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

GB/T 37752.5-2024

**Industrial furnaces and associated processing equipment -
Safety - Part 5: Steel strip continuous processing lines**

工业炉及相关工艺设备 安全 第5部分：钢带连续退火炉

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Table of Contents

1 Scope	1
2 Normative references	1
3 Terms and Definitions	2
4 Security Assessment	2
5 Safety requirements and measures	3
6 Security Measures Verification	14
18 Reference	20

Foreword

This document is in accordance with the provisions of GB/T 1.1-2020 "Guidelines for standardization work Part

1. Structure and drafting rules for standardization documents" Drafting. This document is Part 5 of GB/T 37752 "Safety of Industrial Furnaces and Related Process Equipment". Lower part.

1. General requirements;

5. Continuous annealing furnace for steel strip. Please note that some of the contents of this document may involve patents. The issuing organization of this document does not assume the responsibility for identifying patents. This document is proposed by the China Electrical Equipment Industry Association. This document is under the jurisdiction of the National Technical Committee for Standardization of Industrial Electric Heating Equipment (SAC/TC121). This document was drafted by: Zhejiang Huada New Materials Co., Ltd., Jiangsu Qitian Environmental Protection Technology Co., Ltd., Huangshi Shanli Technology Co., Ltd. Co., Ltd., Jinan Best Technology Development Co., Ltd., Henan Tianli Thermal Equipment Co., Ltd., Xi'an Electric Furnace Research Institute Co., Ltd., Jiangsu Xinhua Alloy Co., Ltd., MCC Southern (Wuhan) Thermal Engineering Co., Ltd., Hai'an Tianyi Intelligent Control Equipment Co., Ltd., Liaoning Jiashun Technology Co., Ltd., Beijing Xinghe Zhonglian Technology Co., Ltd., Dalian Xinhe Heavy Industry Co., Ltd., Hengyuan Industrial Furnace (Jingjiang) Co., Ltd., Hubei MCC Kiln Co., Ltd., Chongqing CISDI Thermal Engineering and Environmental Protection Engineering Technology Co., Ltd., and MCC CISDI Shanghai Engineering Technology Co., Ltd. The main drafters of this document are. Xiao Xuewen, Xiao Peng, Jiang Zhenyu, Li Kun, Xu Xiufei, He Jianfeng, Yang Baisong, Ma Guohe, Zhang Bin, Wei Xijing, Li Mingke, Hua Peng, Shao Tiannan, Lü Ninghong, Yan Jiangsheng, Jiang Sheming, Wang Ting, Wu Baojun, Song Chaoqun, Hua Dafeng, Wang

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Industrial furnaces and related process equipment are thermal equipment that use heat from fuel combustion or electrical energy conversion to heat materials or workpieces. To ensure the safety of industrial furnaces and related process equipment, it is necessary to formulate GB/T 37752 "Safety of Industrial Furnaces and Related Process Equipment" series of standards. GB/T 37752 is intended to specify the safety requirements for industrial furnaces and related process equipment and is intended to consist of the following eight parts.

- 1.General requirements. The purpose is to specify the general safety requirements for industrial furnaces and related process equipment.
- 2.Combustion and fuel handling systems. The purpose is to specify the safety requirements for combustion and fuel handling systems.
- 3.Generation and use of protective and reactive atmosphere gases. The purpose is to specify the generation and use of protective and reactive atmosphere gases. Safety requirements for the production and use of
- 4.Protection system. The purpose is to specify the safety requirements of protection systems.
- 5.Continuous annealing furnace for steel strip. The purpose is to specify the safety requirements for continuous annealing furnace for steel strip.
- 6.Continuous coating incinerators and curing ovens. The purpose is to specify the safety requirements for continuous coating incinerators and curing ovens.
- 7.Steel belt hood annealing furnace. The purpose is to specify the safety requirements for steel belt hood annealing furnace.
- 8.Pressure sintering furnace. The purpose is to specify the safety requirements for pressure sintering furnaces. Other parts are formulated in accordance with GB/T 37752.1 and are used in conjunction with GB/T 37752.1. Safety of industrial furnaces and related process equipment Part

1 Scope

Part 5 of China's national safety standard for industrial furnaces and associated processing equipment, covering steel strip continuous processing lines. It specifies the safety assessment, the safety requirements and measures, and the verification of those measures. A continuous processing line - annealing, galvanizing, colour coating - threads strip through a furnace hundreds of metres long that never stops, and the hazards are those of a furnace and those of a moving strip at once. The furnace atmosphere is the

specific danger: annealing runs under hydrogen and nitrogen to reduce the surface oxide, and hydrogen at those concentrations is explosive in air, so purging, ignition, atmosphere monitoring and the sequence for opening the furnace all have to be prescribed rather than left to practice. Add the strip itself under tension, the welder that joins coil to coil, the zinc pot, and the accumulator towers that hold hundreds of metres of strip to keep the line running while the entry section stops.

This document specifies the safety assessment, safety requirements and measures, safety Requirements such as verification of measures and information on use. This document is applicable to the consulting design of new equipment and the improvement of existing equipment for plain carbon steel strip continuous annealing furnace (hereinafter referred to as "annealing furnace"). Consulting and design.

2 Normative references

The contents of the following documents constitute the essential clauses of this document through normative references in this document. For referenced documents without a date, only the version corresponding to that date applies to this document; for referenced documents without a date, the latest version (including all amendments) applies to This document.

GB/T 2624 (all parts) Measurement of full pipe flow using a differential pressure device installed in a circular cross-section pipe

GB/T 2893 (all parts) Graphical symbols - safety colours and safety signs

GB 4053 (all parts) Safety requirements for fixed steel ladders and platforms

GB 4962 Safety Technical Specifications for the Use of Hydrogen

GB 5083 General principles for safety and sanitation design of production equipment

GB 6222 Gas Safety Regulations for Industrial Enterprises

GB/T 9124 (all parts) Steel pipe flanges

GB 12348 Industrial Enterprise Boundary Ambient Noise Emission Standard

GB/T 13869 Guidelines for Electricity Safety

GB/T 15706 General principles for safety design of machinery - Risk assessment and risk reduction

GB 15735 Safety and hygiene requirements for metal heat treatment production processes

GB/T 19672 Technical requirements for pipeline valves

GB/T 19839 General technical requirements for industrial oil and gas burners