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

GB/T 18851.3-2008

Replacing GB/T 18851-2002

**Non-destructive testing -- Penetrant testing -- Part 3: Reference
test blocks**

无损检测 渗透检测 第3部分：参考试块

(English Translation)

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Foreword

GB/T 18851 "NDT penetrant testing" is divided into five parts.

- Part 1. General;
- Part 2. Testing of penetrant materials;
- Part 3. Reference test blocks;
- Part 4. equipment;
- Part 5. authentication method.

This section GB/T 18851 Part 3.

This part identical with ISO 3452-3:1998 "Non-destructive testing - Penetrant testing - Part 3. Reference test block" (in English).

This section is equivalent translation ISO 3452-3:1998.

For ease of use, this section made the following editorial changes.

- "This European standard" be replaced by "GB/T 18851 in this section";
- With a decimal point instead of a comma as the decimal point, ",";
- Remove the foreword and introduction of international standards;
- With GB/T 1.1-2000 predetermined key words instead of the international standard introductory phrase;
- Delete references to normative documents EN10027-1, because not cited in the text;
- The "Annex ZA" to "Appendix A", and remove the appendix introductory phrase.

This Part replaces GB/T 18851-2002 "destructive testing penetration testing standard test block." this section compared with the GB/T 18851-2002 main changes are as follows.

- Increasing the normative references (see Chapter 2);

- Modify the reference test block classification (2002 version of Chapter 2; Chapter 3 of this edition);
- Modified type 1 reference block design and size (2002 version 3.1 and 4.1; Chapter 4 of this edition);
- Modify the type 2 reference test block design and size (2002 version 3.2 and 4.2; Chapter 5 of this edition);
- Remove the "packaging" (Chapter 7, 2002 edition);
- Added Appendix A "Normative references with European standard equivalent to international standards." this section of Appendix A normative appendix.

This part of the National NDT Standardization Technical Committee (SAC/TC56) and focal points.

This section is drafted. Shanghai Research Institute of Materials, Shanghai Suzhou US detection equipment Kodak Co., Shanghai Baosteel Industry Inspection Corporation, Mountain East Jining Mould Factory.

1 Scope

This section GB/T 18851 provides for two types of reference blocks.

- Type 1 reference block for determining a fluorescent dye penetrant product families and sensitivity level;
- Type 2 reference block, and a fluorescent dye penetrant used to assess the performance of the product family.

According to GB/T 18851.1, conditions of use and reference block was seized the same workpiece.

2 Normative references

The following documents contain provisions which, through reference GB/T 18851 in this section constitute provisions of this section. For dated reference documents Member, all subsequent amendments (not including errata content) or revisions do not apply to this section, however, encouraged to reach under this section Parties to research agreement to use the latest versions of these documents. For undated reference documents, the latest versions apply to this section.

GB/T 18851.1 destructive testing - Penetrant testing - Part 1. General (GB/T 18851.1-2005, ISO 3452. 1984, IDT) EN10088-1 stainless steel - Part 1. List of stainless steel (Stainlesssteels-Part 1. Listofstainlesssteels) EN10204 metal product testing format file (Metalicproducts-Typesofinspectiondocuments) EURONORM96 tool steel quality

requirements (Toolsteels-Qualityrequirements)

3 Reference block classification

Type 1 reference blocks for a group of four, each block of nickel - chromium coating thickness was 10 μ m, 20 μ m, 30 μ m, 50 μ m. Wherein the coating thickness Degree 10 μ m, 20 μ m and 30 μ m test block is used to determine the sensitivity fluorescent penetrant system; 30 μ m and 50 μ m for determining test block Dye penetrant sensitivity of the system.

Type 2 reference test block as a separate piece of half of its nickel plating and then a thin layer of chromium plating, and the other half is formed into a specific area roughness. Plated Distribution layer on one side there are five star shape discontinuities.

The design and size of type 41 reference blocks Type 1 test block is rectangular, the typical size of 35mm x 100mm x 2mm (see Fig. 1). Each test piece is a brass plate plating Uniform nickel - chromium layer, a nickel - chromium layer having a thickness of respectively 10 μ m, 20 μ m, 30 μ m and 50 μ m. Each test piece formed by longitudinal transverse stretching to crack. Each crack width to depth ratio should be about 1.20.

GB/T 18851.3-2008/ISO 3452-3:1998