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

GB/T 34494-2017

**Hydrogen decrepitation neodymium iron boron permanent
magnetic powder**

氢碎钕铁硼永磁粉

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Foreword

This standard was drafted in accordance with the rules given in GB/T 1.1-2009. This standard by the National Rare Earth Standardization Technical Committee (SAC/TC229) and focal point. This standard was drafted unit. Inner Mongolia Baotou Steel Rare Earth Magnetic Materials Co., Ltd., Baotou Rare Earth Research Institute, Bayan Ebo Rare Earth Resources Research State Key Laboratory of Research and Comprehensive Utilization, Beijing Zhong Ke San Huan High-tech Co., Ltd., Anhui Dadi Xiong Xin Material Co., Ltd. The main drafters of this standard. Dong Donghua, Liu Guozheng, Cui Guoxuan, Su Manyou, Wang Yuping, Wang right, Fengxiang Dong, Xie Ping, Jin Guoshun, Zhu Minggang, Huang Xiulian, Shen Guodi. Broken NdFeB permanent magnet powder

1 Scope

China's national standard for neodymium iron boron magnetic powder produced by hydrogen decrepitation. It specifies the requirements, the test methods, the inspection rules and the marking, packaging, transport, storage and quality certificate, and it applies to the powder used for powder metallurgy neodymium iron boron production. Hydrogen decrepitation is a neat piece of process metallurgy. Neodymium iron boron alloy absorbs hydrogen readily, and the phases within it absorb different amounts and expand by different amounts as they do. Expose a cast ingot to hydrogen and it breaks itself apart along its own grain boundaries, into a coarse friable powder, without a mill touching it. That matters because milling this alloy is otherwise unpleasant: it is hard, it is brittle, and its fresh surfaces are pyrophoric. Starting from a hydrogen-decrepitated feed gives a cleaner powder with less contamination from grinding media and less oxidation, and oxygen is the impurity that most damages the magnetic properties of the finished magnet.

This standard specifies the requirements of the hydrogen crushed NdFeB permanent magnet powder, test methods, inspection rules and signs, packaging, transportation, storage and quality certificate Ming book. This standard applies to the production of powder metallurgy NdFeB permanent magnetic powder for the production of sintered NdFeB magnets.

2 Normative references

The following documents for the application of this document is essential. For dated references, only the dated version applies to this article Pieces. For undated references, the latest edition (including all amendments) applies to this document.

GB/T 223.82 steel hydrogen content Determination of inert gas pulse melting heat conduction method

GB/T 8170 rounded repair rules and limit values of the representation and judgment

GB/T 20170.1 rare earth metals and their compounds - Determination of physical properties - Particle size distribution of rare earth compounds

GB/T 29655 NdFeB quick-setting flake alloy XB/T 617.1 Methods for chemical analysis of neodymium iron boron alloys - Part 1. Determination of total rare earths Oxalate gravimetric method XB/T 617.7 Methods for chemical analysis of neodymium iron boron alloys - Part 7. Determination of oxygen and nitrogen content Pulsed-infrared absorption method and pulse-heat Guide method

3 Terms and definitions

The following terms and definitions apply to this document.

3.1 NdFeB quick-setting flake alloy under certain pressure through hydrogen-dehydrogenation reaction and crushed to form a powder.

4 Categories and grades

4.1 Product Classification According to the total amount of rare earth and hydrogen content is divided into three grades, respectively, H-NdFeB30/9, H-NdFeB33/13, H-NdFeB39/15.

4.2 brand representation Halogenated NdFeB permanent magnetic powder grades from the product category, product symbols, product technical parameters of three parts. the first Part H, said the product category, is the "hydrogen" English "Hydrogendecrepiation" the first letter of the second part of the NdFeB, the table The symbol of the product is shown as the chemical symbol Nd of neodymium element, the chemical symbol Fe of iron element and the chemical symbol B of boron element. The third part The figure before slashes is the maximum value of mass fraction of rare earth elements of hydrogenated NdFeB permanent magnet powder [mass fraction (%)]; the figure after slash is The maximum hydrogen content [mass fraction (%)] of hydrogenated NdFeB permanent magnet powder 100 times. The three parts are connected by dash.