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National Standard

of the People's Republic of China

GB/T 13560-2009

Replacing GB/T 13560-2000

**Materials for sintered neodymium iron boron
permanent magnets**

烧结钕铁硼永磁材料

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Quarantine of the People's Republic of China;
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Foreword

This Standard replaces GB/T 13560-2000 "Materials for sintered neodymium iron boron permanent magnets".

Compared with GB/T 13560-2000, the major changes of this Standard are as follows:

- ADD "GB/T 17951 Standard specification for magnetically hard materials" in reference standard;
- ADD material grades;
- ADJUST parameters of parts of material grades.

Annex A of this Standard is normative; Annex B and Annex C are informative.

This Standard was proposed and shall be under the jurisdiction of the National Standardization Technical Committee on Rare Earth.

This Standard was responsibly drafted by the Baotou Rare Earth Research Institute.

Main drafters of this Standard: Liu Guozheng, Zhao Zengqi, Zhao Ruijin, Zhao Mingjing, Wang Biao, Gao Lan.

Previous editions replaced by this Standard are as follows:

- GB/T 13560-1992, GB/T 13560-2000.

Materials for sintered neodymium iron boron permanent magnets

1 Scope

This Standard specifies the requirements, test methods, inspection rules and marks, packaging, transportation, and storage of materials for sintered neodymium iron boron permanent magnets.

This Standard applies to the materials for sintered neodymium iron boron permanent magnets that are produced by powder metallurgy process. It is provided for electronics, electrical, mechanical, medical device fields, etc. to manufacture permanent magnet devices.

2 Normative references

The provisions in following documents become the provisions of this Standard through reference in this Standard. For dated references, the subsequent amendments (excluding corrections) or revisions do not apply to this Standard, however, parties who reach an agreement based on this Standard are encouraged to study if the latest versions of these documents are applicable. For undated references, the latest edition of the referenced document applies.

GB/T 2828.1 Sampling procedures for inspection by attributes – Part 1: Sampling schemes indexed by acceptance quality limit (AQL) for lot-by-lot inspection

GB/T 3217 Method of test of the magnetic properties of permanent magnetic (magnetically hard) materials

GB/T 8170 Rules for rounding off of numerical values

GB/T 9637 Electrotechnical terminology - Magnetic materials and components

3 Terms and definitions

Terms and definitions established in GB/T 9637 AND the following terms and definitions apply to this Standard.

3.1

Principal magnetic properties

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5 Test methods

5.1 Test methods of principal magnetic properties of products shall be conducted according to the specifications of GB/T 3217.

5.2 Product dimension and geometric deviation shall be tested by using measuring tools that meet the accuracy requirements and comply with the national measurement standards, or special measuring tools that are confirmed by both supplying and purchasing parties.

5.3 Surface quality of products shall be inspected visually.

5.4 Rounding-off of numerical values is conducted according to the specifications of GB/T 8170.

6 Inspection rules

6.1 Inspection and acceptance

6.1.1 Products are inspected by the supplier's quality and technical supervision departments, to ensure that products comply with the specifications of this Standard. And fill in the quality certificate.

6.1.2 Purchasing party shall inspect the received products according to the specification of this Standard. When the test results are inconsistent with the specifications of this Standard, it shall inform supplying party within two months from the date of receipt of the products; then handle by both supplying and purchasing parties through consultation. If necessary, it can entrust an organization recognized by both parties to conduct arbitration, and sampling mutually at purchasing party's site.

6.2 Batch

Each batch of products shall consist of the products of the same-grade, the same-production process, and the same-specification.

6.3 Test items

Each batch of products shall be conducted for inspection of principal magnetic properties, dimension deviation, geometric deviation, and surface quality.

6.4 Sampling

Sampling quantity of products shall be in accordance with the specifications of GB/T

2828.1. Qualification level of the principal magnetic properties of products is 1.5-grade of special inspection level S2; inspection qualification level of other items is 1.5-grade of inspection level II.

6.5 Determination of test results

If the test result of any item is unqualified, then select double quantity of samples from this batch of products, and re-inspect the unqualified item. If it is still unqualified, then this batch of products are determined as unqualified.

7 Marks, packaging, transportation, and storage

7.1 Marks and packaging

7.1.1 Labels shall be attached to each packaging cases (boxes) and indicate: supplier's name, product name, grade, specification and dimension, batch number, quantity, net weight, and date of manufacture. Products are generally delivered at magnetically neutral state. If purchasing party require magnetization and it is specified in the contract, the products can be magnetized before delivery. For the products of which the orientation direction is not easy to identify, it shall indicate the magnetization direction.

7.1.2 Products shall be packaged with cases (boxes), so as to ensure no damage during transportation and storage. Packaging requirements of magnetized material shall comply with the corresponding specifications of the corresponding mode of transportation and storage.

7.2 Transportation and storage

Products shall be handled with care in transit; and stored in a well-ventilated, dry, non-corrosive-atmosphere place.

7.3 Quality certificate

Each batch of products shall be accompanied with quality certificate, indicating:

- a) supplier's name;
- b) product name, grade, specification and dimension;
- c) batch number;
- d) net weight and quantity;
- e) the inspection results of each item, marks of supplier's quality and technical supervision department;

mechanical, medical device fields, etc.. For example: application in permanent-magnetic motors, speakers, magnetic separator, computer disk drives, magnetic resonance imaging equipment, instruments, and so on.

_____ **END** _____

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