T 23989.

GB/T 18253, which is used for reference, replaces ISO 10474 (see 10.4) for ease of application in this document;

---The adhesion requirement has been changed to a high-temperature and high-pressure performance requirement, and requirements for coating hardness and coating impact resistance have been added (see Table 1).

Further improve the compatibility between indoor testing and field service environments;

---Added construction environment requirements [see 7.2d)] to further standardize the painting process;

---Change "coating" to "coating/lining" to align with relevant standards.

The following editorial changes have been made to this document.

---Chapter 4 of ISO 18796-1:2018 has been removed;

---All comments regarding standard equivalence have been removed from the file;

---The unit "mil" has been removed from 5.5, leaving only the unit "μm";

---The unit in 6.4.7 has been changed to MPa, and the numerical values have been adjusted accordingly;

Please note that some content in this document may involve patents. The issuing organization of this document assumes no responsibility for identifying patents.

This document was proposed and is under the jurisdiction of the National Technical Committee on Standardization of Petroleum Drilling Equipment and Tools (SAC/TC96).