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NATIONAL STANDARD OF THE PEOPLE'S REPUBLIC OF CHINA

GB/T 15822.3-2024

Non-destructive testing - Magnetic particle testing - Part 3: Equipment

无损检测 磁粉检测 第3部分：设备

Issued on: September 29, 2024 **Implemented on: September 29, 2024**

Issued by: State Administration for Market Regulation;
Standardization Administration of the PRC

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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 3 of GB/T 15822 Non-destructive testing - Magnetic particle testing. GB/T 15822 has been published in the following parts.

2.Detection media;

3.Equipment. This document replaces GB/T 15822.3-2005 "Non-destructive testing - Magnetic particle testing - Part

3.Equipment" and GB/T 15822.3- Compared with.2005, in addition to structural adjustments and editorial changes, the main technical changes are as follows:

a) The general requirements for magnetized beds have been changed (see 5.3.1,

4.3.1 of the.2005 edition);

b) The technical data of UV-A source have been changed (see 6.2,

5.2 of the.2005 edition);

c) The overall requirements for measurement have been changed (see 10.1,

9.1 of the.2005 edition);

d) The provisions for current measurement have been changed (see 10.2,

9.2 of the.2005 edition);

e) The provisions for visible light measurement have been changed (see 10.4,

1 Scope

GB/T 15822.3-2024 specifies the equipment for magnetic particle testing. Magnetic particle inspection is deceptively simple and depends entirely on the equipment being right: if the magnetising current or field strength is below what the technique assumes, a crack simply does not indicate, and nothing in the inspection reveals that it was missed. The standard therefore sets what the equipment must provide and how it is verified: the yokes, prods, coils, central conductors and bench units and their magnetising capability, the current waveforms and their measurement, the field strength and its indicators, the demagnetising provision, the ultraviolet sources with their irradiance and wavelength requirements for fluorescent examination, the visible light conditions, the magnetic particle materials and their suspension and the means of checking them, and the reference blocks and other verification tools, together with the periodic performance checks and their intervals. It takes effect on 29 September 2024.

This document describes the following 3 types of magnetic particle testing equipment.

---Portable or mobile equipment;

---Fixed equipment;

--- A special inspection system used for continuous inspection of workpieces, including an inspection line composed of a series of operating stations arranged in sequence. This document also describes equipment for magnetization, demagnetization, lighting, measurement and monitoring. This document specifies the minimum requirements for the performance, availability and methods of measuring specific parameters of equipment provided by suppliers. It also specifies measurement and calibration requirements as well as in-service inspections.

2 Normative references

The contents of the following documents constitute 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.

ISO 3059 Non-destructive testing - Penetrant testing and magnetic particle testing observation conditions

GB/T 5097-2020 Nondestructive testing - Penetrant testing and magnetic particle testing - Observation conditions (ISO 3059.2012, IDT) ISO 9934-

3 Terms and definitions

There are no terms or definitions that require definition in this document.

4 Security requirements

Equipment design should pay attention to all regulations involving health, safety, electrical and environmental requirements.