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

GB/T 18851.5-2014

**Non-destructive testing -- Penetrant testing -- Part 5: Penetrant
testing at temperatures higher than 50 Celsius**

无损检测 渗透检测 第5部分温度高于50℃的渗透检测

(English Translation)

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Foreword

GB/T 18851 "NDT penetrant testing" is divided into the following six sections.

- Part 1. General;
- Part 2. Testing of penetrant materials;
- Part 3. Reference test blocks;
- Part 4. equipment;
- Part 5. penetrant testing temperature is above 50 °C of;
- Part 6. temperature below 10 °C of penetrant testing.

This section GB/T 18851 Part 5.

This section drafted in accordance with GB/T 1.1-2009 given rules.

This section uses redrafted Law Amendment uses ISO 3452-5:2008 "Non-destructive testing - Penetrant testing - Part 5. Temperature above 50 °C the penetrant testing. " this part of ISO 3452-5:2008 and the technical differences for the following reasons.

--- On normative references, this part has been adjusted technical differences, in order to adapt our technical conditions, the adjusted situation Focus is reflected in the status of Chapter 2, "Normative references", the specific adjustments are as follows.

- equivalents adoption of international standards GB/T 5097 instead of ISO 3059 (see Chapter 11);
- equivalents adoption of international standards GB/T 12604.3 instead of ISO 12706 (see Chapter 3);
- equivalents adoption of international standards GB/T 18851.1 replaces ISO 3452-1 (see

Chapter 4);

- equivalents adoption of international standards GB/T 18851.2 replaces ISO 3452-2 (see paragraphs 7, 8 and 10);
- equivalents adoption of international standards GB/T 18851.3 replaces ISO 3452-3 (see Chapter 9);
- equivalents adoption of international standards GB/T 20737 instead of EN1330-1 and EN1330-2 (see Chapter 3).

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

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Introduction

When the temperature is above 50 °C, performance penetrant testing materials will be affected. GB/T 18851.1 and GB/T 18851.2 provides 10 °C ~ 50 °C osmotic material use and testing. This section GB/T 18851 raised above 50 °C penetration and detection material application.

This section describes the operating temperature associated with product penetration testing process, and how the user to confirm product specification Recommended the process parameters (process method) is applicable.

Penetrant testing products is to ensure that the quality of high-temperature detector specially developed products, but penetration testing product that can be used at room temperature, in some cases suitable for high temperature testing.

NDT penetrant testing Part 5. penetrant testing temperature is above 50 °C of

1 Scope

This section GB/T 18851 specifies the square dedicated to the identification of high temperature (above 50 °C) testing requirements and the appropriate product testing law. It applies only to coincide with the product manual temperature range.

2 Normative references

The following documents for the application of this document is essential. For dated references, only the dated version suitable for use herein Member. For undated references, the latest edition (including any amendments) applies to this document.

GB/T 5097 Non-destructive testing - Penetrant testing and magnetic particle testing - Viewing conditions (GB/T 5097-2005, ISO 3059:2001, IDT) GB/T 12604.3 Terminology for nondestructive testing penetrant testing (GB/T 12604.3-2013, ISO 12706:2009, IDT) GB/T 18851.1 destructive testing - Penetrant testing - Part 1. General (GB/T 18851.1-2012, ISO 3452-1:2008, IDT) GB/T 18851.2-2008 destructive testing - Penetrant testing - Part 2. Testing of penetrant materials (GB/T 18851.2-2008, ISO 3452-2:2006, IDT) GB/T 18851.3 destructive testing - Penetrant testing - Part 3. Reference test blocks (GB/T 18851.3-2008, ISO 3452-3.

1998, IDT)

GB/T 20737 Non-destructive testing - General terms and definitions (GB/T 20737-2006, ISO/T S18173.2005, IDT)

3 Terms and Definitions

Terms and definitions GB/T 12604.3 and GB/T 20737 apply to this document defined.

4 Hot penetration testing requirements

Permeable material should be through the identification, and contains the type inspection temperatures.

Unless otherwise provided in this section or the product manual, otherwise GB/T 18851.1 of the General always applicable.

Shall comply with the relevant provisions of the product specification.

5 Safety warning

Equipment and penetrant testing products to be operated in a safe manner, storage and use, and in accordance with relevant provisions of the product specification.

The same observation conditions required by this part with the 10 °C ~ 50 °C implementing penetration testing viewing conditions, the same security warning.

In addition to security alerts 10 °C ~ 50 °C time, it must also pay particular attention to the risk factors of high temperature. Skin burns, flammable and volatile and so is a common potential hazards caused by the temperature change. The work area should be well ventilated, and rigorous evaluation of staff exposure levels.

All about health and safety and environmental protection requirements shall comply with relevant international, national and local regulations.