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

GB/T 35150.7-2024

**Technical requirements of dry process cement production
complete equipment - Part 7: Denitration system**

新型干法水泥生产成套装备技术要求 第7部分：脱硝系统

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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 7 of GB/T 35150 "Technical requirements for complete sets of equipment for the

production of new dry process cement". The following parts are published.

- 1.Raw meal preparation system;
- 2.Firing system;
- 3.Cement preparation system;
- 4.Cement kiln co-processing system;
- 5.Dust removal system;
- 6.Desulfurization system;

7.Denitrification system. 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 was proposed by China Building Materials Federation. This document is under the jurisdiction of the National Technical Committee for Standardization of Building Materials and Equipment (SAC/TC465). This document was drafted by: Sinoma International Environmental Engineering (Beijing) Co., Ltd., China Building Materials Machinery Industry Association, Anhui Conch Building Materials Design Research Institute Co., Ltd., China Building Materials Environmental Protection Research Institute (Jiangsu) Co., Ltd., Fujian Yuanzhi Environmental Protection Technology Co., Ltd., Yancheng Institute of Technology, Tangshan Jidong Equipment Engineering Co., Ltd., Chengdu Daqi Technology Co., Ltd., Beijing Aluminum Energy Fresh Environmental Technology Co., Ltd., Shandong Shanshui Cement Group Co., Ltd., Henan Sinoma Environmental Protection Co., Ltd., Xi'an Longking Environmental Protection Technology Co., Ltd., Sinoma Energy Conservation Co., Ltd., Yancheng Lanfeng Environmental Engineering Technology Co., Ltd., Shanxi Gemeng Puli Environmental Co., Ltd., Huaji Environmental Protection (Wuhan) Co., Ltd., Zhejiang DeChuang Environmental Technology Co., Ltd., Zhejiang Hongsheng New Materials Technology Group Co., Ltd., Huadian Qingdao Environmental Technology Co., Ltd., Jiangshan Hejiashan Cement Co., Ltd. The main drafters of this document are. Guo Yanpeng, Zhou Jinbo, Yu Jinhui, Ji Lei, Wang Yumin, Pu Xiangkai, Hu Bin, Luo Xiangbo, Zhao Danhui, Li Ao, Li Zhiqiang, Liu Pingcheng, Zuo Hongchuan, Liu Xiaoli, Wang Yan, Chen Zhongsheng, Hou Guangchao, Lei Hua, Tao Junpu, Wang Jiadong, Hou Zhifu, Wang Daolong, Zhao Bo, Wang Zhengshang, Zhou Bin, Li Xiangchao, Wang Bin, Yang Xiaohong, Zhang Baolin, Huang Kunming, Liu Fengxia, Wang Zhiqiang, Qu He, Wang Yue, Gao Fei, Li Zhefei, and Zhang Hong.

The new dry process cement production technology is based on the suspension preheating and pre-decomposition technology, which uses the existing technologies in thermal engineering, powder engineering, fluid mechanics, etc. The comprehensive technology of cement production is based on modern scientific theories and technologies, and adopts computer and network information technology. The complete set of equipment consists of relatively independent The independent process system equipment mainly includes raw

material crushing and homogenization, raw material preparation, fuel preparation, cement kiln co-processing, clinker burning, cement Preparation, dust removal, desulfurization, denitrification, process control, packaging and other system equipment. At present, my country's cement equipment and technology have reached the international advanced level, but the complete set of equipment based on system solutions is facing With the expansion of the export of domestic cement complete equipment and the scale of engineering general contracting, the system of complete equipment is in urgent need of standardization and support. The demand for systematic standards is also gradually increasing. The purpose of formulating the standards for new dry process cement complete equipment is to improve the user-oriented cement complete equipment The standard system provides technical support for the high-quality development of the cement industry and better guides the industry to develop in the direction of green, low-carbon and intelligent manufacturing. At the same time, it supports the export of complete sets of cement equipment in my country. The equipment involved in this document is used to treat the flue gas (waste gas) containing nitrogen oxides during the cement clinker burning process to achieve the removal of nitrogen oxides. This document is formulated to provide technical support for the green, low-carbon and high-quality development of the cement industry. GB/T 35150 is planned to consist of seven parts.

- 1.Raw meal preparation system. The purpose is to standardize the equipment of the raw meal preparation system in the new dry process cement production complete set Composition, technical requirements, safety and environmental protection requirements, installation acceptance, commissioning and performance testing and delivery documents.
- 2.Firing system. The purpose is to standardize the equipment composition, technology and Requirements, safety and environmental protection requirements, installation acceptance, commissioning and performance testing and delivery documents.
- 3.Cement preparation system. The purpose is to standardize the equipment of cement preparation system in the new dry process cement production complete equipment Composition, technical requirements, safety and environmental protection, installation acceptance and commissioning, performance testing and delivery documents.
- 4.Cement kiln co-processing system. The purpose is to standardize the cement kiln co-processing system in the new dry process cement production equipment. System equipment composition and performance indicators, technical requirements, safety and environmental protection, installation acceptance, commissioning and performance testing and delivery of the system document.

1 Scope

GB/T 35150.7-2024 is the denitrification part of the Chinese standard for complete dry process cement production equipment. Nitrogen oxide control on a cement kiln is harder than on a boiler: the gas is dust-laden enough to blind a catalyst, the temperature window

for selective non-catalytic reduction sits in the calciner where residence time and mixing are difficult, ammonia slip has to be held down because it reacts to form deposits and because it is itself regulated, and Chinese emission limits for the sector have been tightened repeatedly. The standard sets the classification and composition of the denitration systems, low-nitrogen combustion, SNCR and SCR, and then the technical requirements: the performance in removal efficiency, outlet concentration and ammonia slip, the reagent storage, preparation and injection system, the catalyst and its arrangement and life where used, the gas distribution and mixing, the instrumentation, control and continuous emission monitoring, and the safety requirements for handling ammonia. It then gives the test methods and inspection rules. It takes effect on 1 June 2025.

This document specifies the classification, composition, technical requirements, safety and environmental protection, installation inspection and other aspects of the denitrification system in the new dry process cement production equipment. Receipt and commissioning, performance testing and delivery documents. This document applies to the design, manufacture and acceptance of denitrification systems in new dry process cement production equipment.

2 Normative references

The contents of the following documents constitute 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 150.4 Pressure vessels Part

4 Manufacturing, inspection and acceptance

GB/T 1591-2018 Low alloy high strength structural steel GB/T 2440 Urea

GB 2894 Safety signs and their use guidelines

GB/T 3766 General rules and safety requirements for hydraulic transmission systems and their components

GB/T 3797 Electrical control equipment

GB/T 3836.1 Explosive atmospheres Part