

# ***IS&S Procurement Quality Requirements (4QF06-02)***

**This document establishes the Quality Assurance requirements (Q clauses/codes) which are a requirement of the procurement.**

## **Q-1 General Quality Assurance Requirements (includes paragraphs a through n below).**

### **a. Prohibited Practices**

1. Unauthorized Repairs: Supplier may not repair by welding, brazing, plating, splicing, soldering or adhesives, items damaged or found to be faulty during manufacture, without IS&S approval.
2. Changes in Approved Drawings, Processes, Materials or Procedures: Supplier shall not change any drawing, process, material or procedure without prior IS&S written approval, if such drawing, process, material or procedure was originally approved by IS&S.
3. Resubmittal of rejected Items: Items rejected by IS&S and subsequently resubmitted to IS&S shall be clearly identified on Supplier's shipping document as resubmitted items.
4. Unauthorized Submittal of Production: When the Procurement Document requires IS&S acceptance of a "First Article (Q-10)," Supplier shall not submit items from a production run for IS&S inspection prior to IS&S acceptance of such "First Article", unless otherwise directed in writing. The Supplier assumes all risks for production runs submitted to IS&S without first obtaining 'First Article' Approval from IS&S.
5. Notification of Facility Change: Supplier shall not use or relocate any production, manufacturing and/or processing facilities during performance of the work specified on the Procurement Document from those production, manufacturing or process facilities approved by IS&S, without notifying IS&S and affording IS&S an opportunity to examine such facilities for compliance with Quality Assurance requirements.
6. Notification of Significant Organizational Changes: Supplier will notify IS&S of significant organizational changes such as change in company name or Senior Management.

### **b. Responsibility for Conformance**

Neither surveillance, inspection and/or tests made by IS&S or its representatives or representatives of the Government or IS&S customers, at either Supplier's or IS&S facility, nor Supplier's compliance with all applicable Quality Assurance requirements, shall relieve Supplier of the responsibility to furnish items which conform to the requirements of the Procurement Document.

### **c. Configuration Status**

Supplier shall promptly notify IS&S of any impending change to the Supplier's publicly available data sheets, specifications, outline drawings, assembly instructions, etc. that would result in a change in the form, fit, function, or end use suitability of the item being offered for sale.

### **d. IS&S Surveys, Surveillance, Audits and Inspection**

1. IS&S has the right to conduct surveys, audits, and surveillance of Supplier's facilities, or those of Supplier's subcontractors or suppliers with prior coordination with Supplier, to determine the capability to comply, and to verify continuing compliance, with the requirements of the Procurement Document.
2. IS&S has the right to perform inspection at Supplier's facilities, or those of Supplier's subcontractors or suppliers with prior coordination with Supplier, during the period of manufacture, inspection and acceptance at IS&S facility, unless otherwise specified on the Procurement Document.
3. IS&S reserves the right to use ANSI/ASQ Z1.4, or equivalent sampling plans for the acceptance or rejection of items which in no way relieves the Supplier of the responsibility for compliance to requirements.

### **e. Documentation**

IS&S may refuse to accept items if Supplier fails to submit certifications, documentation, test data or reports specified by the Procurement Document.

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## **f. Supplier Discrepancy Reports**

When a quality problem exists with Supplier's items, IS&S may forward a Controlled Action Request to Supplier. This requires mandatory response and must include the following information: Analysis of the cause of the problem, statement of the action taken to prevent recurrence, and the effectivity of the action. When corrective action is required for Government Source inspected items, Supplier shall coordinate such action with the Government Quality Assurance Representative assigned to Supplier's facility.

## **g. Measuring and Test Equipment**

Supplier shall be responsible for validating the accuracy and stability of tools, gauges and test equipment to MIL-STD-45662, ANSI/NCSL Z540-1, or equivalent, which are used to demonstrate that items conform. Documented schedules shall be maintained to provide for periodic calibration traceable to the National Institute of Standards & Technology (NIST). Objective evidence of calibrations shall be recorded and made available for IS&S review upon request.

## **h. Discrepant Material**

Decisions to accept discrepancies (variances from IS&S drawings and specifications), detected at Supplier's facilities, must be made by IS&S unless otherwise specified by the Procurement Document. Shipment of discrepant items must be authorized by IS&S in writing. Supplier shall provide for control, segregation and identification of discrepant material detected at Supplier's facilities. Upon receipt of discrepant materials, IS&S shall notify Supplier of acceptance or rejection of these materials. In the event that IS&S rejects discrepant material, IS&S may require Supplier to replace or rework any discrepant materials in accordance with the contract requirements on an expedited basis. In the event that the scheduled requirements do not permit the return of the material to the Supplier's facility, Supplier agrees to perform rework at the IS&S facility or reimburse IS&S for all costs incurred by IS&S in performing this rework. IS&S will provide to Supplier, documentation supporting the costs incurred by IS&S. Dispositions of Use As Is & Repair may not be used without IS&S approval.

## **i. Records**

Records created by the Supplier in the manufacture, inspection or testing of IS&S products shall be maintained for a minimum of 10 years. Records shall be made available to IS&S for review upon request.

## **j. Electrostatic Discharge Protection**

Supplier shall provide safeguards for all electrostatic discharge sensitive (ESDS) components and assemblies in conformance with MIL-STD-1686, Military Handbook DOD-HDBK-263, or ANSI/ESD S20.20. ESDS components and assemblies shall be packaged and transported in electrostatic shielding containers. All ESDS containers or cushioning materials must have the mechanical characteristics to properly protect the parts against damage. All ESDS packaging containers must have an ESDS caution label affixed to the outer surface. IS&S may refuse to accept items received which are improperly packaged or protected. IS&S reserves the right to verify continuing compliance with the requirements for ESD protection.

## **k. Workmanship Standards**

Unless otherwise specified, quality workmanship shall be in accordance with applicable drawings and/or specifications or if not identified, with MIL-STD-454 or American National Standards Institute (ANSI) criteria (Class 3). Soldering workmanship shall conform to IPC-A-610 (Class 3).

## **l. Packaging and Marking**

Unless otherwise specified on the drawing, packaging will be in accordance with the best commercial practices available. Material must be packaged to protect against the introduction of Foreign Objects & Debris (FOD). The packaging must be capable of protecting the quality of the product and prevent deterioration or damage, including ESD & Moisture Barrier packaging, where applicable.

All rigid Printed Wiring Boards (PWBs) and Flex PWBs must be packaged in a clear, sealed, Moisture Barrier Bag including Desiccant and a Humidity Indicator Card (HIC). When specified by part manufacturer, JEDEC J-STD-033 Moisture Sensitive Level 2a thru 5a must be marked with expiration date. All rigid PWBs and Flex PWBs must be within 75% of the shelf life when supplied to IS&S.

As a minimum, each Printed Wire Assembly (PWA), Flex Assembly, Flex PWB, or rigid PWB shall be marked with the board manufacturer's CAGE code and/or logo (preferred), Part Number and Serial Number. PWB/Flex PWBs will also be marked with lot date (format: wyyy) and IS&S Part Number including artwork revision (ex: 6F-01234-1, Rev xx ). The Serial Numbers should be sequential and must not be recurring. All markings shall be a nonconductive, fungistatic ink, be able to withstand solder fluxes, cleaning solutions, and molten solder encountered in manufacturing and remain legible after all tests. All markings cannot have any affect on any performance of the part.

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### **m. Right of Entry**

Supplier shall allow IS&S, customers, government or regulatory agencies right of entry to any place necessary to determine and verify the quality of contracted work, records and material.

### **n. Specialty Metals**

Supplier shall provide and maintain a quality program which is in conformance with:

DFARS 252.225-7014 PREFERENCE FOR DOMESTIC SPECIALTY METALS (JUNE 2005) (DEVIATION) – ALTERNATE 1 (APR 2003) (DEVIATION)

a. Definitions. As used in this clause -

1. "Electronic Component" means an item that operates by controlling the flow of electrons or other electrically charged particles in circuits, using interconnections of electrical devices such as resistors, inductors, capacitors, diodes, switches, transistors, or integrated circuits. An item can be considered an "electronic component" regardless of the tier of the end product at which it is installed.
2. "End Product" means supplies delivered under a line item of this contract.
3. "Qualifying Country" means any country listed in subsection 225.872-1 of the Defense Federal Acquisition Regulation Supplement.
4. "Specialty Metals" means any of the following -
  - i. Steel -
    - A. With a maximum alloy content exceeding one or more of the following limits: manganese 1.65%; silicon 0.60%; or copper 0.60%; or
    - B. Containing more than 0.25% of any of the following elements: aluminum, chromium, cobalt, columbium, molybdenum, nickel, titanium, tungsten, or vanadium;
  - ii. Metal Alloys consisting of nickel, iron-nickel, and cobalt based alloys containing a total of other alloying metals (except iron) in excess of 10 %;
  - iii. Titanium or titanium alloys; or
  - iv. Zirconium and zirconium based alloys.

b. Any specialty metals delivered under this contract shall be melted in the United States or its outlying areas.

c. This clause does not apply to specialty metals -

1. Melted in a qualifying country or incorporated in an article manufactured in a qualifying country; or
2. Incorporated in a commercially available electronic component, if the value of the specialty metal content in the electronic component does not exceed 10% of the overall value of the lowest level electronic component, containing specialty metal, that is –
  - i. Produced by the Contractor; or
  - ii. If the Contractor does not produce the electronic component, produced by the subcontractor from which the electronic component was acquired.

d. The contractor shall insert the substance of this clause, including this paragraph d., in all subcontracts for items containing specialty metals.

### **Q-2 Quality Program Requirements (MIL-Q-9858) (FAR 46.202-3) (ISO9001)**

Supplier shall provide and maintain a quality program which is in conformance with Military Specification MIL-Q-9858, "Quality Program Requirements", ISO9001 or AS9100 Standards.

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## **Q-3 Inspection System Requirements (MIL-I-45208) (FAR 46.202-3) (ISO9001/ AS9100)**

Supplier shall provide and maintain an inspection system which will assure compliance with the Procurement Document. If the Supplier uses facilities other than his own (i.e., sub-tier), that facility is subject to the same conditions stated herein. It is the supplier's responsibility to ensure the proper 'flow down' (including 'Design Characteristics) of all IS&S requirements to their sub-tier suppliers. All certifications and records supplied as objective evidence for parts or services performed must indicate all required data (ex: Company, date, Part Number, quantity, service performed, applicable standards, PO, etc.) to ensure full traceability through the supply chain. Sub tier supplier records must also be maintained per Q-1, section i.

Flow down requirements per AS9102 are required when specified by contract.

## **Q-4 Computer Software Quality Requirements (MIL-STD-2168)(RTCA DO 178)**

Supplier shall provide and maintain a quality program which is in conformance with MIL-STD-2168, Software Quality Assurance Program Requirements" or RTCA/DO-178.

## **Q-5 IS&S/Customer Source Inspection**

Items will be inspected by IS&S/Customer during manufacture and/or prior to shipment as specified by the Procurement Document. Supplier shall notify IS&S/Customer not less than five (5) working days in advance that the items are ready for IS&S/Customer inspection. After IS&S/Customer inspection, any rework or retest of the item, including any unscheduled entry, such as removal of a panel, cover or enclosure will void the inspection. In case of any nonscheduled entry, rework, or retest, IS&S shall be notified for a decision as to the need for a repeat inspection.

## **Q-6 Government Source Inspection**

Government Source Inspection (GSI) is required prior to shipment from your plant. Upon receipt of this order, promptly notify the government representative who normally services your plant so that appropriate planning for government inspection can be accomplished. On receipt of this order, promptly furnish a copy to the government representative who normally services your plant, or, if none, to the nearest Army, Navy, Air Force or Defense Supply Agency inspection office. In the event the representative of office cannot be located IS&S purchasing should be notified immediately.

## **Q-7 Test Data**

When IS&S requires data to be recorded during the performance of acceptance testing or inspection, a copy of the recorded data, showing evidence of Supplier's inspection and verification of conformance, shall accompany shipment of items to IS&S. As a minimum, data shall be identified with:

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|---------------------------|--|
| a. Purchase Order Number  | d. Lot numbers, serial numbers, or data codes of items listed                  |
| b. Part Number            | e. Total quantity tested, quantity accepted and quantity rejected              |
| c. Type of test performed | f. Any codes, keys or other information necessary to interpret Supplier's data |

## **Q-8 Material Certifications**

Shipment of raw material, finished or semi-finished items must be accompanied by a Certificate of Compliance (IS&S Form 4QF06-01 or equivalent).

Items delivered from a distributor must be accompanied by a statement, executed by an authorized representative, that the terms furnished are part of the shipment covered by the manufacturer's documentation.

Applicable raw material certifications, tests, processes, inspections, and statistical records, will be maintained and made readily available to IS&S or Government / customer representatives upon request per Q-1, section i.

## **Q-9 Solderability Requirements**

All printed wiring boards shall comply with MIL-PRF-55110 or J-STD-003 solderability requirements.

All components, i.e. ICs, resistors, capacitors, transistors, diodes, wire (solid and stranded up to .125" diameter), lugs, tabs, turrets, etc. (any item which is normally joined by a soldering operation) shall comply with J-STD-002 or equivalent solderability requirements. All solderable components shall be packaged and sealed to eliminate air flow and moisture. Packaging material containing paper with sulfur is strictly forbidden as is any material which could leave a residue or degrade the solderability of the components.

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### **Q-10 First Article Approval**

When specified on the Procurement Document, First Article approval is required. A First Article Inspection Report (FAIR) shall be completed by the Supplier and submitted with the first product shipment. Also see Q-1, section a, #4. FAIRs are subject to verification and approval by IS&S.

First Article Inspection Reports per AS9102 are required when specified by contract.

### **Q-11 Tape and Reel**

When specified on the Procurement Document, the components are to be supplied on tape & reel per EIA Standard 481-1, -2 or other standard as approved by the SMT Manufacturing Engineer. If parts cannot be supplied on tape & reel due to availability, lot size, or other circumstances, then tray, tube, or cut tape packaging must be approved by the IS&S buyer.

The packaging, materials and processes shall not adversely affect the mechanical and electrical characteristics or markings of the components. The components shall be ESD protected. Moisture sensitive components shall also be protected.

### **Q-12 Shelf Life**

When specified on the Procurement Document, items must be marked with expiration date, as applicable. Material must be within 75% of the material shelf life when supplied to IS&S.

### **Q-13 Hazardous Material**

When specified on the Procurement Document, supplier shall package and label material in accordance with OSHA guidelines for Hazardous Material, and supply current MSDS sheet.

### **Q-14 Other**

The Supplier will be responsible for meeting other QA requirements delineated on the Purchase Order and not included within this supplement.

### **Q-15 Calibration Requirements**

Items shall be calibrated in accordance with ANSI/NCSL Z540-1, ISO 10012-1, ISO/IEC 17025 or equivalent.

**Note: Codes 16 through 59 are IS&S Sales Order Codes. If required, Code 21 (8130 Required) may be noted on the Procurement Document.**

### **Q-60 Quality Codes Q-1, Q-3 AND Q-8 ALL required**

Quality Codes Q-1 (General Quality Assurance Requirements), Q-3 (Inspection System Requirements) AND Q-8 (Material Certifications) are ALL required. See codes above for details.