



IPC-6903A

Terms and Definitions for the Design and Manufacture of Printed Electronics

Developed by the D-64a Printed Electronics Terms and Definitions
Task Group of the D-64 Printed Electronics Final Assembly
Subcommittee of IPC

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

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Any document involving a complex technology draws material from a vast number of sources. While the principal members of the of IPC are shown below, it is not possible to include all of those who assisted in the evolution of this standard. To each of them, the members of the IPC extend their gratitude.

Printed Electronics Final Assembly Subcommittee

Co-Chairs
 Jeff Shubrooks, Raytheon Company;
 Michael J Jawitz, Orbital ATK

Printed Electronics Terms and Definitions Task Group

Chair
 Ken Gann, Lab Tech
 Vice Chair
 MaryAlice Gill, Jabil Circuit, Inc.

Technical Liaison of the IPC Board of Directors

Bob Neves
 Microtek (Changzhou) Laboratories

Printed Electronics Terms and Definitions Task Group

Leonard Allison, Engineered Materials Systems

Sai Avuthu, Jabil Circuit, Inc.

Andy Behr, Panasonic Industrial Devices Sales Company of America (PIDSA)

Neil Bolding, MacDermid Enthone Electronics Solutions

Shu Chang, Rochester Institute of Technology

Robert Cooke, NASA Johnson Space Center

James Feng, Optomec

Mahendra Gandhi, Northrop Grumman Aerospace Systems

Ken Gann, Lab Tech

MaryAlice Gill, Jabil Circuit, Inc.

Michael Jawitz, Orbital ATK

Dan Lawrence

Steven Martell, Sonoscan Inc.

Jan Obrzut, NIST

Jeffrey Parker, Insulectro

Sujatha Ramanujan, Intrinsic Materials

Xiaoying Rong, Cal Poly State University

Haridoss Sarma, GO 2 Scout 4 R&T

Jeff Shubrooks, Raytheon Company

Brent Sweitzer, Multek Flexible

Circuits, Inc.

Colin Tong, SAIC

Hector Valladares, Honeywell Aerospace

Steve Vetter, NSW Crane

Mobin Yahyazadehfar, DuPont Engineering Polymers

Jie Zhang, Institute of Printed Electronics Industry

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Len Allison, Engineered Materials Systems

Sai Avuthu, Jabil

Shu Chang, Rochester Institute of Technology

Ken Gann, Lab Tech

MaryAlice Gill, Jabil Circuit, Inc.

Jeffrey Parker, Insulectro

Sujatha Ramanujan, Intrinsic Materials

Xiaoying Rong Ph.D., Cal Poly

Haridoss Sarma, GO 2 Scout 4 R&T

Hector Valladares, Honeywell

Mobin Yahyazadehfar, DuPont Engineering Polymers

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Terms and Definitions for the Design and Manufacture of Printed Electronics

1 SCOPE

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

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-2291, IPC-4591, IPC-6901 and IPC-9204, 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 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 IPC¹

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

IPC-2291 Design Guideline for Printed Electronics

IPC-4591 Requirements for Printed Electronics Functional Conductive Materials

IPC-6901 Application Categories for Printed Electronics

IPC-9204 Guideline on Flexibility and Stretchability Testing for Printed Electronics

3 TERMS AND DEFINITIONS FOR PRINTED ELECTRONICS

Aerosol Printing Printing technology that deposits material in a form of high-speed mist stream of microdroplets, capable of producing high-resolution in patterns on planar and nonplanar substrates.

Aggregates A collection of particles joined together which cannot be broken down.

Alignment (Registration) Use of an outer-positioning camera or sensor to move a substrate to the correct position manually or in automated form.

Anilox A cylinder with etched or engraved wells.

Annealing, Metals A treatment that alters the microstructure of a material, causing changes in properties such as strength and hardness, to induce ductility and relieve internal stresses.

Annealing, Plastics A treatment that alters the microstructure of a material causing changes in properties to improve strength and hardness, to reduce internal stresses related to the polymer structure.

Annealing, Printed Functional Material A treatment that can be used to enhance electrical performance (i.e., reduce electrical resistance) of a printed functional material.

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. It can offer higher orientation and higher temperature than normal arc heating.

Area Gain Area in the actual feature contour outside the nominal feature contour.

Area Loss Nonprinted area of a nominal feature.

1. www.ipc.org