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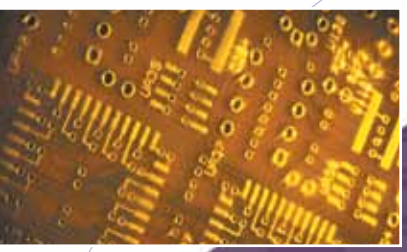
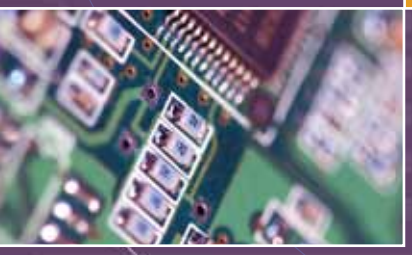


IPC Publications Catalog

2010–2011



Standards, guidelines and multimedia training for...

- > ELECTRONICS ASSEMBLY
- > PRINTED CIRCUIT BOARDS
- > DESIGN
- > TEST
- > ENVIRONMENTAL COMPLIANCE
- > MANAGEMENT, MARKET RESEARCH AND ROADMAPPING

NEW standards in 2010

Abridged for print. Full catalog is available in .pdf format.

WELCOME

Dear Colleague,

Because of the participation of industry members like you, IPC standards are accepted worldwide as the key manufacturing standards for the printed board and electronics manufacturing industries. Volunteer committees draft, edit and vote on these standards, assuring that they meet today's technical, business and regulatory challenges.

We're proud to bring you this new catalog, showing the progress the committees have made in standards for each area of the supply chain. New revisions of IPC's most widely used standards are all included: IPC-A-610, *Acceptability of Electronic Assemblies;* J-STD-001, *Requirements for Soldered Electrical and Electronic Assemblies;* and IPC-A-600, *Acceptability of Printed Boards.* IPC standards represent thousands of hours of work by committee members. To them, we offer our most sincere thanks.

Throughout the catalog, you will notice helpful icons that indicate new documents NEW since the last catalog as well as those that apply to, or are updated to, lead free . In addition, a FREE DOWNLOAD stamp calls attention to the many documents available for free download or free download only for members.

Since IPC is a membership organization, we work hard to provide our members with extra information and extra resources, often at no charge. Dues are very reasonable: less than $3 day! Join us and get more access and more assistance to help your company succeed.

Best regards,

Denny McGuirk
President, IPC

OUR MISSION

IPC is a global trade association dedicated to furthering the competitive excellence and financial success of its members, who are participants in the electronics industry.

In pursuit of these objectives, IPC will devote resources to management improvement and technology enhancement programs, the creation of relevant standards, protection of the environment and pertinent government relations.

IPC encourages the active participation of all its members in these activities and commits to full cooperation with all related organizations.

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IPC maintains additional offices in Beijing and Shenzhen, China, Arlington, Va., and Garden Grove, Calif. For more information, visit www.ipc.org.

ABOUT THIS CATALOG

Documents in this catalog are grouped by subjects and subtopics. Because IPC offers an extensive selection of industry documents and standards, training programs, text books and event proceedings, it is not possible to include a description for every item in this catalog. Instead, you will find full descriptions of IPC's most widely-used documents. Document numbers and titles of the rest of our documents are listed throughout this catalog; complete descriptions can be viewed at www.ipc.org/onlinestore. You can download a full PDF catalog with complete descriptions for all items at www.ipc.org/full-catalog.

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IPC TRAINING AND CERTIFICATION PROGRAMS

Through its international network of licensed and audited training centers, IPC offers globally recognized, industry-traceable training and certification programs on key industry standards. Developed by users, academics and professional trainers, IPC programs reflect a standardized industry consensus. Periodic recertification is required and course materials are updated for each document revision with support from the same industry experts who contributed to the standard.

Programs are Available for Five Key Standards:

- IPC-A-610, *Acceptability of Electronic Assemblies*
- IPC-A-600, *Acceptability of Printed Boards*
- IPC/WHMA-A-620, *Requirements and Acceptance for Cable and Wire Harness Assemblies*
- J-STD-001, *Requirements for Soldered Electrical and Electronic Assemblies*
- IPC-7711/IPC-7721, *Rework, Modification, and Repair of Printed Boards and Electronic Assemblies*

Certification programs are also available for PCB Designers and EMS Program Management.

For more information about IPC's training and certification programs, or to find an authorized training center near you, go to www.ipc.org/certification.

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For more than 50 years, company leaders have looked to IPC for the tools, information and forums they need to thrive in the ever-changing electronic interconnect industry. Whatever your role in the industry, you can join 2,700 companies worldwide that enjoy access to unparalleled opportunities to participate in, and shape the direction of, our collective future. Save up to 50% on standards and training materials. Visit our Web site at www.ipc.org for more information about the benefits of IPC membership.

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GENERAL PUBLICATIONS

IPC-C-1000
IPC Essential Document Collection for Board Design, Assembly and Manufacture

IPC's largest document collection is offered at the largest discount of all. Create an instant library that includes all of the C-10X segment collections, plus selected additional documents. Documents were reviewed and recommended for inclusion by IPC's technical staff. Contains 108 documents, including the widely used IPC-A-600, IPC-A-610, J-STD-001 and IPC-A-620. Visit the online store for the most up-to-date list of included documents and pricing. **Get the complete collection and save 60% off of individual document prices.**

NEW **IPC-T-50H**
Terms and Definitions for Interconnecting and Packaging Electronic Circuits

DOD Adopted

This essential industry standard provides descriptions and illustrations of electronics interconnect industry terminology to help users and their customers break down language barriers. Revision H contains more than 200 new or revised terms, including new terminology for ball grid array and chip scale packaging, via protection, conductor patterns, assembly processes, base materials and selective plating processes. Includes commonly used industry acronyms and an index of terms by technology types for easy searching. 141 pages. Released July 2008.

Languages: English or Chinese.

IPC-9591
Performance Parameters (Mechanical, Electrical, Environmental and Quality/Reliability) for Air Moving Devices

19 pages. Released April 2006.

IPC-TM-650
Test Methods Manual

Updated regularly as test methods are revised or developed.

IPC-50ANN
From Vacuum Tubes to Nanotubes: An Amazing Half Century. The Emergence of Electronic Circuit Technology 1957–2007

Released February 2007. FREE DOWNLOAD

NEW **J-STD-609**
Marking and Labeling of Components, PCBs and PCBAs to Identify Lead (Pb), Lead-Free (Pb-Free) and Other Attributes — Includes Amendment 1

Pb DOD Adopted

This standard provides a marking and labeling system that aids in assembly, rework, repair and recycling. It furnishes guidelines for identification of assemblies with lead-containing or lead-free solder and components that have lead-containing or lead-free second level interconnect terminal finishes and materials. Also addressed is labeling for the maximum component temperature for assembly or rework processing, base materials used in its construction, surface finishes and conformal coating. The amendment contains an updated list of solder alloys and corresponding markings. Released January 2010. FREE DOWNLOAD

IPC-C-103
Electronics Assembly Standards Collection

It takes a lot to be successful in electronics assembly. Get the reference documents you need on all aspects of the job — including solder materials, component characteristics, manufacturing and quality requirements, and acceptability of the final assembly for both leaded and lead-free assemblies. This collection includes 38 key documents for SMT and through-hole assembly, including the widely used IPC-A-610, J-STD-001 and IPC-A-620. Visit the online store for a complete list of included documents. **Get the collection and save 55% on individual document prices.**

IPC-C-108
Cleaning Guides and Handbooks Collection

This complete set of 9 documents includes the latest editions of every IPC cleaning guide and handbook. It is an invaluable tool for manufacturing engineers making decisions on cleaning products and processes. Also provides guidance for troubleshooting. Visit the online store for a complete list of included documents. **Save 45% off individual document prices!**

ACCEPTABILITY

NEW IPC-J-STD-001E
Requirements for Soldered Electrical and Electronic Assemblies

J-STD-001 is recognized worldwide as the sole industry-consensus standard for soldering processes and materials. Revision E has expanded support for lead-free manufacturing, in addition to easier-to-understand criteria for materials, methods and verification for producing quality soldered interconnections and assemblies. The requirements for all three classes of construction are included. Full color illustrations are provided for clarity. This standard fully complements IPC-A-610E. A separate addendum is available through free download to support the unique and unusual requirements for hardware that will be used in the microgravity, microatmosphere conditions of outer space. Released April 2010.

Languages: Translation is underway. Check the online store for an updated list.

Certification: Earn an industry-recognized credential on this important standard through an IPC training and certification program. Visit www.ipc.org/certification for details.

NEW IPC-A-610E
Acceptability of Electronic Assemblies

A must for all quality assurance and assembly departments, IPC-A-610E illustrates industry-accepted workmanship criteria for electronic assemblies through nearly 800 updated and expanded full-color photographs and illustrations. Topics include lead free, component orientation and soldering criteria for through-hole, SMT and discrete wiring assemblies, cleaning, marking, coating, and laminate requirements. IPC-A-610E is invaluable for all inspectors, operators and trainers. Revision E has been critically reviewed for clarity and accuracy. Hole fill criteria has changed and there is additional SMT support. The document is used with the material and process standard IPC J-STD-001E. The IEC is in the process of endorsing IPC-A-610 as the globally preferred international acceptance standard for electronics assembly. Released April 2010.

Languages: Translation is underway. Check the online store for an updated list.

Certification: Earn an industry-recognized credential on this important standard through an IPC training and certification program. Visit www.ipc.org/certification for details.

IPC-A-610E illustrations are available as a complete set, individually or by chapter. They are available for unlimited use for in-house company training. Visit the online store for pricing and information.

IPC/WHMA-A-620A
Requirements and Acceptance for Cable and Wire Harness Assemblies

Revision A, with improved readability and usability, is now available for the only industry consensus standard for requirements and acceptance of cable and wire harness assemblies. IPC and the Wire Harness Manufacturers Association (WHMA) developed this significant update, adding lead-free acceptance criteria, a new chapter devoted to electrical and mechanical testing and enhanced criteria for molding and splicing. Contains 599 color pictures and illustrations. Its 19 chapters include: criteria for wire prep, soldering to terminals, crimping of stamped and formed contacts and machined contacts, insulation displacement connectors, ultrasonic welding, splicing, connectors, molding, marking, coax/twinax cables, wrapping/lacing, shielding, assembly and wire-wrap terminations. 368 pages. Released July 2006.

Languages: English, Chinese, Danish, German, Hebrew, Polish or Spanish.

Certification: Earn an industry-recognized credential on this important standard through an IPC training and certification program. Visit www.ipc.org/certification for details.

ADVANCED

IPC-J-STD-012
Implementation of Flip Chip and Chip Scale Technology

ANSI Approved. 113 pages. Released January 1996. Also see IPC-7094.

IPC-SM-784
Guidelines for Chip-on-Board Technology Implementation

ANSI Approved. 37 pages. Released November 1990.

IPC/EIA J-STD-026
Semiconductor Design Standard for Flip Chip Applications

40 pages. Released August 1999.

IPC-J-STD-027
Mechanical Outline Standard for Flip Chip and Chip Size Configurations

Establishes mechanical outline requirements for devices supplied in flip chip or chip size package (CSP) formats, including die surface, die terminals, interconnection balls/bumps/ lands to the next level. 13 pages. Released February 2003.

IPC/EIA J-STD-028
Performance Standard for Construction of Flip Chip and Chip Scale Bumps

36 pages. Released August 1999.

IPC-J-STD-013
Implementation of Ball Grid Array and Other High Density Technology

96 pages. Released July 1996. Also see IPC-7095.

NEW IPC-7094
Design and Assembly Process Implementation for Flip Chip and Die Size Components

Implementing flip chip technology in a direct chip attach (DCA) assembly presents unique challenges for design, assembly, inspection and repair personnel. The standard provides information on system level issues, flip chip and die size assembly and the requirements for board and module level reliability. In addition to guidelines for flip chip inspection, IPC-7094 addresses the design of the initial element and how the die can be evaluated during its development process with a goal toward simplification of the final assembly. Other issues included are outsourcing manufacturing and the procurement of known good die. 75 pages. Released February 2009.

IPC-7095B
Design and Assembly Process Implementation for BGAs

ANSI Approved. This document delivers useful and practical information to design, assembly, inspection and repair personnel. The major emphasis of Revision B is to provide information to companies transitioning from the standard tin-lead reflow processes to those that use lead-free materials in the assembly of BGA type components. In addition to providing guidelines for BGA inspection and repair, IPC-7095B also addresses reliability issues and the use of lead-free joint criteria associated with BGAs. It also features many new photographs of X-ray or endoscope illustrations to identify some of the characteristics that the industry is experiencing in the implementation of BGA assembly processes, as well as void process indicators. 152 pages. Released March 2008.

IPC/EIA J-STD-032
Performance Standard for Ball Grid Array Balls

This standard, developed jointly by IPC and the Electronic Industries Association (EIA), establishes the construction requirements for balls and other terminal structures on ball grid array (BGA) packages. It also establishes a set of designations and expectations for product performance. A wide variety of terminal structures are recognized for a broad range of applications — from highest reliability computer, space and military applications to disposable commodity applications. 10 pages. Released June 2002.

IPC-MC-790
Guidelines for Multichip Module Technology Utilization

120 pages. Released August 1992.

CLEANING

NEW IPC-CH-65B
Assembly Cleaning Handbook

The handbook combines the following four cleaning handbooks into one comprehensive Assembly Cleaning Handbook: IPC-SC-60, *Post Solder Solvent Cleaning Handbook*; IPC-SA-61, *Post Solder Semi-Aqueous Cleaning Handbook*; IPC-AC-62, *Aqueous Post Solder Cleaning Handbook*; and IPC-CH-65, *Guidelines for Cleaning of Printed Boards and Assemblies*. This handbook includes description and discussion of various cleaning methods. It explains the relationship between materials, processes and contaminants in assembly operations. 250 Pages. Expected release May 2010.

IPC-TR-476A
Electrochemical Migration: Electrically Induced Failures in Printed Circuit Assemblies

14 pages. Revised 1997.

IPC-TR-582
Cleaning & Cleanliness Test Program for Phase 3 — Low Solids, Fluxes and Pastes Processed in Ambient Air

163 pages. Released November 1994.

IPC-9201A
Surface Insulation Resistance Handbook

Surface insulation resistance (SIR) testing is a tool not only for characterization testing of production processes (such as solder masks, soldering flux and conformal coatings), but also for examining the electrochemical reactions at each stage of the electronic assembly production process. This handbook covers the terminology, theories, test procedures and test vehicles of SIR testing, including temperature-humidity (TH) and temperature-humidity-bias (THB). Discussions on failure modes and troubleshooting are also included. Revision A significantly expands on the discussion of available industry test vehicles for SIR as well as test chamber set-up. 86 pages. Released August 2007.

Cleaning standards for bare boards can be found on page 10.

COMPONENTS

IPC/JEDEC J-STD-020D-1
Moisture/Reflow Sensitivity Classification for Nonhermetic Solid State Surface Mount Devices — Includes Amendment 1

Updated with extended support for components used in lead-free assembly, this standard identifies the classification levels of nonhermetic solid state surface mount devices that are sensitive to moisture-induced stress. Use it to determine which classification level should be used for initial reliability qualification. These devices can be properly packaged, stored and handled to avoid subsequent thermal/mechanical damage during solder reflow attachment. Developed by IPC and JEDEC. 13 pages. Released June 2007.

Languages: English, Chinese or German.

IPC/JEDEC J-STD-033B
Handling, Packing, Shipping and Use of Moisture/Reflow Sensitive Surface Mount Devices — Includes Amendment 1

Updated for lead-free processing, this document provides surface mount device manufacturers and users with standardized methods for handling, packing, shipping and using moisture/reflow sensitive SMDs. These methods help avoid damage from moisture absorption and exposure to solder reflow temperatures that can degrade yield and reliability. Use these procedures to help achieve safe and damage-free reflow with the dry packing process providing a minimum shelf life of 12 months from the seal date when using sealed, dry bags. Amendment 1 includes updates to Table 4-3 and corrects Figure 3-2, as shown in new Appendix C Summary of Amendment 1 Changes. Developed by IPC and JEDEC. 17 pages. Revision B released October 2005; Amendment 1 released January 2007.

Languages: English, German, or Russian.

IPC/JEDEC J-STD-035
Acoustic Microscopy for Non-Hermetic Encapsulated Electronic Components

16 pages. Released April 1999.

EIA/IPC/JEDEC J-STD-075
Classification of Non-IC Electronic Components for Assembly Processes

J-STD-075 picks up where J-STD-020 left off by providing test methods to classify worst-case thermal process conditions for electronic components. Classification is referenced to common industry wave and reflow solder profiles. The classifications represent maximum process sensitivity levels and do not establish rework conditions or recommended conditions for an assembler. It outlines a process to classify and label non-semiconductor electronic component's Process Sensitivity Level (PSL) and Moisture Sensitivity Level (MSL) consistent with J-STD-020 and J-STD-033. This standard supersedes IPC-9503. 12 pages. Released August 2008.

Languages: English or German.

NEW IPC-9592A
Requirements for Power Conversion Devices for the Computer and Telecommunications Industries

Expected release April 2010.

GENERAL

IPC-TA-724
Technology Assessment Series on Clean Rooms

Released April 1998.

IPC-SM-780
Component Packaging and Interconnecting with Emphasis on Surface Mounting

138 pages. Released March 1988.

IPC-SM-785
Guidelines for Accelerated Reliability Testing of Surface Mount Attachments

50 pages. Released November 1992.

IPC-9701A
Performance Test Methods and Qualification Requirements for Surface Mount Solder Attachments

Provides specific test methods to evaluate the performance and reliability of surface mount solder attachments of electronic assemblies. Establishes levels of performance and reliability of the solder attachments of surface mount devices to rigid, flexible and rigid-flex circuit structures. When used with IPC-SM-785, it provides an understanding of the physics of SMT solder joint failure and an approximate means of relating performance tests results to the reliability of solder attachments in their use environments. Revision A includes Appendix B which provides recommended changes to the thermal cycling profiles given in the document when utilizing lead-free solder joints. 24 pages. Released February 2006.

IPC/JEDEC-9702
Monotonic Bend Characterization of Board-Level Interconnects

17 pages. Released June 2004.

NEW **IPC/JEDEC-9703**
IPC/JEDEC Mechanical Shock Test Guidelines for Solder Joint Reliability

42 pages. Released March 2009

IPC-9704
IPC/JEDEC Printed Wiring Board Strain Gage Test Guideline

22 pages. Released June 2005.

NEW **IPC-9850A-K**
Surface Mount Placement Equipment Characterization

This standard has been updated to standardize the parameters, measurement procedures, and methodologies used for the specification, evaluation, and continuing verification of assembly equipment characterization parameters. It establishes the procedures to characterize and document machine placement capability of surface mount assembly equipment while maintaining a placement accuracy to placement throughput relationship. Kit includes one printed copy of the standard and a CD with the support spreadsheet, forms and the drawing files (Gerber format) necessary to make the test materials (these are not read-only). 30 Pages. Expected release April 2010.

IPC-SMEMA-9851
Mechanical Equipment Interface Standard

7 pages. Released February 2007. FREE DOWNLOAD

IPC-PD-335
Electronic Packaging Handbook

470 pages. Released December 1989.

IPC-7525A
Stencil Design Guideline

Updated to include support for stencils used with lead-free processes, this document provides guidelines for the design and fabrication of stencils for solder paste and surface-mount adhesives. Stencil design for various surface-mount technology, as well as mixed technology with through-hole or flip chip components is discussed. This includes differences for tin-lead and lead-free solder paste, overprint, two-print and step stencil designs. A sample order form plus a user inspection checklist are also included. 28 pages. Released February 2007.

Languages: English or German.

IPC-7526
Stencil and Misprinted Board Cleaning Handbook

Cleaning stencils and misprinted PCBs have taken on an increasingly important role in surface mount technology. Fine-pitch and ultra-fine-pitch lands, together with other advanced packages, place new demands on stencil cleaning. Paste volume is a critical issue for fine, ultra-fine, chip-scale, BGA and flip chip components. Insufficient solder due to clogging of stencil apertures is a primary cause of defects. This handbook contains basic information and guidance on stencil/misprint cleaning to help reduce the potential for defects caused by improper cleaning methods. 24 pages. Released February 2007. FREE DOWNLOAD

IPC-TR-581
IPC Phase III Controlled Atmosphere Soldering Study

90 pages. Released August 1994.

MATERIALS

NEW **IPC-J-STD-004B**
Requirements for Soldering Fluxes

DOD Adopted **ANSI** Approved. The purpose of this standard is to classify and characterize tin lead and lead-free soldering flux materials. Soldering flux materials include: liquid flux, paste flux, solder paste, solder cream and flux-coated and flux-cored solder wires and preforms. 20 pages. Released December 2008.

Languages: English or Chinese.

IPC/EIA J-STD-005
Requirements for Soldering Pastes — Includes Amendment 1

DOD Adopted Lists requirements for qualification and characterization of solder paste. Test methods and criteria for metal content, viscosity, slump, solder ball, tack and wetting of solder pastes are included. Supersedes QQ-S-571. Developed by IPC and EIA. 24 pages. Released January 1995.

Languages: English or Chinese.

IPC-HDBK-005
Guide to Solder Paste Assessment

This handbook is a companion to the solder paste standard J-STD-005 and should be considered to be a guide to help assess the applicability of a solder paste for its use in surface mount technology (SMT) processes. This document also suggests some test methods that can help with designing and testing solder pastes. It is intended for use by both vendors and users of solder paste. This document has been written as a guide to assess the applicability of a solder paste for a specific process, given the tremendous number of permutations of different materials, atmospheres and process variables currently available. 50 pages. Released January 2006.

NEW **IPC-J-STD-006B**
Requirements for Electronic Grade Solder Alloys and Fluxed and Non-Fluxed Solid Solders for Electronic Soldering Applications — Includes Amendments 1 and 2

DOD Adopted This standard prescribes the nomenclature, requirements and test methods for electronic grade solder alloys; for fluxed and non-fluxed bar, ribbon, and powder solders for electronic soldering applications; and for "special" electronic grade solders. This is a quality control standard and is not intended to relate directly to the material's performance in the manufacturing process. 29 pages. Released October 2008.

Languages: English, Chinese or Japanese.

IPC J-STD-030
Guideline for Selection and Application of Underfill Material for Flip Chip and Other Micropackages

33 pages. Released September 2005.

IPC-SM-817
General Requirements for Dielectric Surface Mounting Adhesives

22 pages. Released November 1989.

IPC-WP-006
Round Robin Testing and Analysis: Lead-Free Alloys — Tin, Silver and Copper

19 pages. Released August 2003. FREE DOWNLOAD

SPVC2005
Round Robin Testing and Analysis of Lead-Free Solder Pastes with Alloys of Tin, Silver and Copper

50 pages. Released 2005.

JEDEC/IPC-JP002
JEDEC/IPC Current Tin Whiskers Theory and Mitigation Practices Guideline

This document provides insight into the theory behind tin whisker formation as it is known today and, based on this knowledge, potential mitigation practices that may delay or prevent tin whisker formation. The potential effectiveness of various mitigation practices will also be briefly discussed. References behind each of the theories and mitigation practices are provided. Due to additional performance requirements, the mitigation methods in this document may not be sufficient for certain applications with special needs (e.g., military or aerospace). 26 pages. Released March 2006.

IPC-CA-821
General Requirements for Thermally Conductive Adhesives

18 pages. Released January 1995.

IPC-3406
Guidelines for Electrically Conductive Surface Mount Adhesives

15 pages. Released July 1996.

IPC-3408
General Requirements for Anisotropically Conductive Adhesive Films

25 pages. Released November 1996.

NEW **IPC-CC-830B**
Qualification and Performance of Electrical Insulating Compound for Printed Wiring Assemblies — Includes Amendment 1

This is the industry standard for qualification and quality conformance of conformal coating. Includes requirements and evaluations of material properties using standardized test vehicles. Amendment 1 updates include new qualification, retention and conformance inspection requirements for FTIR, MIR and hydrolytic stability. 18 pages. Released October 2008.

Languages: English or Chinese.

IPC-HDBK-830
Guidelines for Design, Selection and Application of Conformal Coatings

88 pages. Released October 2002.

IPC-SM-840D
Qualification and Performance Specification of Permanent Solder Mask

DOD Adopted

Now updated to incorporate resistance requirements to lead-free soldering processes, this document covers qualification and quality performance requirements for liquid and dry-film solder mask material. It addresses two classes of requirements: T (telecommunications) and H (high reliability), to reflect functional performance needs and testing severity based on industry/end-use requirements. Topics include adhesion, material qualification, resistances to solvents and electrical requirements. 16 pages. Released April 2007.

HDBK-840
Solder Mask Handbook

This must-have supplement to the solder mask requirements established in IPC specifications (such as IPC-SM-840 and IPC-6012) provides detailed information on solder mask types, application processes, pre- and post-assembly processes, characteristics and properties that are useful in the selection and use of the most appropriate mask type for a given application. Applicable to solder mask manufacturers, processing equipment manufacturers, PCB manufacturers, assembly manufacturers and ancillary chemical suppliers. This document is available only in electronic format. 72 pages. Released September 2006.

NEW **IPC-1756**
Materials Declaration Management Data Management

This standard defines the generic requirements for declaration process management. This standard applies to products, components, sub-products and materials that are supplied to electronics producers for incorporation into their products. It covers assembly materials and manufacturing data. The standard provides consistency and efficiency through standard data exchange techniques and electronic data exchange formats. 25 pages. Released January 2010. FREE DOWNLOAD

OPTOELECTRONICS

IPC-0040
Optoelectronics Assembly and Packaging Technology

ANSI Approved. 161 pages. Released May 2003.

IPC-8413-1
Specification for Process Carriers Used to Handle Optical Fibers in Manufacturing

15 pages. Released April 2003.

IPC-8497-1
Cleaning Methods and Contamination Assessment for Optical Assembly

38 pages. Released January 2006.

PROCESS SUPPORT

IPC-TP-1114
The Layman's Guide to Qualifying a Process to J-STD-001

13 pages. Released January 1998.

COMING SOON **IPC-AJ-820A**
Assembly and Joining Handbook

This document provides supporting "how-to" and "why" fundamentals for assembly processes. The handbook includes information on printed boards, components, solderability, mounting, assembly and joining materials and cleaning and coatings. 200 pages. Expected release July 2010.

IPC-7530
Guidelines for Temperature Profiling for Mass Soldering (Reflow and Wave) Processes

During mass soldering, it is important that all solder joints reach the minimum soldering (reflow) temperature to assure metallurgical bonding of the solder alloy and the base metals to be soldered. Metallurgical bonding requires that both surfaces to be soldered, as well as the solder, reach this minimum soldering temperature for a sufficient time to allow the wetting of the solder surfaces. This document provides guidelines for the construction of appropriate profiling test vehicles and various techniques and methodologies for temperature profiling. 18 pages. Released May 2001.

IPC-TP-1090
The Layman's Guide to Qualifying New Fluxes

18 pages. Released July 1996.

IPC-TP-1115
Selection and Implementation Strategy for a Low-Residue No-Clean Process

120 pages. Released December 1998.

IPC-S-816
SMT Process Guidelines and Checklist

38 pages. Released July 1993.

IPC-CM-770E
Component Mounting Guidelines for Printed Boards

This revision provides effective guidelines in the preparation and attachment of components for printed circuit board assembly and reviews pertinent design criteria, impacts and issues. It contains techniques for assembly (both manual and machines including SMT, BGA and flip chip) and consideration of, and impact upon, subsequent soldering, cleaning, and coating processes. 150 pages. Revised January 2004.

IPC-7912A
End-Item DPMO for Printed Circuit Board Assemblies

ANSI Approved. 12 pages. Released January 2004.

IPC-9261A
In-Process DPMO and Estimated Yield for PCAs

12 pages. Released October 2006.

IPC-DPMO-202
IPC-7912/9261 End Item and In-Process DPMO Set

Set includes IPC-7912A, *End-Item DPMO for Printed Circuit Board Assemblies* and IPC-9261, *In-Process DPMO and Estimated Yield for PWAs.*

NEW WP-009
A Summary of Tin Whisker Research References

15 pages. Released March 2009.

REWORK/REPAIR

IPC-7711/21B
Rework, Modification and Repair of Electronic Assemblies

Featuring a major update for lead-free support plus enhanced inspection guidelines for repairs and modifications, this fully revised guide includes everything needed for repair and rework of electronic assemblies and printed circuit boards. In addition to a complete, procedure-by-procedure update to assure applicability to both lead-free and tin-lead soldered assemblies, this document includes all previously published changes plus several new procedures for BGAs (including reballing) and flex-print repair. Part 1 (General Requirements) has also been updated for ease of use and provides important direction and guidelines for all procedures. This section includes procedures common to rework, repair and modification. Part 2 (IPC-7711B) includes tools, materials and methods to be used in removing and replacing surface mount and through-hole components. Part 3 (IPC-7721B) covers procedures for modifying assemblies and accomplishing laminate can conductor repairs. Furnished in a three-ring binder for easy updating and customizing. **Future updates can be downloaded FREE from www.ipc.org/downloads.** 325 pages. Released November 2007.

Certification: Earn an industry-recognized credential on this important standard through an IPC training and certification program. Visit www.ipc.org/certification for details.

Languages: English, Chinese, Polish, Swedish or Spanish.

SOLDERABILITY

NEW IPC/ECA J-STD-002C
Solderability Tests for Component Leads, Terminations, Lugs, Terminals and Wires — Includes Amendment 1

This standard prescribes test methods, defect definitions, acceptance criteria and illustrations for assessing the solderability of electronic component leads, terminations, solid wires, stranded wires, lugs and tabs. It addresses visual acceptance and force measurement solderability criteria for tin-lead and lead free. The standard includes a test method for the resistance to dissolution/dewetting of metallization to verify that metallized terminations will remain intact throughout the assembly process. Amendment 1 adds a protocol for wetting balance testing and also allows use of production solder pastes for SMT simulation testing. 63 pages. Released November 2008.

Languages: English or Chinese.

IPC/EIA J-STD-003B
Solderability Tests for Printed Boards

Suitable for use by suppliers as well as users, this standard prescribes test methods, defect definitions and illustrations for assessing the solderability of printed board surface conductors, attachment lands and plated-through holes using tin-lead or lead-free solders. Use the solderability test methods described in this standard to determine whether printed board surface conductors, attachment lands and plated-through holes wet easily with solder, as well as whether they can withstand the rigors of printed board assembly processes. 36 pages. Released March 2007.

Languages: English or Chinese.

IPC-TR-585
Time, Temperature and Humidity Stress of Final Board Finish Solderability

54 pages. Released May 2006.

IPC-TR-461
Solderability Evaluation of Thick and Thin Fused Coatings

29 pages. Released March 1979.

IPC-TR-462
Solderability Evaluation of Printed Boards with Protective Coatings Over Long-Term Storage

63 pages. Released October 1987.

IPC-TR-464
Accelerated Aging for Solderability Evaluations

39 pages. Released December 1987.

IPC-TR-465-1
Round Robin Test on Steam Ager Temperature Control Stability

20 pages. Released 1993.

IPC-TR-465-2
The Effect of Steam Aging Time and Temperature on Solderability Test Results

51 pages. Released July 1996.

IPC-TR-465-3
Evaluation of Steam Aging on Alternative Finishes, Phase 11A

15 pages. Released July 1996.

IPC-TR-466
Technical Report: Wetting Balance Standard Weight Comparison Test

16 pages. Released April 1995.

SMC-WP-001
Soldering Capability White Paper

35 pages. Released August 1991. FREE DOWNLOAD

SMC-WP-005
PCB Surface Finishes

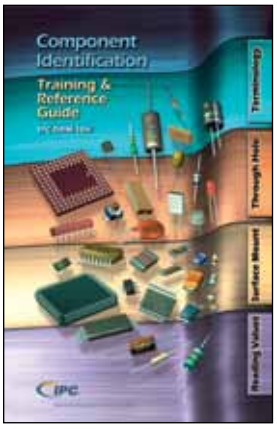
46 pages. Released August 1997. FREE DOWNLOAD

TRAINING & REFERENCE GUIDES

These compact guides make handy look-up and training tools. While some guides directly reference IPC standards, they should not be used as replacements for them. Quantity discounts are available. Please check the online store for details.

IPC-DRM-18H
Component Identification Training and Reference Guide

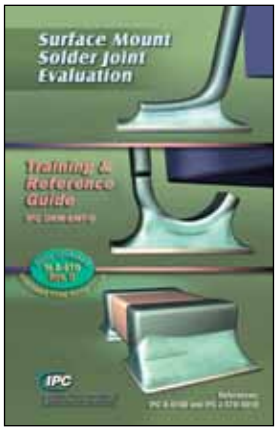
Ideal for training and as a quick reference, this comprehensive component identification resource is a must for electronics assembly operators and inspectors. It contains color photographs, computer graphics, schematic symbols and detailed descriptions of more than 50 through-hole and surface mount components. The new Revision H contains updated info on SSOP, TSOP, QFP, LQFP, PQFP, LCC, QFN and BGA-related packages. The guide also features a new section stressing the dangers of cross contamination when using lead-free components and assemblies. It also contains quick facts on polarity, orientation, lead styles, component reference designators (CRDs) and a section on reading component values. 73 pages.



IPC-DRM-SMT-D
Surface Mount Solder Joint Evaluation Training & Reference Guide

Help your workforce understand and apply the surface mount acceptance criteria from IPC standards. DRM-SMT-D contains 3-D color illustrations for chip component, gull wing and J-lead solder joints. Drawings clearly show the minimum acceptable condition for each type of component misalignment and the minimum solder connections. All three classes of product are color-coded to make it convenient to use as a reference guide. Manual also contains high-quality color photographs of the major solder defects and conditions, with the appropriate specification/ paragraph reference to IPC-A-610D and J-STD-001D.

Will be updated to reference IPC-A-610E and J-STD-00E. Check the online store for availability. 38 pages.



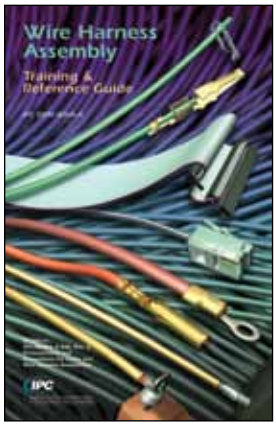
IPC-DRM-PTH-D
Through-Hole Solder Joint Evaluation Training & Reference Guide

Includes computer-generated 3-D graphics, as well as close-up photography, to help users understand IPC standards A-610D and J-STD-001D. Provides illustrations of component, barrel and solder-side coverage per requirements in the standards. Covers solder fillet, contact angle, wetting, vertical fill, land coverage and numerous defect conditions for Class 1, 2 and 3 solder joints. Also includes a terminology section.

Will be updated to reference IPC-A-610E and J-STD-00E. Check the online store for availability. 30 pages.

IPC-DRM-WHA-A
Wire Harness Assembly Training & Reference Guide

Designed for use by wire harness assemblers, crimp operators and even QA personnel, this newly updated guide illustrates and explains the most important acceptance criteria found in IPC/WHMA-A-620A, the industry standard on wire harness acceptability. Using easy-to-understand computer-generated graphics and simple language, this handy guide covers: wire types, gauges, insulation stripping, wire tinning, terminals and contact types, coaxial cables, IPC product categories and acceptance criteria, wire preparation, strand and insulation damage, conductor deformations, open and closed barrel crimp definitions and criteria, crimp deformations, cut-off tabs, punctures, insulation support crimps, inspection windows, bellmouth, conductor crimp requirements, conductor brush, closed barrel crimps, insulation damage, ribbon cable, discrete wire and cup terminals. A glossary of related terminology is also included. 59 pages.



IPC-DRM-53
Introduction to Electronics Assembly Training & Reference Guide

Learning resource for new hires, operators, sales, purchasing, human resources, administrative personnel, students or anyone interested in understanding the basic processes for both through hole and surface mount assembly. Explains electronics assembly to the uninitiated in easy-to-understand language and includes more than 70 color photographs and graphic drawings to clearly illustrate assembly technologies. Key terms are defined in a glossary to help simplify the industry lexicon. Also explains how electronics assembly fits into the electronics industry. Each section includes references for additional training and industry specifications that provides further information. 31 pages.

COLLECTIONS

IPC-C-102
Flexible Printed Board Standards Collection

Manufacturers and designers of flexible printed boards need unique information on materials, manufacturing and design for these specialized interconnections. Put it all at your fingertips with this comprehensive collection of IPC's 13 key documents for flexible printed boards. (Visit the online store for a complete list of included documents.) Purchase the collection and save 55% on individual document prices.

IPC-C-105
Rigid Printed Board Standards Collection

Here are the latest standards addressing the dimensioning, tolerancing, qualifying and performance aspects of rigid printed boards. An in-depth focus on solderability testing, plating requirements, conductor thickness and lot acceptance makes this document set an invaluable tool for anyone requiring the design and performance characteristics of rigid printed boards. Includes 39 documents. (Visit the online store for a complete list of included documents.) Purchase the collection and save 55% on individual document prices.

IPC-C-107
Printed Board Materials Standards Collection

With global materials restrictions adding to all the different recipes used in manufacturing board laminate, board specifiers and manufacturers need all the tools available. This collection of 19 documents contains the requirements for the various reinforcements, foils, laminates and prepregs. (Visit the online store for a complete list of included documents.) Purchase the collection and save 55% on individual document prices.

ACCEPTABILITY

IPC-6010 SERIES
IPC-6010 Qualification and Performance Series

Series includes IPC-6011, *Generic Performance Specification for Printed Boards*; IPC-6012, *Qualification and Performance Specification for Rigid Printed Boards*; IPC-6013, *Qualification and Performance Specification for Flexible Printed Boards*; IPC-6015, *Qualification and Performance Specification for Organic Multichip Module (MCM-L) Mounting and Interconnecting Structures*; IPC-6016, *Qualification and Performance Specification for High Density Interconnect (HDI) Layers or Boards*; and IPC-6018A, *Microwave End Product Board Inspection and Test*. Purchase the series and save 20% on individual document prices.

IPC-6011
Generic Performance Specification for Printed Boards

This specification establishes the general requirements and responsibilities for suppliers and users of printed boards. Serving as the foundation for the IPC-6010 Qualification and Performance series, it describes quality and reliability assurance requirements that must be met. For use with IPC-6012 through IPC-6018. Supersedes IPC-RB-276. 15 pages. Released July 1996.

Languages: English or German.

NEW IPC-6012C
Qualification and Performance Specification for Rigid Printed Boards

This specification covers qualification and performance of rigid printed boards, including single-sided, double-sided, with or without plated-through holes, multilayer with or without blind/buried vias and metal core boards. It addresses final finish and surface plating coating requirements, conductors, holes/vias, frequency of acceptance testing and quality conformance as well as electrical, mechanical and environmental requirements. Revision C provides new acceptance criteria for surface and hole plating, laminate imperfections, etchback and smear removal, annular ring, via fill, and copper wrap and copper cap plating of holes/vias, as well as new requirements for thermal stress testing prior to microsectioning. For use with IPC-6011. Released May 2010.

NEW IPC-6013B
Qualification and Performance Specification for Flexible Printed Boards

See page 11.

IPC-6015
Qualification and Performance Specification for Organic and Multichip Module Mounting and Interconnecting Structures

This new standard supplements existing IPC-6010 series specifications with qualification and performance requirements for in-process and finished printed boards containing embedded passive circuitry (distributive capacitve planes and capacitive or resistive components). 10 pages. Released March 2009. 25 pages. Released February 1998.

NEW IPC-6017
Qualification and Performance Specification for Printed Boards Containing Embedded Passive Devices

See page 10.

NEW IPC-A-600H
Acceptability of Printed Boards

The definitive illustrated guide to printed circuit board acceptability! This four-color document provides photographs and illustrations of the target, acceptable and nonconforming conditions that are either internally or externally observable on bare printed boards. Make sure your operators, inspectors, and engineers have the most current industry consensus information. With more than 80 new or revised photos and illustrations, revision H provides new coverage on cap plating of filled vias, copper wrap plating in holes/vias, conductor thickness, hole wall pullaway, and folds and bend marks for flexible printed boards, along with updated and expanded coverage for weave exposure, measling and crazing of printed boards, annular ring requirements, etchback, and stiffener bonding for flexible printed boards. Use with IPC-6012C and IPC-6013B. Released May 2010.

Languages: Translations are underway. Check the online store for an updated list.

Certification: Earn an industry-recognized credential on this important standard through an IPC training and certification program. Visit www.ipc.org/certification for details.

IPC-QE-605A
Printed Board Quality Evaluation Handbook

52 pages. Released February 1999.

IPC-HM-860
Specification for Multilayer Hybrid Circuits

66 pages. Released January 1987.

IPC-TF-870
Qualification and Performance of Polymer Thick Film Printed Boards

59 pages. Released November 1989.

IPC-ML-960
Qualification and Performance Specification for Mass Lamination Panels for Multilayer Printed Boards

ANSI Approved. 21 pages. Released July 1994.

IPC-TR-481
Results of Multilayer Tests Program Round Robin

86 pages. Released April 1981.

IPC-TR-551
Quality Assessment of Printed Boards Used for Mounting and Interconnecting Electronic Components

104 pages. Released July 1993.

IPC-TR-579
Round Robin Reliability Evaluation of Small Diameter Plated-Through Holes in PCBs

80 pages. Released September 1988.

CLEANING

IPC-5701
Users Guide for Cleanliness of Unpopulated Printed Boards

6 pages. Released July 2003.

IPC-5702
Guidelines for OEMs in Determining Acceptable Levels of Cleanliness of Unpopulated Printed Boards

Every electronics manufacturer, whether an original equipment manufacturer (OEM) or electronics manufacturing services (EMS) company, must determine if the unpopulated printed boards entering the assembly process have an adequate level of cleanliness. The question, "How clean is clean enough?" is one that has no definitive answer. Because the issue is very complex, a single methodology to determine acceptability does not exist. Recognizing this, IPC-5702 provides the printed board or printed board assembly professional guidance on how to correlate cleanliness-related data to electrical function and determine "acceptable" cleanliness levels. 15 pages. Released June 2007.

NEW **IPC-5704**
Cleanliness Requirements for Unpopulated Printed Boards

Printed board quality encompasses many different parameters, cleanliness being one important parameter. This specification defines the recommended general requirements for the cleanliness of unpopulated (bare) single, double-sided and multilayer printed boards, using both Ion Chromatography (IC) and Resistivity of Solvent Extract (ROSE) methodologies. 7 pages. Released December 2009.

IPC-TP-1113
Circuit Board Ionic Cleanliness Measurement: What Does It Tell Us?

8 pages. Released 1994.

IPC-WP-008
Setting Up Ion Chromatography Capability

12 pages. Released December 2005.

IPC-TR-583
An In-Depth Look at Ionic Cleanliness Testing

229 pages. Released July 2002.

EMBEDDED PASSIVES

IPC-2316
Design Guide for Embedded Passive Device Printed Boards

52 pages. Released March 2007.

IPC-4811
Specification for Embedded Passive Device Resistor Materials for Rigid and Multilayer Printed Boards

26 pages. Released April 2008.

IPC-4821
Specification for Embedded Passive Device Capacitor Materials for Rigid and Multilayer Printed Boards

34 pages. Released May 2006.

NEW **IPC-6017**
Qualification and Performance Specification for Printed Boards Containing Embedded Passive Devices

This new standard supplements existing IPC-6010 series specifications with qualification and performance requirements for in-process and finished printed boards containing embedded passive circuitry (distributive capacitve planes and capacitive or resistive components). 10 pages. Released March 2009.

FABRICATION

COMING SOON **IPC-1601**
Printed Board Handling and Storage Guidelines

Expected release June 2010 — visit www.ipc.org/onlinestore.

IPC-4761
Design Guide for Protection of Printed Board Via Structures

16 pages. Released July 2006.

IPC-4552
Specification for Electroless Nickel/Immersion Gold (ENIG) Plating for Printed Circuit Boards

ANSI Approved. Containing full color photographs, this specification sets the requirements for the use of ENIG as a surface finish. It includes requirements for ENIG deposit thicknesses based on performance criteria. The Appendix includes a free copy of the technical paper *Standard Developments Efforts of Electroless Nickel Immersion Gold* by Milad and O'Brien. 29 pages. Released October 2002.

Languages: English or German.

NEW **IPC-4553A**
Specification for Immersion Silver Plating for Printed Circuit Boards

This specification sets requirements based on performance criteria for the use of Immersion Silver (IAg) as a surface finish. In this revision, both a single thickness range is in place and an upper limit for immersion silver thickness has been established. 36 pages. Released May 2009.

IPC-4554
Specification for Immersion Tin Plating for Printed Circuit Boards

This full color document provides performance criteria for the use of immersion tin (ISn), which is used primarily as a solderable surface. 57 pages. Released January 2007.

Languages: English or German.

IPC-4781
Qualification and Performance Specification of Permanent, Semi-Permanent and Temporary Legend and/or Marking Ink

Here is the industry's first specification for the evaluation of a legend and/or marking ink material for the determination of acceptability of use in a standard printed board system. IPC-4781 provides coverage for adhesion, material qualification and testing, resistances to solvents, requirements for resistance to lead-free solders and electrical requirements. 17 pages. Released May 2008.

IPC-DR-572A
Drilling Guidelines for Printed Boards

12 pages. Released March 2007.

IPC-IT-95080
Improvements/Alternatives to Mechanical Drilling of PCB Vias

76 pages. Released August 1995.

IPC-SM-839
Pre- & Post-Solder Mask Application Cleaning Guidelines

22 pages. Released April 1990.

FLEXIBLE CIRCUITS

NEW **IPC-4202A**
Flexible Base Dielectrics for Use in Flexible Printed Circuitry

DOD Adopted

This document provides comprehensive data to help users more easily determine both material capability and compatibility. It includes flexible base material specification sheets that have been updated with the newest properties for the specific material types. Use with IPC-4203 and IPC-4204. 32 pages. Released March 2010.

IPC-4203
Adhesive Coated Dielectric Films for Use as Cover Sheets for Flexible Printed Circuitry and Flexible Adhesive Bonding Films

DOD Adopted

ANSI Approved. 45 pages. Released May 2002.

IPC-4204
Flexible Metal-Clad Dielectrics for Use in Fabrication of Flexible Printed Circuitry

DOD Adopted

ANSI Approved. 57 pages. Released May 2002.

NEW **IPC-6013B**
Qualification and Performance Specification for Flexible Printed Boards

Covers qualification and performance requirements for flexible printed boards designed to IPC-2221 and IPC-2223. The flexible printed boards may be single-sided, double-sided, multilayer or rigid-flex multilayer with stiffeners, plated-through holes (PTH) or blind/buried vias. Revision B includes new requirements for surface plating, measles, foreign inclusions, adhesive squeeze-out, solderable annular ring, PTH copper wrap, plating folds, microsection evaluations, acceptance testing frequency and more. 45 pages. Released January 2009.

Languages: English or German.

IPC/JPCA-6202
IPC/JPCA Performance Guide Manual for Single- and Double-Sided Flexible Printed Wiring Boards

96 pages. Released February 1999.

IPC-FA-251
Guidelines for Assembly of Single- and Double-Sided Flex Circuits

ANSI Approved. 30 pages. Released February 1992.

IPC-FC-234
PSA Assembly Guidelines for Single- and Double-Sided Flexible Printed Circuits

30 pages. Released December 1997.

GENERAL

IPC-D-325A
Documentation Requirements for Printed Boards

ANSI Approved. 94 pages. Revised May 1995.

IPC-D-326A
Information Requirements for Manufacturing Printed Circuit Boards and Other Electronic Assemblies

5 pages. Released January 2004.

IPC-PE-740A
Troubleshooting for Printed Board Manufacture and Assembly

388 pages. Released December 1997.

HIGH DENSITY/FINE PITCH

IPC/JPCA-4104
Specification for High Density Interconnect (HDI) and Microvia Materials

92 pages. Released May 1999.

IPC-6016
Qualification & Performance Specification for High Density Interconnect (HDI) Layers or Boards

55 pages. Released May 1999.

IPC/JPCA-6801
IPC/JPCA Terms & Definitions, Test Methods, and Design Examples for Build-Up/High Density Interconnect (HDI) Printed Circuit Boards

32 pages. Released January 2000.

IPC-DD-135
Qualification Testing for Deposited Organic Interlayer Dielectric Materials for Multichip Modules

42 pages. Released August 1995.

IPC-IT-30101
High Density PCB Microvia Evaluation, Phase 1, Round 3

83 pages. Released March 2000.

IPC-IT-96060
High Density PCB Microvia Evaluation (October Project) Phase 1, Round 1

76 pages. Released June 1996.

IPC-IT-97071
High Density PCB Microvia Evaluation, Phase 1, Round 2

11 pages. Released July 1997.

IPC-IT-98123
Microvia Manufacturing Technology Cost Analysis Report

67 pages. Released December 1998.

HIGH SPEED/HIGH FREQUENCY

IPC-2141A
Design Guide for High-Speed Controlled Impedance Circuit Boards

53 pages. Released March 2004.

IPC-2251
Design Guide for the Packaging of High Speed Electronic Circuits

DOD Adopted

99 pages. Released December 2003.

IPC-2252
Design Guide for RF/Microwave Circuit Boards

30 pages. Released June 2002.

IPC-4103
Specification for Base Materials for High Speed/High Frequency Applications

ANSI Approved. 40 pages. Released January 2002.

IPC-6018A
Microwave End Product Board Inspection and Test

ANSI Approved. Establishes requirements for qualification and performance of high frequency (microwave) printed wiring boards. Covers both end product inspection and test of microwave boards for microstrip, stripline, mixed dielectric and multilayer stripline applications. Enhancements over previous revision include updated tables for surface finish requirements and annular ring, as well as revised requirements for microsectioned test specimen and production boards. 34 pages. Released January 2002.

MATERIALS/GENERAL

IPC-MI-660
Incoming Inspection of Raw Materials Manual

150 pages. Released February 1984.

MATERIALS/FOILS AND LAMINATE

NEW **IPC-4101C**
Specification for Base Materials for Rigid and Multilayer Printed Boards

Pb

This document contains 66 individual specification sheets along with key words to help find similar materials. Eleven new specification sheets add laminate and prepreg materials that have improved or additional properties including one or more of the following: low-halogen content, lead-free applications, high thermal performance or high speed/high frequency performance. 137 pages. Released August 2009.

IPC-4121
Guidelines for Selecting Core Construction for Multilayer Printed Wiring Board Applications

ANSI Approved. 12 pages. Released January 2000.

IPC-4562A
Metal Foil for Printed Board Applications

DOD Adopted

This specification covers metal foils supported by carrier films and unsupported foils suitable for subsequent use in only printed boards, and addresses the requirements for procurement of these same metal foils. Unless otherwise agreed upon between user and supplier (AABUS), metal foils shall be considered acceptable as long as the requirements in this specification are met. 27 pages. Released April 2008.

IPC-4563
Resin Coated Copper Foil for Printed Boards Guideline

19 pages. Released November 2007.

IPC-CF-152B
Composite Metallic Materials Specification for Printed Circuit Boards

39 pages. Revised March 1997.

IPC-TR-485
Results of Copper Foil Rupture Strength Round Robin Study

27 pages. Released March 1985.

MATERIALS/REINFORCEMENTS

IPC-4412A
Specification for Finished Fabric Woven from "E" Glass for Printed Boards

DOD Adopted

Exhaustively covers the classification and requirements for finished fabrics woven from "E" glass fiber yarns. These yarns are formed from filaments of electrical-grade glass and are intended as reinforcing materials in laminated plastics for electrical and electronic uses. The fabrics covered by this specification are all of a plain-weave construction. Includes two extensive tables of finished fabric glass styles, one in SI units and the other in US units. Supersedes IPC-4412, IPC-EG-140 with Amendments 1 and 2 and, in turn, IPC-EG-140. 19 pages. Released January 2006.

IPC-4130
Specification and Characterization Methods for Nonwoven "E" Glass Mat

14 pages. Released September 1998.

IPC-4110
Specification and Characterization Methods for Nonwoven Cellulose Based Paper for Printed Boards

11 pages. Released August 1998.

IPC-4411A
Specification and Characterization Methods for Nonwoven Para-Aramid Reinforcement

22 pages. Released November 2003.

IPC-SG-141
Specification for Finished Fabric Woven from "S" Glass for Printed Boards

DOD Adopted

12 pages. Released February 1992.

IPC-A-142
Specification for Finished Fabric Woven from Aramid for Printed Boards

DOD Adopted

9 pages. Released June 1990.

IPC-QF-143
Specification for Finished Fabric Woven from Quartz (Pure Fused Silica) for Printed Boards

DOD Adopted

13 pages. Released February 1992.

QUALITY AND TEST

IPC-9691A
User Guide for the IPC-TM-650, Method 2.6.25, Conductive Anodic Filament (CAF) Resistance Test (Electrochemical Migration Testing)

23 pages. Released August 2007.

IPC-2524
PWB Fabrication Data Quality Rating System

16 pages. Released February 1999. FREE DOWNLOAD

NEW **IPC-9151C**
Printed Board Process, Capability, Quality and Relative Reliability (PCQR²) Benchmark Test Standard and Database

7 pages. Released January 2010. FREE DOWNLOAD

IPC-9191
General Guidelines for Implementation of Statistical Process Control (SPC)

DOD Adopted

ANSI Approved. 43 pages. Released November 1999.

IPC-9194
Implementation of Statistical Process Control (SPC) Applied to Printed Board Assembly Manufacture Guidelines

36 pages. Released September 2004.

IPC-9199
Statistical Process Control (SPC) Quality Rating

41 pages. Released September 2002.

NEW **IPC-9252A**
Requirements for Electrical Testing of Unpopulated Printed Boards

DOD Adopted

13 pages. Released December 2008.

IT-97061
PCB Hole to Land Misregistration: Causes and Reliability

11 pages. Released June 1997.

IT-98103
Reliability of Misregistered and Landless Innerlayer Interconnects in Thick Panels

180 pages. Released October 1998.

IPC-MS-810
Guidelines for High Volume Microsection

31 pages. Released October 1993.

IPC-QL-653A
Certification of Facilities that Inspect/Test Printed Circuit Boards, Components and Materials

15 pages. Released November 1997.

IPC-TR-483
Dimensional Stability Testing of Thin Laminates — Report on Phases 1 and 2 International Round Robin Test Programs

74 pages. Revised March 1991.

IPC-TR-486
Report on Round Robin Study to Correlate IST and Microsectioning Evaluations for Detecting the Presence of Inner-Layer Separation

51 pages. Released July 2001.

COLLECTIONS

IPC-C-106
Printed Board Design Standards Collection

As a designer considering physical design principles, customer reliability requirements and surface mount and high-speed logic design, you will want to add this compilation of standards to your library. This collection brings sharp focus to multiple aspects of printed board technology, including high density interconnects, flexible printed board design, controlled impedance and Design for Reliability (DFR) procedures. Includes 19 documents. (Visit the online store for a complete list of included documents.) Purchase the collection and save 55% on individual document prices.

CERTIFICATION

IPC-PWBADV-SGA
PCB Advanced Designer Certification Study Guide

On CD, this item is IPC-PWBADV-CD-A.
293 pages. Released January 2002.

IPC-PWB-CRT-SGA
PCB Designer Certification Study Guide

On CD, this item is IPC-PWBCERTCDACD.
174 pages. Released April 2007.

DATA TRANSFER

IPC-2501
Definition for Web-Based Exchange of XML Data

ANSI Approved. 32 pages. Released July 2003. FREE DOWNLOAD

IPC-2531
Standard Recipe File Format (SRFF) Specification

125 pages. Released March 1999. FREE DOWNLOAD

IPC-2541
Generic Requirements for Electronics Manufacturing Shop Floor Equipment Communication (CAMX)

ANSI Approved. 175 pages. Released October 2001. FREE DOWNLOAD

IPC-2546
Sectional Requirements for Shop Floor Equipment Communication Messages (CAMX) for Printed Circuit Board Assembly — with Amendments 1 and 2

131 pages. Released January 2005. FREE DOWNLOAD

IPC-2547
Sectional Requirements for Shop Floor Equipment Communication Messages (CAMX) for Printed Circuit Board Test

ANSI Approved. 52 pages. Released January 2002. FREE DOWNLOAD

IPC-2571
Generic Requirements for Electronics Manufacturing Supply Chain Communication — Product Data eXchange (PDX)

ANSI Approved. 43 pages. Released November 2001. FREE DOWNLOAD

IPC-2576
Sectional Requirements for Electronics Manufacturing Supply Chain Communication of As-Built Product Data — Product Data eXchange

ANSI Approved. 9 pages. Released November 2001. FREE DOWNLOAD

IPC-2578
Sectional Requirements for Supply Chain Communication of Bill of Material and Product Design Configuration Data — Product Data eXchange

ANSI Approved. 34 pages. Released November 2001. FREE DOWNLOAD

IPC-2511A
Generic Requirements for Implementation of Product Manufacturing Description Data & Transfer Methodology

199 pages. Released January 2000. FREE DOWNLOAD

IPC-2511B
Generic Requirements for Implementation of Product Manufacturing Description Data & Transfer XML Schema Methodology

ANSI Approved. 182 pages. Released January 2002. FREE DOWNLOAD

IPC-2512A
Sectional Requirements for Implementation of Administrative Methods for Manufacturing Data Description

18 pages. Released November 2000. FREE DOWNLOAD

IPC-2513A
Sectional Requirements for Implementation of Drawing Methods for Manufacturing Data Description

26 pages. Released November 2000. FREE DOWNLOAD

IPC-2514A
Sectional Requirements for Implementation of Printed Board Fabrication Data Description

23 pages. Released November 2000. FREE DOWNLOAD

IPC-2515A
Sectional Requirements for Implementation of Bare-Board Product Testing Data Description

20 pages. Released November 2000. FREE DOWNLOAD

IPC-2516A
Sectional Requirements for Implementation of Assembled Board Product Manufacturing Data Description

19 pages. Released November 2000. FREE DOWNLOAD

IPC-2517A
Sectional Requirements for Implementation of Assembly In-Circuit Test Data Description

24 pages. Released November 2000. FREE DOWNLOAD

IPC-2518A
Sectional Requirements for Implementation of Parts List Product Manufacturing Data Description

18 pages. Released November 2000. FREE DOWNLOAD

IPC-D-356B
Bare Substrate Electrical Test Data Format

61 pages. Released October 2002.

IPC-2581
Generic Requirements for Printed Board Assembly Products, Manufacturing Description Data and Transfer Methodology — with Amendment 1

169 pages. Released May 2007. FREE DOWNLOAD

IPC-2582
Sectional Requirements for Implementation of Administrative Methods for Manufacturing Data Description

13 pages. Released March 2007. FREE DOWNLOAD

IPC-2583
Sectional Requirements for Implementation of Design Characteristics for Manufacturing Data Description

25 pages. Released May 2007. FREE DOWNLOAD

IPC-2584
Sectional Requirements for Implementation of Printed Board Fabrication Data Description

40 pages. Released March 2007. FREE DOWNLOAD

IPC-2588
Sectional Requirements for Implementation of Part List Product Data Description

10 pages. Released May 2007. FREE DOWNLOAD

NEW **IPC-2611**
Generic Requirements for Electronic Product Documentation

This standard establishes the generic requirements for a document set describing electronic products, and the methodology used for revision control and configuration management of the information. It permits different grades or completeness of documentation, as well as identifying the various products, packaging and interconnection techniques for which unambiguous documentation is required. 25 Pages. Released November 2009.

NEW **IPC-2612**
Sectional Requirements for Electronic Diagramming Documentation (Schematic and Logic Descriptions)

30 pages. Released November 2009.

NEW **IPC-2612-1**
Sectional Requirements for Electronic Diagramming Symbol Generation Methodology

25 Pages. Released November 2009.

NEW **IPC-2614**
Sectional Requirements for Board Fabrication Documentation

59 Pages. Released November 2009.

NEW **IPC-2152**
Standard for Determining Current Carrying Capacity in Printed Board Design

The sole industry standard for determining appropriate internal and external conductor sizes on printed boards as a function of the current carrying capacity required and the acceptable conductor temperature rise. This document provides guidance on how thermal conductivity, vias, copper planes, power dissipation and printed board material and thickness all factor into the relationship between current, conductor size, and temperature. 97 pages. Released August 2009.

GUIDELINES

IPC/JPCA-2315
Design Guide for High Density Interconnects and Microvias

DOD Adopted 33 pages. Released June 2000.

IPC-2615
Printed Board Dimensions and Tolerances

66 pages. Released July 2000.

IPC-A-311
Process Controls for Phototool Generation and Use

6 pages. Released March 1996.

IPC-D-279
Design Guidelines for Reliable Surface Mount Technology Printed Board Assemblies

137 pages. Released July 1996.

IPC-D-310C
Guidelines for Phototool Generation and Measurement Techniques

68 pages. Revised June 1991.

IPC-D-322
Guidelines for Selecting Printed Wiring Board Sizes Using Standard Panel Sizes

DOD Adopted 4 pages. Reaffirmed September 1991.

IPC-D-422
Design Guide for Press Fit Rigid Printed Board Backplanes

17 pages. Revised September 1982.

REQUIREMENTS

IPC-2220
Design Standards Series

Series includes IPC-2221, *Generic Standard on Printed Board Design*; IPC-2222, *Sectional Design Standard for Rigid Organic Printed Boards*; IPC-2223, *Sectional Design Standard for Flexible Printed Boards*; IPC-2224, *Sectional Standard for Design of PCBs for PC Cards*; IPC-2225, *Sectional Design Standard for Organic Multichip Modules (MCM-L) and MCM-L Assemblies*; and IPC-2226, *Sectional Design Standard for High Density Interconnect (HDI) Printed Boards*. Purchase the series and save up to $20 on individual document prices.

IPC-2221A
Generic Standard on Printed Board Design

IPC-2221A is the foundation design standard for all documents in the IPC-2220 series. It establishes the generic requirements for the design of printed boards and other forms of component mounting or interconnecting structures. Among the many updates to Revision A are new criteria for surface plating, internal and external foil thicknesses, component placement and hole tolerances. Expanded coverage is provided for material properties, dimensioning and tolerancing rules, and via structures as well as updated coupon designs for quality assurance. 112 pages. Released May 2003.

Languages: English, Chinese or German.

IPC-2222
Sectional Standard on Rigid Organic Printed Boards

Used in conjunction with IPC-2221A. Key concepts in this document are: rigid laminate properties, designer/end user materials section map, and scoring parameters. IPC-2221A and IPC-2222 together supersede IPC-D-275. 35 pages. Released February 1998.

Languages: English, Chinese or German.

IPC-2223B
Sectional Design Standard for Flexible Printed Boards

Used in conjunction with IPC-2221A, IPC-2223B. Enhancements within Revision B include updated adhesive and adhesiveless constructions, updated coverage for selective plating requirements, new definitions for cover materials, new requirements for the plated-through hole to rigid-flex interface and expanded coverage for nonfunctional lands. 30 pages. Released May 2008.

IPC-2224
Sectional Standard on Design of PCBs for PC Cards

26 pages. Released January 1998.

IPC-2225
Sectional Design Standard for Organic Multichip Modules (MCM-L) and MCM-L Assemblies

44 pages. Released May 1998.

IPC-2226
Sectional Design Standard for High Density Interconnect (HDI) Printed Boards

DOD Adopted

49 pages. Released April 2003.

NEW **IPC-7351B**
Generic Requirements for Surface Mount Design and Land Pattern Standard

This popular document covers land pattern design for all types of passive and active components, including resistors, capacitors, MELFs, SSOPs, TSSOPs, QFPs, BGAs, QFNs and SONs. Board designers will appreciate the intelligent land pattern naming convention, zero component rotations for CAD systems and three separate land pattern geometries for each component that allow the user to select a land pattern based on desired component density.

Revision B now includes land pattern design guidance for new component families such as column and land grid array packages, flat lead diodes and transistors (SODFL and SOTFL), aluminum electrolytic capacitors, and dual flat no-lead (DFN) devices. Consideration is given to the variations in multiple paste mask apertures relative to the varying size of thermal pads. Also included is a new padstack naming convention that represents the shape or dimensions of lands on different layers.

A CD-ROM with a land pattern calculator is included with the standard. Purchasers also receive a 30-day trial of the IPC-7351 Land Pattern Wizard developed by PCB Matrix Corp., which enables users to save their land patterns and also to instantly export them to their preferred CAD format. Expected release March 2010.

IPC-D-859
Design Standard for Thick Film Multilayer Hybrid Circuits

80 pages. Released December 1989.

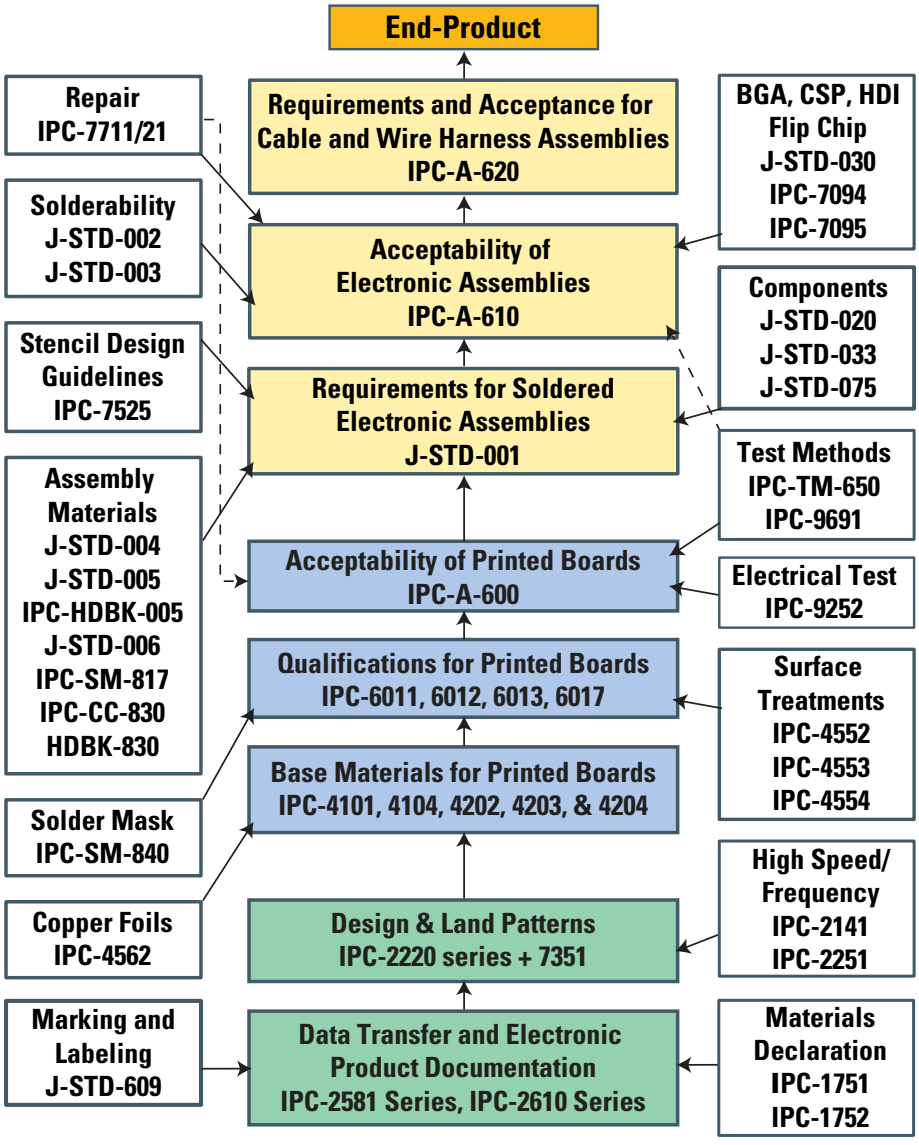
Association Connecting Electronics Industries

IPC

MOST WIDELY USED IPC STANDARDS

A MORE DETAILED TREE IS AVAILABLE AT

www.ipc.org/SpecTree (.pdf format)



MULTIMEDIA TRAINING RESOURCES

IPC has been producing industry-approved, commercial-free training media for more than 25 years ... covering electronics assembly acceptance standards, hand soldering, lead free, repair and rework, ESD control, component ID, wire harness and circuit board fabrication.

For the online catalog of our DVDs, interactive CD-ROMs, online video resources, training and reference guides, wall posters and image archives go to **www.ipctraining.org**.

DVD — DIGITAL VIDEO

IPC's DVD training programs have all the advantages of high-resolution digital video discs, along with optional subtitles for the hearing impaired. Additionally, special dual-language programs (e.g., Spanish/English, Chinese/English) provide for an even wider audience. DVDs work well in group or individual training sessions, and come with support materials, such as user guides, tests and certificates of completion — all of which are available for FREE download with DVD purchase.

OVT — ONLINE VIDEO TRAINING

IPC delivers video training right to your desktop! Our Online Video Training (OVT) program gives you the tools to provide instant access to our award-winning training. Ideal for computer-based programs, these digitized training videos can be mounted and downloaded or played directly from any server — across your network, or across the world via your intranet! Licenses are available for single locations, or for multi-site distribution.

Also available for select titles: FREE auto-testing software.

TRANSLATIONS — INCLUDING SPANISH AND CHINESE

Many of our critical topics are available on special dual-language DVDs. Languages include Spanish, Chinese, French, Finnish, Vietnamese, German and Russian, with more titles and languages being added continuously. (Each dual-language DVD comes with the original English language as an optional audio track.)

For technical questions, please contact staff at the IPC production office at +1 575-758-7937 or e-mail service@ipcvideo.org.

Request a FREE demo DVD that includes reviews of all IPC multimedia training resources at **www.ipctraining.org**.

You'll also find these reviews available for immediate download online.

DRM TRAINING & REFERENCE GUIDES

Handy and portable spiral-bound reference guides on surface mount and through hole solder joint acceptability, component identification, wire prep/crimp acceptability and basic electronics assembly. See page 8 for descriptions.

IMAGE RESOURCES

Select digital clip-art on CD-ROM from a wide variety of close-up defect photography and computer-generated graphics. Clip art sets from IPC-A-610E, as well as a lead-free solder joint image library are available. Create your own learning tools using IPC's graphic resources — for unrestricted in-house use.

IPC-A-610E Illustrations

Illustrations from IPC-A-610E are available as a complete set, individually or by chapter.

Visit www.ipc.org/onlinestore for pricing.

DVD-LFL
Lead-Free Solder Joint Image Library

Includes 195 through-hole and surface mount lead-free solder connections — photographed in extreme microscopic detail.

WALL POSTERS

Make a "big" impression with these 20" x 28" surface mount and through hole solder joint evaluation posters. They contain the critical acceptance criteria from IPC-A-610D and IPC J-STD-001D for solder connections, and are laminated with corner eyelets for easy display. **Posters will be updated to IPC-A-610E and J-STD-001E. Check the online store for availability.**

For technical questions, please contact the IPC production office at +1 575-758-7937 or e-mail service@ipcvideo.org.

P-SMT2-D
Surface Mount Solder Joint Evaluation Wall Posters (Set of 3) — Class 2

What better way to demonstrate to your employees that "inspection is everyone's job," than our surface mount evaluation wall posters! Utilizing the graphics and Class 2 acceptability criteria from IPC-A-610D, these 20" x 28" hanging posters serve as a constant reminder that quality is job number one. A set of three laminated surface mount evaluation/inspection posters for Class 2 comes with eyelets for easy hanging. One poster each for Chip, Gull and J-Lead (three-poster set).

P-SMT3-D
Surface Mount Solder Joint Evaluation Wall Posters (Set of 3) — Class 3

Class 3 version of P-SMT2-D (three-poster set).

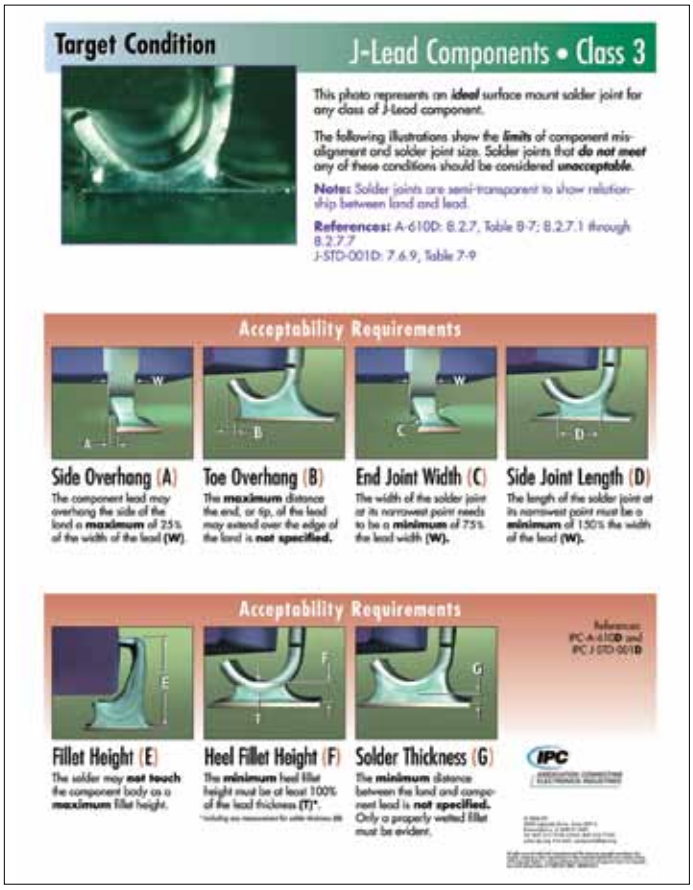
P-PTH2-D
Through-Hole Solder Joint Evaluation Wall Poster — Class 2

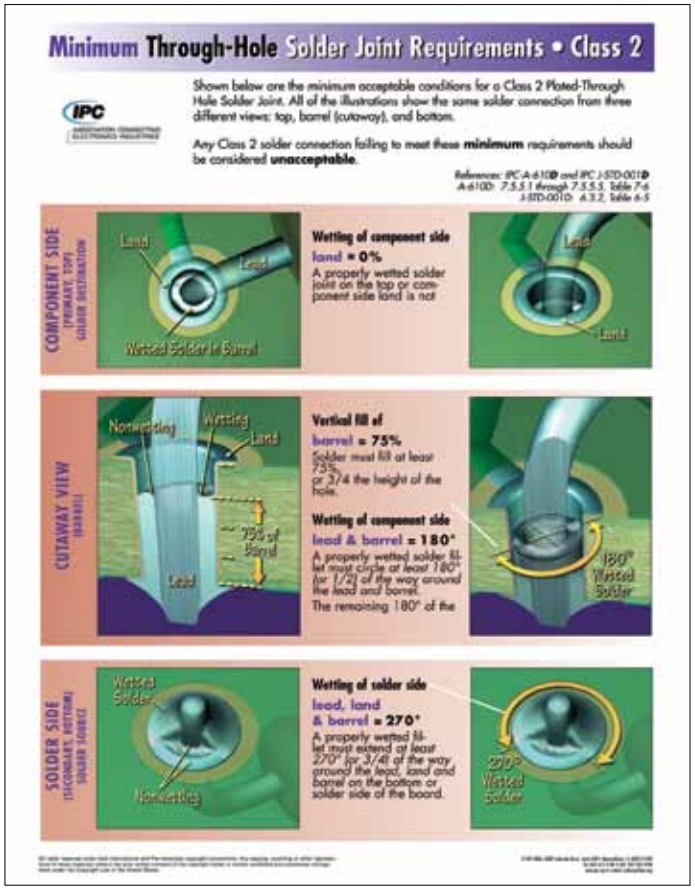
Full-color, 20" x 28" laminated wall poster visually defines minimum/maximum Class 2 through hole solder joint acceptability requirements from the IPC-A-610D in high-quality, 3-D graphics. This poster depicts complex through hole solder joint requirements so clearly, all operators and inspectors can easily understand and apply this important criteria. Bring technically accurate, industry-consensus acceptability standards to your training room or inspection area. With eyelets for easy hanging. One poster, for Class 2.

P-PTH3-D
Through-Hole Solder Joint Evaluation Wall Posters — Class 3

Class 3 version of P-PTH2-D.

Quantity pricing is available on the posters — check the online store.





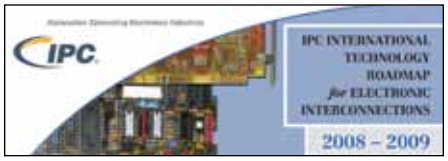
MANAGEMENT, MARKET DATA AND WAGE STUDIES

MANAGEMENT

NEW DEFENSE-09
IPC Printed Board Defense Roadmap — Future Needs of Printed Boards in Department of Defense Electronics Identified by the North American Electronic Interconnect Industry

12 pages. Released December 2009. This report is available for free download only for IPC members at www.ipc.org/membersonly. FREE DOWNLOAD FOR MEMBERS

NEW ROADMAP-09
2008–2009 International Technology Roadmap for Electronic Interconnections



Published every two years, the IPC Roadmap has been a leading resource for identifying technological changes affecting our industry since it was first introduced in 1993. Its development is the direct result of an extensive two-year study into the future technology landscape of the industry, aggregating rich informational resources from all areas of the supply chain and all corners of the world. The IPC Roadmap focuses on the printed board and electronics assembly industries, and centers on the manufacturing of substrates and assemblies. 500 pages. Released March 2009. Learn more at www.ipc.org/roadmap.

IPC-1710A
OEM Standard for Printed Board Manufacturers' Qualification Profile (MQP)

49 pages. Released July 2004. FREE DOWNLOAD

IPC-1720A
Assembly Qualification Profile

56 pages. Released July 2004. FREE DOWNLOAD

IPC-1730A
Laminator Qualification Profile

ANSI Approved. 22 pages. Released June 2000.
FREE DOWNLOAD

IPC-1731
Strategic Raw Materials Supplier Qualification Profile

ANSI Approved. 36 pages. Published June 2000.
FREE DOWNLOAD

IPC-SKILL-201
IPC Skill Standards for Printed Circuit Board Manufacturing

185 pages. Released May 1999.

NEW BENCHE-10
Study of Quality Benchmarks for the Electronics Manufacturing Services (EMS) Industry for 2009

Expected release April 2010.

BENCHP-06
Study of Quality Benchmarks for the Printed Circuit Board (PCB) Industry for 2005 — Summary Report

40 pages. Released December 2006.

MARKET DATA

NEW MR-PCBWORLD09
World PCB Production & Laminate Market Report for the Year 2008

38 pages. Released October 2009. Free download only for IPC members. FREE DOWNLOAD FOR MEMBERS

NEW MR-FLEX09
2008–2009 Industry Analysis and Forecast for Flexible Circuits in North America

38 pages. Published July 2009.

NEW MR-RIGID09
2008–2009 Industry Analysis and Forecast for Rigid PCBs in North America

55 pages. Published August 2009.

NEW MR-EMSMARKET09
2008–2009 Analysis and Forecast for the Electronics Manufacturing Services (EMS) Industry

73 pages. Released October 2009.

EMTF-07G
Geographic Strategies for Global Expansion in the Electronic Interconnect Industry: Where to Invest for Long-Term Business Growth

This study was developed by BPA Consulting on commission from IPC. 116 pages. Released December 2007. Free download only for IPC members. FREE DOWNLOAD FOR MEMBERS

EMTF-08ENV
Executive's Guide to Environmental Megatrends that will Shape the Future of the Electronics Industry

This study was developed by ERA Technology Ltd. on commission from IPC. 67 pages. Published September 2008. Free download only for IPC members. FREE DOWNLOAD FOR MEMBERS

EMTF-08IEM
A New Look at Opportunities in the Industrial Electronics Market

This study was developed by Prismark Partners on commission from IPC.

77 pages. Published October 2008. Free download only for IPC members. FREE DOWNLOAD FOR MEMBERS

EMTF-07M
Microelectronics: The Future of Miniaturization and its Impact on Electronics Manufacturing

This study was developed by Prismark Partners on commission from IPC. 38 pages. Released December 2007. Free download only for IPC members. FREE DOWNLOAD FOR MEMBERS

EMTF-06MED
Medical Electronics Market Opportunities for Interconnect Manufacturers

This study was developed by Prismark Partners on commission from IPC. 49 pages. Released September 2006. Free download only for IPC members. FREE DOWNLOAD FOR MEMBERS

EMTF-06HSP
Worldwide High Speed Electronics Technology and Market Trends for the Years 2006–2016

This study was developed by BPA Consulting on commission from IPC. 94 pages. Released September 2006. Free download only for IPC members. FREE DOWNLOAD FOR MEMBERS

WAGE AND COMPENSATION STUDIES

WAGEE-09
IPC Wage Rate & Salary Report for the EMS Industry 2008–2009

34 pages. Released December 2009.

WAGEP-06
IPC Wage Rate & Salary Report for the PCB Industry 2006–2007

36 pages. Released December 2007.

EXCOMP-06-DI
IPC Executive Compensation Study for the PCB and EMS Industries 2005–2006

286 pages. Released December 2006.

NEW EXCOMPEMS-08
IPC Executive Compensation Study for the EMS Industry 2007–2008

185 pages. Published January 2009.

NEW WAGEAE-08
IPC Wage Rate & Salary Study for the Assembly Equipment Industry 2007–2008

26 pages. Published November 2008.

ENVIRONMENT, HEALTH AND SAFETY

IPC-1331
Voluntary Safety Standard for Electrically Heated Process Equipment
11 pages. Released March 2000. FREE DOWNLOAD

IPC-ENVIRONMENT
Environmental Best Practices Guide Book
108 pages. Published by the British PCB Association (PCIF) in 1999.

WP/TR-584A
IPC White Paper and Technical Report on the Use of Halogenated Flame Retardants in Printed Circuit Boards and Assemblies (Correcting the Misunderstandings on "Halogen Free")
33 pages. Released August 2007.

MATERIALS DECLARATION

IPC-1065
Material Declaration Handbook
72 pages. Released January 2005.

NEW **IPC-1751A**
Generic Requirements for Declaration Process Management (Version 2.0)
This standard provides the principles and details for declarations necessary between members of a supply chain relationship in XML. This standard is the first in a series of standards that permits segmentation of declaration details based on the subject and scope of the declaration as well as the manufacturing domain. The original version of IPC-1751 is still available in PDF through free download. Released January 2010.
FREE DOWNLOAD

NEW **JIG101ED2**
Joint Industry Guide Material Composition Declaration for Electrotechnical Products
Released April 2009. FREE DOWNLOAD

NEW **IPC-1752A**
Materials Declaration Management (Version 2.0)
This standard applies to products, components, sub-items and materials that are supplied to electronics manufacturers for incorporation into their products. This XML revision includes new reporting options for multiple parts. Substance lists have been updated to correspond with JIG 101 Edition 2.0 and to include REACH SVHCs. The original version of IPC-1752 is still available in PDF through free download. Released January 2010. FREE DOWNLOAD

ARTWORK FOR TEST COUPONS

IPC-9251
Test Vehicles for Evaluating Fine Line Capability FREE DOWNLOAD

IPC-A-20/21-GKIT
Standard Pitch Stencil Pattern for Slump

IPC-A-22
UL Recognition Test Pattern

IPC-A-24
Surface Insulation Resistance

IPC-A-25
Multipurpose 1 & 2 Sided Test Pattern

IPC-A-25A
Multipurpose 1 Sided Test Pattern

IPC-A-36
Cleaning Alternatives Artwork

IPC-A-42
Double Sided Artwork

IPC-A-43
Ten-Layer Multi Artwork

IPC-A-47
Composite Test Pattern Ten-Layer Phototool

IPC-A-50
Surface Insulation Resistance Phoenix Board

IPC-A-52G
Cleanliness and Residue Evaluation Test Board

PRODUCT INDEX / PRICE LIST

Product Code & Format	IPC Member Price	Nonmember Price	Page
0040			6
0040 – Hard Copy	$62.00	$124.00	
0040(D)1 – Single-user Download	$67.00	$129.00	
0040(E)1 – Single-user CD	$67.00	$129.00	
0040(E)S – Site License	$2,163.00	$4,326.00	
0040(E)G – Global License	$4,326.00	$8,652.00	
1065			19
1065 – Hard Copy	$31.00	$62.00	
1065(D)1 – Single-user Download	$36.00	$67.00	
1065(E)1 – Single-user CD	$36.00	$67.00	
1065-K – Kit (hard copy and CD)	$46.00	$93.00	
1065(E)S – Site License	$1,082.00	$2,163.00	
1065(E)G – Global License	$2,163.00	$4,326.00	
1331			19
1331 – Single-user Download	FREE	FREE	
1710A			18
1710A – Single-user Download	FREE	FREE	
1720A			18
1720A – Single-user Download	FREE	FREE	
1730A			18
1730A – Single-user Download	FREE	FREE	
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1752A			19
1752A – Single-user Download	FREE	FREE	
1756			19
1756 – Single-user Download	FREE	FREE	
2141A			11
2141A – Hard Copy	$31.00	$62.00	
2141A(D)1 – Single-user Download	$36.00	$67.00	
2141A(E)1 – Single-user CD	$36.00	$67.00	
2141A-K – Kit (hard copy and CD)	$46.00	$93.00	
2141A(E)S – Site License	$1,082.00	$2,163.00	
2141A(E)G – Global License	$2,163.00	$4,326.00	
2152			14
2152 – Hard Copy	$50.00	$100.00	
2152(D)1 – Single-user Download	$55.00	$105.00	
2152(E)1 – Single-user CD	$55.00	$105.00	
2152-K – Kit (hard copy and CD)	$75.00	$150.00	
2152(E)S – Site License	$1,750.00	$3,500.00	
2152(E)G – Global License	$3,500.00	$7,000.00	
2220			14
2220 – Hard Copy	$94.00	$188.00	
2220-S(D)1 – Single-user Download	$99.00	$193.00	
2220-S(E)1 – Single-user CD	$99.00	$193.00	
2220-K – Kit (hard copy and CD)	$135.00	$267.00	
2220-S(E)S – Site License	$3,290.00	$6,580.00	
2220-S(E)G – Global License	$6,580.00	$13,160.00	
2221A*			14
2221A – Hard Copy	$31.00	$62.00	
2221A(D)1 – Single-user Download	$36.00	$67.00	
2221A(E)1 – Single-user CD	$36.00	$67.00	
2221A-K – Kit (hard copy and CD)	$46.00	$93.00	
2221A(E)S – Site License	$1,082.00	$2,163.00	
2221A(E)G – Global License	$2,163.00	$4,326.00	
2222*			14
2222 – Hard Copy	$26.00	$52.00	
2222(D)1 – Single-user Download	$31.00	$57.00	
2222(E)1 – Single-user CD	$31.00	$57.00	
2222-K – Kit (hard copy and CD)	$40.00	$80.00	
2222(E)S – Site License	$910.00	$1,820.00	
2222(E)G – Global License	$1,820.00	$3,640.00	
2223B			14
2223B – Hard Copy	$26.00	$52.00	
2223B(D)1 – Single-user Download	$31.00	$57.00	
2223B(E)1 – Single-user CD	$31.00	$57.00	
2223B-K – Kit (hard copy and CD)	$40.00	$80.00	
2223B(E)S – Site License	$910.00	$1,820.00	
2223B(E)G – Global License	$1,820.00	$3,640.00	
2224			14
2224 – Hard Copy	$26.00	$52.00	
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2224(E)1 – Single-user CD	$31.00	$57.00	
2224(E)S – Site License	$910.00	$1,820.00	
2224(E)G – Global License	$1,820.00	$3,640.00	
2225			14
2225 – Hard Copy	$26.00	$52.00	
2225(D)1 – Single-user Download	$31.00	$57.00	
2225(E)1 – Single-user CD	$31.00	$57.00	
2225(E)S – Site License	$910.00	$1,820.00	
2225(E)G – Global License	$1,820.00	$3,640.00	
2226			14
2226 – Hard Copy	$36.00	$72.00	
2226(D)1 – Single-user Download	$41.00	$77.00	
2226(E)1 – Single-user CD	$41.00	$77.00	
2226(E)S – Site License	$1,262.00	$2,524.00	
2226(E)G – Global License	$2,524.00	$5,047.00	
2251			11
2251 – Hard Copy	$36.00	$72.00	
2251(D)1 – Single-user Download	$41.00	$77.00	
2251(E)1 – Single-user CD	$41.00	$77.00	
2251(E)S – Site License	$1,262.00	$2,524.00	
2251(E)G – Global License	$2,524.00	$5,047.00	
2252			11
2252 – Hard Copy	$26.00	$52.00	
2252(D)1 – Single-user Download	$31.00	$57.00	
2252(E)1 – Single-user CD	$31.00	$57.00	
2252(E)S – Site License	$910.00	$1,820.00	
2252(E)G – Global License	$1,820.00	$3,640.00	
2315			14
2315 – Hard Copy	$46.00	$93.00	
2315(D)1 – Single-user Download	$52.00	$98.00	
2315(E)1 – Single-user CD	$52.00	$98.00	
2315(E)S – Site License	$1,622.00	$3,245.00	
2315(E)G – Global License	$3,245.00	$6,489.00	
2316			10
2316 – Hard Copy	$41.00	$82.00	
2316(D)1 – Single-user Download	$46.00	$88.00	
2316(E)1 – Single-user CD	$46.00	$88.00	
2316-K – Kit (hard copy and CD)	$62.00	$124.00	
2316(E)S – Site License	$1,442.00	$2,884.00	
2316(E)G – Global License	$2,884.00	$5,768.00	
2501			13
2501 – Hard Copy	$36.00	$72.00	
2501(D)1 – Single-user Download	FREE	FREE	
2511A			13
2511A – Hard Copy	$36.00	$72.00	
2511A(D)1 – Single-user Download	FREE	FREE	
2511B			13
2511B(D)1 – Single-user Download	FREE	FREE	
2512A			13
2512A – Hard Copy	$36.00	$72.00	
2512A(D)1 – Single-user Download	FREE	FREE	
2513A			13
2513A – Hard Copy	$36.00	$72.00	
2513A(D)1 – Single-user Download	FREE	FREE	
2514A			13
2514A – Hard Copy	$36.00	$72.00	
2514A(D)1 – Single-user Download	FREE	FREE	
2515A			13
2515A – Hard Copy	$36.00	$72.00	
2515A(D)1 – Single-user Download	FREE	FREE	
2516A			13
2516A – Hard Copy	$36.00	$72.00	
2516A(D)1 – Single-user Download	FREE	FREE	
2517A			13
2517A – Hard Copy	$36.00	$72.00	
2517A(D)1 – Single-user Download	FREE	FREE	
2518A			13
2518A – Hard Copy	$36.00	$72.00	
2518A(D)1 – Single-user Download	FREE	FREE	
2524			12
2524(D)1 – Single-user Download	FREE	FREE	
2531			13
2531 – Hard Copy	$36.00	$72.00	
2531(D)1 – Single-user Download	FREE	FREE	
2541			13
2541 – Hard Copy	$36.00	$72.00	
2541(D)1 – Single-user Download	FREE	FREE	
2546			13
2546 – Hard Copy	$36.00	$72.00	
2546(D)1 – Single-user Download	FREE	FREE	

*Multiple languages available

Product Code & Format	IPC Member Price	Nonmember Price	Page
2547			13
2547 – Hard Copy	$36.00	$72.00	
2547(D)1 – Single-user Download	FREE	FREE	
2571			13
2571 – Hard Copy	$36.00	$72.00	
2571(D)1 – Single-user Download	FREE	FREE	
2576			13
2576 – Hard Copy	$36.00	$72.00	
2576(D)1 – Single-user Download	FREE	FREE	
2578			13
2578 – Hard Copy	$36.00	$72.00	
2578(D)1 – Single-user Download	FREE	FREE	
2581			13
2581(D)1 – Single-user Download	FREE	FREE	
2582			14
2582(D)1 – Single-user Download	FREE	FREE	
2583			14
2583(D)1 – Single-user Download	FREE	FREE	
2584			14
2584(D)1 – Single-user Download	FREE	FREE	
2588			14
2588(D)1 – Single-user Download	FREE	FREE	
2611			14
2611 – Hard Copy	$26.00	$52.00	
2611(D)1 – Single-user Download	$31.00	$57.00	
2611(E)1 – Single-user CD	$31.00	$57.00	
2611-K – Kit (hard copy and CD)	$40.00	$80.00	
2611(E)S – Site License	$910.00	$1,820.00	
2611(E)G – Global License	$1,820.00	$3,640.00	
2612			14
2612 – Hard Copy	$26.00	$52.00	
2612(D)1 – Single-user Download	$31.00	$57.00	
2612(E)1 – Single-user CD	$31.00	$57.00	
2612-K – Kit (hard copy and CD)	$40.00	$80.00	
2612(E)S – Site License	$910.00	$1,820.00	
2612(E)G – Global License	$1,820.00	$3,640.00	
2612-1			14
2612-1 – Hard Copy	$26.00	$52.00	
2612-1(D)1 – Single-user Download	$31.00	$57.00	
2612-1(E)1 – Single-user CD	$31.00	$57.00	
2612-1-K – Kit (hard copy and CD)	$40.00	$80.00	
2612-1(E)S – Site License	$910.00	$1,820.00	
2612-1(E)G – Global License	$1,820.00	$3,640.00	
2614			14
2614 – Hard Copy	$31.00	$62.00	
2614(D)1 – Single-user Download	$36.00	$67.00	
2614(E)1 – Single-user CD	$36.00	$67.00	
2614-K – Kit (hard copy and CD)	$46.00	$93.00	
2614(E)S – Site License	$1,082.00	$2,163.00	
2614(E)G – Global License	$2,163.00	$4,326.00	
2615			14
2615 – Hard Copy	$31.00	$62.00	
2615(D)1 – Single-user Download	$36.00	$67.00	
2615(E)1 – Single-user CD	$36.00	$67.00	
2615(E)S – Site License	$1,082.00	$2,163.00	
2615(E)G – Global License	$2,163.00	$4,326.00	
3406			6
3406 – Hard Copy	$26.00	$52.00	
3406(D)1 – Single-user Download	$31.00	$57.00	
3406(E)1 – Single-user CD	$31.00	$57.00	
3406(E)S – Site License	$910.00	$1,820.00	
3406(E)G – Global License	$1,820.00	$3,640.00	
3408			6
3408 – Hard Copy	$26.00	$52.00	
3408(D)1 – Single-user Download	$31.00	$57.00	
3408(E)1 – Single-user CD	$31.00	$57.00	
3408(E)S – Site License	$910.00	$1,820.00	
3408(E)G – Global License	$1,820.00	$3,640.00	
4101C			11
4101C – Hard Copy	$50.00	$100.00	
4101C(D)1 – Single-user Download	$55.00	$105.00	
4101C(E)1 – Single-user CD	$55.00	$105.00	
4101C-K – Kit (hard copy and CD)	$75.00	$150.00	
4101C(E)S – Site License	$1,750.00	$3,500.00	
4101C(E)G – Global License	$3,500.00	$7,000.00	
4103			11
4103 – Hard Copy	$31.00	$62.00	
4103(D)1 – Single-user Download	$36.00	$67.00	
4103(E)1 – Single-user CD	$36.00	$67.00	
4103(E)S – Site License	$1,082.00	$2,163.00	
4103(E)G – Global License	$2,163.00	$4,326.00	
4104			11
4104 – Hard Copy	$46.00	$93.00	
4104(D)1 – Single-user Download	$52.00	$98.00	
4104(E)1 – Single-user CD	$52.00	$98.00	
4104(E)S – Site License	$1,622.00	$3,245.00	
4104(E)G – Global License	$3,245.00	$6,489.00	
4110			12
4110 – Hard Copy	$26.00	$52.00	
4110(D)1 – Single-user Download	$31.00	$57.00	
4110(E)1 – Single-user CD	$31.00	$57.00	
4110(E)S – Site License	$910.00	$1,820.00	
4110(E)G – Global License	$1,820.00	$3,640.00	
4121			12
4121 – Hard Copy	$26.00	$52.00	
4121(D)1 – Single-user Download	$31.00	$57.00	
4121(E)1 – Single-user CD	$31.00	$57.00	
4121(E)S – Site License	$910.00	$1,820.00	
4121(E)G – Global License	$1,820.00	$3,640.00	
4130			12
4130 – Hard Copy	$26.00	$52.00	
4130(D)1 – Single-user Download	$31.00	$57.00	
4130(E)1 – Single-user CD	$31.00	$57.00	
4130(E)S – Site License	$910.00	$1,820.00	
4130(E)G – Global License	$1,820.00	$3,640.00	
4202A			11
4202A – Hard Copy	$36.00	$72.00	
4202A(D)1 – Single-user Download	$41.00	$77.00	
4202A(E)1 – Single-user CD	$41.00	$77.00	
4202A(E)S – Site License	$1,262.00	$2,524.00	
4202A(E)G – Global License	$2,524.00	$5,047.00	
4203			11
4203 – Hard Copy	$31.00	$62.00	
4203(D)1 – Single-user Download	$36.00	$67.00	
4203(E)1 – Single-user CD	$36.00	$67.00	
4203(E)S – Site License	$1,082.00	$2,163.00	
4203(E)G – Global License	$2,163.00	$4,326.00	
4204			11
4204 – Hard Copy	$31.00	$62.00	
4204(D)1 – Single-user Download	$36.00	$67.00	
4204(E)1 – Single-user CD	$36.00	$67.00	
4204(E)S – Site License	$1,082.00	$2,163.00	
4204(E)G – Global License	$2,163.00	$4,326.00	
4411A			12
4411A – Hard Copy	$46.00	$93.00	
4411A(D)1 – Single-user Download	$52.00	$98.00	
4411A(E)1 – Single-user CD	$52.00	$98.00	
4411A(E)S – Site License	$1,622.00	$3,245.00	
4411A(E)G – Global License	$3,245.00	$6,489.00	
4412A			12
4412A – Hard Copy	$31.00	$62.00	
4412A(D)1 – Single-user Download	$36.00	$67.00	
4412A(E)1 – Single-user CD	$36.00	$67.00	
4412A-K – Kit (hard copy and CD)	$46.00	$93.00	
4412A(E)S – Site License	$1,082.00	$2,163.00	
4412A(E)G – Global License	$2,163.00	$4,326.00	
4552*			10
4552 – Hard Copy	$41.00	$82.00	
4552(D)1 – Single-user Download	$46.00	$88.00	
4552(E)1 – Single-user CD	$46.00	$88.00	
4552(E)S – Site License	$1,442.00	$2,884.00	
4552(E)G – Global License	$2,884.00	$5,768.00	
4553A			10
4553 – Hard Copy	$46.00	$93.00	
4553(D)1 – Single-user Download	$52.00	$98.00	
4553(E)1 – Single-user CD	$52.00	$98.00	
4553-K – Kit (hard copy and CD)	$72.00	$144.00	
4553(E)S – Site License	$1,622.00	$3,245.00	
4553(E)G – Global License	$3,245.00	$6,489.00	
4554*			10
4554 – Hard Copy	$46.00	$93.00	
4554(D)1 – Single-user Download	$52.00	$98.00	
4554(E)1 – Single-user CD	$52.00	$98.00	
4554-K – Kit (hard copy and CD)	$72.00	$144.00	
4554(E)S – Site License	$1,622.00	$3,245.00	
4554(E)G – Global License	$3,245.00	$6,489.00	

PRODUCT INDEX / PRICE LIST

Product Code & Format	IPC Member Price	Nonmember Price	Page
4562A			12
4562A – Hard Copy	$26.00	$52.00	
4562A(D)1 – Single-user Download	$31.00	$57.00	
4562A(E)1 – Single-user CD	$31.00	$57.00	
4562A(E)S – Site License	$910.00	$1,820.00	
4562A(E)G – Global License	$1,820.00	$3,640.00	
4563			12
4563 – Hard Copy	$26.00	$52.00	
4563(D)1 – Single-user Download	$31.00	$57.00	
4563(E)1 – Single-user CD	$31.00	$57.00	
4563-K – Kit (hard copy and CD)	$40.00	$80.00	
4563(E)S – Site License	$910.00	$1,820.00	
4563(E)G – Global License	$1,820.00	$3,640.00	
4761			10
4761 – Hard Copy	$31.00	$62.00	
4761(D)1 – Single-user Download	$36.00	$67.00	
4761(E)1 – Single-user CD	$36.00	$67.00	
4761-K – Kit (hard copy and CD)	$46.00	$93.00	
4761(E)S – Site License	$1,082.00	$2,163.00	
4761(E)G – Global License	$2,163.00	$4,326.00	
4781			10
4781 – Hard Copy	$31.00	$62.00	
4781(D)1 – Single User Download	$36.00	$67.00	
4781(E)1 – Single User CD	$36.00	$67.00	
4781-K – Kit (hard copy and CD)	$46.00	$93.00	
4781(E)S – Site License	$1,082.00	$2,163.00	
4781(E)G – Global License	$2,163.00	$4,326.00	
4811			10
4811 – Hard Copy	$41.00	$82.00	
4811(D)1 – Single-user Download	$46.00	$88.00	
4811(E)1 – Single-user CD	$46.00	$88.00	
4811-K – Kit (hard copy and CD)	$62.00	$124.00	
4811(E)S – Site License	$1,442.00	$2,884.00	
4811(E)G – Global License	$2,884.00	$5,768.00	
4821			10
4821 – Hard Copy	$41.00	$82.00	
4821(D)1 – Single-user Download	$46.00	$88.00	
4821(E)1 – Single-user CD	$46.00	$88.00	
4821-K – Kit (hard copy and CD)	$62.00	$124.00	
4821(E)S – Site License	$1,442.00	$2,884.00	
4821(E)G – Global License	$2,884.00	$5,768.00	
50ANN			2
50-ANN – Hard Copy	$15.00	$30.00	
50-ANN – Single-user Download	FREE	FREE	
5701			10
5701 – Hard Copy	$26.00	$52.00	
5701(D)1 – Single-user Download	$31.00	$57.00	
5701(E)1 – Single-user CD	$31.00	$57.00	
5701(E)S – Site License	$910.00	$1,820.00	
5701(E)G – Global License	$1,820.00	$3,640.00	
5702			10
5702 – Hard Copy	$26.00	$52.00	
5702(D)1 – Single-user Download	$31.00	$57.00	
5702(E)1 – Single-user CD	$31.00	$57.00	
5702-K – Kit (hard copy and CD)	$40.00	$80.00	
5702(E)S – Site License	$910.00	$1,820.00	
5702(E)G – Global License	$1,820.00	$3,640.00	
5704			10
5704 – Hard Copy	$26.00	$52.00	
5704(D)1 – Single-user Download	$31.00	$57.00	
5704(E)1 – Single-user CD	$31.00	$57.00	
5704-K – Kit (hard copy and CD)	$40.00	$80.00	
5704(E)S – Site License	$910.00	$1,820.00	
5704(E)G – Global License	$1,820.00	$3,640.00	
6010 SERIES			9
6010 – Hard Copy	$142.00	$284.00	
6010(D)1 – Single-user Download	$147.00	$289.00	
6010(E)1 – Single-user CD	$147.00	$289.00	
6010-K – Kit (hard copy and CD)	$202.00	$404.00	
6010(E)S – Site License	$4,970.00	$9,940.00	
6010(E)G – Global License	$9,940.00	$19,880.00	
6011*			9
6011 – Hard Copy	$26.00	$52.00	
6011(D)1 – Single-user Download	$31.00	$57.00	
6011(E)1 – Single-user CD	$31.00	$57.00	
6011(E)S – Site License	$910.00	$1,820.00	
6011(E)G – Global License	$1,820.00	$3,640.00	
6012C			9
6012C – Hard Copy	$46.00	$93.00	
6012C(D)1 – Single-user Download	$52.00	$98.00	
6012C(E)1 – Single-user CD	$52.00	$98.00	
6012C-K – Kit (hard copy and CD)	$72.00	$144.00	
6012C(E)S – Site License	$1,622.00	$3,245.00	
6012C(E)G – Global License	$3,245.00	$6,489.00	
6013B*			11
6013A – Hard Copy	$52.00	$104.00	
6013A(D)1 – Single-user Download	$57.00	$109.00	
6013A(E)1 – Single-user CD	$57.00	$109.00	
6013A-K – Kit (hard copy and CD)	$72.00	$149.00	
6013A(E)S – Site License	$1,820.00	$3,640.00	
6013A(E)G – Global License	$3,640.00	$7,280.00	
6015			9
6015 – Hard Copy	$26.00	$52.00	
6015(D)1 – Single-user Download	$31.00	$57.00	
6015(E)1 – Single-user CD	$31.00	$57.00	
6015(E)S – Site License	$910.00	$1,820.00	
6015(E)G – Global License	$1,820.00	$3,640.00	
6016			11
6016 – Hard Copy	$36.00	$72.00	
6016(D)1 – Single-user Download	$41.00	$77.00	
6016(E)1 – Single-user CD	$41.00	$77.00	
6016(E)S – Site License	$1,262.00	$2,524.00	
6016(E)G – Global License	$2,524.00	$5,047.00	
6017			10
6017 – Hard Copy	$26.00	$52.00	
6017(D)1 – Single-user Download	$31.00	$57.00	
6017(E)1 – Single-user CD	$31.00	$57.00	
6017(E)S – Site License	$910.00	$1,820.00	
6017(E)G – Global License	$1,820.00	$3,640.00	
6018A			11
6018A – Hard Copy	$26.00	$52.00	
6018A(D)1 – Single-user Download	$31.00	$57.00	
6018A(E)1 – Single-user CD	$31.00	$57.00	
6018A(E)S – Site License	$910.00	$1,820.00	
6018A(E)G – Global License	$1,820.00	$3,640.00	
6202			11
6202 – Hard Copy	$46.00	$93.00	
6202(D)1 – Single-user Download	$52.00	$98.00	
6202(E)1 – Single-user CD	$52.00	$98.00	
6202(E)S – Site License	$1,622.00	$3,245.00	
6202(E)G – Global License	$3,245.00	$6,489.00	
6801			11
6801 – Hard Copy	$36.00	$72.00	
6801(D)1 – Single-user Download	$41.00	$77.00	
6801(E)1 – Single-user CD	$41.00	$77.00	
6801(E)S – Site License	$1,262.00	$2,524.00	
6801(E)G – Global License	$2,524.00	$5,047.00	
7094			3
7094 – Hard Copy	$52.00	$103.00	
7094(D)1 – Single-user Download	$57.00	$108.00	
7094(E)1 – Single-user CD	$57.00	$108.00	
7094-K – Kit (hard copy and CD)	$72.00	$144.00	
7094(E)S – Site License	$1,803.00	$3,605.00	
7094(E)G – Global License	$3,605.00	$7,210.00	
7095B			4
7095B – Hard Copy	$52.00	$103.00	
7095B(D)1 – Single-user Download	$57.00	$108.00	
7095B(E)1 – Single-user CD	$57.00	$108.00	
7095B-K – Kit (hard copy and CD)	$72.00	$144.00	
7095B(E)S – Site License	$1,803.00	$3,605.00	
7095B(E)G – Global License	$3,605.00	$7,210.00	
7351B			14
7351B – Hard Copy	$56.00	$112.00	
7351B(D)1 – Single-user Download	$61.00	$117.00	
7351B(E)1 – Single-user CD	$61.00	$117.00	
7351B-K – Kit (hard copy and CD)	$82.00	$160.00	
7351B(E)S – Site License	$1,960.00	$3,920.00	
7351B(E)G – Global License	$3,920.00	$7,840.00	
7525A*			5
7525A – Hard Copy	$26.00	$52.00	
7525A(D)1 – Single-user Download	$31.00	$57.00	
7525A(E)1 – Single-user CD	$31.00	$57.00	
7525A-K – Kit (hard copy and CD)	$40.00	$80.00	
7525A(E)S – Site License	$910.00	$1,820.00	
7525A(E)G – Global License	$1,820.00	$3,640.00	

*Multiple languages available

Product Code & Format	IPC Member Price	Nonmember Price	Page
7526			5
7526 – Hard Copy	$26.00	$52.00	
7526 – Single-user Download	FREE	FREE	
7530			6
7530 – Hard Copy	$26.00	$52.00	
7530(D)1 – Single-user Download	$31.00	$57.00	
7530(E)1 – Single-user CD	$31.00	$57.00	
7530-KIT – Kit (hard copy and CD)	$40.00	$80.00	
7530(E)S – Site License	$910.00	$1,820.00	
7530(E)G – Global License	$1,820.00	$3,640.00	
7711/21B*			7
7711/21B – Hard Copy	$75.00	$150.00	
7711/21B(D)1 – Single-user Download	$80.00	$155.00	
7711/21B(E)1 – Single-user CD	$80.00	$155.00	
7711/21B-K – Kit (hard copy and CD)	$110.00	$220.00	
7711/21B(E)S – Site License	$2,625.00	$5,250.00	
7711/21B(E)G – Global License	$5,250.00	$10,500.00	
7912A			7
7912A – Hard Copy	$26.00	$52.00	
7912A(D)1 – Single-user Download	$31.00	$57.00	
7912A(E)1 – Single-user CD	$31.00	$57.00	
7912A(E)S – Site License	$910.00	$1,820.00	
7912A(E)G – Global License	$1,820.00	$3,640.00	
8413-1			6
8413-1 – Hard Copy	$31.00	$62.00	
8413-1(D)1 – Single-user Download	$36.00	$67.00	
8413-1(E)1 – Single-user CD	$36.00	$67.00	
8413-1(E)S – Site License	$1,082.00	$2,163.00	
8413-1(E)G – Global License	$2,163.00	$4,326.00	
8497-1			6
8497-1 – Hard Copy	$36.00	$72.00	
8497-1(D)1 – Single-user Download	$41.00	$77.00	
8497-1(E)1 – Single-user CD	$41.00	$77.00	
8497-1-K – Kit (hard copy and CD)	$54.00	$104.00	
8497-1(E)S – Site License	$1,262.00	$2,524.00	
8497-1(E)G – Global License	$2,524.00	$5,047.00	
9151C			12
9151C(D)1 – Single-user Download	FREE	FREE	
9191			12
9191 – Hard Copy	$36.00	$72.00	
9191(D)1 – Single-user Download	$41.00	$77.00	
9191(E)1 – Single-user CD	$41.00	$77.00	
9191(E)S – Site License	$1,262.00	$2,524.00	
9191(E)G – Global License	$2,524.00	$5,047.00	
9194			12
9194 – Hard Copy	$26.00	$52.00	
9194(D)1 – Single-user Download	$31.00	$57.00	
9194(E)1 – Single-user CD	$31.00	$57.00	
9194-K – Kit (hard copy and CD)	$40.00	$80.00	
9194(E)S – Site License	$910.00	$1,820.00	
9194(E)G – Global License	$1,820.00	$3,640.00	
9199			12
9199 – Hard Copy	$36.00	$72.00	
9199(D)1 – Single-user Download	$41.00	$77.00	
9199(E)1 – Single-user CD	$41.00	$77.00	
9199(E)S – Site License	$1,262.00	$2,524.00	
9199(E)G – Global License	$2,524.00	$5,047.00	
9201A			4
9201A – Hard Copy	$52.00	$103.00	
9201A(D)1 – Single-user Download	$57.00	$108.00	
9201A(E)1 – Single-user CD	$57.00	$108.00	
9201A-K – Kit (hard copy and CD)	$77.00	$155.00	
9201A(E)S – Site License	$1,803.00	$3,605.00	
9201A(E)G – Global License	$3,605.00	$7,210.00	
9251			19
9251 – Single-user Download	FREE	FREE	
9252A			12
9252 – Hard Copy	$31.00	$62.00	
9252(D)1 – Single-user Download	$36.00	$67.00	
9252(E)1 – Single-user CD	$36.00	$67.00	
9252(E)S – Site License	$1,082.00	$2,163.00	
9252(E)G – Global License	$2,163.00	$4,326.00	
9261A			7
9261A – Hard Copy	$26.00	$52.00	
9261A(D)1 – Single-user Download	$31.00	$57.00	
9261A(E)1 – Single-user CD	$31.00	$57.00	
9261A-K – Kit (hard copy and CD)	$40.00	$80.00	
9261A(E)S – Site License	$910.00	$1,820.00	
9261A(E)G – Global License	$1,820.00	$3,640.00	

Product Code & Format	IPC Member Price	Nonmember Price	Page
9591			2
9591 – Hard Copy	$26.00	$52.00	
9591(D)1 – Single-user Download	$31.00	$57.00	
9591(E)1 – Single-user CD	$31.00	$57.00	
9591-K – Kit (hard copy and CD)	$40.00	$80.00	
9591(E)S – Site License	$910.00	$1,820.00	
9591(E)G – Global License	$1,820.00	$3,640.00	
9592A			4
9592A – Hard Copy	$40.00	$80.00	
9592A(D)1 – Single-user Download	$45.00	$85.00	
9592A(E)1 – Single-user CD	$45.00	$85.00	
9592A-K – Kit (hard copy and CD)	$60.00	$120.00	
9592A(E)S – Site License	$1,400.00	$2,800.00	
9592A(E)G – Global License	$2,800.00	$5,600.00	
9691A			12
9691A – Hard Copy	$31.00	$62.00	
9691A(D)1 – Single-user Download	$36.00	$67.00	
9691A(E)1 – Single-user CD	$36.00	$67.00	
9691A-K – Kit (hard copy and CD)	$46.00	$90.00	
9691A(E)S – Site License	$1,082.00	$2,163.00	
9691A(E)G – Global License	$2,163.00	$4,326.00	
9701A			5
9701A – Hard Copy	$26.00	$52.00	
9701A(D)1 – Single-user Download	$31.00	$57.00	
9701A(E)1 – Single-user CD	$31.00	$57.00	
9701A-K – Kit (hard copy and CD)	$40.00	$80.00	
9701A(E)S – Site License	$910.00	$1,820.00	
9701A(E)G – Global License	$1,820.00	$3,640.00	
9702			5
9702 – Hard Copy	$26.00	$52.00	
9702(D)1 – Single-user Download	$31.00	$57.00	
9702(E)1 – Single-user CD	$31.00	$57.00	
9702(E)S – Site License	$910.00	$1,820.00	
9702(E)G – Global License	$1,820.00	$3,640.00	
9703			5
9703 – Hard Copy	$36.00	$72.00	
9703(D)1 – Single-user Download	$41.00	$77.00	
9703(E)1 – Single-user CD	$41.00	$77.00	
9703(E)S – Site License	$1,262.00	$2,524.00	
9703(E)G – Global License	$2,524.00	$5,047.00	
9704			5
9704 – Hard Copy	$26.00	$52.00	
9704(D)1 – Single-user Download	$31.00	$57.00	
9704(E)1 – Single-user CD	$31.00	$57.00	
9704-K – Kit (hard copy and CD)	$40.00	$80.00	
9704(E)S – Site License	$910.00	$1,820.00	
9704(E)G – Global License	$1,820.00	$3,640.00	
9850A-K			5
9850A(D)1 – Single-user Download	$80.00	$160.00	
9850A(E)1 – Single-user CD	$80.00	$160.00	
9850(E)G – Global License	$5,760.00	$11,520.00	
9850(E)S – Site License	$2,880.00	$5,760.00	
9850A-K – Kit (hard copy and CD)	$125.00	$250.00	
9851			5
9851 – Single-user Download	FREE	FREE	
A-20/21-G KIT			19
IPC-A-20/21-G Kit – Gerber Format	$75.00	$150.00	
A-22			19
A-22-G – Gerber Format	$30.00	$60.00	
A-22-D – D-350 Format	$30.00	$60.00	
A-24			19
A-24-G – Gerber Format	$40.00	$80.00	
A-25			19
A-25-G – Gerber Format	$40.00	$80.00	
A-25A			19
A-25A-G-Kit – Gerber Format	$65.00	$130.00	
A-36			19
A-36-G – Gerber Format	$90.00	$180.00	
A-36-D – D-350 Format	$175.00	$350.00	
A-42			19
A-42-G – Gerber Format	$30.00	$60.00	
A-43			19
A-43-G – Gerber Format	$150.00	$300.00	
A-43-D – D-350 Format	$150.00	$300.00	
A-47			19
A-47-G – Gerber Format	$150.00	$300.00	
A-47-D – D-350 Format	$150.00	$300.00	

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*Multiple languages available

Product Code & Format	IPC Member Price	Nonmember Price	Page
DR-572A			10
DR-572A – Hard Copy	$26.00	$52.00	
DR-572A(D)1 – Single-user Download	$31.00	$57.00	
DR-572A(E)1 – Single-user CD	$31.00	$57.00	
DR-572A-K – Kit (hard copy and CD)	$40.00	$80.00	
DR-572A(E)S – Site License	$910.00	$1,820.00	
DR-572A(E)G – Global License	$1,820.00	$3,640.00	
DRM-18H			8
DRM-18H – Hard Copy	$30.00	$45.00	
DRM-53			8
DRM-53 – Hard Copy	$30.00	$45.00	
DRM-PTH-D			8
DRM-PTH-D – Hard Copy	$30.00	$45.00	
DRM-SMT-D			8
DRM-SMT-D – Hard Copy	$30.00	$45.00	
DRM-WHA-A			8
DRM-WHA-A – Hard Copy	$30.00	$45.00	
DVD-LFL			16
DVD-LFL – DVD	$390.00	$415.00	
EMTF-06HSP			18
EMTF-06HSP(D) – Single-user Download	FREE	$2,400.00	
EMTF-06MED			18
EMTF-06MED – Single-user Download	FREE	$2,400.00	
EMTF-08IEM			18
EMTF-08IEM – Single-user Download	FREE	$2,400.00	
EMTF-08ENV			18
EMTF-08ENV – Single-user Download	FREE	$2,400.00	
EMTF-08IE			18
EMTF-08IE – Download	FREE	$2,400.00	
EMTF-07G			18
EMTF-07G – Single-user Download	FREE	$2,400.00	
EMTF-07M			18
EMTF-07M – Single-user Download	FREE	$2,400.00	
ENVIRONMENT			19
ENVIRONMENT – Hard Copy	$75.00	$150.00	
EXCOMP-06-D1			18
EXCOMP-06-D1 – Hard Copy	$495.00	$990.00	
EXCOMPEMS-08			18
EXOMPEMS-08	$1,000.00	$2,000.00	
FA-251			11
FA-251 – Hard Copy	$31.00	$62.00	
FA-251(D)1 – Single-user Download	$36.00	$67.00	
FA-251(E)1 – Single-user CD	$36.00	$67.00	
FA-251(E)S – Site License	$1,082.00	$2,163.00	
FA-251(E)G – Global License	$2,163.00	$4,326.00	
FC-234			11
FC-234 – Hard Copy	$26.00	$52.00	
FC-234(D)1 – Single-user Download	$31.00	$57.00	
FC-234(E)1 – Single-user CD	$31.00	$57.00	
FC-234(E)S – Site License	$910.00	$1,820.00	
FC-234(E)G – Global License	$1,820.00	$3,640.00	
HDBK-005			5
HDBK-005 – Hard Copy	$36.00	$72.00	
HDBK-005(D)1 – Single-user Download	$41.00	$77.00	
HDBK-005(E)1 – Single-user CD	$41.00	$77.00	
HDBK-005-K – Kit (hard copy and CD)	$54.00	$104.00	
HDBK-005(E)S – Site License	$1,262.00	$2,524.00	
HDBK-005(E)G – Global License	$2,524.00	$5,047.00	
HDBK-830			6
HDBK-830 – Hard Copy	$46.00	$93.00	
HBK830(D)1 – Single User Download	$52.00	$98.00	
HBK830(E)1 – Single User CD	$52.00	$98.00	
HBK830(E)S – Site License	$1,622.00	$3,245.00	
HBK830(E)G – Global License	$3,245.00	$6,489.00	
HDBK-840			6
HDBK-840(D)1 – Single-user Download	$41.00	$82.00	
HDBK-840(E)1 – Single-user CD	$41.00	$82.00	
HDBK-840(E)S – Site License	$1,442.00	$2,884.00	
HDBK-840(E)G – Global License	$2,884.00	$5,768.00	
HM-860			9
HM-860 – Hard Copy	$26.00	$52.00	
HM-860(D)1 – Single-user Download	$31.00	$57.00	
HM-860(E)1 – Single-user CD	$31.00	$57.00	
HM-860(E)S – Site License	$910.00	$1,820.00	
HM-860(E)G – Global License	$1,820.00	$3,640.00	

Product Code & Format	IPC Member Price	Nonmember Price	Page
IT-30101			11
IT-30101 – Hard Copy	$979.00	$1,957.00	
IT-95080			10
IT-95080 – Hard Copy	$155.00	$309.00	
IT-96060			11
IT-96060 – Hard Copy	$155.00	$309.00	
IT-97061			12
IT-97061 – Hard Copy	$155.00	$309.00	
IT-97071			11
IT-97071 – Hard Copy	$258.00	$515.00	
IT-98103			12
IT-98103 – Hard Copy	$155.00	$309.00	
IT-98123			11
IT-98123 – Hard Copy	$155.00	$309.00	
J-STD-001E*			3
J-STD-001 – Hard Copy	$45.00	$90.00	
J-STD-001(D)1 – Single-user Download	$50.00	$95.00	
J-STD-001(E)1 – Single-user CD	$50.00	$95.00	
J-STD-001-K – Kit (hard copy and CD)	$70.00	$140.00	
J-STD-001(E)S – Site License	$1,575.00	$3,150.00	
J-STD-001(E)G – Global License	$3,150.00	$6,300.00	
J-STD-002C*			7
J-STD-002C – Hard Copy	$31.00	$62.00	
J-STD-002C(D)1 – Single-user Download	$36.00	$67.00	
J-STD-002C(E)1 – Single-user CD	$36.00	$67.00	
J-STD-002C-K – Kit (hard copy and CD)	$46.00	$93.00	
J-STD-002C(E)S – Site License	$1,082.00	$2,163.00	
J-STD-002C(E)G – Global License	$2,163.00	$4,326.00	
J-STD-003B*			7
J-STD-003B – Hard Copy	$26.00	$52.00	
J-003B(D)1 – Single-user Download	$31.00	$57.00	
J-003B(E)1 – Single-user CD	$31.00	$57.00	
J-STD-003B-K – Kit (hard copy and CD)	$40.00	$80.00	
J-003B(E)S – Site License	$910.00	$1,820.00	
J-003B(E)G – Global License	$1,820.00	$3,640.00	
J-STD-004B*			5
J-STD-004A – Hard Copy	$36.00	$72.00	
J-004A(D)1 – Single-user Download	$41.00	$77.00	
J-004A(E)1 – Single-user CD	$41.00	$77.00	
J-STD-004A-K – Kit (hard copy and CD)	$54.00	$104.00	
J-004A(E)S – Site License	$1,262.00	$2,524.00	
J-004A(E)G – Global License	$2,524.00	$5,047.00	
J-STD-005*			5
J-STD-005 – Hard Copy	$26.00	$52.00	
J-005(D)1 – Single-user Download	$31.00	$57.00	
J-005(E)1 – Single-user CD	$31.00	$57.00	
J-005(E)S – Site License	$910.00	$1,820.00	
J-005(E)G – Global License	$1,820.00	$3,640.00	
J-STD-006B*			5
J-STD-006B – Hard Copy	$26.00	$52.00	
J-006B(D)1 – Single-user Download	$31.00	$57.00	
J-006B(E)1 – Single-user CD	$31.00	$57.00	
J-STD-006B-K – Kit (hard copy and CD)	$40.00	$80.00	
J-006B(E)S – Site License	$910.00	$1,820.00	
J-006B(E)G – Global License	$1,820.00	$3,640.00	
J-STD-012			3
J-STD-012 – Hard Copy	$41.00	$82.00	
J-012(D)1 – Single-user Download	$46.00	$88.00	
J-012(E)1 – Single-user CD	$46.00	$88.00	
J-012(E)S – Site License	$1,442.00	$2,884.00	
J-012(E)G – Global License	$2,884.00	$5,768.00	
J-STD-013			3
J-STD-013 – Hard Copy	$41.00	$82.00	
J-013(D)1 – Single-user Download	$46.00	$88.00	
J-013(E)1 – Single-user CD	$46.00	$88.00	
J-STD-013-K – Kit (hard copy and CD)	$62.00	$124.00	
J-013(E)S – Site License	$1,442.00	$2,884.00	
J-013(E)G – Global License	$2,884.00	$5,768.00	
J-STD-020D-1*			4
J-STD-020D-1 – Hard Copy	$26.00	$52.00	
J-STD-020D-1(D)1 – Single-user Download	$31.00	$57.00	
J-STD-020D-1(E)1 – Single-user CD	$31.00	$57.00	
J-STD-020D-1-K – Kit (hard copy and CD)	$40.00	$80.00	
J-STD-020D-1(E)S – Site License	$910.00	$1,820.00	
J-STD-020D-1(E)G – Global License	$1,820.00	$3,640.00	

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Product Code & Format	IPC Member Price	Nonmember Price	Page
SM-784			3
SM-784 – Hard Copy	$31.00	$62.00	
SM-784(D)1 – Single-user Download	$36.00	$67.00	
SM-784(E)1 – Single-user CD	$36.00	$67.00	
SM-784(E)S – Site License	$1,082.00	$2,163.00	
SM-784(E)G – Global License	$2,163.00	$4,326.00	
SM-785			4
SM-785 – Hard Copy	$26.00	$52.00	
SM-785(D)1 – Single-user Download	$31.00	$57.00	
SM-785(E)1 – Single-user CD	$31.00	$57.00	
SM-785(E)S – Site License	$910.00	$1,820.00	
SM-785(E)G – Global License	$1,820.00	$3,640.00	
SM-817			5
SM-817 – Hard Copy	$26.00	$52.00	
SM-817(D)1 – Single-user Download	$31.00	$57.00	
SM-817(E)1 – Single-user CD	$31.00	$57.00	
SM-817(E)S – Site License	$910.00	$1,820.00	
SM-817(E)G – Global License	$1,820.00	$3,640.00	
SM-839			10
SM-839 – Hard Copy	$26.00	$52.00	
SM-839(D)1 – Single-user Download	$31.00	$57.00	
SM-839(E)1 – Single-user CD	$31.00	$57.00	
SM-839(E)S – Site License	$910.00	$1,820.00	
SM-839(E)G – Global License	$1,820.00	$3,640.00	
SM-840D			6
SM-840D – Hard Copy	$26.00	$52.00	
SM-840D(D)1 – Single-user Download	$31.00	$57.00	
SM-840D(E)1 – Single-user CD	$31.00	$57.00	
SM-840D-K – Kit (hard copy and CD)	$40.00	$80.00	
SM-840D(E)S – Site License	$910.00	$1,820.00	
SM-840D(E)G – Global License	$1,820.00	$3,640.00	
SPVC2005			5
SPVC2005-CD – Single-user CD	$99.00	$199.00	
SPVC2005-CD(E)G – Global License	$499.00	$799.00	
T-50H			2
T-50H – Hard Copy	$41.00	$82.00	
T-50H(D)1 – Single-user Download	$46.00	$88.00	
T-50H(E)1 – Single-user CD	$46.00	$88.00	
T-50H-K – Kit (hard copy and CD)	$62.00	$124.00	
T-50H(E)S – Site License	$1,442.00	$2,884.00	
T-50H(E)G – Global License	$2,884.00	$5,768.00	
TA-724			4
TA-724 – Hard Copy	$72.00	$144.00	
TF-870			9
TF-870 – Hard Copy	$26.00	$52.00	
TF-870(D)1 – Single-user Download	$31.00	$57.00	
TF-870(E)1 – Single-user CD	$31.00	$57.00	
TF-870(E)S – Site License	$910.00	$1,820.00	
TF-870(E)G – Global License	$1,820.00	$3,640.00	
TM-650			2
TM-650 – Hard Copy	$227.00	$453.00	
TM-650(E)1 – Single-user CD	$232.00	$458.00	
TP-1090			6
TP-1090 – Hard Copy	$26.00	$52.00	
TP-1113			10
TP-1113 – Hard Copy	$15.00	$31.00	
TP1113(D)1 – Single-user Download	$21.00	$36.00	
TP1113(E)1 – Single-user CD	$21.00	$36.00	
TP-1114			6
TP-1114 – Hard Copy	$26.00	$52.00	
TP1114(D)1 – Single-user Download	$31.00	$57.00	
TP1114(E)1 – Single-user CD	$31.00	$57.00	
TP-1115			6
TP-1115 – Hard Copy	$26.00	$52.00	
TR-461			7
TR-461 – Hard Copy	$31.00	$62.00	
TR-462			7
TR-462 – Hard Copy	$31.00	$62.00	
TR-464			7
TR-464 – Hard Copy	$31.00	$62.00	
TR-464(D)1 – Single-user Download	$36.00	$67.00	
TR-464(E)1 – Single-user CD	$36.00	$67.00	
TR-464(E)S – Site License	$1,082.00	$2,163.00	
TR-464(E)G – Global License	$2,163.00	$4,326.00	
TR-465-1			7
TR-465-1 – Hard Copy	$21.00	$41.00	
TR-465-2			7
TR-465-2 – Hard Copy	$26.00	$52.00	
TR-465-3			7
TR-465-3 – Hard Copy	$26.00	$52.00	
TR-465-3(D)1 – Single-user Download	$31.00	$57.00	
TR-465-3(E)1 – Single-user CD	$31.00	$57.00	
TR-465-3(E)S – Site License	$910.00	$1,820.00	
TR-465-3(E)G – Global License	$1,820.00	$3,640.00	
TR-466			7
TR-466 – Hard Copy	$21.00	$41.00	
TR-476A			4
TR-476A – Hard Copy	$31.00	$62.00	
TR-481			9
TR-481 – Hard Copy	$31.00	$62.00	
TR-483			12
TR-483 – Hard Copy	$31.00	$62.00	
TR-485			12
TR-485 – Hard Copy	$21.00	$41.00	
TR-486			12
TR-486 – Hard Copy	$52.00	$103.00	
TR-486(D)1 – Single-user Download	$57.00	$108.00	
TR-486(E)1 – Single-user CD	$57.00	$108.00	
TR-486(E)S – Site License	$1,803.00	$3,605.00	
TR-486(E)G – Global License	$3,605.00	$7,210.00	
TR-551			9
TR-551 – Hard Copy	$31.00	$62.00	
TR-579			10
TR-579 – Hard Copy	$31.00	$62.00	
TR-579(D)1 – Single-user Download	$36.00	$67.00	
TR-579(E)1 – Single-user CD	$36.00	$67.00	
TR-579(E)S – Site License	$1,082.00	$2,163.00	
TR-579(E)G – Global License	$2,163.00	$4,326.00	
TR-581			5
TR-581 – Hard Copy	$21.00	$41.00	
TR-582			4
TR-582 – Hard Copy	$26.00	$52.00	
TR-583			10
TR-583 – Hard Copy	$31.00	$62.00	
TR-583(D)1 – Single-user Download	$36.00	$67.00	
TR-583(E)1 – Single-user CD	$36.00	$67.00	
TR-583(E)S – Site License	$1,082.00	$2,163.00	
TR-583(E)G – Global License	$2,163.00	$4,326.00	
TR-585			7
TR-585(D)1 – Single-user Download	$41.00	$82.00	
TR-585(E)1 – Single-user CD	$41.00	$82.00	
TR-585(E)S – Site License	$1,262.00	$2,524.00	
TR-585(E)G – Global License	$2,524.00	$5,047.00	
WAGEAE-08			18
WAGEAE-08 – Single-user Download	$475.00	$950.00	
WAGEE-09			
WAGEE-09 – Single-user Download	$475.00	$950.00	
WAGEP-06			18
WAGEP06 – Single-user Download	$475.00	$950.00	
WP/TR-584A			19
WP/TR-584A – Hard Copy	$26.00	$52.00	
WP/TR-584A(D)1 – Single-user Download	$31.00	$57.00	
WP/TR-584A(E)1 – Single-user CD	$31.00	$57.00	
WP/TR-584A-K – Kit (hard copy and CD)	$40.00	$80.00	
WP/TR-584A(E)S – Site License	$910.00	$1,820.00	
WP/TR-584A(E)G – Global License	$1,820.00	$3,640.00	
WP-001			7
WP-001 – Single-user Download	FREE	FREE	
WP-005			7
WP-005 – Single-user Download	FREE	FREE	
WP-006			5
WP-006 – Hard Copy	$21.00	$41.00	
WP-008			10
WP-008 – Hard Copy	$15.00	$31.00	
WP-008(D)1 – Single-user Download	$21.00	$36.00	
WP-008(E)1 – Single-user CD	$21.00	$36.00	
WP-008-K – Kit (hard copy and CD)	$26.00	$52.00	
WP-008(E)S – Site License	$541.00	$1,082.00	
WP-008(E)G – Global License	$1,082.00	$2,163.00	
WP-009			7
WP-009 – Hard Copy	$15.00	$31.00	
WP-009(D)1 – Single-user Download	$21.00	$36.00	
WP-009(E)1 – Single-user CD	$21.00	$36.00	
WP-009-K – Kit (hard copy and CD)	$26.00	$52.00	
WP-009(E)S – Site License	$541.00	$1,082.00	
WP-009(E)G – Global License	$1,082.00	$2,163.00	

APPLICATION FOR IPC MEMBERSHIP

SITE INFORMATION:

Company Name

Street Address

City | State | Zip/Postal Code/Country

Main Switchboard Phone No. | Main Fax

Company E-mail Address | Web site URL

Name of Primary Contact

Title | Mail Stop

Phone | Fax | E-mail

PLEASE CHECK ONE:

Primary facility:
- ❑ One year $1000.00
- ❑ Two years $1,800.00 (SAVE 10%)

Additional facility: Membership for a facility of an organization that already has a different location with a primary facility membership
- ❑ One year $800.00
- ❑ Two years $1,440.00 (SAVE 10%)

Companies with an annual revenue of less than $5,000,000
- ❑ One year $600.00
- ❑ Two years $1,080.00(SAVE 10%)

Government agencies, academic institutions, nonprofit organizations
- ❑ One year $250.00
- ❑ Two years $450.00 (SAVE 10%)

Consultant (employing less than 6 individuals)
- ❑ One year $600.00
- ❑ Two years $1,080.00(SAVE 10%)

PAYMENT INFORMATION:

(Note: Purchase orders are not accepted as payment toward your membership.)

Enclosed is our check for $ _____ (U.S. dollars)

Please bill my credit card: (check one) ❑ MasterCard ❑ American Express ❑ Visa ❑ Diners Club

Card No. | Expiration date

Authorized Signature

MAIL APPLICATION WITH CHECK OR MONEY ORDER TO:

IPC
3491 Eagle Way
Chicago, IL 60678-1349

*FAX/MAIL APPLICATION WITH CREDIT CARD PAYMENT TO:

IPC
3000 Lakeside Drive, Suite 309 S
Bannockburn, IL 60015
Tel: +1 847-615-7100
Fax: +1 847-615-7105
http://www.ipc.org
**Overnight deliveries to this address only.*

TYPE OF COMPANY (CHECK ONE)

- ❑ Printed Board Manufacturer
- ❑ Electronics Assembly EMS Company
- ❑ OEM — Manufacturer of any end product using PCB/PCAs or Captive Manufacturer of PCBs/PCAs
- ❑ Industry Supplier to: ❑ PCB ❑ EMS ❑ Both
- ❑ Government/Academic/Nonprofit
- ❑ Consultant

Association Connecting Electronics Industries

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Only authorized distributors may purchase IPC materials for resale.

Distributors

Visit the IPC online store for a list of IPC authorized international distributors.

Shipping and Handling

For applicable shipping and handling charges, please call customer service at +1 847-597-2862 or e-mail orderipc@ipc.org.

Customer Carrier Account

Orders shipped via company carrier account will incur a $10.00 handling charge.

Returns

Items must be returned within 21 days of receipt. Exceptions apply, so please contact IPC customer service staff at +1 847-597-2862 to ensure proper credit. *Only IPC members can use purchase orders. Nonmember orders must be prepaid.*

Orders received before 12:30 pm (U.S. Central Time) will be sent to the warehouse on the same day.

BILL TO (AVAILABLE FOR IPC MEMBERS ONLY)**

Name

Title/Mail Stop

Company

Address

City/State/Zip

Country

Phone *(please include any country and area codes)*

Fax *(please include any country and area codes)*

E-mail Address

SHIP TO

Name

Title/Mail Stop

Company

Address

City/State/Zip

Country

Phone *(please include any country and area codes)*

Fax *(please include any country and area codes)*

E-mail Address

*** In order for IPC members to receive member pricing, both "Bill To" and "Ship To" addresses must be the same member address.****

IPC DOCUMENTS AND TRAINING

Quantity	Product #/Description	Price Each	Total
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		IL Residents add 7% tax	
		Shipping and Handling	
		Total	

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❑ Check enclosed ❑ Bill me (my P.O. # is) _____

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Card Number Exp. Date

Cardholder's Name

Phone

Signature

❑ Sign me up to receive IPC e-mails on relevant events and new releases. I understand that I can opt-out at any time.

❑ I do not wish to receive e-mails about relevant IPC events and new releases.

Fax: +1 847-615-7114 Mail: IPC, 3491 Eagle Way, Chicago, IL 60678-1349

5 EASY WAYS TO ORDER

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What Standards are your Peers, Competitors and Customers Using?

Look inside for the IPC documents that set the standards for the electronic interconnect industry!

2010–2011

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