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

**GB/T 46598-2025**

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**Steel plate, sheet and strip for gaseous hydrogen  
transportation and storage pipelines**

氢气输送和存储管道用钢板和钢带

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## Foreword

This document conforms to GB/T 1.1-2020 "Standardization Work Guidelines Part

1.Structure and Drafting Rules of Standardization Documents". Drafting is scheduled.

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 by the China Iron and Steel Association. This document is under the jurisdiction of the National Steel Standardization Technical Committee (SAC/TC 183). This document was drafted by: Shougang Group Co., Ltd., Institute of Physics and Chemistry, Chinese Academy of Sciences, Nanjing Iron & Steel Co., Ltd., and Jiangyin Iron & Steel Co., Ltd. Xingcheng Special Steel Co., Ltd., Metallurgical Industry Information and Standardization Research Institute, Benxi Steel Plate Co., Ltd., Hunan Valin Xiangtan Steel Co., Ltd. Hunan Valin Lianyuan Iron & Steel Co., Ltd., Anyang Iron & Steel Group Co., Ltd., Hebei HBIS Materials Technology Research Institute Co., Ltd., Shandong Steel China Railway Group Rizhao Co., Ltd., Inner Mongolia Baogang Steel Union Co., Ltd., Iron & Steel Research Institute Co., Ltd., and Steel Research Nake Testing Technology Co., Ltd. Limited Liability Company, Beijing University of Science and Technology, Panzhihua Iron and Steel Group Xichang Steel & Vanadium Co., Ltd., Nanyang Hanye Special Steel Co., Ltd., China United Heavy-Duty Gas Turbine Co., Ltd. Machinery Technology Co., Ltd., Bohai Petroleum Equipment Manufacturing Co., Ltd. of China National Petroleum Corporation, Hubei University of Automotive Technology, Chongqing Institute of Power Construction Corporation of China Cheng Co., Ltd. The main drafters of this document are. Shi Li, Wang Songtao, Li Shaopo, Jiang Jinxing, Sun Xianjin, Tian Zijian, Zhang Weixu, Liu Zhipu, Du Jiang, and Wei Cen. Wang Xinzhi, Zhao Linlin, Han Qibiao, Yuan Xiaoming, Wang Bing, Luo

Jing, Zheng Wenyue, Huang Chu, Li Zhongbo, Shu Guogang, Wang Qiang, Ding Qingfeng, Xiao Hanqing, Ding Wenhua Qin Liye, Du Haijun, Zhang Quanquan, Sun Menghan, Han Yu, Jia Jin, Liu Xuhui, Cao Erzhan, Wang Jian, Kong Ya, Su Cheng, Li Ba, Feng Yan, Wang Hantong Ren Shoubin, Yang Yang, Zhao Yuchen, Wang Yanfeng, Li Qian, Niu Tao, Gong Zhen. Steel plates and strips for hydrogen transmission and storage pipelines

## 1 Scope

GB/T 46598-2025 is the Chinese national standard covering the plate and strip the pipe is rolled from - the chemistry and the inclusion control, the mechanical properties through the thickness, and the hydrogen compatibility that has to be established in the parent material before the pipe is made. First edition, with the pipe standard GB/T 46599-2025. In force from 1 May 2026. Issued on 31 October 2025, it has been in force since 1 May 2026.

This document specifies the classification and grade designation methods, manufacturing methods, technical requirements, and testing procedures for steel plates and strips used in hydrogen transmission and storage pipelines. Testing methods, inspection rules, packaging, marking and quality certificates. This document applies to the manufacture of straight-seam submerged arc furnaces for onshore transportation and storage of hydrogen with purity conforming to GB/T 3634.1 or GB/T 3634.2. Submerged arc welded (SAWL) steel pipes, spiral submerged arc welded (SAWH) steel pipes, and high frequency welded (HFW) steel pipes use steel plates with a thickness of 6 mm to 40 mm. Steel strip (hereinafter referred to as steel plate and steel strip).

## 2 Normative references

The contents of the following documents, through normative references within the text, constitute essential provisions of this document. Dated citations are listed below. For references to documents, only the version corresponding to that date applies to this document; for undated references, the latest version (including all amendments) applies. This document.

GB/T 223 (all parts) Chemical Analysis Methods for Iron and Steel and Alloys

GB/T 228.1 Metallic materials - Tensile testing - Part