IPC-9121A

Troubleshooting for Printed Board Fabrication Processes

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Troubleshooting for Printed Board Fabrication Processes

Developed by the Printed Board Process Effects Handbook Task Group (7-24a) of the Process Control Management Committee (7-20) of IPC

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Troubleshooting for Printed Board Fabrication Processes
Section 1 – Scope

1 SCOPE

This handbook provides problems, causes and possible corrective actions related to printed board manufacturing processes.

1.1 Purpose The purpose of this standard is to help designers, manufacturers and users of printed boards to troubleshoot fabrication processes to build electronics better.

1.2 Classification IPC standards recognize that electrical and electronic assemblies are subject to classifications by intended end-item use. Three general end-product classes have been established to reflect differences in manufacturability, complexity, functional performance requirements, and verification (inspection/test) frequency. It should be recognized that there may be overlaps of equipment between classes.

CLASS 1 General Electronic Products

Includes products suitable for applications where the major requirement is function of the completed assembly.

CLASS 2 Dedicated Service Electronic Products

Includes products where continued performance and extended life is required, and for which uninterrupted service is desired but not critical. Typically, the end-use environment would not cause failures.

CLASS 3 High Performance/Harsh Environment Electronic Products

Includes products where continued high performance or performance-on-demand is critical, equipment downtime cannot be tolerated, end-use environment may be uncommonly harsh, and the equipment must function when required, such as life support or other critical systems.

1.3 Use of “Lead” For readability and translation, the metallic element lead is always written as Pb.

1.4 Abbreviations and Acronyms See Appendix A for full spellings of abbreviations (including elements) and acronyms used in this standard.

1.5 Terms and Definitions Terms and definitions **shall** be in accordance with IPC-T-50 and 1.6.1 through 1.6.32.

1.6 IPC-9121 Format Example This document follows the general format seen below. In instances where there is no photo, a photo is not necessary or one could not be found. Potential test methods for discovery and verification are included in tables where applicable.

IPC encourages readers to submit process problems with photos as well as proposed causes and solutions to the IPC 7-24 Printed Board Process Effects Handbook Subcommittee. Submissions will be considered for document revisions.