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Replacing GB/T 6983-2008

Magnetic iron

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Foreword

This document was drafted in accordance with the rules given in GB/T 1.1-2020, *Directives for standardization - Part 1: Rules for the structure and drafting of standardizing documents*.

This document replaces GB/T 6983-2008 *Soft magnetic iron*. Compared with GB/T 6983-2008, the main technical changes are as follows:

- Delete continuous casting square billet, continuous casting rectangular billet, continuous casting slab and bloom from the scope of application (see Chapter 1 of the 2008 edition);
- Add requirements for vacuum refining treatment (see 7.2);
- Add requirements for delivery status (see 7.3);
- Change the requirements for electromagnetic property index (see Table 2; Table 2 of the 2008 edition);
- Change the requirements for low-magnification inspection (see 7.6; 7.4 of the 2008 edition);
- Add requirements for type inspection (see 9.2.1).

Please note that some of the contents of this document may involve patents. The issuing organization of this document is not responsible for identifying patents.

This document was proposed by China Iron and Steel Industry Association.

This document shall be under the jurisdiction of National Technical Committee 183 on Iron and Steel of Standardization Administration of China (SAC/TC 183).

Drafting organizations of this document: Shanxi Taigang Stainless Steel Co., Ltd., Hubei Huangshi Product Quality Supervision and Inspection Institute, Xiwang Metal Technology Co., Ltd., China Metallurgical Information and Standardization Institute.

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Previous versions of this document and the documents it replaces are:

- First published in 1986 as GB/T 6983-1986 *Technical requirements for magnetic iron bars*;

Magnetic iron

1 Scope

This document specifies the classification, size, shape, weight, technical requirements, test methods, inspection rules, packaging, marking and quality certificate of magnetic iron.

This document is applicable to magnetic iron hot-rolled (forged) bars (square, round, flat), hot-rolled wire rods, cold-drawn round bars, hot-rolled plates (strips), and cold-rolled plates (strips).

Note: Magnetic iron is also called soft magnet internationally.

2 Normative references

The following documents are referred to in the text in such a way that some or all of their content constitutes requirements of this document. For dated references, only the version corresponding to that date is applicable to this document; for undated references, the latest version (including all amendments) is applicable to this document.

GB/T 223.5, Steel and iron - Determination of acid-soluble silicon and total silicon content - Reduced molybdosilicate spectrophotometric method

GB/T 223.8, Methods for chemical analysis of iron, steel and alloy - The sodium fluoride separation - EDTA titration method for the determination of aluminium content

GB/T 223.9, Iron, steel and alloy - Determination of aluminum content - Chromazurol S photometric method

GB/T 223.12, Methods for chemical analysis of iron, steel and alloy - The sodium carbonate separation-diphenyl carbazide photometric method for the determination of chromium content

GB/T 223.19, Methods for chemical analysis of iron, steel and alloy - The neocuproine-chloroform extraction photometric method for the determination of copper content

GB/T 223.23, Iron, steel and alloy - Determination of nickel content - The dimethylglyoxime spectrophotometric method

GB/T 20125, Low-alloy steel - Determination of multi-element contents - Inductively coupled plasma atomic emission spectrometric method

GB/T 20126, Unalloyed steel - Determination of low carbon content - Part 2: Infrared absorption method after combustion in an induction furnace (with preheating)

3 Terms and definitions

No terms and definitions need to be defined in this document.

4 Classification

Magnetic iron is divided into hot-rolled (forged) bars (square, round, flat), hot-rolled wire rods, cold-drawn round bars, hot-rolled plates (strips), and cold-rolled plates (strips).

5 Order content

The contract or order for goods placed in accordance with this document shall include the following:

- a) a reference to this document;
- b) product name;
- c) product designation;
- d) electromagnetic property;
- e) delivery weight;
- f) dimensions;
- g) delivery status;
- h) special requirements.

6 Dimensions, shape, weight

6.1 Dimensions and shape

The dimensions, shape and allowable deviation of magnetic iron shall comply with the provisions of Table 1. As required by the buyer and, after negotiation between the

7.8.2 The magnetic iron cold-rolled plates (strips) delivered in the softened annealed state shall be subjected to surface hardness test. Three points of each sample shall be measured and the average value shall be taken as the measurement result of a single sample. The Vickers hardness value (HV5) shall be 85~140.

8 Test methods

8.1 The chemical composition analysis shall be carried out in accordance with GB/T 223.79, GB/T 4336, GB/T 20123 or other common methods. In case of arbitration, it shall be carried out in accordance with the provisions of GB/T 223.5, GB/T 223.8, GB/T 223.9, GB/T 223.12, GB/T 223.19, GB/T 223.23, GB/T 223.53, GB/T 223.54, GB/T 223.59, GB/T 223.62, GB/T 223.63, GB/T 223.64, GB/T 223.81, GB/T 223.84, GB/T 223.85, GB/T 223.86, GB/T 20125 or GB/T 20126.

8.2 The test methods for other items shall comply with the requirements of Table 8.

9 Inspection rules

9.1 Inspection and acceptance

Magnetic iron shall be inspected and accepted by the supplier's technical supervision department, and the buyer has the right to re-inspect according to the corresponding documents.

9.2 Inspection classification

9.2.1 Type inspection

9.2.1.1 Type inspection shall be carried out if any of the following conditions occur:

- a) When there are changes in raw materials, preparation processes or equipment;
- b) When the suspended production is resumed;
- c) When it is required by the contract.

9.2.1.2 Type inspection items shall comply with the requirements of Table 8.

9.2.1.3 If the inspection results all comply with the requirements of Chapter 7, the type inspection is passed.

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