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

GB/T 14480.3-2020

Replacing GB/T 14480.3-2008

**Non-destructive testing instruments. Equipment for eddy
current examination - Part 3: System characteristics and
verification**

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Foreword

GB/T 14480 "Non-destructive testing equipment Eddy current testing equipment" is divided into the following three parts:

---Part 1: Instrument performance and inspection;

---Part 2: Probe performance and inspection;

---Part 3: System performance and inspection:

This part is Part 3 of GB/T 14480:

This section was drafted in accordance with the rules given in GB/T 1:1-2009:

This part replaces GB/T 14480:3-2008 "Non-destructive testing eddy current testing equipment Part 3: System performance and inspection", and

Compared with GB/T 14480:3-2008, the main technical changes are as follows:

---Added the title "General Rules" (see 5:1);

---Modified the inspection level, inspection procedures, corrective measures, etc: (see 5:2, 5:3, 5:4, 5:1, 5:2, 5:3 of the:2008 edition);

---Modified the content in the implementation of the function test (see Chapter 6, Chapter 6 of the:2008 edition):

The translation method used in this part is equivalent to ISO 15548-3:2008

"Non-destructive testing eddy current testing equipment-Part 3: System performance and test":

This section has made the following editorial changes:

--- Modify the standard name to "Non-destructive testing equipment Eddy current testing equipment Part 3: System performance and inspection":

Please note that some content in this section may involve patents: The issuing agency of this section shall not be responsible for identifying these patents:

This part was proposed by China Machinery Industry Federation:

This part is under the jurisdiction of the National Testing Machine Standardization Technical Committee (SAC/TC122):

Drafting organizations of this section: Edson (Xiamen) Electronics Co., Ltd., Institute of Metal Research, Chinese Academy of Sciences, Liaoning Institute of Instrumentation Co., Ltd:

The company, Beijing Institute of Aeronautical Materials, Shanghai Institute of Materials, Shanghai Institute of Aerospace Precision Machinery, Jimei University:

1 Scope

This part of GB/T 14480 specifies the performance of the general eddy current testing system and its test and inspection methods:

Through system performance evaluation, accurate characterization and comparability of eddy current testing equipment performance can be obtained:

By selecting system performance, a consistent and effective eddy current testing system can be designed for specific testing activities:

The auxiliary equipment used shall be characterized by the principles of this section:

This section does not give performance inspection indicators and inspection scope, these contents are given by the application file:

2 Normative references

The following documents are indispensable for the application of this document: For dated reference documents, only the dated version applies to this article

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

ISO 12718 Non-destructive testing Eddy current testing vocabulary (Non-destructive testing-Eddycurrent testing-Ter-

minology)

3 Terms and definitions

The terms and definitions defined in ISO 12718 apply to this document:

4 System performance

4.1 General performance

Eddy current testing systems are used to inspect specific products or make specific measurements, and the eddy current testing technology used should be specified: Eddy current testing system

The system includes instruments, connectors (such as connecting cables, slip rings, etc.), probe components, mechanical devices, auxiliary equipment and reference test pieces:

The general performance of the system includes:

a) Physical properties:

---Detection speed;

---Scan path;

---Mechanical arrangement and setting, as well as the relationship between the two and the tested product:

b) Performance related to calibration:

---Response characteristics to the reference test block;

---Response characteristics related to derived parameters such as coating thickness and crack depth of the tested product:

c) Functional characteristics:

---Set up instruments and auxiliary equipment through buttons or on the display;

---The initial state and equilibrium state of the complex plane display;

---Test the dynamic range of the system amplitude and phase: