

**JB**

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

**JB/T 9218-2007**

Replacing JB/T 9218-1999

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**Non-destructive testing - Penetrant testing**

无损检测 渗透检测

**(English Translation)**

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### 1 Scope

This Standard defines a method of penetrant testing used to detect discontinuities, e.g. cracks, laps, folds, porosity and lack of fusion, which are open to the surface of the material to be tested. It is mainly applied to metallic materials, but can also be performed on other materials, provided that they are inert to the test media and they are not excessively porous, examples of which are castings, forgings, welds, ceramics, etc.

The term "discontinuity" is used here in the sense that no evaluation concerning acceptability or non-acceptability is included.

Methods for determining and monitoring the essential properties of penetrant testing products to be used are specified in JB/T 5723, GB/T 18851.2 and GB/T 18851.3.

For the purpose of this Standard, basic rules on non-destructive testing specified in GB/T 5616 apply.

## 2 Normative References

The following normative documents contain provisions which, through reference in this text, constitute provisions of this Standard. For dated references, subsequent amendments to, or revisions of, any of these publications do not apply. However, parties to agreements based on this Part are encouraged to investigate the possibility of applying the most recent editions of the normative documents indicated below. For undated references, the latest edition of the normative document referred to applies.

GB/T 5097 Non-destructive Testing - Penetrant Testing and Magnetic Particle Testing - Viewing Conditions(GB/T 5097-2005, ISO 3059:2001, IDT)

GB/T 5616 Non-destructive Testing - Guidelines for Application

GB/T 9445 Non-destructive Testing - Qualification and Certification of Personnel (GB/T 9445-2005, ISO 9712:2005, IDT)

GB/T 12604.3 Non-destructive Testing - Terminology - Terms Used in Penetrant testing (GB/T 12604.3-2005, ISO 12706:2000, IDT)

GB/T 18851.2 Non-destructive Testing - Penetrant Testing - Part 2: Testing of Penetrant Materials (GB/T 18851.2-2005, ISO 3452-2:2000, IDT)

GB/T 18851.3 Non-destructive Testing - Penetrant Testing - Part 3: Reference Test Blocks (GB/T 18851.2-2002, ISO 3452-3:1998, IDT)

GB/T 18851.4 Non-destructive Testing - Penetrant Testing - Part 4: Equipment (GB/T 18851.4-2005, ISO 3452-4:1998, IDT)

JB/T 6064 Non-destructive Testing - Blocks for Penetrant Testing

JB/T 7523 Non-destructive Testing - Materials for Penetrant Testing

## 3 Terms and Definitions

For the purposes of this standard, the terms and definitions of GB/T 12604.3 apply.

## 4 Safety Precautions

As penetrant inspection techniques often require the use of harmful, flammable and/or volatile materials, certain precautions shall be taken.

Prolonged or repeated contact of these materials with the skin or any mucous membrane should be avoided.

Working areas shall be adequately ventilated and sited away from sources of heat, sparks and naked flames in accordance with local regulations.

The penetrant testing products and equipment shall be used with care and always in compliance with the instructions supplied by the manufacturer.

When using UV-A sources, care shall be taken to ensure that unfiltered radiation from the UV-A source does not directly reach the eyes of the operators. Whether it forms an integral part of the lamp or is a separate component, the UV-A filter shall always be maintained in good condition.

There is legislation and regulations regarding health, safety, pollution and storage, etc.