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PROFESSIONAL STANDARD OF THE PEOPLE'S REPUBLIC OF CHINA

中华人民共和国机械行业标准

JB/T 5000.14-2007
Replace JB/T 5000.14-1998

Heavy mechanical general techniques and standards —Part 14: Non-destructive inspection of cast steel

重型机械通用技术条件 第 14 部分：铸钢件无损检测

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Foreword

JB/T 5000 《Heavy mechanical general techniques and standards》divided into 15 parts:

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____Part fifteen: Forgings steel nondestructive examination

This part is JB/T 5000's part fourteen.

This part is instead of JB/T 5000.14-1998《Heavy mechanical general techniques and standards Castings steel nondestructive inspection workpiece》

This part compare to the JB/T 5000.18-1998, the main changes are as follow:

____ Revise the defect indication classification and definition

____ Revise the defect quality grade, record limitation and inspection limitation

This standard appendix A, appendix B and appendix C and appendix D are regulatory appendices.

This standard is offered by the China Machinery Industry Association.

This standard is centralized management by the engineering industry metallurgical equipment technical committee for standardization.

This standard's draft out unit: China National No. 2 Heavy Machinery Group Corp.

This part's draftsman: Fan Lunhui, Zhao Xiaohui ,Yang xin,Chen Chong

This part's previous edition:

—JB/T 5000.14—1998

Heavy mechanical general techniques and standards

Part 14 Cast steel nondestructive inspection

1 Scope

JB/T 5000 specifies the ultrasonic inspection, ray inspection, magnetic particle inspection and penetrate inspection with its relative quality grade.

This standard is for steel castings using on heavy machine .The ultrasonic inspection is for castings of carbon steel and low alloy steel which thickness is not less than 30mm, and this is not suit for austenitic castings .Ray inspection is for steel castings which thickness is from 5mm to 300mm. Magnetic particle inspection is for defects inspection on the surface of or near-surface of ferrite steel castings. Penetrate inspection is for open defect on the surface of steel castings.

All the nondestructive inspection methods used hereby for inspection, should note out the inspection method, position, depth bounds and quality grade, etc on product draft, technical file and ordering technical specifications.

2 Normative References

Through the quoted by JB/T 5000 , Following documents' items are become to the items of this standard .Any quoted documents if it is dated, the following modify notification (not including the errata contents) or modify edition are not apply to this standard .But, the agreement which is according to this part can use this standard's latest edition. If it's not dated, it's the latest edition can apply to this part.

GB/T 5097—1985 Method for indirect assessment of black light sources

GB/T 19348.1 Industrial radiographic film Part 1 : Classifications on industrial radiographic film system (GB/T 19348.1—2003，ISO 11669-1，IDT)

JB/T 6063 Nondestructive inspection Technical specifications on magnetic particle inspection

JB/T 7902 Nondestructive inspection Wire quality indicators used for radiographic film inspection

JB/T 7903 Industrial radiographic illuminators (JB/T 7093—1999，eqv ISO 5580：1985)

3 Terms and definitions

Following terms and definitions are applied to this part.

3.1Linear indication

The length of linear defect indication should be three times than its width.

3.2Nonlinear indication

The length of nonlinear defect indication should be three times less than its width.

3.3 Cluster of defect indications

A cluster of defect indications happen when the distance between two adjacent defects is two times less than the length of the bigger one.

3.4 Array defect indications

An array defect indications are including at least three linear defect indications or nonlinear defect indications, and the distance by line connection between them less than 2mm.

4. General requirements

4.1 Application principles

4.1.1 The chosen of inspection method and quality inspecting grade should be based on the usage and type of forgings which should be accord with the requirements of relative technical documents.

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