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Micro-nano iron powder

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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. 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 Technical Committee on Standardization of Pig Iron and Ferroalloys (SAC/TC318). This document was drafted by: Sichuan Daniu New Material Technology Co., Ltd., Guizhou Meiling Power Supply Co., Ltd., and Anshan Ansteel Iron Oxide Powder Co., Ltd. The company, Shandong Luyin New Material Technology Co., Ltd., Inner Mongolia Jinaoyu New Material Co., Ltd., Shandong Taidong New Material Co., Ltd., Zhejiang Bai Dajing Machinery Co., Ltd., Baowu Environmental Technology Wuhan Metal Resources Co., Ltd., Xi'an Northern Qinghua Electromechanical Co., Ltd., China Electronics Technology Group Corporation The 18th Research Institute of China Aerospace Science and Technology Corporation, Shanghai Space Power Supply Research Institute, Shandong Luxin Powder Magnetic New Material Technology Co., Ltd., Anhui University of Technology Metallurgical Industry Information and Standards Research Institute. The main drafters of this document are. Ren Hongxia, Shi Bin, Ren Chen, Wang Hewei, Zhao Yufeng, Wu Qibing, Chen Jianming, Tang Licheng, Zhao Mingtao, and Wang Changdong. Han Yiming, Zhang Lijun, Su Fengge, Huang Zhenyi, Zhu Panxing, Gong Xiuting, Mou Qinyao, Tang Jun, Zhang Yang, Liu Xinnan, Zhang Yi, He Zhengdong, Yu Yongliang Huang Huaqin, Xiu Weiwei, Guo Yufeng, Shi Shenghe, Zhai Yuhao, Zhang Dawei, Liu Zhaowa, Han Lei, Yang Yu, He Hao, Tang Musheng, Xi Baoxiang, Huang Zhenyu Zhou Siqi, Li Yong, Huang Jianping, Luo

Bihuan, Lu Chunsheng. Micro-nano iron powder

1.Scope This document specifies the grades and designation methods, technical requirements, test methods, inspection rules, packaging, marking, storage, and transportation of micro/nano iron powder. Delivery and quality certificate. This document applies to micro/nano iron powder produced by hydrogen reduction; micro/nano iron powder produced by other methods should refer to this document for implementation.

4 Brand designation and its representation

4.1 Brand Designation Micro- and nano iron powders are classified into four types according to their main applications. WNF-Fe-N-100, WNF-Fe-W-5, WNF-Fe-W-30, and WNF-Fe-W-50. Brand name.

4.2 Designation Method

4.3 Main uses of each grade WNF-Fe-N-100 is mainly used in coating materials. WNF-Fe-W-5 is mainly used for wastewater treatment and deep soil treatment. WNF-Fe-W-30 is mainly used in thermal batteries. WNF-Fe-W-50 is primarily used in diamond cutting tools.

5 Technical Requirements

The physical properties, chemical composition, test performance, and appearance morphology of micro/nano iron powder should conform to the requirements in Table 1.

6 Hydrochloric acid insoluble matter GB/T 223.34

6.4 Test Performance The testing methods for performance evaluation shall be as per Table 4, or determined through negotiation between the supplier and the buyer.

7 Inspection Rules

7.1 Factory Inspection Each batch of products shall be inspected before leaving the factory in accordance with the requirements of Table 1 (excluding the testing of C, S, and P chemical components).

7.2 Type Testing

7.2.1 All indicators specified in this document shall undergo type testing. Under normal production conditions, type testing shall be conducted at least once a year. test.

7.2.2 Type testing shall be performed in any of the following circumstances.

a) Trial production and type approval of the factory's first manufacturing or product conversion.

- b) When there are significant changes in raw materials or processes that may affect product performance.
- c) When production resumes after a product has been suspended for more than six months.
- d) When the factory inspection results differ significantly from the previous type inspection results.
- e) As stipulated in the contract.
- f) When the quality supervision agency requests a type test.

7.3 Sampling and Judgment Rules

7.3.1 Take no less than 200g of each batch of products for inspection, and the sampling method shall be in accordance with the provisions of GB/T 5314.

7.3.2 If any indicator in the test results fails to meet the requirements of this document, double the sample size should be taken from the same batch for retesting of the non-conforming items. If the test results are satisfactory, the entire batch of products is considered satisfactory; if any indicator in the retest results fails to meet the requirements of this document, the batch of products is considered unsatisfactory.

8.1 Packaging

8.1.1 The packaging requirements for WNF-Fe-W-30 grade products are as follows:

- a) The product should be packaged in three layers.
- b) Inner layer plastic bag packaging, outer layer aluminum-plastic bag double-layer vacuum packaging, the thickness of the aluminum-plastic film used for sealing is not less than 113 μ m. The process should be carried out in an environment with a relative humidity of less than 2%.
- c) The net weight of a single bag of products shall not exceed 2kg, and the allowable tolerance for the net weight of a single piece shall be less than 1%.
- d) After being sealed and packaged, the contents are placed in a metal drum after being marked and sealed with a lid. The net weight of a single drum shall not exceed 20 kg.

8.1.2 Packaging requirements for WNF-Fe-W-5 and WNF-Fe-W-50 grade products.

- a) The product should be packaged in two layers.
- b) Inner layer plastic bag packaging, outer layer vacuum packaging in aluminum-plastic bag, the thickness of the aluminum-plastic film used for sealing should not be less than 113 μ m.

- c) The net weight of the product in a single bag is 10 kg.
- d) After being sealed and packaged, the contents are placed in a metal drum after being marked and sealed with a lid. Each drum has a net weight of 10kg to 20kg.

8.1.3 Packaging requirements for WNF-Fe-N-100 grade products.

- a) The product should be packaged in two layers.
- b) The inner layer is sealed with metal foil or a thick plastic bag, and the outer layer is a thick plastic bag that is vacuum-sealed or filled with inert gas and then sealed. Each bag contains 100g, 250g, 500g.
- c) After being sealed and packaged, the contents are placed in a metal drum after being marked and sealed with a lid. The net weight of a single drum shall not exceed 10 kg.