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GB/T 24244-2009

Iron oxide for ferrites

铁氧体用氧化铁

Issued on: July 15, 2009 **Implemented on: April 1, 2010**

Issued by: General Administration of Quality Supervision, Inspection and Quarantine;
Standardization Administration of the PRC

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Foreword

The Standard Annexes A and B are normative appendix. The standard proposed by China Iron and Steel Association. This standard by the National Standardization Technical Committee of pig iron and ferroalloy. This standard is drafted by: Baoshan Iron & Steel Co., Ltd. Participated in the drafting of this standard. Metallurgical Industry Information Standards Institute, Anshan Iron and Steel Co., Ltd., Guangdong Fenghua Advanced Technology Co. Shares The company, Shanghai Baosteel Tiantong Magnetic Industry Co., Ltd. The main drafters of this standard. at a peak, Li Yuguang, Fan Zhigang, Shenlian flat, painted woods, Zhang Rui Hong, Chen Nong, Hu Chun Yuan, Xuhui Yu. Ferrite Iron Oxide

1 Scope

China's national product standard for the iron oxide used to make ferrites. It specifies the classification, the requirements, the test methods, the inspection rules and the marking, packaging, transport and storage of iron oxide for ferrite production. A ferrite is a ceramic magnetic material, and iron oxide is eighty per cent or more of what goes into it - so the properties of the finished core are largely inherited from the powder it was made from. That is why an ordinary industrial iron oxide will not do. The requirements divide into two groups and the second is the one that matters. The chemical requirements are the iron content and, far more importantly, the impurities: silicon, calcium, aluminium, sodium, chlorine and sulfur are limited at levels of tens or hundreds of parts per million, because in a sintered ferrite these elements concentrate at the grain boundaries during firing and change the grain growth, the boundary resistivity and therefore the losses of the finished core. Chlorine in particular, a residue of the spent pickle liquor from which most ferrite-grade oxide is made by roasting, is corrosive and volatile and is controlled tightly. The physical requirements are the specific surface area, the particle size and its distribution, and the bulk density - which together determine the reactivity of the powder in the solid-state reaction that forms the ferrite phase, and therefore the calcining and sintering behaviour and the reproducibility of the whole process. A powder that meets the chemistry but not the surface area produces cores of the wrong permeability from an unchanged recipe. Issued on 15 July 2009 and in force since 1 April 2010.

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This standard specifies the classification and designation, the technical requirements for ferrite iron oxide (hereinafter referred to as iron oxide), inspection methods, inspection rules, package Equipment, labeling, transport, storage and quality certificate. This standard applies to ferrous iron chloride spray roasting made (Fe2O3). Also applies to ferrous sulfate, carbonate heat Decomposition and other methods to obtain iron oxide. This material is mainly used in the production of ferrite components, but also as other industrial uses.

2 Normative references

The following documents contain provisions which, through reference in this standard and become the standard terms. For dated references, subsequent Amendments (not including errata content) or revisions do not apply to this standard, however, encourage the parties to the agreement are based on research Whether the latest versions of these documents. For undated reference documents, the latest versions apply to this standard. Determination of

GB/T 5060 metal powder bulk density Part II. Scott capacity meter method GB /Determination of solid material surface area BET gas absorption method T 19587 YB/T 081 value metallurgical technical standards and testing for rounding value determination principles

HG/T 2574-1994 industrial iron ASTMB330 measuring metal powders and related compounds Fischer number Standard Test Method

3 Grades representation

Iron oxide grades by the Chinese Phonetic Alphabet "YangHuaTie" first letter "YHT" and specified performance levels Arabia Digital composition of two parts. Example. YHT1 YHT- iron pinyin "YangHuaTie" the first letter; 1- predetermined performance levels of iron oxide. 4. Technical Requirements

4.1 Chemical composition

4.1.1 The chemical composition of various grades of iron should meet the requirements in Table 1. Table 1% project Indicator (mass fraction) YHT1 YHT2 YHT3 YHT4 YHT

5 Iron oxide (Fe2O3) is not less than 99.40 99.20 99.00 98.50

98.00 Silicon dioxide (SiO2) of not more than 0.008 0.010 0.015 0.030

0.040 Calcium oxide (CaO) is not greater than 0.010 0.015 0.020 0.030

0.040 Aluminum oxide (Al2O3) is not greater than 0.008 0.010 0.020 0.040

0.080 Manganese oxide (of MnO) is not larger than 0.30 0.30 0.30 0.30

0.40 Sulfate (SO42- count) is not greater than 0.05 0.10 0.15 0.15

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0.20 Chloride (Cl-) is not greater than 0.10 0.15 0.15 0.20 0.25

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