BS IEC 62899-403-1:2018

BSI Standards Publication

# Printed electronics

Part 403-1: Printability - Requirements for reproducibility - Basic patterns for evaluation of printing machine

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The UK participation in its preparation was entrusted to Technical Committee AMT/9, Printed Electronics.

A list of organizations represented on this committee can be obtained on request to its secretary.

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# INTERNATIONAL STANDARD

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## Printed electronics –
## Part 403-1: Printability – Requirements for reproducibility – Basic patterns for evaluation of printing machine

INTERNATIONAL
ELECTROTECHNICAL
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# PRINTED ELECTRONICS –

## Part 403-1: Printability – Requirements for reproducibility – Basic patterns for evaluation of printing machine

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International Standard IEC 62899-403-1 has been prepared by IEC technical committee 119: Printed Electronics.

The text of this International Standard is based on the following documents:

| FDIS | Report on voting |
|---|---|
| 119/214/FDIS | 119/223/RVD |

Full information on the voting for the approval of this International Standard can be found in the report on voting indicated in the above table.

This document has been drafted in accordance with the ISO/IEC Directives, Part 2.

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A list of all parts in the IEC 62899 series, published under the general title *Printed electronics*, can be found on the IEC website.

The committee has decided that the contents of this document will remain unchanged until the stability date indicated on the IEC website under "http://webstore.iec.ch" in the data related to the specific document. At this date, the document will be

- reconfirmed,
- withdrawn,
- replaced by a revised edition, or
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# INTRODUCTION

The IEC 62899-403 series contains basic patterns to evaluate the printability of a printing machine, plating, and applications for printed electronics. The printability is defined as both the quality of printed patterns and the reproducibility of printing designs as the result of the interaction of printing media, inks, and substrates. The documents from the IEC 62899-403 series provide commonly-utilized design patterns for evaluating printability. The quality of printed patterns is satisfied by accurate measuring, with a mechanical, physical, or optical apparatus, the patterns being two-dimensional or three-dimensional. On the other hand, the reproducibility of printing designs is achieved by estimating the reproducibility of replica.

The IEC 62899-402 series assumes a large role in the standardization of measuring methods for these printed patterns, and the IEC 62899-403 series has a key role in standardizing the estimation of the patterns' reproducibility.

In the business field, requests from industry to apply the printing technology to electronics manufacturing have been guarantees for both the quality and reproducibility that have helped facilitate international trade and enhanced user value in the field of printed electronics.

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# PRINTED ELECTRONICS –

## Part 403-1: Printability – Requirements for reproducibility – Basic patterns for evaluation of printing machine

## 1 Scope

This part of 62899-403 specifies commonly-utilized basic design patterns to evaluate printing machines with pattern reproducibility from the view point of printability in the field of printed electronics. These basic patterns consist of several evaluation patterns and register marks.

Printability is derived from the evaluation of the reproducibility of these printed patterns produced by the printed machine.

## 2 Normative references

The following documents are referred to in the text in such a way that some or all of their content constitutes requirements of this document. For dated references, only the edition cited applies. For undated references, the latest edition of the referenced document (including any amendments) applies.

IEC 60050 (all parts), *International Electrotechnical Vocabulary (IEV)* (available at www.electropedia.org)

IEC 62899-402 (all parts), *Printed electronics – Part 402-X: Printability – Measurement of qualities*

ISO 3, *Preferred numbers – Series of preferred numbers*

## 3 Terms and definitions

For the purposes of this document, the terms and definitions given in IEC 60050 and the following apply.

ISO and IEC maintain terminological databases for use in standardization at the following addresses:

- IEC Electropedia: available at http://www.electropedia.org/
- ISO Online browsing platform: available at http://www.iso.org/obp

**3.1**
**basic pattern**
set of two-dimensional figures, which consist of evaluation patterns and register marks, used to inspect the reproducibility of printed patterns

**3.2**
**evaluation pattern**
set of fundamental figures to evaluate the printability for printing machines in printed electronics

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