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

GB/T 37400.14-2019

**Heavy machinery general technical specification - Part 14:
Non-destructive testing of steel castings**

重型机械通用技术条件 第14部分：铸钢件无损探伤

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Foreword

GB/T 37400 "General Technical Conditions for Heavy Machinery" is divided into 16 parts.

--- Part 1. Product inspection;

--- Part 2. Flame cutting parts;

---Part 3. Welded parts;

- Part 4. Cast iron parts;
- Part 5. Non-ferrous metal castings;
- Part 6. Steel castings;
- Part 7. Repair welding of steel castings;
- Part 9. Machining parts;
- Part 10. Assembly;
- Part 12. Painting;
- Part 13. Packaging;
- Part 14. Non-destructive testing of steel castings;
- Part 15. Non-destructive testing of forged steel parts;
- Part 16. Hydraulic system.

This part is the 14th part of GB/T 37400.

This part is drafted in accordance with the rules given in GB/T 1.1-2009.

This part is proposed and managed by the National Technical Committee for Metallurgical Equipment Standardization (SAC/TC409).

1 Scope

This part of GB/T 37400 specifies non-destructive testing methods for ultrasonic testing, ray inspection, penetration testing and magnetic particle testing of steel castings.

Law, general requirements and their corresponding quality levels.

This section applies to.

- Ultrasonic testing of A-type pulse reflection method for heat-treated alloys and non-alloyed ferritic steel castings with thickness $\leq 600\text{mm}$. For thick Castings with a degree $> 600\text{mm}$, if not otherwise specified, can also be referred to;
- Radiation detection of steel castings with thickness $\geq 5\text{mm}$;
- Magnetic particle detection of surface and near surface defects of ferromagnetic steel castings;
- Penetration detection of open defects on the surface of steel castings;
- Magnetic particle detection and penetration detection at the defect excavation.

This section does not apply to ultrasonic testing of austenitic steel castings.

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--- Magnetic particle detection and penetration detection at the defect excavation.

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2 Normative references

The following documents are indispensable for the application of this document. For dated references, only dated versions apply to this article.

Pieces. For undated references, the latest edition (including all amendments) applies to this document.

GB/T 5097 Non-destructive testing for penetration testing and magnetic particle testing conditions

GB/T 9445 Non-destructive testing personnel qualification and certification

GB/T 12604.1 Non-destructive testing terminology ultrasonic testing

GB/T 12604.2 Non-destructive testing term radiographic testing

GB/T 12604.3 Non-destructive testing terminology penetration test

GB/T 12604.5 Non-destructive testing terminology magnetic particle testing

GB 12664 Portable X-ray Safety Inspection Equipment General Specification

GB/T 14058 gamma-ray flaw detector

GB/T 15822.1 Non-destructive testing - Magnetic particle testing - Part 1. General