

QUALITY ASSURANCE PROVISIONS (QAPs)

QAPs apply to all divisions of DCX-CHOL Enterprises, Inc.

All DCX-CHOL Enterprises' purchase orders include the following basic minimum quality provisions (LETTERED QAPS) and are not listed as separate QAPs on purchase orders. By acceptance of this purchase order, the supplier agrees to comply with ALL of these basic minimum quality provisions:

- A. **PRODUCT IDENTIFICATION.** Supplier part number (and revision if applicable) and the DCX-CHOL part number and revision must be shown on the invoice, packing slip, Certificate of Conformance (C of C), and box, container, bag, or spool label.
- B. **CERTIFICATE OF CONFORMANCE.** Supplier shipments must be accompanied by a certificate of conformance that is signed by an authorized supplier representative.
- C. **PACKAGING.** Supplier shall package material delivered under the purchase order in accordance with best commercial packaging. Supplier shall include the purchase order number and the DCX-CHOL division name on the carrier's (UPS, FedEx, etc.) shipping label.
- D. **FOREIGN OBJECT DEBRIS (FOD) CONTROL.** Supplier shall prevent, detect and remove foreign objects that could result in foreign object damage to the products supplied under this purchase order using NAS412 as a guideline. Supplier's practice shall be proportional to the sensitivity of the product's design to FOD and the FOD-generating potential of the manufacturing methods.
- E. **RIGHT OF ACCESS.** Supplier shall provide DCX-CHOL, its customers, and regulatory authorities access to all facilities involved in fulfilling the purchase order and all applicable records when requested.
- F. **DESIGN CONTROL.** Supplier shall notify the Buyer of any changes in the product and/or process definition. For products for which DCX-CHOL retains design approval authority, the supplier shall obtain written approval from DCX-CHOL before implementing any change.
- G. **COMMUNICATION.** All communication, technical guidance, and instructions having contractual impact shall be accomplished directly between the Buyer and the supplier's authorized representative. No contract or specification deviations shall be made without the written authorization of the Buyer.
- H. **COMPLIANCE WITH REQUIREMENTS.** Supplier shall fully comply with all instructions specified on the purchase order. Lack of written approval shall not relieve the supplier of the responsibility to fully comply with all of the purchase order requirements. The supplier shall not receive compensation in any form from DCX-CHOL for unauthorized activity.
- I. **PRODUCT CHANGES.** Items furnished under this purchase order shall be identical to the product previously accepted by DCX-CHOL unless otherwise specified between the Buyer and the supplier. No changes shall be made in materials, processes, procedures, design interfaces, or software which might affect the fit, form, function, safety, weight, maintainability, service life, reliability, replaceability, or interchangeability of the supplies delivered to DCX-CHOL without prior written approval from the Buyer.
- J. **MANUFACTURING FACILITY.** Supplier shall notify the Buyer of any change in ownership or any major plant rearrangement prior to the rearrangement or plant relocation.

ELECSYS	MASTERITE	SCB	SMI	TELETRONIC
DIVISION	DIVISION	DIVISION	DIVISION	DIVISION
225 ENTERPRISE DR.	12831 S. FIGUEROA ST.	12821 S. FIGUEROA ST.	205 ENTERPRISE DR.	12831 S. FIGUEROA ST.
PEKIN, IL 61554	LOS ANGELES, CA 90061	LOS ANGELES, CA 90061	PEKIN, IL 61554	LOS ANGELES, CA 90061

- K. INSPECTION AND TEST RECORDS.** Supplier shall retain records of all inspections and tests performed for a minimum of seven (7) years after completion of the order or as specified. In addition, quality records shall be available for DCX-CHOL review upon request.

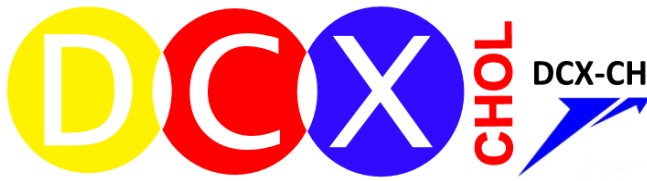
- L. QUALITY SYSTEM REQUIREMENTS.** Supplier shall maintain a quality management system that is acceptable to DCX-CHOL. The supplier's quality management system shall be subject to audit, review, and approval by DCX-CHOL upon reasonable notice to the supplier.

- M. REQUIREMENTS FLOW DOWN.** Supplier shall flow down all relevant purchase order requirements to their sub-tier suppliers. The supplier's sub-tier suppliers shall comply with the exact specifications and requirements specified in this purchase order.

- N. COUNTERFEIT PARTS.** Supplier represents and warrants that only new and authentic materials are used in products delivered to DCX-CHOL and contain **NO COUNTERFEIT PARTS/COMPONENTS AND/OR DOCUMENTATION.** Supplier shall only purchase authentic parts/components directly from the Original Equipment Manufacturer (OEM) or through the OEM's authorized distribution chain. If the supplier is not the OEM or a franchised or authorized distributor, the supplier confirms by acceptance of this purchase order that each product supplied to DCX-CHOL has been procured from the OEM or a franchised or authorized distributor of the OEM or United States government surplus with DCX-CHOL approval. It is the supplier's responsibility to ensure the validity of the products/components/materials it purchased for use in the final item sold to DCX-CHOL and the documentation and certifications (e.g., raw material certifications) from its supply base. For electronic components, the supplier must have procedures in place that are IAW SAE AS5553 "*Counterfeit Electronic Parts; Avoidance, Detection, Mitigation, and Disposition.*" The supplier shall flow the requirements of this provision to its subcontractors and suppliers at any tier for the performance of this purchase order. In addition, the supplier shall make OEM documentation available that authenticates the traceability of the components to the applicable OEM per QAP-02.

If these minimum conditions are not met, DCX-CHOL Enterprises, Inc. reserves the right to withhold payment until all provisions of the purchase order, including any specific QAPs as listed in the purchase order, are met.

ELECSYS	MASTERITE	SCB	SMI	TELETRONIC
DIVISION	DIVISION	DIVISION	DIVISION	DIVISION
225 ENTERPRISE DR.	12831 S. FIGUEROA ST.	12821 S. FIGUEROA ST.	205 ENTERPRISE DR.	12831 S. FIGUEROA ST.
PEKIN, IL 61554	LOS ANGELES, CA 90061	LOS ANGELES, CA 90061	PEKIN, IL 61554	LOS ANGELES, CA 90061



The QAPs on the following pages are assigned either to individual part numbers or to the entire purchase order for all items ordered. Therefore, the DCX-CHOL purchase order will either list the QAP provision number under each line item/part number and/or at the bottom of the purchase order.

QAP-01: DPAS RATING

By acceptance of this purchase order, the supplier is accepting it as a priority-rated order in support of the indicated U.S. government contract number with a priority rating as stated in the purchase order. Therefore, by acceptance of this purchase order, the supplier agrees to comply with the provisions of the Defense Priorities and Allocation System (DPAS) regulation 15 CFR Part 700, except that purchase orders with a "DO" priority rating must be accepted or rejected by the supplier within 10 working days and purchase orders with a "DX" priority rating must be accepted or rejected by the supplier within 5 working days from receipt of the order.

QAP-02: DISTRIBUTOR TRACEABILITY TO MANUFACTURER SOURCE

The distributor shall state on their packing slip and/or on their Certificate of Conformance the name of the original product manufacturer and the date code and/or lot number of the specific part(s) in each shipment. A copy of the manufacturer's certificate of conformance is also required with the shipment.

QAP-03: LOT NUMBER / DATE CODE IDENTIFICATION

The supplier shall list the manufacturing lot number and/or date code of the product shipped on the packing slip, the certificate of conformance, and the product box, container, or spool label as applicable.

QAP-04: MATERIAL CERTIFICATION

The supplier shall provide material certifications issued by the supplier, the material manufacturer, or by the supplier's sub-tier source(s) that actually provided the products or material delivered on this purchase order. The certification shall state the material call out, relevant specification, type, class, grade, lot number, and/or date code. In addition, certifications shall contain the signature and title of the authorized supplier representative.

QAP-05: PLATING CERTIFICATION

The supplier shall provide plating certifications issued by the supplier or supplier's sub-tier source(s) that actually performed the plating of the product delivered on this purchase order. The certification shall state the plating specification, the type, and class, with corresponding thicknesses and lot number. In addition, certifications shall contain the signature and title of the authorized supplier representative.

QAP-06: HEAT TREAT CERTIFICATION

The supplier shall provide heat treat certifications and reports issued by the supplier or supplier's sub-tier source(s) that actually performed the heat treat process to the product delivered on this purchase order. The certification and reports shall state the specification to which heat treating was performed and the condition achieved. In addition, certifications shall contain the signature and title of the authorized supplier representative.

QAP-07: WELDING CERTIFICATION

The supplier shall provide certification that all welding operators performing work on products delivered on this purchase order have been certified in accordance with AWS D17.1 section 4. In addition, fusion welding must reference MIL-STD-2219 in accordance with the applicable specifications. Certifications shall contain the signature and title of the authorized supplier representative.

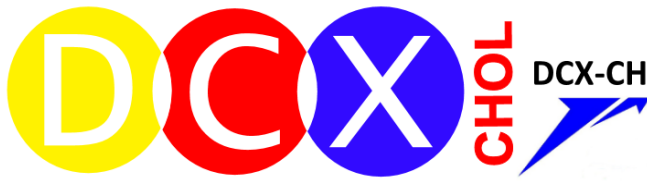
QAP-08: IPC-A-610 COMPLIANCE

Products delivered under this purchase order shall meet the acceptance criteria of IPC-A-610 for Class 3 products. When requested, the supplier shall provide certification that products comply with IPC-A-610 Class 3. Certifications shall contain the signature and title of the authorized supplier representative.

QAP-09: IPC/WHMA-A-620 COMPLIANCE

Products delivered under this purchase order shall meet the acceptance criteria of IPC/WHMA-A-620 for Class 3 products. In

ELECSYS	MASTERITE	SCB	SMI	TELETRONIC
DIVISION	DIVISION	DIVISION	DIVISION	DIVISION
225 ENTERPRISE DR.	12831 S. FIGUEROA ST.	12821 S. FIGUEROA ST.	205 ENTERPRISE DR.	12831 S. FIGUEROA ST.
PEKIN, IL 61554	LOS ANGELES, CA 90061	LOS ANGELES, CA 90061	PEKIN, IL 61554	LOS ANGELES, CA 90061



addition, when requested, the supplier shall provide certification that products comply with IPC/WHMA-A-620 Class 3. Certifications shall contain the signature and title of the authorized supplier representative.

QAP-10: ANSI/J-STD-001 COMPLIANCE

The supplier shall establish and maintain qualified personnel, facilities, and processes in accordance with ANSI/J-STD-001 for Class 3 products. When requested, the supplier shall provide certification that products comply with ANSI/J-STD-001 Class 3. Certifications shall contain the signature and title of the authorized supplier representative.

QAP-11: ELECTROSTATIC DISCHARGE (ESD) SENSITIVE DEVICES

The supplier shall establish and maintain qualified personnel, facilities, and processes in accordance with the ANSI/ESD S20.20 or equivalent. ESD-sensitive devices shall be packaged in re-sealable anti-static bags and shall be properly labeled, including labeling on all boxes, shipping containers, and documentation.

QAP-12: MISCELLANEOUS PROCESS CERTIFICATION

The supplier shall provide certifications and test reports by the Supplier or Supplier's sub-tier source that actually performed the special process on the product supplied on this purchase order. The certifications shall state the process specification, type, class, etc. In addition, certifications shall contain the signature and title of the authorized supplier representative.

QAP-13: CONTROL IDENTIFICATION

The supplier shall include the control identification for the material being supplied on the shipping documents (invoice, packing slip, and C of C). The control identification is the date code, lot number, serial number, or packing slip number. When multiple lots are included in one shipment, the supplier shall separate and identify each lot and indicate each lot quantity. If serial numbers are required, DCX-CHOL will provide the required serial numbers in its purchase order or in an attached specification.

QAP-14: DCX-CHOL ENTERPRISES, INC. PROPERTY

All specifications, drawings, data/software, tools, materials, and other items supplied by the DCX-CHOL to the supplier shall be proprietary to DCX-CHOL. They shall not be disclosed by the supplier unless authorized by DCX-CHOL. The items shall remain the property of DCX-CHOL (or of the Government or other party where the Government or such other party has or acquires title thereto.) DCX-CHOL shall have the right to enter the supplier's premises and remove them at any time without being guilty of trespass or liable to the supplier for damages. All such items shall be used only in the performance of this purchase order unless DCX-CHOL consents otherwise in writing, except that as to any such items which are owned by the Government of which the Government has the right to use, the supplier may use such items in the performance of any direct contract between the supplier and the Government on a non-interference basis after the Government has expressly authorized such use in writing with written notice of such authorization to DCX-CHOL. Supplier shall prominently mark (if not already marked) all such items as the property of DCX-CHOL or the Government as directed by DCX-CHOL. Supplier shall similarly list all such items on invoices and shall be responsible for them until returned to DCX-CHOL.

QAP-15: "O" RING SPECIAL PACKAGING

O Rings shall be packaged in five (5) or fewer units per package, and the external container (as a minimum) must be identified with part number, revision, and cure date.

QAP-16: "O" RING / RUBBER GOODS DOCUMENTATION, PACKAGING / SHELF LIFE REQUIREMENTS

Each shipment shall be accompanied by a packing slip and C of C showing the part or drawing number and revision, material specification and revision, date of manufacture, shelf life expiration date, and material batch identity/lot number. Items shall be packaged to prevent moisture, foreign material, damage, or contamination before use.

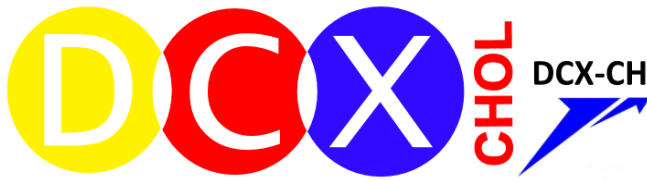
Unit packaging shall comply with MIL-STD-2073-1E, Method 33. Any package with evidence of the container, bag, etc., being stapled shall result in the O-ring being scrapped at the supplier's expense.

Each unit package shall be marked per MIL-STD-129 and shall include the following information:

1. Part or drawing number
2. Material specification (if not the same as the part number)
3. Date of manufacture (DOM)
4. Shelf life expiration date
5. Material batch identity/lot number

When specified by the purchase order, the supplier shall provide three (3) additional O-rings for inspection sampling purposes with each delivery. Sample O-rings and the balance of the lot shall be packaged and labeled identically so that DCX-CHOL

ELECSYS	MASTERITE	SCB	SMI	TELETRONIC
DIVISION	DIVISION	DIVISION	DIVISION	DIVISION
225 ENTERPRISE DR.	12831 S. FIGUEROA ST.	12821 S. FIGUEROA ST.	205 ENTERPRISE DR.	12831 S. FIGUEROA ST.
PEKIN, IL 61554	LOS ANGELES, CA 90061	LOS ANGELES, CA 90061	PEKIN, IL 61554	LOS ANGELES, CA 90061



Quality Assurance inspection may select a random sample.

MIL-STD-413 requirements shall apply unless otherwise specified. O-rings shall meet the requirements of SAE ARP5316, except that a maximum storage life for all components shall be 10 years or 40 quarters. O-rings shall not be furnished to DCX-CHOL if more than 15% of the shelf life has expired. Failure to comply with any of the requirements of this provision may result in the rejection of the material.

QAP-17: LIMITED SHELF LIFE MATERIALS

The supplier shall provide with each shipment the required storage conditions and/or shelf life expiration dates (as applicable) and the date of manufacture (DOM), date of expiration (DOE), and the lot number. This information shall be shown on the packing slip, the C of C, and the material container (jar, bottle, can, tube, etc.) Unless otherwise stated on the purchase order, the material shall have at least a remaining shelf-life of 75% at the time of receipt. Failure to comply with this provision may result in material rejection.

QAP-18: CHEMICAL AND PHYSICAL TEST REPORTS

The supplier shall provide with the shipment one (1) legible copy of all test data required by the applicable specification for materials supplied, materials in parts or assemblies, or testing performed. Reports shall include positive identification of the specifications required by the purchase order or applicable drawing, the requirements, and the results obtained. In addition, the report shall indicate acceptance by the supplier's designated quality representative, verifying compliance with the requirements.

The supplier shall mark all raw materials with a stamp, permanent marker, or identification tags. Actual marking shall consist of the purchase order number, line number, and item nomenclature. Failure to comply with any of these requirements may result in the rejection of the material.

The chemical and or physical test reports shall include the following information:

1. The DCX-CHOL purchase order number, line number, and item nomenclature.
2. Material dimensions or quantity.
3. Signature of the individual authorized to certify compliance.

QAP-19: TEST COUPONS

The supplier shall provide test coupons with each shipment that are representative of each heat treat or plating lot and that are made from the same melt as the items supplied. Test coupons shall be permanently identified with the supplier's name or trademark, lot number, and alloy identification.

QAP-20: GOVERNMENT SOURCE INSPECTION

Government inspection is required before shipment from your facility. Notify the Government representative who normally services your facility 10 days before the date material is ready for inspection. If the Government representative or office cannot be located, notify the DCX-CHOL Buyer immediately.

QAP-21: SOURCE INSPECTION BY DCX-CHOL ENTERPRISES

All items required by this purchase order are subject to DCX-CHOL inspection at the supplier's facility before shipment. The supplier shall provide no less than seventy-two (72) hours advance notice to the DCX-CHOL Buyer to permit the scheduling of the required inspection.

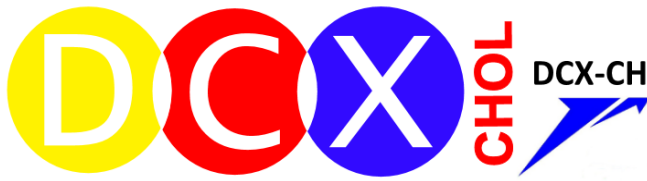
QAP-22: PROOFING SPECIAL TEST EQUIPMENT AND/OR INSPECTION TOOLING

Acceptance and use of special test equipment and/or inspection tooling on this purchase order is contingent upon approval by DCX-CHOL Quality Assurance. In addition, the tooling must conform to the tolerance limits of engineering drawings and specifications, as stated.

QAP-23: FIRST ARTICLE INSPECTION/TEST (FAIT) REQUIREMENT

Supplier shall conduct a complete first article inspection and/or test (FAIT) in accordance with SAE AS9102 requirements on one part chosen from the first production lot of the initial purchase order. The FAIT shall be performed on one piece per cavity for parts produced in a multi-piece die or mold. The FAIT does not need to be performed again unless one of the change notification events per AS9102 occurs or DCX-CHOL specifically requests a new FAIT because of quality concerns. The supplier shall provide one (1) copy of the First Article Inspection Report (FAIR) to DCX-CHOL with the supplier's packing slip and C of C with the first delivery of parts on this purchase order. This requirement does not apply to those items returned to the supplier for rework of nonconformances.

ELECSYS	MASTERITE	SCB	SMI	TELETRONIC
DIVISION	DIVISION	DIVISION	DIVISION	DIVISION
225 ENTERPRISE DR.	12831 S. FIGUEROA ST.	12821 S. FIGUEROA ST.	205 ENTERPRISE DR.	12831 S. FIGUEROA ST.
PEKIN, IL 61554	LOS ANGELES, CA 90061	LOS ANGELES, CA 90061	PEKIN, IL 61554	LOS ANGELES, CA 90061



QAP-24: 100% PRODUCT INSPECTION

100% inspection shall be performed on each product supplied under this purchase order for all product characteristics, including drawing notes. The supplier shall maintain records of inspection results showing actual values, and one (1) copy of each record shall be included with the shipment. Each record shall be traceable to the individual product to which it applies by serial number or other unique identification. The records shall contain the DCX-CHOL purchase order number, part number, and revision.

QAP-25: LOT SAMPLING

100% inspection of all characteristics, including drawing notes, shall be performed on a sample of each part number from each lot supplied under this purchase order. Lot sampling shall be in accordance with ANSI/ASQ Z1.4-2003. A sampling plan that accepts on zero defects is required. The supplier shall maintain records of inspection results showing actual values, and one (1) copy of each report shall be included with the shipment. The inspection reports shall contain the DCX-CHOL purchase order number, part number, and revision and shall indicate the sample size. The samples shall be segregated from the balance of the lot and shall be identified as samples.

QAP-26: MATERIAL SAFETY DATA SHEETS

All volatile, toxic materials or materials that emit fumes harmful to human health shall be properly contained in accordance with applicable health and safety requirements. The containers shall be conspicuously marked as to their contents with appropriate warnings, precautions, instructions, and storage conditions. In addition, Material Safety Data Sheets (MSDS) shall be provided with each shipment.

QAP-27: CALIBRATION SERVICES

The supplier shall provide traceable calibration services to the National Institute of Standards. A certificate of calibration that conforms to either ISO/EIC 17025 or ANSI/NCSL Z540 (Supplier's option) shall be provided. Calibration shall be performed to the original equipment manufacturer's specification. When an out-of-tolerance indication is discovered, the information concerning the out-of-tolerance condition shall be provided.

QAP-28: SOLDER CERTIFICATION

The supplier shall provide certification stating that solder compositions supplied under this purchase order conform to the requirements of ANSI/J-STD-006. Certifications shall contain the signature and title of the authorized supplier representative.

QAP-29: FLUX CERTIFICATION

The supplier shall provide certification stating that the rosin-based flux supplied under this purchase order conforms to the requirements of ANSI/J-STD-004. Certifications shall contain the signature and title of the authorized supplier representative.

QAP-30: SOLDERABILITY CERTIFICATION

The supplier shall provide certification that the material/product supplied under this purchase order meets the solderability requirements as specified in ANSI/J-STD-001. Certifications shall contain the signature and title of the authorized supplier representative.

QAP-31: PRESERVATION OF SILVER-PLATED PARTS AND MATERIALS

All machine parts, wire, braiding, and/or silver-plated components (entirely or in part) shall be preserved in moisture-proof packaging to prevent contamination, corrosion, and/or oxidation during transportation and storage. The use of silver-saver paper and heat-sealed polyethylene bags with desiccant is required. Continuous lengths of silver-plated wire and cable shall have ends sealed using heat-shrinkable caps or an equivalent method for preventing unimpeded ingress of water (liquid and/or vapor.)

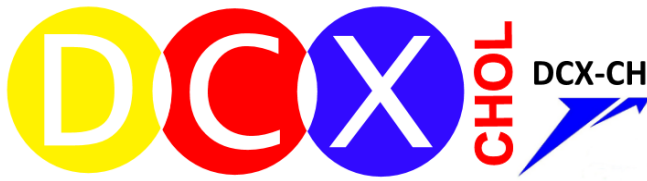
QAP-32: COMMERCIAL PRINTED WIRING BOARD (PWB) REQUIREMENTS

The supplier of the parts procured under this purchase order shall conform to IPC-6012 (Qualification and Performance Specification for Rigid Printed Boards). The class shall be specified on the master drawing. If no Class is identified, then Class 3 is to be used.

Material Requirements: PWBs shall be manufactured using laminate and prepreg from the same manufacturer. The entire purchase order quantity of PWBs shall be manufactured using laminate and prepreg from a single source (OEM).

SMD (surface mount device) and BGA (ball grid array) Pad Size Requirements: Applicable to SMD and BGA pad sizes less than 16 mils. Pad sizes shall be consistent within a received lot within +/- 1.0 mil. The supplier shall implement and use SPC to monitor critical SMD and BGA pad size requirements. Real-time process control charting must be implemented. Where Cpk values are < 1.33, a cause and corrective action shall be submitted. SPC data shall be included with the electrical test data

ELECSYS	MASTERITE	SCB	SMI	TELETRONIC
DIVISION	DIVISION	DIVISION	DIVISION	DIVISION
225 ENTERPRISE DR.	12831 S. FIGUEROA ST.	12821 S. FIGUEROA ST.	205 ENTERPRISE DR.	12831 S. FIGUEROA ST.
PEKIN, IL 61554	LOS ANGELES, CA 90061	LOS ANGELES, CA 90061	PEKIN, IL 61554	LOS ANGELES, CA 90061



package. All shipping boxes shall indicate the pad sizes of the PWBs for that shipment. The nominal pad size and the range for the PWBs in the container shall be clearly marked. PWBs do not need to be marked with pad size information. The supplier shall be responsible for maintaining serialization information pertaining to shipments and pad sizes.

Coupons/Micro-sections: If DCX-CHOL source inspection is performed per QAP-21, then micro-sections shall be maintained on file by the supplier. If there is no source inspection, then the supplier's micro-sections shall be shipped with the boards and shall be compliant with Table 4-3 (Acceptance Testing and Frequency) per IPC-6012. The micro-sections will be returned after evaluation by DCX-CHOL if requested by the supplier.

Table 4-3 Acceptance Testing and Frequency Inspection Data: Table 4.3 (per IPC-6012) inspection data shall be submitted with all shipments.

Solderability Test Certificate: The supplier shall furnish certification of acceptance of a solderability test conducted per IPC/EIA J-STD-003. The certification shall state:

1. Test method used.
2. Number of samples tested, accepted, rejected.
3. Date of solderability test.

The supplier shall also retain a copy of all test data on file for five (5) years after the completion of this purchase order.

Electrical Test Requirement: Bare board testing shall be performed in accordance with IPC-9252. Continuity and isolation of each circuit path defined by the Net List or Gerber data shall be verified for each MLB (multilayer board).

Rework Restrictions: No rework for Bow or Twist is allowed. PWBs shall meet Bow and Twist requirements as laminated. *In addition, PWBs shall be 100% verified for Bow and Twist.*

QAP-33: MIL-P-55110 PRINTED WIRING BOARDS

The supplier shall be currently qualified to Mil-P-55110 for board type and material specified for this purchase order. Material supplied to this purchase order shall meet the requirements of Mil-P-55110.

A minimum of one (1) quality conformance test coupon per panel shall be included with each shipment of boards. For traceability, each coupon shipped shall be identifiable with the corresponding production boards produced on the panel with the coupon.

QAP-34: PRINTED WIRING BOARD (PWB) REQUIREMENTS – IPC CLASS 3

The materials, fabrication, and test requirements for PWBs shall meet the IPC Class 3 Industry Standard requirements of the following specifications:

1. Design (IPC-2220 series)
2. Qualification and Performance (IPC-6010 series)
3. Inspect/Test/Acceptability (IPC-A-600, IPC-TM-650, IPC-QL-653, IPC-MI-660)

QAP-35: MICRO-SECTION COUPON

1. Micro-section and coupon requirements:

With each delivery of boards or flex circuits except Type 1 (single-sided) and Type 2 (double-sided), the supplier shall include the micro-sections used for product acceptance and coupon strips representing each panel for which the product is delivered. In addition, the supplier will conform to all Military and Industry specifications referenced in the procurement documents associated with this procurement. The following standard IPC micro-sections for each panel will consist of (as a minimum):

- a. "A and B" micro-sections from opposite corners of the panel that have not been solder floated (as received).
- b. The following micro-sections are required in the "X" and "Y" direction from opposite corners of the panel:
 - 1) "A" micro-sections that have been solder floated. (Note: This is only required if the hole size is larger than the hole on the "B" micro-section. The larger hole will be used to detect post-separation.)
 - 2) "B" micro-sections that have been solder floated.

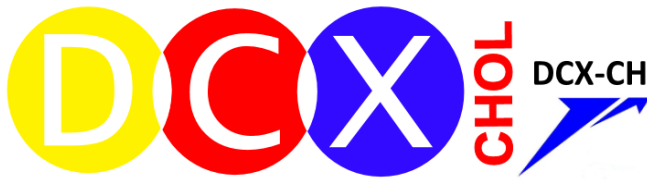
If the supplier uses the "A/B" micro-sections, then the following are required:

- c. "A/B" micro-sections from opposite corners of the panel that have not been solder floated (as received).
- d. "A/B" micro-sections from opposite corners of the panel (one in the "X" and one in the "Y" direction) that have been solder floated.
- e. Coupon strips representing the micro-sections in paragraphs a, b or c, and d above.
- f. If the board contains blind or buried vias, one set of micro-sections representing these features must be submitted.
- g. Any special coupon strips (impedance, peel strength, wire bond, etc.) that are specified on the master drawing. The coupon strips and micro-sections listed above will not be returned to the supplier. The supplier shall retain other acceptance micro-sections and additional coupon strips that are a part of the fabrication panel.

2. Documentation requirements:

- a. Certificate of Conformance (C of C) stating conformance to the specifications.

ELECSYS	MASTERITE	SCB	SMI	TELETRONIC
DIVISION	DIVISION	DIVISION	DIVISION	DIVISION
225 ENTERPRISE DR.	12831 S. FIGUEROA ST.	12821 S. FIGUEROA ST.	205 ENTERPRISE DR.	12831 S. FIGUEROA ST.
PEKIN, IL 61554	LOS ANGELES, CA 90061	LOS ANGELES, CA 90061	PEKIN, IL 61554	LOS ANGELES, CA 90061



- b. A list of the panel numbers and corresponding boards shipped. Also, indicate which panels were scrapped at your facility.
 - c. A list of the panel numbers for which micro sections were submitted. Micro sections must be marked to indicate the panel number.
 - d. Electrical test results to include impedance data if applicable.
 - e. Statement of results of "R" coupon testing by panel number if used to verify acceptable internal layer registration. The use of a "modified F" coupon is acceptable in some cases if it is used for the same purpose as the "R" coupon.
 - f. If the printed circuit board micro-section fails the external annular ring, state that the boards themselves were checked for registration and pass if the boards are to be delivered.
3. Retention requirements: The Supplier is responsible for maintaining a set of micro-sections and coupon strips representing the delivered product. However, if only one set remains and, in order to satisfy the requirements of this QAP, that set is delivered to DCX-CHOL, then DCX-CHOL accepts the responsibility for the micro-sections and coupon strips and their retention as required by the applicable military specification.

QAP-36: COUNTRY OF ORIGIN MARKING

All components and/or assemblies of foreign origin delivered under this purchase order shall be legibly marked, indicating the name of the country of origin of the component and/or assembly. The identification marking shall be in the English language and shall be as permanent as the nature of the component and/or assembly will permit without causing damage or affecting the intended use or operation of the article. The identification marking shall be placed in a clearly visible location.

QAP-37: SPECIALTY METALS

This purchase order is subject to the Defense Federal Acquisition Regulation Supplement (DFARS) clause 252.225-7009, Restriction on Acquisition of Certain Articles Containing Specialty Metals. By acceptance of this order, the supplier agrees to provide a certificate of compliance with the DFARS requirement. The supplier shall list the "qualifying country" of origin (refer to DFARS clause 225.003) of specialty metals on the material certification provided per QAP-04. The supplier shall flow down this requirement to all sub-tier suppliers. DFARS clauses can be accessed at <http://www.acq.osd.mil/dpap/dars/dfars/index.htm>.

QAP-38: REMOVED

QAP-39: SUPPLIER QUALIFICATION

Supplier shall maintain strict controls to assure that after the item(s) successfully pass the qualification, no changes will be made to any design, material, part, process, procedure, tooling, or test equipment. Nor shall they be altered, redesigned, or replaced by another design, material, part, process, procedure, tooling, or test equipment without prior written approval from DCX-CHOL. The definition of "change" does not include the following: editorial or administrative changes such as spelling or typographical errors, clarification, personnel, maintenance, or equipment changes not affecting the qualified product. In addition, the items shall not be produced at a facility other than the supplier's original facility, which produced the acceptable items, without prior written approval of DCX-CHOL. Upon receipt of such notice, DCX-CHOL shall have the right to direct the supplier to repeat all or part of the qualification at the supplier's expense and to obtain from the supplier all data necessary to prove the acceptability of the proposed change.

QAP-40: ISO9001 COMPLIANCE

Supplier shall maintain a quality management system in accordance with the requirements of ISO9001. Supplier's compliance with ISO9001 and this QAP shall be demonstrated by submission to DCX-CHOL of the supplier's valid registration certificate issued by an ANAB-accredited certifying body.

QAP-41: AS9100 COMPLIANCE

Supplier shall maintain a quality management system in accordance with the requirements of AS9100. Supplier's compliance with AS9100 and this QAP shall be demonstrated by submission to DCX-CHOL of the supplier's valid registration certificate issued by an ANAB-accredited certifying body.

QAP-42: EXCLUSION OF MERCURY

(1) Supplies furnished under this purchase order shall contain no free mercury (metallic form) or mercury compounds (e.g., mercuric oxide and mercuric chloride) without written approval from DCX-CHOL. Seller shall perform a review to the extent necessary for a reasonable assurance that mercury is not being used in the supplies (e.g., review of drawing parts lists and material lists.)

ELECSYS	MASTERITE	SCB	SMI	TELETRONIC
DIVISION	DIVISION	DIVISION	DIVISION	DIVISION
225 ENTERPRISE DR.	12831 S. FIGUEROA ST.	12821 S. FIGUEROA ST.	205 ENTERPRISE DR.	12831 S. FIGUEROA ST.
PEKIN, IL 61554	LOS ANGELES, CA 90061	LOS ANGELES, CA 90061	PEKIN, IL 61554	LOS ANGELES, CA 90061

(2) Mercury-bearing instruments and equipment (i.e., those instruments containing free mercury) shall not be used in the manufacture, fabrication, assembly, testing, cleaning or packaging, etc., of any supplies pertaining to this purchase order.

- a) The most probable causes of mercury contamination are direct connected manometers, mercury-vacuum-pumps, mercury-seals, mercury-in-glass thermometers, or handling-free mercury near supplies.
- b) The supplier shall perform a review of their facilities to provide reasonable assurance that supplies are not in danger of mercury contamination (e.g., check of instruments, test equipment, cleaning agents, etc.)
- c) In case of doubt or question regarding mercury, contact DCX CHOL for assistance.
- d) Accidents involving actual or suspected mercury contamination (during product realization or after delivery) of supplies identified on this purchase order must be immediately communicated to DCX CHOL. Suspected product(s) shall be identified, segregated, or positively recalled for proper disposition.

(3) Supplier shall develop the same assurance and confidence of compliance with the mercury exclusion clause as it does with other specification requirements (e.g., toxic materials, flammable materials, fragile materials & radioactive materials.)

(4) The Supplier shall flow down and require all their sub-tier suppliers to comply with the mercury exclusion requirements invoked on this purchase order.

(5) A Certificate of Compliance for mercury exclusion or other attesting documentation must be provided to DCX-CHOL when the finished product and/or supplies are delivered.

QAP-43: UNIQUE IDENTIFICATION (UID)

The supplier shall provide a VERIFICATION AND VALIDATION GRADING REPORT PER ISO/IEC 15415 for all Unique Identification Number (UID) products / Data Matrix symbols.

QAP-44: NADCAP CERTIFIED APPROVED SPECIAL PROCESSORS

The supplier is responsible for ensuring that all Special Processes, performed either by the supplier or their subcontractor, are accredited by NADCAP. Special processes are any production or service process which generates products or services that cannot be measured, monitored, or verified before delivery. Special processes include but are not limited to chemical processing, coatings, conventional machining, heat treating, non-destructive testing, and welding.

QAP-45: ELECTROLESS NICKEL/IMMERSION GOLD (ENIG)

Applicable to PCB only, Electroless Nickel/Immersion Gold (ENIG) coatings shall be formulated and applied as follows:

- Electroless Nickel: 3-6µm, 7-9% Phosphorous (Percentage of Phosphorous must be listed on Cert. as evidence of compliance)
- Immersion Gold: .05µm MIN, 0.1µm MAX

QAP-46: BLANK PCB PACKAGING

Applicable to all blank PCB boards without ENIG plating:

- All PCB must be packed in groups of 10 or less and vacuum sealed.

ELECSYS	MASTERITE	SCB	SMI	TELETRONIC
DIVISION	DIVISION	DIVISION	DIVISION	DIVISION
225 ENTERPRISE DR.	12831 S. FIGUEROA ST.	12821 S. FIGUEROA ST.	205 ENTERPRISE DR.	12831 S. FIGUEROA ST.
PEKIN, IL 61554	LOS ANGELES, CA 90061	LOS ANGELES, CA 90061	PEKIN, IL 61554	LOS ANGELES, CA 90061