



Innovative Control Systems, Inc.
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6/29/2010

The following Quality Clauses apply when referenced on Purchase Orders from Innovative Control Systems, Inc. If there are questions about the content of these clauses, please contact your ICS Supply Chain Representative.

Notes:

1. When "ICS" is referenced in the document it applies to "Innovative Control Systems, Inc." only.
2. "Sub-tier Supplier" is defined as any subcontractor of the prime Supplier identified on the ICS Purchase Order.

ICS GEN GENERAL TERMS AND CONDITIONS – APPLICABLE TO ALL ORDERS.

C1 ISO9001 QUALITY SYSTEM:

The Supplier shall implement and maintain an effective quality system conforming to *ISO 9001*. The quality system shall assure that all materials and services conform to purchase order requirements, be documented and provide for early detection of non-conformances. Records generated by the quality systems shall be made available for periodic review when deemed necessary or requested.

C2 NONCONFORMING MATERIAL:

The Supplier shall not ship or make any unauthorized repairs to product with the intent of delivering material that does not fully meet purchase order or product specification requirements. The Supplier shall notify ICS Quality Assurance of potential non-conformances prior to shipment. Authorization to ship nonconforming material may be approved with prior notification and approval from ICS Quality Assurance. Shipping of nonconforming material without written prior approval may disqualify Suppliers from additional procurement.

C3 RESUBMISSIONS OF REJECTED MATERIAL:

All material rejected by ICS and subsequently resubmitted shall be identified as being previously rejected. The Supplier shall reference the ICS Reject Tag Document on the packing slip and state whether the material had been reworked or replaced with new product. If material is subject to Government Source Inspection, it shall be resubmitted to the Government prior to delivery.

C4 PRODUCT OR PROCESS CHANGES:

Changes to product design, materials or processes, which affect form, fit, function, performance, quality, reliability or safety shall not be implemented without written approval by ICS. The Supplier shall notify ICS of changes to facilities or locations where the product was initially produced or when product may require a recall due to a change in product or process.

C5 CORRECTIVE ACTION REQUESTS:

When nonconforming materials received from Suppliers are detected at ICS, corrective action will be required. Suppliers are expected to communicate how they intend to correct the immediate discrepancy as well as what they intend to do to correct the root cause of the nonconformance and prevent recurrences. Failure to respond in a timely manner may cause a delay in payment and adversely affect the Supplier's Quality Performance Rating.

C6 PRESERVATION, PACKAGING, PACKING AND SHIPPING:

Unless specific packaging instructions are called out on the purchase order, the Supplier shall assure that



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material to be *shipped is clean, dry, and packaged in a manner that will afford adequate protection against corrosion, deterioration, and physical damage during shipment*. The container with the shipping documentation, certifications, test data, and inspection data shall be clearly marked.

Note: Wood pallets fabricated outside of the United States must be treated for infestations and identified on the pallet in accordance with U. S. Regulations.

C7 LABELING:

All containers shall be properly labeled describing, as a minimum, the contents of the container. Labels for liquids, such as solvents, and coating, Freon, mold release agents, etc., shall comply with all applicable OSHA and EPA regulation, The Code of Federal Regulation (CFR) and the Clean Air Act, Section 611.

C8 RECORD RETENTION:

Records shall provide objective evidence of inspection with applicable drawings and specifications.

Record retention shall be as follows:

ICS Designed Product - 7 years.

Commercial Off the Shelf Material - 5 years.

Records shall include corrective actions taken when applicable. These files shall be subject to review within 48 hours and made available to ICS customers, when requested.

C9 WORKMANSHIP:

The Supplier shall ensure a consistently high quality of workmanship. Workmanship shall be monitored to assure that purchase order and specification requirements are being maintained.

C10 Foreign Object Debris Program

The Supplier shall develop and maintain a Foreign Object Debris (FOD) prevention program to identify and eliminate foreign object entrapment areas and paths through which foreign objects may migrate and cause product failure. The FOD program will include design, manufacturing, and process controls to prevent FOD in deliverable items. The Supplier shall include periodic self assessment of internal FOD prevention practices to measure effectiveness. Delivered material must be clean and free from any material/debris, such as machined chips, burrs, grinding dust, forming materials, corrosion, oil and other foreign material on surfaces to prevent FOD entrapment.

C11 FLOW-DOWN OF REQUIREMENTS:

The Supplier is responsible to ensure that all applicable requirements are flowed down to sub-tier Suppliers. Where a sub-tier Supplier controls critical processes, characteristics or features, the Supplier is responsible for control of sub-tier Suppliers and assuring that the sub-tier Supplier meets purchase order requirements. The Supplier is responsible to ensure that the sub-tier Supplier is using the latest process / drawing revision.

C12 CALIBRATION:

The Supplier ***shall implement and maintain*** a system for the control and maintenance of measuring and test equipment in accordance ANSI/NCSL Z540-1 or equivalent. The Calibration System shall be documented, accountable, and traceable and provide for initial and re-calibration during the life of the equipment to traceable standards.

C13 ELECTROSTATIC DISCHARGE DAMAGE (ESD) PROTECTION:

Components and assemblies that are susceptible to electrostatic discharge damage shall be handled and packaged to prevent ESD damage. All units which contain ESD sensitive devices shall be wrapped in a



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static shielding barrier in direct contact with and fully surrounding the unit. Containers shall be marked as containing ESD devices. (Reference DOD-STD-1686 or equivalent.)

C14 RIGHT OF ENTRY:

The Supplier shall reserve the right of entry for ICS, ICS customers and regulatory agency personnel, for access to any and all facilities where work is being performed or is scheduled to be performed, including those facilities of Supplier's sub-tier Suppliers, in order to perform inspections, surveys or system surveillance as part of verification of conformance to the requirements. Supplier's denial of access may result in disqualification of future procurement with ICS. The Supplier shall include the provisions of these facility access requirements in its PO's with sub-tier Suppliers.

This access shall provide, at no increase in price, cost or fee to ICS, ICS customers, or regulatory agencies, suitable facilities at Supplier's and sub-tier Supplier's manufacturing location to perform inspections, surveys, or surveillance.

C15 ORDER OF PRECEDENCE:

The order of precedence for documents shall be as follows:

1. Purchase order and attachments
2. Drawing/Specification
3. Customer Specification
4. Military Specification.

When a drawing or specification is referenced, the applicable revision shall be the revision in effect on the date the purchase order was issued, unless specifically stated on the purchase order or within the drawing.

C16 PART SUBSTITUTION:

The substitution of parts is not authorized without ICS written approval.

C17 LANGUAGE REQUIREMENT:

All data or correspondence shall be provided in English.

C18 RAW MATERIALS:

When requested, Suppliers of Raw Materials (rails, bars, rods, etc.) shall provide material certifications to the original melt lots, when requested.

C19 SEGREGATION OF LOTS:

The Supplier will not co-mingle different date codes or production lots, nor combine resubmitted parts with new production parts. Parts may be submitted in one shipment provided the different date codes and lots are identified and segregated.

C20 CERTIFICATE OF CONFORMANCE REQUIREMENTS:

A Certificate of Conformance (C of C) shall be provided with each lot. The C of C shall include a statement that the items meet the requirements of the purchase order and/or specifications referenced on the drawing and/or purchase order. C of C's must include, as a minimum, the following information:

Supplier name and address
Serial number(s), as applicable
ICS purchase order number
Quantity of parts in shipment
Part number on purchase order
Statement certifying product compliance



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Part revision on purchase order Signature or stamp of authorizing agent
Date code(s) or lot number(s), as applicable Date of C of C

C21 MOISTURE SENSITIVE DEVICES:

Suppliers shall ensure that plastic encapsulated components that are moisture / re-flow sensitive are adequately received, stored, processed, packaged and marked to prevent degradation due to moisture in accordance with J-STD-33 or equivalent. When Moisture Sensitive Devices are to be shipped in carriers or trays, the carriers and trays must be able to withstand baking at 125°C.

All moisture sensitive components are to be dry packed using moisture barrier bags, dessicant and a humidity indicator card. A label is to be affixed to the container indicating the elapsed time from bake out to vacuum sealing. Sealed bags shall bear a label indicating the original manufacturers' part number and date code(s).

C22 CONTROL / IDENTIFICATION OF ITEMS WITH LIMITED SHELF LIFE (epoxy, paint, rubber, adhesives, etc):

Items with limited shelf life shall be marked on the item, package or container with the manufactured date, storage temperature, special handling requirements, and expiration date of the items. When items are fabricated of rubber, the cure date of the rubber is to be shown in lieu of the date of manufacture. All identification markings shall be placed in accordance with applicable specifications. ICS would expect to have 95% of the useful life remaining. ICS will not accept materials with less than 75% of shelf life, without written authorization from ICS's Buyer.

C23 LOTS HELD MORE THAN 24 MONTHS:

Material which has passed the Suppliers final inspection and test and has been held by the Supplier for 24 months or more, shall be re-inspected and tested prior to shipment to ICS. In case of a lot failure during re-inspection, the lots shall be subjected to 100% inspection for all failed characteristics. The Supplier shall notify ICS regarding critical characteristic failures that may have been in prior lots shipped.

C24 SAMPLING INSPECTION:

When the Supplier is performing lot inspection sampling, instead of 100% lot inspection, then the sample plan shall not accept lots where the lots have known non-conformities (discrepancies).
The use of a C = 0 sampling plan must be incorporated.

C25 FIRST ARTICLE INSPECTIONS (Reference AS9102): (Not applicable to Distributors)

A First Article Inspection shall *be in compliance with AS9102* and be provided for the initial shipment of any ICS controlled or designed part number. Drawings that require a First Article Inspection are:

- a. ICS Standard Drawing – Full First Article Required.
- b. ICS Source Control – Full First Article Required.
- c. ICS Selected Item - All characteristics specifically selected for ICS use as identified on the drawing.
- d. ICS Altered Item Drawing – All characteristics altered for ICS use as identified on the drawing. If the altered part is a ICS Designed part, a First Article is required on the detail drawing.

Specification Controlled Drawings, Off-The-Shelf, Commercial, Supplier or Vendor Item Drawings do not require a First Article Inspection, unless specifically stated on the purchase order.



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The Supplier shall record all measurable characteristics, including a verification of drawing notes. The Supplier shall forward a signed copy of the report along with any material certifications (ex. paint, plating, composition, etc.) with the initial lot.

The First Article Report shall include: part number, drawing number, drawing and parts list revisions, drawing dimension, tolerance, measured dimension, electrical tests, sheet number and zone, stamp or signature of person performing the inspection and date of inspection. Coordinate measuring machine printouts are acceptable as long as a dimensional map is provided. Results recorded on drawings will also be acceptable.

Additional First Article Clarifications

1. If there has been a 2-year or greater lapse in production, a new First Article is required. A new First Article is required for changes in manufacturing location. The First Article sample shall have been fabricated using the same parts, materials and processes where production will be performed. A First Article shall not be performed on prototype parts, unless specified by the customer.
2. When there is a change in drawing revision, inspection methods, tooling, or materials with the potential of affecting form, fit, or function, a First Article Update is required for the area affected by the change only.

C26 SUB-TIER SUPPLIER MANAGEMENT CONTROL

The Supplier shall implement and maintain a program for the selection, approval, rating, and maintenance of sub-tier Suppliers. The program shall include provisions for effective root cause corrective action and when necessary disqualification of underperforming sub-tier Suppliers. The Supplier's Sub-tier Supplier Management Program shall be available for review by ICS, when requested.

C27 SOLDERING REQUIREMENTS

When not specified on the assembly, component, or specification drawing, soldering shall be in accordance with J-STD-001, Class 3.

C28 COMPONENTS MANAGEMENT PLAN

Suppliers of electrical – electronic assemblies or mechanical assemblies, which contain electrical or electronic components shall have a defined Components Management Plan that identifies approved manufacturers. The Components Management Plan shall be structured to meet the requirements of Technical Specification - IEC TS 62239

C29 FRANCHISED / LICENSED “DISTRIBUTOR” TRACEABILITY

Distributors shall ensure traceability of all purchased product to the original equipment manufacturer on the Certificate of Conformance for all material / date code provided on the purchase order. Distributors shall not modify, rework or repair material shipped on this order. The original manufacturer must be identified for each lot / date code on the Certificate of Conformance. In the case of bulk items, this may be accomplished by bag and tag method. The preferable method is for the Distributor is to provide a copy of the Manufacturer's certificate for the lot number being supplied, along with their Franchised Distributor certification.

C30 NON-FRANCHISED / INDEPENDENT DISTRIBUTOR TRACEABILITY – “BROKERS”

- Brokers shall meet the same requirements as Franchised / Licensed Distributors for traceability, If traceability cannot be met, ICS reserves the right to cancel the order, request additional testing, or develop a plan for acceptance. The Broker must certify that the parts are new, unused, have not been previously programmed, altered, refurbished, repaired, or used by other customers.



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- Marking Permanency Test - The independent distributor shall perform a marking solvency test using acetone. The test will be performed on one component from each date code and within each lot using IDEA-STD-1010-A or similar method as a guide. Any component where the OEM's marking can be removed using this method will be grounds for rejection of the entire lot.
- Orders placed through independent distributors may be subject to additional functional and/or physical validation when the order arrives at the ICS location. ICS reserves the right to reject the lot(s) for any indication of a functional and/or physical deviation to the manufacturers specification.
- Acceptance of this order by the independent distributor constitutes an agreement that the independent distributor will reimburse ICS for the total price of the purchase agreement if the parts are found to be non-conforming through inspection and test methods used by ICS and/or ICS authorized test facilities.
- Contact the ICS representative for additional information, if necessary.

C31 SOFTWARE QUALITY PROGRAM (SQP)

- The Supplier shall implement and maintain a documented Software Quality Program (SQP). The SQP shall apply to deliverable and non-deliverable software, firmware and documentation used to support the development and testing of this software. The SQP shall include plans for software development, quality assurance, and Configuration Management to assure that all specified software requirements are incorporated during the software life cycle.
- Supplier's SQP standard compliance - The Supplier's engineering and quality plans shall describe a program that meets the intent of industry-accepted standards of the Software Engineering Institute (SEI) Capability Maturity Model Integrated (CMMI), Level 2.
- Supplier's deliverable software - The Supplier's SQP shall include as a minimum, development tools, methods and records to support software quality activities, i.e.; evaluating software products including documentation and code; regularly evaluating software change control procedures; evaluating, verifying and certifying software qualification; identifying, tracking and correcting software problems or discrepancies.
- Supplier's non-deliverable software - The Supplier's SQP shall include as a minimum the following for items used in the generation, qualification, or acceptance of deliverable software/hardware. Methods for evaluating and qualifying software, verifying that software is under internal configuration control, verification that software is maintained appropriately, and that software certification occurs prior to formal use of that software.
- Supplier's commercial off the shelf (COTS) - Unless otherwise specified by purchase order the Supplier will not be responsible for COTS in which he has very little influence to control/change the product. Example of COTS would include items like MS-Excel, MS-Access, Lab View, etc.
- Buyer's audit of Supplier's facility – ICS may conduct audits of the Supplier's SQP to evaluate the software capability and the ability to comply with this policy and other requirements stated by contract.

G32 CONFIGURATION MANAGEMENT

The Supplier is responsible for providing for and implementing configuration management that will control all changes to deliverable products associated with this purchase order. All changes are subject to ICS approval as follows:

1. CLASS I changes as defined in MIL-STD-481 must be submitted to ICS prior to



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implementation.

2. CLASS II – All changes that do not fall in CLASS I category. A copy of all CLASS II changes as defined in DOD-STD-480 must be forwarded to ICS for review a minimum of 30 days prior to delivery of any equipment or product with the change incorporated. Engineering change documentation is to be submitted to ICS purchasing / engineering review.

UNIQUE QUALITY REQUIREMENTS – APPLICABLE ONLY WHEN SPECIFIED ON THE PURCHASE ORDER

01 ISO9001 Certified Quality Program:

The Supplier shall have a “Quality System” that is certified to ISO9001, or equivalent.

01A AS9100 Quality Program:

The Supplier shall have a “Quality System” that complies with AS9100 or equivalent.

01B AS9100 Certified Quality Program:

The Supplier shall have a “Quality System” that is certified to a AS9100 or equivalent.

01C Boeing Quality Management System:

The Supplier shall have a “Quality System” the complies with Boeing D6-82479 Boeing Quality Management System requirements.

01D ICS Supplier Approved Quality System:

Supplier is required to maintain a Quality System acceptable to ICS for the product(s) purchased under this agreement. ICS shall be notified of any changes to the Supplier’s Quality System that may affect the product(s) form, fit or function.

03 STATEMENT OF WORK:

A Statement of Work is in effect for this purchase order. Contact your ICS representative for a copy, if necessary.

04 GOVERNMENT SOURCE INSPECTION:

Government Source Inspection is required prior to shipment. The Supplier shall furnish, at no cost, the necessary facilities, equipment, data, and perform tests as required by applicable drawings, specifications, and inspection instructions. The Government reserves the right to re-inspect or retest all items covered by this purchase order. Final acceptance will be made at ICS facilities. Please notify your Government Representative to allow for adequate planning for Government Source Inspection.

05 ICS SOURCE INSPECTION:

ICS Source Inspection is required prior to shipment. ICS reserves the right to re-inspect or retest all items covered by this purchase order. Final acceptance will be made at ICS facilities. Please notify the Buyer on the purchase order to allow for adequate planning for Source Inspection. A copy of ICS Source Inspection Documentation shall be attached to the shipping document and accompany the material. The Supplier shall furnish, at no cost, the necessary facilities, equipment, data and perform tests as required by applicable drawings, specifications, and inspection instructions.

06 CUSTOMER SOURCE INSPECTION:

ICS Customer Source Inspection is required prior to shipment. ICS Customer reserves the right to reinspect or retest all items covered by this purchase order. Final acceptance will be made at ICS facilities. Please notify the Buyer on the purchase order to allow for adequate planning for Customer



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Source Inspection. The Supplier shall furnish, at no cost, the necessary facilities, equipment, data and perform tests as required by applicable drawings, specifications and inspection instructions.

07 DELEGATED INSPECTION:

ICS Delegates Inspection to the Supplier's personnel in accordance with all applicable ICS procedures. Selection, evaluation and certification of Supplier personnel shall be by ICS Quality Assurance. The suppliers will be informed in writing of personnel qualified to act as inspection agents for ICS. The type, methods, forms and frequency of inspection shall be coordinated between the Supplier and ICS.

08 PRE CAP VISUAL INSPECTION:

ICS has imposed a pre-cap visual inspection prior to lid sealing. The Supplier shall work with ICS to ensure that adequate lead-time is embedded in the manufacturing process to allow ICS adequate time to perform this inspection prior to sealing.

10 CERTIFICATE OF CONFORMANCE - MICROELECTRONICS & SEMICONDUCTORS:

A C of C in accordance with MIL-S-19500, "General Specification for Semiconductor Devices: Paragraph 3.3.1, or MIL-PRF 38535, Appendix A or equivalent is required. For non-military devices, a statement of conformance will suffice.

11 CERTIFICATE OF CONFORMANCE CALIBRATION C OF C REQUIREMENTS:

The Supplier shall have a calibration system in accordance with ANSI/NCSL Z540-1-1994. The Supplier shall calibrate and provide a Certificate of Calibration showing Measurement and Laboratory Traceability IAW ANSI\NCSL Z540-1-1994 standards or equivalent ISO Standards (Examples: ISO 17025:2005, 10012:2003, or other Accredited Recognition Arrangements)."

12 SOLDERABILITY:

The Manufacturer / Distributor will assure that parts meet component solderability requirements.

13 PRODUCT PROCESS BASELINE:

The Supplier shall have a documented revision controlled process baseline for the part number ordered. The baseline shall identify all critical process, materials, and sub-tier Suppliers used in the fabrication of the part number ordered. No changes may be made to any critical processes, materials, or sub-tier Suppliers without written approval of ICS. Product Baselines ensure that manufacturing processes, inspections and/or tests critical to the fabrication of ICS business critical items are maintained and documented. The Supplier accepting this order agrees that parts will be manufactured to the same processes/procedures previously approved via the process baseline. Any changes to this "Process Baseline" must have prior approval from ICS.

14 Preference for Domestic Specialty Metals:

All purchase orders which include a prime contract number require compliance to DFAR 252.225-7014. Suppliers shall provide evidence of compliance, including flow down to all sub-tier Suppliers, with all shipments.

20 FUNCTIONAL AND DIMENSIONAL REPORTS:

A signed legible copy of actual test results shall be submitted with each lot. Actual readings are to be supplied for all quantitative measurements. Notations that readings are within specification limits will be accepted only for those tests performed on automatic or "go/no go" equipment lacking quantitative readout capability.

21 CHEMICAL / PHYSICAL REPORTS:

A test report verifying the physical and chemical properties as specified in the applicable documentation shall be provided with each lot.



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22 RAW MATERIAL CERTIFICATION REPORTS:

When requested, Suppliers of raw materials (rails, bars, rods, etc.) shall be able to provide material certifications to the original melt lots.

23 TEST DATA:

Test data is required with each shipment. The test data shall be traceable to the serial number or lots for the each test performed. When testing is conducted by an outside test lab, the test lab shall be traceable and identified on the test data sheets for the tests performed.

30 SPECIAL PROCESSES:

Special Processes such as soldering, welding, casting, molding, potting, etc., shall be in accordance with specifications and standards stated on the drawings and / or purchase order. ICS and/or its customers may require certification and approval of special processes.

Suppliers shall ensure that all personnel performing such processes as welding, soldering and Nondestructive Evaluation or Testing are certified in accordance with the specifications contained on the drawings and purchase orders. Suppliers shall also ensure the associated equipment used is certified as appropriate.

30A BOEING APPROVED SPECIAL PROCESS SOURCES:

Supplier must be listed as an approved processor or shall use approved processors listed in Boeing Document D1-4426, "Boeing-Approved Process Sources". The certification accompanying each shipment must reference the name of the D1-4426 processor(s), their location, date processed, and the process(es) accomplished. Buyer approval of any processor shall not relieve Supplier of Supplier's obligation and liabilities under this contract. D1-4426 is available exclusively at the Boeing website, <http://www.boeing.com/companyoffices/doingbiz/d14426>.

31 SOLDERED ELECTRICAL AND ELECTRONIC ASSEMBLIES: ICS DESIGNS ONLY

- All soldering of electrical or electronic assemblies shall be processed with using alloys Sn60Pb40, Sn63Pb37, or as specified on the assembly drawing. (Reference JSTD-001)
- No lead free solder shall be used without prior approval from ICS.
- Soldered acceptance workmanship shall meet the requirements of ANSI/J-STD-001 Class III or equivalent. A system that includes process controls, material handling, storage and shipping requirements shall be implemented and maintained.
- Where ICS is the design authority – the Supplier shall use ICS List of Approved Components Manufacturers. For further information contact the ICS Buyer.
- Flux Requirements - The use of flux activity levels other than J-STD-004 L0 or L1 for flux material compositions Rosin (RO), Resin (RE) or Organic (OR) requires written approval from ICS prior to use. If the engineering parts list calls for a specific flux composition, only that composition may be used.
- PWB Repairs - The Supplier is not authorized to make any repairs to internal or external circuits without written approval from ICS. Welding, brazing, or filling is not allowed. Removal of copper flash material to restore to designed electrical spacing is not included as a repair.

32 X-RAY REQUIREMENTS:



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Items requiring radiographic inspection shall be submitted in accordance with applicable specifications and standards. The x-ray film and a legible copy of the report shall accompany the material when delivered to ICS. The individual interpreting the x-ray shall be identified and the report shall be signed by an official of the firm performing the service.

33 HEAT TREATING REQUIREMENTS:

A cross-reference between heat treat lots and raw material heat numbers shall be maintained as applicable. Each traceable lot shall be treated in accordance with the applicable specification and shipped separately with a packing slip and mechanical analysis report.

34 FASTENER QUALITY ACT:

ICS PO Quality Clauses Attachment G 3-6-09 12

The guidelines imposed in the Federal Fastener Quality Act of 1990 are in effect for this part number. Inspection, testing, and certification from an approved test facility shall be provided with each lot.

35 SPECIAL PROCESS SUPPLIERS:

Supplier shall use Special Process Suppliers approved by ICS or one of the ICS Tier One customers (Boeing, Lockheed, Airbus, and Government Agencies).

40 WIRE, SLEEVING AND TUBING MARKING:

Wire, sleeving and tubing shall have the part number, description of material, date of manufacture and Manufacturer's name on the spools and/or tags, as necessary, to identify the material. When applicable, the packaging shall be per MIL Spec requirements. There shall be no splicing of wire, unless allowed by specification. Insulated wire shall have a smooth uniform coverage free of voids.

41 SERIALIZATION MARKING:

Materials procured by this purchase order shall be uniquely serialized. Individual serial numbers or number series shall be marked on the C of C.

50 PRINTED WIRING BOARDS AND FLEX CIRCUITS:

Rigid PCB Certification: When MIL-P-55110 is referenced on the drawing, MIL-P-55110 Rev E, Amendment 1, dated Sep 1995 shall be the controlling revision. If there is no MIL specification listed on the drawing, IPC-6011 Class 3 and IPC-6012 shall be the controlling documents.

Flex and Rigid Flex Certification: When MIL-P-50884 is referenced on the drawing, MIL-P-50884 Rev C, Amendment 4, dated April 1993 shall be the controlling revision. If there is no MIL specification listed on the drawing, IPC 6011 Class 3 and IPC-6013 shall be the controlling documents.

Serialization: All pieces shall be uniquely serialized to identify the date code, lot, and panel to which the pieces were fabricated. A list of serial numbers shall be provided with each lot shipped.

Packaging: Each board / flex shall be packaged in an unsealed poly bag. Boards / flexes may be additionally packaged in-groups of 5 pieces in sealed or vacuum packed bags or wrap. Desiccant shall not be included in vacuum-sealed bubble wrap.

Shelflife: Printed circuit boards shipped with an "organic coating / preservative" (Entek) shall have a minimum of 3 months shelf life remaining when shipped. PCB's not meeting the minimum 3 months shelf life shall be stripped and re-coated.

Test: Each board or flex shall be tested to the net list for the voltage shown on the drawing. If a net list is not provided, the Supplier may create a net list from the Gerber Data for testing. If the voltage



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is not specified on the drawing, the voltage will be in accordance with the specification referenced on the drawing. When the lot test yield is less than 70%, ICS approval shall be required prior to shipping the lot.

Etchback or Smear Removal: Etch back or smear removal is required, but shall not exceed .0008" Max. Drawings which specify .0005" Max. are allowed a ICS process waiver to .0008" Max. for uniformity. Negative etch back is not permissible

Solder coatings: When a solder coating method is not specified on the drawing, the preferred method shall be fused tin lead. All other coatings shall require ICS approval prior to fabrication.

Inspection: The Supplier shall perform 100% visual inspection for workmanship, damage, foreign material, plating / finish anomalies, and other visible defects.

Welding: Internal welding or repair of layers is not authorized without the approval of ICS.

Coupons and Mounts – Coupons and Mounts are to be retained by the Supplier, unless otherwise specified for a minimum of 3 years. Coupons and Mounts shall be made available upon request.

Scanning of External Layers – Printed wiring boards and / or flex-rigid boards with external lines and spaces of .004" or less shall be automatically optically inspected (AOI) for defects in copper plating in accordance with drawing specification.

60 GENERAL STATISTICAL PROCESS CONTROL (SPC):

SPC shall be implemented and maintained by the Supplier. The Supplier's SPC program shall be documented and include provisions for selection and identification of key characteristics and/or processes, statistically based control charting, demonstration of continuous improvement, management supervision, corrective action, training, and flow down to sub-tier Suppliers when the key characteristic and/or process is controlled by a sub-tier Supplier. The requirement for and establishment of SPC key characteristics and/or key processes may be based on similar parts or processes.

61 PART NUMBER SPECIFIC STATISTICAL PROCESS CONTROL (SPC):

SPC shall be implemented and maintained for this part number. The requirement for and establishment of SPC key characteristics and/or key processes for this part number shall be unique for this part number and based on this part number only. The Supplier must be able to validate that this part number is controlled by individual control charts for the key characteristics and/or key processes selected.

62 KEY CHARACTERISTIC STATISTICAL PROCESS CONTROL (SPC): (Reference AS9103)

Variation reduction shall be implemented and maintained for the key characteristic identified by GE on the design drawing or as part of this purchase order. Key characteristics using variable data shall demonstrate process control to a capability level of 1.67 Cpk for Critical and 1.33 Cpk for Major Characteristics. Key characteristics that do not meet projected Cpk's shall have improvement plans developed.

71 DRAWING APPROVAL:

A copy of the Supplier's drawings shall be forwarded to GE Quality Assurance for review and approval prior to the start of fabrication. The Supplier shall maintain the approved configuration and revision of the drawing and shall not make any changes unless approved by GE.

72 PROCEDURES AND PROCESSES:

A copy of the Supplier's procedure / processes, as identified by GE, shall be forwarded to GE Quality



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6/29/2010

Assurance for review for review and approval prior to the start of fabrication. The Supplier shall maintain the configuration control (revision level) of the approved documentation and shall not make any changes without approval by GE.

80 UNIQUE PACKAGING REQUIREMENTS:

Unique packaging is in effect for this order. See purchase order or contact GE for instructions.

82 UNIQUE PART NUMBER REQUIREMENTS:

Contact your GE Procurement representative for assistance or a copy of the special instructions / requirements.

83 BAR CODE REQUIREMENTS:

Bar coding using standard bar code formatting is required for this part. The bar code must be readable upon receipt.

90 TOXIC SUBSTANCES:

Material furnished under this order shall be free from contamination by presence of mercury or any other toxic substance without prior approval from GE.

91 ENVIRONMENTAL REQUIREMENTS:

Use of Class 1 Ozone Depleting Substances (ODS) is prohibited. Class 1 Ozone Depleting Substances include, but are not limited to; Halogens, Chlorofluorocarbons (CFCs), Carbon Tetrachloride (Tetrachloromethane), Methyl Chloroform (1,1,1 – Trichloroethane, and Methyl Bromide, etc. The Supplier shall inform GE of any products manufactured with or containing ozone depleting substances.