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Organic light emitting diode (OLED) displays – Part 5-2: Mechanical endurance test methods

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CONTENTS

FOREWORD	4
1 Scope	6
2 Normative references	6
3 Terms and definitions	7
4 Abbreviated terms	7
5 Standard atmospheric conditions	7
6 Evaluation	7
6.1 Visual examination and verification of dimensions	7
6.2 Reporting	8
7 Mechanical endurance test methods	8
7.1 General	8
7.2 Vibration (sinusoidal)	8
7.2.1 General	8
7.2.2 Purpose	8
7.2.3 Test apparatus	8
7.2.4 Test procedure	8
7.2.5 Evaluation	12
7.3 Shock	12
7.3.1 General	12
7.3.2 Purpose	12
7.3.3 Test apparatus	12
7.3.4 Test procedure	12
7.3.5 Evaluation	13
7.4 Quasistatic strength	13
7.4.1 General	13
7.4.2 Purpose	13
7.4.3 Specimen	14
7.4.4 Test apparatus	14
7.4.5 Test procedure	14
7.4.6 Evaluation	15
7.5 Four-point bending test	15
7.5.1 General	15
7.5.2 Purpose	15
7.5.3 Specimen	15
7.5.4 Test apparatus	16
7.5.5 Test procedure	17
7.5.6 Post-testing analysis	17
7.5.7 Evaluation	18
7.6 Transportation drop test	18
7.6.1 General	18
7.6.2 Purpose	18
7.6.3 Test sample	18
7.6.4 Test procedure	18
7.6.5 Evaluation	19
7.7 Peel strength test	19
7.7.1 Purpose	19

7.7.2	Test procedure	19
7.7.3	Evaluation	20
7.8	Shock test for large size display.....	20
7.8.1	Purpose.....	20
7.8.2	Test procedure	20
Annex A (informative)	Example of raw test data reduction for four-point bending test.....	21
A.1	Purpose	21
A.2	Sample test results	21
A.3	Finite element analysis	22
A.4	Use of conversion factor	26
A.5	Evaluation.....	27
Bibliography		29
Figure 1	– Example of the specimen and jig.....	9
Figure 2	– Directions of vibration test.....	9
Figure 3	– Configuration of OLED shock test set-up.....	12
Figure 4	– Schematic of quasistatic strength measurement apparatus example	14
Figure 5	– Schematics of test apparatus and pinned bearing edges	16
Figure 6	– Specimen configuration under four-point bending test	16
Figure 7	– Order of transportation package drop	19
Figure 8	– Example of peeling strength test	20
Figure A.1	– Specimen dimensions used for sample test.....	21
Figure A.2	– Examples of test results: Load-displacement curves	22
Figure A.3	– Finite element model of test specimen	23
Figure A.4	– Displacement contour map after moving the loading bar down by 2 mm.....	24
Figure A.5	– Contour map of maximum principal stress distribution.....	24
Figure A.6	– Maximum principal stress and maximum stress along the edge.....	25
Figure A.7	– Final relationship between panel strength and failure load	25
Figure A.8	– Extraction of conversion factor by linear fitting.....	26
Figure A.9	– Example of Weibull distribution of strength data and statistical outputs.....	28
Figure A.10	– Fitted failure probability distribution of strength data and B_{10} strength.....	28
Table 1	– Frequency range – Lower end	10
Table 2	– Frequency range – Upper end	10
Table 3	– Recommended frequency ranges	11
Table 4	– Recommended vibration amplitudes	11
Table 5	– Conditions for shock test	13
Table 6	– Examples of test parameter combinations	17
Table 7	– Example of package drop sequence	19
Table A.1	– Results of raw test data	22
Table A.2	– Example of conversion factor ($t = 0,4\text{mm}$, test span = 20mm/40mm)	26
Table A.3	– Failure load and converted strength data	27

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ORGANIC LIGHT EMITTING DIODE (OLED) DISPLAYS –**Part 5-2: Mechanical endurance test methods**

FOREWORD

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International Standard IEC 62341-5-2 has been prepared by IEC technical committee 110: Electronic display devices.

This second edition replaces the first edition published in 2013. This edition constitutes a technical revision.

This edition includes the following significant technical changes with respect to the previous edition:

- a) Vibration and shock tests for large displays (for example, TVs and monitors) are added.

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

FDIS	Report on voting
110/1069/FDIS	110/1083/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 the parts in the IEC 62341 series, under the general title *Organic light emitting diode (OLED) displays*, 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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ORGANIC LIGHT EMITTING DIODE (OLED) DISPLAYS –

Part 5-2: Mechanical endurance test methods

1 Scope

This part of IEC 62341 defines test methods for evaluating the mechanical endurance quality of organic light emitting diode (OLED) display panels and modules or their packaged form for transportation. It takes into account, wherever possible, the environmental test methods outlined in IEC 60068 (all parts). The object of this document is to establish uniform preferred test methods for judging the mechanical endurance properties of OLED display devices.

There are generally two categories of mechanical endurance tests: those relating to the product usage environment and those relating to the transportation environment in packaged form. Quasistatic strength, four-point bending and peel strength tests are introduced here for usage environment, while vibration, shock and transportation drop tests are applicable to the transportation environment. Mechanical endurance tests can be categorized into mobile applications, notebook computer or monitor applications and large size TV applications. Special considerations or limitations of test methods according to the size or application of the specimen are noted.

In case of contradiction between this document and a relevant specification, the latter will govern.

NOTE This document is established separately from IEC 61747-5-3, because the technology of organic light emitting diodes is considerably different from that of liquid crystal devices in such matters as:

- used materials and structure
- operation principles
- measuring methods

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 60068-2-6, *Environmental testing – Part 2-6: Tests – Test Fc: Vibration (sinusoidal)*

IEC 60068-2-27:2008, *Environmental testing – Part 2-27: Tests – Test Ea and guidance: Shock*

IEC 61747-1-1:2014, *Liquid crystal and solid-state display devices – Part 1-1: Generic – Generic specification*

IEC 61747-5-3:2009, *Liquid crystal display devices – Part 5-3: Environmental, endurance and mechanical test methods – Glass strength and reliability*

IEC 61747-10-1:2013, *Liquid crystal display devices – Part 10-1: Environmental, endurance and mechanical test methods – Mechanical*

IEC 62341-5:2009, *Organic light emitting diode (OLED) displays – Part 5: Environmental testing methods*

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

IEC 62341-6-2:2015, *Organic light emitting diode (OLED) displays – Part 6-2: Measuring methods of visual quality and ambient performance*

ISO 2206, *Packaging – Complete, filled transport packages – Identification of parts when testing*

ISO 2248:1985, *Packaging – Complete, filled transport packages – Vertical impact test by dropping*