IPC-6903

Terms and Definitions for the Design and Manufacture of Printed Electronics (Additive Circuitry)

Developed by the Printed Electronics Terms and Definitions Task Group (D-64A) of the Printed Electronics Committee (D-60) of IPC

Users of this publication are encouraged to participate in the development of future revisions.

Contact:

IPC

Table of Contents

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1 SCOPE

This standard provides industry-approved terms and definitions for the design and manufacture of printed electronics (additive processes).

1.1 Purpose The purpose of this standard is to provide the electronics industry with terms and definitions for specifying, designing and manufacturing printed electronics (additive processes). The reader is encouraged to also reference IPC/JPCA-2291, IPC/JPCA-4591 and IPC/JPCA-6901, which have additional industry-approved terms and definitions.

1.2 Precedence Terms and definitions in this standard will be submitted to working groups in the IPC Printed Electronics Committee and the IPC Terms and Definitions Committee for inclusion in IPC-T-50 and other IPC standards for printed electronics. The definition of terms in those standards **shall** take precedence over those published in this standard. For ease of use, some terms from IPC-T-50 have been included in this standard and are marked with an asterisk (*).

1.3 Revision and Submitting New Terms This standard **shall** undergo revision or amendments in instances in which:

- A term(s) is presented to the IPC D-64a Task Group and that term does not fit the scope or need of another standard.
- A revision or amendment of this standard can be approved faster than the standard for which the term(s) was developed.

2 APPLICABLE DOCUMENTS

2.1 IPC[1]

IPC-T-50 Terms and Definitions for Interconnecting and Packaging Electronics Circuits

IPC/JPCA-2291 Design Guideline for Printed Electronics

IPC/JPCA-4591 Requirements for Printed Electronics Functional Materials

IPC/JPCA-6901 Application Categories for Printed Electronics

3 TERMS AND DEFINITIONS FOR PRINTED ELECTRONICS

3.1 Active-Energy Line Curing A cure of material by exposure to an active-energy line.

3.2 Alignment Method Using an outer-positioning or camera or sensor to move the substrate to the correct position.

3.3 Annealing A post-deposition thermal treatment process which can be used to enhance electrical performance (i.e., reduce electrical resistance) of a printed functional conductive material. In some instances, the thermal treatment may improve long-range ordering of bulk material.

3.4 Arc Plasma Heating Arc heating utilizing disposable graphite electrodes which generate an arc plasma between the material and electrode, thus transferring the energy to the material. Arc plasma heating captures the arc plasma with a nozzle or gas flow. Although this method requires a complicated apparatus, it can offer higher orientation and higher temperature than normal arc heating.

3.5 Blade Coating Using a metal blade offset from the substrate to deposit a material onto a substrate.

3.6 Coating Process A deposition of slurry of functional material onto a substrate or functional material.

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[1] www.ipc.org