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Printed electronics –
Part 502-2: Quality assessment – Organic light emitting diode (OLED) elements – Combined mechanical and environmental stress test methods for flexible OLED elements

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FOREWORD

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International Standard IEC 62899-502-2 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
119/271/FDIS	119/278/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.

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- withdrawn,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
- amended.

A bilingual version of this publication may be issued at a later date.

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INTRODUCTION

Electronic devices made by printing processes have very unique characteristics, as they are flexible, with foldable, rollable and/or conformable capabilities, compared to the electronic devices made through conventional non-printing processes that are mostly rigid. Given these characteristics, these devices can show different phenomena from those by non-printing processes under some conditions. In order to evaluate these phenomena, several unique evaluation methods are used for these devices made by the printing process. This document will provide one of them.

PRINTED ELECTRONICS –

Part 502-2: Quality assessment – Organic light emitting diode (OLED) elements – Combined mechanical and environmental stress test methods for flexible OLED elements

1 Scope

This part of IEC 62899 specifies the combined mechanical and environmental stress test methods for flexible OLED (organic light emitting diode) elements fabricated using the printing method. Mechanical stress tests include the static and cycling vending test, and the dynamic and static rolling test.

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 60068-1:2013, *Environmental testing – Part 1: General and guidance*

IEC 60068-2-2, *Environmental testing – Part 2-2: Tests – Test B: Dry heat*

IEC 62341-6-1, *Organic light emitting diode (OLED) displays – Part 6-1: Measuring methods of optical and electro-optical parameters*

IEC 62341-6-2, *Organic light emitting diode (OLED) displays – Part 6-2: Measuring methods of visual quality and ambient performance*

IEC 62341-6-3, *Organic light emitting diode (OLED) displays – Part 6-3: Measuring methods of image quality*

IEC 62715-5-1, *Flexible display devices – Part 5-1: Measuring methods of optical performance*

IEC 62715-5-3, *Flexible display devices – Part 5-3: Visual assessment of image quality and defects*

IEC 62715-6-1, *Flexible display devices – Part 6-1: Mechanical test methods – Deformation tests*

IEC 62899-502-1, *Printed electronics – Part 502-1: Quality assessment – Organic light emitting diode (OLED) elements – Mechanical stress testing of OLED elements formed on flexible substrates*

IEC 62922, *Organic light emitting diode (OLED) panels for general lighting – Performance requirements*