



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

**GB/T 5097-2020**

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**Non-destructive testing--Penetrant testing and magnetic  
particle testing--Viewing conditions**

**Issued on: July 21, 2020**

**Implemented on: February 1, 2021**

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**Issued by: SAMR; SAC**

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### Foreword

This standard is drafted in accordance with the rules given in GB/T 1.1-2009.

This standard replaces GB/T 5097-2005 "Non-destructive testing - Penetrant testing and magnetic particle testing - Viewing conditions". Compared with GB/T 5097-2005, the main technical changes are as follows.

--- The scope of use of the standard is modified, which does not include the requirements for the use of fluorescent light sources (see Chapter 1; see Chapter

#### **1 of the 2005 edition);**

--- The normative references are added (see Chapter 2);

--- The content of safety tips is modified (see Chapter 4; see Chapter 3 of the 2005 edition);

--- The requirements for light source and illuminance are added (see Chapter 5);

--- The chapter on qualified sensor spectral response is modified (see Chapter 6; see Chapter 5 of the 2005 edition);

--- The calibration cycle is shortened from 24 months to 12 months (see Chapter 8; see Chapter 7 of the 2005 edition).

The standard is translated from and identical to ISO 3059.2012 "Non-destructive testing

- Penetrant testing and magnetic particle testing - Viewing conditions".

The Chinese documents that have consistent correspondence with the international documents normatively cited in this standard are as follows.

--- GB/T 2900.65-2004 Electrotechnical terminology - Lighting [IEC 60050-845.1987, MOD]

--- GB/T 9445-2015 Non-destructive testing - Qualification and certification of NDT personnel (ISO 9712.2012, IDT)

--- GB/T 12604.3-2013 Non-destructive testing - Terminology - Terms used in penetrant testing (ISO 12706.2009, IDT)

This standard is proposed by and shall be under the jurisdiction of National Technical Committee on Non-destructive testing of Standardization Administration of China (SAC/TC56).

Non-destructive testing - Penetrant testing and magnetic particle testing - Viewing conditions

## 1 Scope

This standard specifies the control requirements for the viewing conditions of magnetic particle testing and penetrant testing, including the minimum requirements for the white light illuminance and ultraviolet irradiance and their measurement methods, which are applicable to the detection method of observing with the naked eye.

This standard does not include requirements for the use of actinic blue light sources.

## 2 Normative references

The following documents are essential to the application of this document. For the dated documents, only the versions with the dates indicated are applicable to this document; for the undated documents, only the latest version (including all the amendments) is applicable to this standard.

ISO 9712 Non-destructive testing - Qualification and certification of personnel

ISO 12706 Non-destructive testing - Penetrant testing - Vocabulary

ISO 12707 Non-destructive testing - Terminology - Terms used in magnetic particle

testing

IEC 60050-845 International electrotechnical vocabulary - Chapter 845.lighting

EN 1330-1 Non-destructive testing - Terminology - Part 1.List of general terms

EN 1330-2 Non-destructive testing - Terminology - Part 2.Terms common to the  
non-destructive testing methods

### **3 Terms and definitions**

Terms and definitions defined in ISO 12706, ISO 12707, EN 1330-1, and EN 1330-2  
apply to this document.

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