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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 5000.15-2007

Replace JB/T 5000.15-1998

**Heavy mechanical general techniques and standards
—Part 15: Non-destructive inspection of forged steel**

**重型机械通用技术条件
第 15 部分：锻钢件无损检测**

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Contents

FOREWORD	
1 SCOPE	1
2 NORMATIVE REFERENCE	1
3 TERMS AND DEFINITIONS	1
4. GENERAL REQUIREMENT	2
4.1 Principle of choosing	2
4.2 Archives of testing	2
4.3 Inspectors	2
5. ULTRASONIC TESTING AND QUALITY LEVER	3
5.1 Criteria of testing	3
5.2 instruments	3
5.3 probes	3
5.4 Couplant	3
5.5 testing block	3
5.6 Test of performance of system assembly	4
5.7 Preparations for forgings before testing	4
5.8 Testing procedure	4
5.9 Recording of defects	7
5.10 Levers of quality	7
5.11 Report of ultrasonic testing	8
6 MAGNETIC PARTICLE TESTING AND ITS QUALITY GRADE.....	8
6.1 Basis of testing	8
6.2 Requirement of testing surface	8
6.3 Testing time	9
6.4 Testing instrument and magnetic particle.....	9
6.5 Method of magnetization	10
6.7 Strength of magnetic field.....	13
6.8 Applications of magnetic particles and magnetic suspension	16
6.9 Demagnetization	16
6.10 Recheck.....	16
6.11 Classification of magnetization indication	17
6.12 Limitations of recording and criterion of checking.....	18
6.13 Report of magnetic particle testing	18
7. PENETRATE TESTING AND LEVERS OF QUALITY	19
7.1 Basis of testing	19
7.2 Requirement of testing surface	19
7.3 Material of testing	19
7.4 Comparing testing block	19
7.5 Classification and choosing methods of penetrate testing	20
7.6 Regulations of operation	21
7.7 Classifications of indications.....	23

7.8 Limitations of recording and criteria of acceptance	23
7.9 Report of penetrate testing	25
APPENDIX A(NORMALIZATIVE APPENDIX) TRANSVERSE WAVE TESTING METHOD AND QUALITY ACCEPTANCE REQUIREMENT OF FORGINGS	26
A.1 APPLICABLE SCOPE	26
A.2 PROBE	26
A.3 CHECKING TESTING BLOCK.....	26
A.4 ADJUSTMENT OF SENSITIVITY OF TESTING	27
A.5 OPERATION OF TESTING	28
A.6 RECORDING AND JUDGMENT.....	28
Figure 1 solenoid method figure 2 field yoke method figure 3: directly winding method	11
Figure 4 method of direct passage of current Figure 5 conductor induction method	11
Figure 6 cable punching conduction metho Figure 7 prods method	11
6.6 Testing piece of sensitivity	12
Figure 8 A-type testing piece of sensitivity Figure 9 C-type testing piece of sensitivity ...	12
Figure 10 inductor of magnetic field.....	12
Figure 11 classifications of line magnetic indications	17
Figure 12 alluminum comparing testing block	20
Figure 13 classification of linear fluid indication	24

Foreword

JB/T5000 Heavy Mechanical General Techniques and Standards is divided into 15 parts:

- ___ Part one: Product Inspection
- ___ Part two: Fire-cutting
- ___ Part three: Weldment
- ___ Part four: Iron casting
- ___ Part five: Cast nonferrous metal
- ___ Part six: Cast steel
- ___ Part seven: Cast Steel repair welding
- ___ Part eight: Forging
- ___ Part nine: Cutting
- ___ Part ten: Assembly
- ___ Part eleven: Tubing
- ___ Part twelve: Painting
- ___ Part thirteen: Packing
- ___ Part fourteen: Cast steel nondestructive examination
- ___ Part fifteen: Forging steel nondestructive examination

This part is the fifth part of JB/T5000.

This part takes the place of JB/T5000.15-1998 Heavy Mechanical General Technique and Standard: Nondestructive Testing of Forging Steel

Comparing with JB/T5000.15-1998, the differences are as follows:

- ___ Classification and definition of defects signals have been revised;
- ___ defects quality grades, records limits and accept limits have revised.

Appendix A of this part is normative appendix.

This part is raised by China Machinery Industry Federation.

This part is centralized management by the Engineering Industry Metallurgical Equipment Technical Committee for Standardization.

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This part's previous edition:

—JB/T 5000.15—1998

Heavy Mechanical General Techniques and Standards

Part 15: Nondestructive testing of Forging

1 Scope

This part of JB/T5000 specifies the ultrasonic testing, magnetic powder testing and permeametry method and quality grades.

This part is applicable to non-destructive testing of forging for heavy machinery.

As using the non-destructive testing may refer to harness material, operation and equipment, staffs who attend in the testing must respect relevant safety protection and health regulations.

Testing method, testing positions and quality grades, those times must be indicated in the drawings of forging, technical documents and ordering technology standards.

2 Normative reference

Items in the following documents, which are quoted by this part of JB/T5000, become items of this part. Any quoted documents if they are dated, the following modify notification (not including the errata contents) or modify edition are not apply to this part. But, each part who reaches agreement according to this part will be encouraged to make studies on using these latest versions. Any latest edition of undated quoted documents can apply to this part.

GB/T 5097 Method for indirect assessment of black light source (GB/T 5097-1985, eqv 3059:1974)

GB/T 11259 manufacture and check of comparing steel test blocks for ultrasonic testing (GB/T 11259-1999, eqv ASTM E 428:1992)

JB/T 8290 magnetic particle inspection

JB/T 9214 Practice for evaluating performance characteristics of A scope ultrasonic pulse - Echo testing systems

JB/T 9216 Methods for controlling the quality of liquid penetrant materials (GB/T 9216-1999, eqv ISO 3453: 1984)

JB/T 10061 general technique and standard for A scope ultrasonic pulse – Echo detector (JB/T 10061-1999, eqv ASTM E 758:1980)

JB/T 10062 Testing methods for performance of probes used in ultrasonic flaw detection

3 Terms and definitions

Following terms and definitions are applicable to this part.

3.1 Single defect

Single defect means defects between which the distance is more than 50mm, and whose equivalent diameter is not less than the starting recording equivalent.

3.2 A cluster of defects

A cluster of defects means there are 5 or more than 5 defects echo signals in the mean time in the area where salt screen scan lines are equal to 50mm sound path, or 5 or more than 5 defects echo signals appear in the same depth in the area of 50mmX50mm testing surface.

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