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

GB/T 47251.2-2026

**Printed electronics equipment - Contact printing rigid master -
Part 2: Measurement method of plate master pattern dimension**

印刷电子设备 接触式印刷刚性印版 第2部分：印版图案尺寸测量方法
(English Translation)

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Reference

Foreword

This document complies with the provisions of GB/T 1.1-2020 "Standardization Work Guidelines Part 1: Structure and Drafting Rules of Standardization Documents".

Drafting.

This document is Part 2 of GB/T 47251 "Contact Printing Rigid Plates for Printed Electronic Equipment". GB/T 47251 has been issued.

The following sections were laid out.

---Part 1: Methods for Measuring the External Dimensions of Printing Plates;

---Part 2: Methods for measuring the size of printing plate patterns.

This document is equivalent to IEC 62899-301-2:2017 "Printed electronic equipment - Part 301-2. Contact printing - Rigid printing plates".

Methods for measuring the size of printed patterns.

The following minimal editorial changes have been made to this document.

---To harmonize with existing standards, the standard title has been changed to "Contact Printing Rigid Plates for Printed Electronic Devices - Part 2: Plates" Methods for measuring pattern dimensions.

Please note that some content in this document may involve patents. The issuing organization of this document assumes no responsibility for identifying patents.

This document was proposed by the China Machinery Industry Federation.

This document is under the jurisdiction of the National Technical Committee on Standardization of Printing Machinery (SAC/TC192).

Introduction

When analyzing the term "printed electronics," it can be simply understood as an industry involving the use of a certain printing technology to manufacture electronic devices and products.

For centuries, printing methods have been widely used on substrates such as textiles and paper. In the past, the advent of mass-producible printed materials greatly influenced...

The methods of storing, transmitting, and replicating knowledge have had a profound

impact. At the current stage of technological development, printing on rigid or flexible substrates...

It is considered a complement to or alternative to traditional electronics manufacturing processes. The difference between media printing and printed electronics lies in the fact that media printing is used for transmission...

Printed electronics transmit information for humans to read and process with their eyes, while printed electronics require machines to recognize and process electronic information; the required resolution levels and functions...

Size is the reason for the difference between the two. Some functional materials widely used in printed electronics include, but are not limited to, nano- or micron-sized materials.

Metal particles, semiconductor polymers, and dielectric materials. Due to the need to achieve a certain recognition resolution, it is necessary to print particles smaller than 20 μm .

The micro-sized graphics. The thickness of the printed film layer is closely related to the quality control of electronic devices, and the registration accuracy and ink materials both need to meet high standards.

A very high level of quality. Overall, the precision tolerances in printed electronics are much smaller.

Printed electronics printing processes are mainly divided into two categories. One category is non-contact printing processes, such as inkjet printing and electrostatic dispensing (ESD).

Printing processes; another type is contact printing processes, such as gravure printing, gravure offset printing, reverse offset printing, and screen printing. This document mentions...

It provides recommendations for measuring and evaluating printing plates, therefore its scope is limited to printing processes that use printing plates. GB/T 47251 is proposed to consist of 3...

Partial composition.

---Part 1: Methods for Measuring the Dimensions of Printing Plates. The aim is to establish a terminology applicable to the measurement of the dimensions of rigid printing plates.

and methods.

---Part 2: Methods for Measuring Printing Plate Dimensions. The aim is to establish key dimensions applicable to graphics on rigid printing plates and...

Measurement terminology and methods related to fitting accuracy.

---Part 3: Methods for Measuring Plate Cylinder Shape Errors. The aim is to establish applicable measurement methods for plate cylinder shape errors.

Terminology and methods.

Because the ink is transferred directly from the printing plate to the substrate, the printing quality of the circuitry depends on the quality of the printing plate. Therefore, the quality of the printing plate is crucial.

Quantity is very important. Many companies are involved in the large-scale production of printed electronic equipment, including equipment manufacturers, plate manufacturers, and printing press manufacturers.

Plate manufacturing equipment suppliers all involve standardized measurement and evaluation methods for using printing plates.

Contact printing rigid printing plates for printed electronic equipment Part 2: Methods for Measuring Printing Plate Dimensions

1 Scope

This document specifies the measurement terminology and methods related to the critical dimensions of graphics on rigid printing plates and the accuracy of graphic registration.

This document defines common key dimensions used to evaluate the shape accuracy of graphics on a printing plate. This is for evaluating the registration accuracy of graphics on a printing plate.

This standard specifies the registration markings for printing plates. It establishes a measurement standard for printing plates for equipment manufacturers, printing plate manufacturers, and suppliers of printing plate manufacturing equipment.

This document outlines a general metrological procedure for critical dimensions and registration accuracy. Measurements performed according to agreements between users and suppliers are documented in this document.

The measurement shall be performed according to the measurement method given in the document.

2 Normative references

This document has no normative references.

3 Terms and Definitions

The following terms and definitions apply to this document.

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