



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

GB/T 12604.5-2020

Replacing GB/T 12604.5-2008

Non-destructive testing terminology magnetic particle testing

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Foreword

GB/T 12604 "Terms of Non-destructive Testing" is divided into 11 parts.

- 12604.1 Non-destructive testing term Ultrasonic testing
- 12604.2 Non-destructive testing terminology radiographic testing
- 12604.3 Non-destructive testing terminology penetration testing
- 12604.4 Non-destructive testing terminology Acoustic emission testing
- 12604.5 Non-destructive testing terminology magnetic particle testing
- 12604.6 Non-destructive testing terms Eddy current testing
- 12604.7 Non-destructive testing terminology leak detection
- 12604.8 Non-destructive testing terminology neutron testing
- 12604.9 Non-destructive testing terms infrared testing
- 12604.10 Non-destructive testing terminology magnetic memory testing
- 12604.11 Non-destructive testing terminology X-ray digital imaging testing

This part is Part 5 of GB/T 12604.

This section was drafted in accordance with the rules given in GB/T 1.1-2009.

This part replaces GB/T 12604.5-2008 "Non-destructive testing terminology magnetic particle testing", compared with GB/T 12604.5-2008, the main

The main technical changes are as follows.

- Delete some terms and definitions, see Appendix NA for details;

--- Added some new terms and definitions, see Appendix NB for details.

The translation method used in this section is equivalent to ISO 12707:2016 "Vocabulary of Magnetic Particle Testing for Non-destructive Testing."

This section has made the following editorial changes.

---In order to be consistent with the existing standard series, the standard name is changed to "Non-destructive Testing Terminology Magnetic Particle Testing";

---Added informative appendix NA and informative appendix NB;

---Added the index.

This part is proposed and managed by the National Standardization Technical Committee for Nondestructive Testing (SAC/TC56).

Drafting organizations of this section. Shanghai Materials Research Institute, State Grid Shanghai Electric Power Research Institute, Tianjin Chengxinda Metal Testing Technology Technology Co., Ltd., Jilin Electric Power Research Institute Co., Ltd.

1 Scope

This part of GB/T 12604 defines general terms related to magnetic particle testing.

2 Terms and definitions

2.1

Adjacent conductor technique

Use the energized conductor rod or cable method to approach the magnetization technology of the detection surface.

2.2

Ampere turns

The product of the number of coil turns and the ampere value of the current flowing through the coil.

2.3

Arcing strike

Due to the poor contact between the contacts and the test piece contact surface, the arc causes local burning of the test piece.

2.4

Carrier liquid

Liquid used to suspend magnetic powder (2.30) in wet technology.

2.5

Central conductor

The conductor passing through the center of the aperture of the test piece.

2.6

Circular magnetization

Magnetization technology that generates a circumferential closed magnetic field in the test piece, which is generated by the current passing through the test piece or the conductor surrounded by the test piece.

2.7

Coil technology coil technique

Use flexible coils or rigid coils to perform overall or partial magnetization of the test piece.

2.8

Colored detection medium coloured detection medium

Used for the medium detected under visible light.

2.9

Concentrate

The detection medium that needs to be diluted before detection.

2.10

Conditioning agent

It may contain wetting agents, defoamers and corrosion inhibitors to improve the performance of water-based detection media additives.

2.11

Constant current control

A device that stabilizes current.

2.12

Contact pad

It is usually made of copper and is placed on the electrode to improve the contact and contact surface contact and prevent arc burns.

Woven pad.

2.13

Continuous magnetization technique

The technology of applying the test medium while magnetizing the test piece.

2.14

Contrast enhancer contrast aid paint

Apply a thin coating and film on the surface of the tested surface to improve the visibility of the colored detection medium (2.8).

2.15

Current flow technique

The current passes through the magnetization technology of the inspected part.

2.16

Current generator current generator

Power source that generates magnetizing current.

2.17

Detection medium

Magnetic suspension or magnetic powder used in magnetic particle testing (2.30).

2.18

Dry powder technology dry powder technique

The technology of magnetic particle detection using dry magnetic powder (2.30).

2.19

Fixed installation

Provide fixed equipment with specific magnetization method for the inspected parts.

2.20

Flexible coil technology flexible coil technique

The technology of winding an energized cable on the tested part for magnetization.

2.21

Fluorescent detection medium

Under usually UV-A irradiation, the detection medium that excites visible light.

2.22