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

GB/T 26951-2025

Replacing GB/T 26951-2011

Non-destructive testing of welds - Magnetic particle testing

焊缝无损检测 磁粉检测

(English Translation)

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Foreword

This document complies with the provisions of GB/T 1.1-2020 "Standardization Work Guidelines Part 1: Structure and Drafting Rules of Standardization Documents".

Drafting.

This document replaces GB/T 26951-2011 "Non-destructive testing of welds - Magnetic particle inspection". Compared with GB/T 26951-2011, except for structural...

Aside from adjustments and editorial changes, the main technical changes are as follows.

- a) The normative reference GB/T 5616 (see section 5.1 of the 2011 edition) has been deleted;
- b) The normative reference GB/T 9445 (see section 5.3 of the 2011 edition) has been deleted;
- c) The normative reference GB/T 20737 (see Chapter 3 of the 2011 edition) has been deleted;
- d) The normative reference GB/T 23907 has been deleted (see Chapters 2, 3, 5.1, and 5.3 of the 2011 edition);
- e) The normative reference GB/T 26952 (see Appendix C of the 2011 edition) has been deleted;
- f) The "Safety Warning" has been changed (see Chapter 4, Chapter 4 of the 2011 edition);
- g) The requirements for the inspected area have been changed (see 5.4, 2011 version 5.4);

- h) The operating temperature of the detection medium has been specified (see 5.4);
- i) Increased magnetization requirements (see 5.5.1);
- j) Strength verification has been added (see 5.5.2);
- k) Added requirements for magnetization direction (see 5.6.1);
- l) The requirement and verification method for periodic performance verification of the testing media have been removed (see 5.7.2 of the 2011 edition);
- m) Added available workpieces for comprehensive performance verification (see 5.10);
- n) Appendix C has been deleted (see Appendix C in the 2011 edition).

This document is equivalent to ISO 17638:2016 "Nondestructive testing of welds - Magnetic particle inspection".

The following minimal editorial changes have been made to this document.

---Corrected the normative reference "ISO 9934-1:2015" to "ISO 9934-1:2016". The referenced chapter number and content have not changed.

change;

---Added Appendix NA (Informative).

Please note that some content in this document may involve patents. The issuing organization of this document assumes no responsibility for identifying patents.

This document was proposed by the China Machinery Industry Federation.

This document is under the jurisdiction of the National Technical Committee on Standardization of Welding and Related Processes (SAC/TC55).

1 Scope

This document specifies a magnetic particle inspection method for surface defects in welds and heat-affected zones of ferromagnetic materials. This method is applicable to most welders.

Process and connector structure. Appendix A describes the factors in the basic magnetic particle testing process that affect achieving higher or lower detection sensitivity.

This document does not specify the acceptance levels to be displayed. For more information on displayed acceptance levels, please refer to ISO 23278 or the product/application standard.

2 Normative references

The contents of the following documents, through normative references within the text, constitute essential provisions of this document. Dated citations are not included.

For references to documents, only the version corresponding to that date applies to this document; for undated references, the latest version (including all amendments) applies.

This document.

ISO 3059 Non-destructive testing - Penetrant testing and magnetic particle testing - Observation conditions Note. GB/T 5097-2020 Nondestructive testing - Observation conditions for penetrant testing and magnetic particle testing (ISO 3059:2012, IDT) ISO 9934-1:2016 Non-destructive testing-Magnetic particle testing-Part 1: General principles Note. GB/T 15822.1-2024 Nondestructive testing - Magnetic particle testing - Part 1: General principles (ISO 9934-1:2016, IDT) ISO 9934-2 Non-destructive testing-Magnetic particle testing-Part 2: Testing media Note. GB/T 15822.2-2024 Nondestructive testing - Magnetic particle testing - Part 2: Test media (ISO 9934-2:2015, IDT) ISO 9934-3 Non-destructive testing - Magnetic particle testing - Part 3: Equipment Note. GB/T 15822.3-2024 Nondestructive testing - Magnetic particle testing - Part 3: Equipment (ISO 9934-3:2015, IDT) Vocabulary Note. GB/T 12604.5-2020 Nondestructive Testing Terminology - Magnetic Particle Testing (ISO 12707:2016, IDT) (for metallic materials) Note. GB/T 34628-2017 General rules for non-destructive testing of welds in metallic materials (ISO 17635:2016, IDT)

3 Terms and Definitions

The terms and definitions defined in ISO 12707 and ISO 17635 apply to this document.

The standardized terminology databases of the International Organization for Standardization (ISO) and the International Electrotechnical Commission (IEC) can be found at the following URL.

4 Safety Warnings

Special protections should be provided against toxic, flammable and/or volatile materials, electrical safety, and unfiltered ultraviolet radiation.