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

GB/T 14986.1-2025

Replacing GB/T 14986.1-2018

Soft magnetic alloys - Part 1: General requirements

软磁合金 第1部分：一般要求

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Table of Contents

- 1 Scope
- 2 Normative references
- 3 Terms and Definitions
- 20 Hz to 100 kHz using annular specimens method

Foreword

This document is in accordance with the provisions of GB/T 1.1-2020 "Guidelines for standardization work Part

1. Structure and drafting rules for standardization documents" Drafting. This document is Part 1 of GB/T 14986 "Soft Magnetic Alloys". GB/T 14986 has been published in the following parts.

- 1. General requirements;
- 2. Iron-nickel alloys;
- 3. Iron-cobalt alloys;
- 4. Iron-chromium alloys;

5. Iron and aluminum alloys. This document replaces GB/T 14986.1-2018 "Soft magnetic alloys Part

1. General requirements", GB/T 15013-1994 "Precision alloys This document is based on GB/T 14986.1-2018 and integrates the content of GB/T 15013-1994. Compared with GB/T 14986.1-2018, in addition to structural adjustments and editorial changes, the main technical changes are as follows:

- a) The scope has been changed (see Chapter 1, Chapter 1 of the.2018 edition);
- b) Changed terms and definitions (see Chapter 3, Chapter 3 of the.2018 edition);
- c) The classification has been changed (see Chapter 4, Chapter 4 of the.2018 edition);
- d) The order content has been changed (see Chapter 5, Chapter 5 of the.2018 edition);
- e) Added the vacuum induction arc remelting smelting method and deleted the electric arc furnace smelting method (see 6.1, 7.2 of the.2018 edition);

1 Scope

GB/T 14986.1-2025 is the Chinese national standard on soft magnetic alloys - part 1: general requirements, in the field of metallurgy. The /T suffix marks it as a recommended standard: it is not compulsory by itself, but it becomes binding as soon as a contract, a tender or a customer specification calls it up - which in practice is how most foreign buyers meet it. It was issued on 29 August 2025 by the State Administration for Market Regulation; Standardization Administration of China, and has been in force since 1 March 2026.

Classification: ICS 77.140.40, CCS H58. This page is published from the official record of the standard held by the Chinese standards administration: the identification, the dates, the classification and the issuing body are taken from there. The clause text, the tables and the numeric limits are in the document itself, which is delivered complete in English translation.

This document provides the classification and symbols of soft magnetic alloys, and specifies the order content, manufacturing process, technical requirements, inspection rules, packaging, labeling, etc. The corresponding test methods are described in the label, storage and quality certificate. This document is applicable to cold-rolled strip, cold-rolled plate, cold-drawn wire, cold-drawn (rolled) pipe, hot-rolled round wire, hot-rolled plate, hot-rolled Rolled (forged) bars and turned or polished bars (hereinafter referred to as alloy bars).

2 Normative references

The contents of the following documents constitute the essential clauses of this document through normative references in this document. For referenced documents without a date, only the version corresponding to that date applies to this document; for referenced documents without a date, the latest version (including all amendments) applies to This document.

GB/T 223 (all parts) Chemical analysis methods for steel and alloys

GB/T 3658 Measurement of magnetic properties of soft magnetic metal materials and powder metallurgy materials in the frequency range of

3 Terms and Definitions

The following terms and definitions apply to this document.

3.1 soft magnetic alloy softmagneticaloy It is easy to magnetize under the action of external force, and the magnetic induction intensity basically disappears after the external magnetic field is removed. The coercive force is generally lower than 0.8kA/m. alloy. [Source: GB/T 20566-2006, 3.2.3, modified]

3.2 Magnetic induction magnetic flux density A diverging axis vector that determines the

magnitude and direction of the magnetic field at any point in space.

Note. The force F on the charge moving at a certain speed at this point is equal to the charge Q multiplied by the vector product of the velocity v and the magnetic induction intensity B . $F=Qv \times B$

20 Hz to 100 kHz using annular specimens method

GB/T 8170 Rules for rounding off values and expression and determination of limit values

GB/T 13012 Measurement method of DC magnetic properties of soft magnetic materials

GB/T 13297 General provisions for packaging, marking and quality certificates of precision alloys

GB/T 14981 Dimensions, shape, weight and tolerances of hot-rolled round wire rod

GB/T 20066 Sampling and preparation of samples for determination of chemical composition of steel and iron