IEC 62899-302-2

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INTERNATIONAL STANDARD

Printed electronics –
Part 302-2: Equipment – Inkjet – Imaging-based measurement of droplet volume

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PRINTED ELECTRONICS –

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FOREWORD

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International Standard IEC 62899-302-2 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
119/204/FDIS	119/216/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- withdrawn,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.

PRINTED ELECTRONICS –

Part 302-2: Equipment – Inkjet – Imaging-based measurement of droplet volume

1 Scope

This part of IEC 62899 specifies the method for determining accurate inkjet droplet volume based on images obtained by drop-in-flight measurement systems. It does not apply to imaging systems using interference fringes, such as holography or phase doppler anemometry. This document is not limited to drop-on-demand inkjet systems, but might not be applicable to continuous inkjet or liquid dispensing systems. This document includes a description of the issues concerning such measurements and consideration of the limits to measurement accuracy.

2 Normative references

There are no normative references in this document.

3 Terms and definitions

For the purposes of this document, the following terms and definitions 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
droplet volume
amount of jetted fluid from an inkjet print-head nozzle measured by single event imaging

Note 1 to entry: For a single event drive pulse designed to produce sub-drops that are intended to merge in-flight to form a larger droplet, for example to form a specific greyscale image value on deposition, droplet volume refers to the large merged droplet and not to smaller component sub-drops.

3.2
native drop volume
amount of fluid within the smallest sub-drop jetted from a greyscale inkjet print-head used to create images with droplets formed by multiple sub-drops within a single event

Note 1 to entry: Native drops (or threads or satellite drops) might be too small for accurate measurements by flash imaging, but satellite drops that have merged in-flight might be large enough for drop analysis systems. (See Figure 1 for a representation of the relative sizes for greyscale droplets in-flight.)

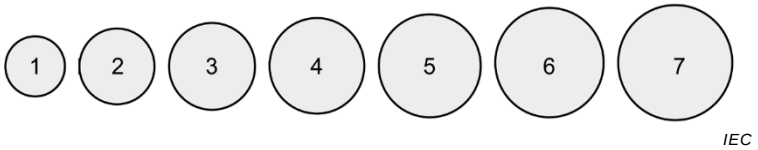

Figure 1 – Representation of greyscale drop size 1 (“native drop”) to size 7