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GB/T 47039-2026

**Hydrogen metallurgy - Technical requirements for
hydrogen-rich systems in blast furnace smelting**

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Table of Contents

1.Scope	1
2 Normative References	1
3.Terms and Definitions	1
4.Principles and Process Flow	2
4.1 Principle	2
4.2 Process Flow	2
5 General Provisions	3
5.1 Layout of the hydrogen-rich system in blast furnace smelting	3
5.2 Requirements for hydrogen-rich gas and purging nitrogen	3
5.3 Pipeline	4
5.4 Power supply, electrical and instrumentation equipment	4
5.5 Fire Protection Design and Firefighting	4
5.6 Lightning protection and grounding	4
6.Devices and Operating Systems	4
6.1 Basic Components	4
6.2 Gas storage device	4
6.3 Hydrogen-rich main valve assembly	5
6.4 Distributor	5
6.5 Gas Path Switching Device	5
6.6 Hydrogen-rich branch valve assembly	5
6.7 Hydrogen-rich spray gun	5
6.8 Nitrogen purge valve assembly	6
6.9 Venting and exhaust system	6
6.10 Alarm Device	6
6.11 Hydrogen-rich operation control system	7
7.1 Hydrogen-rich operation	7
7.2 Stopping and Re-enriching Hydrogen Operations	7
7.3 System Emergency Shutdown Operation	8
7.4 Blast Furnace Hydrogen-Rich Smelting Operation	8
7.5 Safety Risk Management	8
11 Reference	13

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. 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 prepared by the National Technical Committee on Hydrogen Energy Standardization (SAC/TC309) and the National Technical Committee on Steel Standardization (SAC/TC183). Under the same jurisdiction. This document was drafted by: Shanghai University, Changli County Xingguo Precision Machinery Co., Ltd., Tongji University, China National Institute of Standardization, and Metallurgical Industry. Industry Information Standards Research Institute, Baoshan Iron & Steel Co., Ltd., Anshan Iron & Steel Group Co., Ltd., Hebei Iron & Steel Group Co., Ltd., Beijing Shougang International Engineering Technology Co., Ltd., MCC Jingcheng Engineering Technology Co., Ltd., Northeastern University, Shanghai Wusong Materials Laboratory, China Steel Equipment Co., Ltd. Sichuan Special Equipment Inspection and Research Institute and Zhejiang Yaoding Hydrogen Energy Technology Co., Ltd. The main drafters of this document are. Lu Xionggang, Yang Yuzhu, Zou Xingli, Zhang Cunman, Li Jian, Wu Wenhe, Zhou Luli, Chen Jian, Zhu Jianwei, and Wu Liyun. Ma Ming, Zhang Yuwen, Zhu Kai, Hao Liangyuan, Zhou Guocheng, Li Jian, Lü Hong, Zhang Chenyang, Chu Mansheng, Tian Jinglei, Liu Yaling, Cheng Li, Wang Yanbin, Zhang Jiahang Yu Jingyao, Wang Xuzhi, Qiu Jinhui, Zhang Ruopeng. Technical requirements for hydrogen-rich systems in blast furnace smelting of hydrogen metallurgy

1 Scope

GB/T 47039-2026 is the Chinese national standard covering injecting hydrogen into a blast furnace - replacing part of the coke's reducing work with a gas whose product is water rather than CO₂, with the injection system, the effect on the furnace's thermal and chemical balance and the safety of hydrogen at a tuyere. It is the transitional step for an industry that cannot rebuild every furnace at once. First edition, in force since 1 May 2026. It was issued on 28 January 2026 and has been in force since 1 May 2026, as a first edition. The document is under the responsibility of the Standardization Administration of China. This page is published from the official record of the 2026 edition; the clause text of a standard this recent is not yet in circulation, and the figures, limits and tables it contains are those of the document itself, delivered in full with the English translation.

This document specifies the principles and technological process, general provisions, equipment and operating system of the hydrogen-rich blast furnace smelting system, and outlines its operation. Management and maintenance requirements. This document applies to the design, operation, management, and maintenance of hydrogen-rich systems for

newly built, renovated, or expanded blast furnace smelting in the steel industry.

2 Normative references

The contents of the following documents, through normative references within the text, constitute essential provisions of this document. Dated citations are not included. 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 4830 Pressure range and quality of air source for industrial automation instruments

GB 4962 Safety Technical Regulations for the Use of Hydrogen

GB 12358 General Technical Requirements for Gas Detection and Alarm Instruments in the Workplace

GB 15322.1 Combustible gas detectors - Part

3 Terms and Definitions

The terms and definitions defined in GB/T 24499 and GB 50427, as well as the following terms and definitions, apply to this document.