



## **SUPPLIER QUALITY CLAUSES (SQC)**

### ***General Requirements (Pages 1-3 are applicable to all Purchase Orders)***

The Supplier Quality Requirements and specific Quality Codes, with all of their terms and conditions, become an integral part of Phoenix Cables Inc. Purchase Orders, in conjunction with Phoenix Cables Inc. General Terms and Conditions (Form 047). Where applicable, these requirements are to be flowed down to the supplier's sub-tier suppliers.

Any deviations or modifications to existing Purchase Orders are to be transmitted through Phoenix Cables purchasing and will require a Change Order. Verbal or otherwise unofficial instruction to deviate from the Purchase Order is not allowed. Only a legible facsimile copy (fax) or electronic transmittal of the Change Order issued by Phoenix Cables purchasing is considered adequate authority to proceed.

### ***Quality System Requirements***

The Supplier shall maintain a Quality System in conformance with the requirements of MIL-I-45208 and/or ISO 9001.

### ***Supplier Performance***

Phoenix Cables Inc. will evaluate suppliers based on the quality of their product, delivery to schedule, survey results, documentation errors and timeliness of responses to requests for corrective action. A history of substandard ratings may be cause for removal of the supplier from the Phoenix Approved Supplier List (ASL). The objective of Phoenix Cables Inc. is to receive defect-free parts and complete, error-free documentation, on or before scheduled delivery dates.

### ***Nonconforming Material, MRB, Variances and Requests for Deviation***

The supplier shall maintain a system of material identification and segregation to ensure that non-conforming material is not intermingled with accepted material. **The supplier is not authorized to perform material review board (MRB) actions or disposition of nonconforming material with the intent of delivering such material without the express written authorization of Phoenix Cables purchasing.** Recommended dispositions or departures from drawings or specifications must be forwarded to Phoenix Cables Inc. for approval. The use of the Phoenix Cables Vendor Information Request (VIR) form is the preferred method to transmit such requests. The Phoenix Buyer must approve any departures from purchase order requirements.

Previous dispositions shall not be considered precedence for acceptability. Phoenix Cables Inc. may request supplier to submit cause and corrective action on discrepancies related to an order. Any material rejected by Phoenix and resubmitted by supplier, shall be identified as resubmitted material and must reference the Phoenix Cables Inc. original rejection document and detail all actions taken to correct and prevent recurrence of the discrepancy.

### ***Corrective Action Requests***

The supplier or the supplier's sub-tier suppliers shall respond to Phoenix Cables Inc. requests for corrective action within the timeframe specified and take timely and effective action to eliminate and prevent the root cause underlying deficiencies.

## **Right of Access – Surveillance**

The supplier shall furnish reasonable support and access to manufacturing facilities, quality system documentation, quality records, third-party audit reports and personnel responsible for implementing and maintaining the quality system. (Reference Phoenix Cables Inc. General Terms and Conditions Form (Form 047), pg. 10, DFARS Clause 252.223-7002)

Phoenix Cables Inc. may periodically perform on-site audits of the supplier's quality system and related processes. The frequency and extent of these audits depends on the supplier's applicable current certification status, the performance history of the supplier, and the criticality of the supplier's service or product to Phoenix Cables Inc. or its customers.

## **Records Retention and Material Traceability**

The supplier shall retain a complete set of all records required by this document (Supplier Quality Clauses), as specified in the PO (Form 906), Statement of Work, or as defined by the applicable Phoenix Cables Inc. SQC. These records shall be made available to Phoenix upon request. **All applicable material certifications shall be maintained and will be made available to Phoenix upon request. Note: Supplier is to notify Phoenix before disposing of these records regardless of specified retention time.**

## **Supplier Documentation Control**

The supplier shall provide all required documentation with each shipment that is legible and complete. Whenever Phoenix forms are utilized, suppliers are to use only the current revision forms (or provided by Phoenix at the time of use) and not retain hardcopies of forms or other documents that may become outdated. **Corrections or additions made to any documents provided to Phoenix will require a single line-through the error with the correction next to it, along with the initials of the authorized individual and date corrected.** The use of write-overs, pencil, whiteout, or correction tape is not allowed. Additions or notations on sub-tier documentation (such as PO# added to sub-tier certs) are allowed if supplier includes initials (or stamp) and date of the authorized individual making the notation.

## **Notification of Changes**

The Supplier shall notify Phoenix Cables Inc. prior to any changes to the Suppliers or any sub-tier changes that affect purchase order requirements. A change is identified as any changes in company ownership, materials, configuration, process, sub-tier suppliers, inspection testing methods, techniques and/or facility changes prior to the start of fabrication (notification is defined as a minimum of ninety (90) calendar days prior to change). Such changes or events may negate all previous Phoenix supplier qualifications, certifications, approval status, and may require re-qualification or re-submittal of a First Article. Supplier requests are to be submitted on Phoenix Cables form (Form 015), Vendor Information Request (VIR), upon request.

## **Counterfeit Parts Prevention**

All suppliers or distributors shall not deliver or use any counterfeit parts or components to Phoenix Cables Inc. A "counterfeit" part is defined as: "A part falsely represented in some manner, e.g., manufacturer, date code, lot code, reliability level, markings, etc."

The suppliers shall be the OEM/OCM or purchase material directly from the OEM, OCM, or authorized supplier. The supplier is not authorized to deliver any material to Phoenix Cables Inc. not procured from or manufactured by an OEM, OCM, or authorized supplier. Any departure from a specified OCM/OEM or an authorized supplier in the part documentation shall require the supplier to submit a Vendor Information Request (VIR) form (Form 015) for Phoenix approval prior to delivery. The supplier shall not deliver product until the VIR receives Phoenix Cables and Customer signature approval and is submitted back to the supplier. The approved VIR form must accompany the shipment along with other specified certifications.

### **Restrictions on Pure Tin or Lead Free\* Parts or Solder**

The use of "pure tin" on any delivered product is prohibited unless specifically authorized. Product changes or conversion of products due to the restrictions on the use of hazardous substances (Example: EU lead-free mandates), as well as associated process changes are prohibited without written approval from Phoenix Cables Inc. Pure tin solder or it's usage on any product delivered to Phoenix Cables Inc. is prohibited due to the possibility of the "tin whisker" effect that can occur over time, causing product failure.

\*The definition of pure tin is >97% Sn (Tin) or <3% Pb (Lead).

### **Preservation and Packaging, FOD and ESD control**

Preservation, packaging and packing of all deliverable goods shall be in accordance with the latest revision of ATSM D3951, standard practice for commercial packaging, unless other requirements are specially specified in this order. All parts and materials intended for Phoenix Cables Inc. shall be protected against the potential damage from shipping, ESD (Electrostatic Discharge), FOD (Foreign Object Debris), corrosion, moisture, contamination, deterioration or damage by processing, handling, storage at the Seller, or in transit to Phoenix Cables Inc. or from any sub-tier supplier.

### **Obsolescence Management/End of Life (EOL):**

Supplier shall perform obsolescence/EOL analysis of the Bill of Material (BOM). The Bill of Materials is a listing of the raw materials, sub-assemblies, intermediate assemblies, sub-components, parts and quantities of each needed to manufacture the end product. Obsolescence is defined as the loss or impending loss of parts or suppliers of parts or raw materials. The BOM should be categorized based on:

- Known Obsolescence/EOL – material(s) and/or component(s) are no longer in production by the manufacturer.
- Potential Obsolescence/EOL concern - material(s) and/or component(s) are nearing the end of their life cycle. Manufacturer has plans to discontinue the material(s) and/or component(s) within the next 12 months, as a minimum and/or up to as much as 4 years.
- Small or no Obsolescence/EOL concern – verified by the material(s) and/or component(s) manufacturer(s) that the material(s) and/or component(s) will be available for the next 12 months at a minimum. Method for analysis is at the supplier's discretion, if required Phoenix Cables Inc. will help support review of affected material(s) and/or component(s). Analysis shall be performed within the first 60 days of the execution of this purchase order or no more than 12 months from the previous analysis. Any new items added to the BOM shall require analysis. Supplier shall provide written notice, identification of impact and possible recommendations, within 10 days of obsolescence identification. Phoenix Cables Inc. resolution of obsolescence/EOL issues may include: (i) one-time purchase of EOL material(s) and/or component(s), (ii) the qualification of an alternate supplier, material(s) and/or component(s), or (iii) a redesign of the affected component(s).

# Phoenix Cables Inc.

## Supplier Quality Clauses (SQC)

### SQC 04 – Removed added to General Requirements

### SQC 06 – Source Inspection and/or Customer Verification of Subcontracted Product

Phoenix Cables customer representative are required to perform or witness manufacturing inspection or testing of product/services at the Supplier's facility or your sub-tier processor, as delegated prior to each shipment. Phoenix reserves the right to conduct (or waive) surveillance of work-in progress, inspection and/or test at points selected by Phoenix quality. Waivers shall not relieve the Supplier's requirement to fully comply with the specifications and all of the terms and conditions of the Contract/Purchase Order.

The Supplier shall furnish reasonable access to relative contract, design and specification data, and the necessary equipment and space to perform any such inspections/tests.

### SQC 07 – Government Source Inspection

Government inspection is required at your facility or your sub-tier processor, as delegated.

If you have a government/military representative you normally work with, provide them a copy of this purchase order.

If you don't have an onsite representative, or you don't know how to arrange for a representative, contact the Phoenix Cables buyer for direction.

When Government Delegation is required for Supplier's or Sub-tier suppliers, the Prime Contract Number and DPAS Rating shall be added to the purchase order. A copy of the purchase order shall be forwarded to Phoenix Cables Inc. Purchasing.

### SQC 08 – Calibration System Requirements

The Supplier shall meet and maintain a calibration system in conformance with the Calibration System Requirements of MIL-STD-45662, ISO 10012-1, ISO 17025 or ANSI Z540-1.

### SQC 09 – Quality System Requirements

The Supplier shall maintain a Quality System in conformance with the requirements of AS9003, AS9100 and/or ISO9001.

### SQC 25A – Process Certifications

Suppliers or their sub-contractors performing any processes listed on the purchase order, referenced

drawing, or specifications must provide separate certifications for each special process.

Each shipment shall be accompanied by one legible copy of a signed Supplier Certificate of Conformance (Phoenix Form 022) that identifies the processes performed to specification, or sub-tier supplier certification, as applicable. Electronic signature or signed validation is acceptable unless otherwise specified by contract.

***The certificate shall include the following as a minimum:***

1. Supplier's name and address
2. Phoenix Cables Inc. P.O. Number
3. Part number, including dash and rev. letter
4. Quantity
5. Lot number, batch numbers, or serial numbers, as applicable
6. Process name and specification number with type and class
7. Name and address of agency that performed the process, if other than the supplier.

*Objective evidence of all Process Certifications shall be retained and will be made available to Phoenix Cables Inc. and/or the Government upon request.*

### SQC 26 – Certificate of Age/Environment Sensitive Material (50% Shelf Life)

Limited shelf life items must have a minimum of 50% of the rated shelf life (if shelf life is established) remaining at the time of receipt, *unless otherwise specified on the purchase order*. Each shipment shall be accompanied by one legible copy of an approved Supplier Certificate of Conformance (Phoenix Cables Inc. Form **(Form 015)**), which certifies that all requirements of the Purchase Order have been complied with, and ***will contain the following as a minimum:***

1. Supplier's name and address
2. Phoenix Cables Purchase Order Number
3. Part number, dash & rev. letter (if applicable)
4. Material name or type
5. Quantity
6. Material lot or identification number
7. Date of manufacture (Date code on container is acceptable).
8. Start and length of shelf life or expiration date (marking on the individual container is an acceptable alternate). If shelf life is determined to be unlimited, expiration date will be identified as "unlimited" or "NE" (indicating no expiration).
9. Storage temperature, if other than room ambient

**SQC 26A – Certificate of Age/Environment Sensitive Material (80% Shelf Life)**

This SQC follows all the requirements of SQC 26 except that the minimum remaining manufacturer's recommended shelf life at the date of receipt shall be 80%.

**SQC 26B- Age Control for Solderability (2 year maximum for Electronic Components)**

All electronic components must have a lot date code (or date of manufacture) of less than 2 years old at the time of shipment to Phoenix Cables Inc., or the supplier shall provide evidence of Phoenix approved solder ability testing prior to delivery. Each shipment shall include one legible copy of certification containing:

1. Supplier's name and address
2. Phoenix Cables Purchase Order Number
3. Part Number, dash and revision letter (if applicable)
4. Date of Manufacture

*\*Note: If the supplier is not an authorized factory distributor for the component, the original OEM certification must accompany the shipment. Any deviations will require the submittal and Phoenix Cables Inc. approval of a Vendor Information Request.*

**SQC 26C- Age Control for Solder ability (4 year maximum for Electronic Components)**

This SQC follows all the requirements of SQC 26B except that the components must have a lot date code (or date of manufacture) of less than 4 years old at the time of shipment to Phoenix Cables.

**SQC 27 – Record Retention Requirement- 10 year**

The supplier shall retain a set of all records associated with this product for minimum 10 years. This includes but is not limited to manufacturing data sheets. Please note that at the end of 10 years the suppliers must notify Phoenix Cables prior to disposing of any records. Any deviations from this clause will be specified on the purchase order.

**SQC 27A – Record Retention Requirement- 5 year**

This SQC follows all the requirements of SQC 27 except that the minimum record retention is five years.

**SQSC 27B–Record Retention Requirement- 20 year**

This SQC follows all the requirements of SQC 27 except that the minimum record retention is twenty years.

**SQC 27C-Record retention-15 year**

This SQC follows all the requirements of SQC 27 except that the minimum record retention is fifteen years.

**SQC 28 – Certificate of Compliance (Non-Age Sensitive Material)**

Shipment of non-age sensitive material shall be accompanied by one legible copy of an approved supplier certification, using Supplier Certificate of Conformance (Phoenix Cables Form (Form 022) or the supplier's equivalent), which certifies that all requirements of the Purchase Order have been complied with.

***The certificate shall contain, as a minimum, the following information:***

1. Supplier's name and address
2. Phoenix P.O. number
3. Phoenix Part number (if referenced on the PO) and Vendor #, including dash and revision letters
4. Date code (applicable to electronics only). Date code on container is acceptable, may not be available on individual or small lots of components.
5. Quantity
6. Lot number and serial numbers, if applicable

**SQC 28A – Certificate of Compliance (Special Distributors)**

Distributors of material used for deliverable product shall be on the Phoenix Approved Supplier List and must comply with all the requirements set forth in, plus the following:

1. Name of original manufacturer\*
2. Lot or serial number(s) or date code

**SQC 28B – Certificate of Compliance (Non ASL distributors)**

Distributors of material not used for deliverable product are not required to be on the Phoenix Approved Supplier List, but shall comply with the requirements set forth in SQC 28 above, plus the following:

1. Name of original manufacturer\*
2. Lot or serial number(s) or date code

**SQC 30 – Customer Approved Sources**

For all materials and outside processing for this purchase order, Phoenix will specify which vendor/s to use. If a vendor is not specified, contact Phoenix for direction.



### **SQC 31 – Certificate of Material Conformance**

Each shipment shall be accompanied by one legible copy of an approved Supplier Certificate of Conformance form (Form 022), which certifies that the purchase order items were produced from material for which the supplier has specific data or other objective evidence to the effect that the material conforms to all drawings and/or specification.

#### ***The certificate shall list the following:***

1. Supplier's name
2. Phoenix Purchase Order (PO) number
3. Phoenix and/or supplier part number, including dash and revision letter (if reference on the PO)
4. Quantity
5. Lot number (manufacturer/heat/batch number)
6. Material Type
7. Material type and Specification Number or an actual material certification identified with the Phoenix part and PO number.

*Material certifications shall be maintained and traceable to raw materials; objectives evidence provided upon request.*

### **SQC 31A – Certificate(s) of Material Conformance**

Supplier must provide legible copies of specific certifications and test and/or acceptance data for all tests, inspections, analyses, or processes performed by the supplier or their sub-contractors who perform any processes listed on the purchase order, referenced drawing, or specifications in compliance with this order.

### **SQC 32 – Certificate of Material Conformance (Phoenix furnished material traceability)**

Each shipment shall be accompanied by one legible approved Supplier Certificate of Conformance (Phoenix Form (Form 022) or supplier's equivalent), or a copy\* of the Phoenix provided traceability (as applicable) that certifies that the purchase order items were produced from materials furnished by Phoenix Cables Inc.

#### ***The certificate (or copy\*) shall list the following as a minimum:***

1. Supplier's name
2. Phoenix P.O. number
3. Phoenix Part number (if referenced on the PO) and Vendor #, including dash and revision letter and Quantity
4. Lot number and serial number if applicable
5. Material traceability, as furnished by Phoenix
  - a. Phoenix material P.O./W.O. number
  - b. Phoenix I.R./NCR number, when listed

### **SQC 33 - Certificate of Material Conformance, Preference for Domestic Specialty Metals\***

Suppliers must use specialty metals melted in United States or its outlying areas. Specialty metals (Steel & metal Alloys\*) produced outside of the United States or its outlying areas will not be used or provided unless the country of origin of melting (Qualifying Country) is listed in DFARS 225.872. This requirement shall be flowed down to any sub tier suppliers. The DFARS list is maintained by the US Department of Defense and is accessible on the web site:

[http://www.acq.osd.mil/dpap/dars/dfars/html/current/25\\_8.htm#225.872.](http://www.acq.osd.mil/dpap/dars/dfars/html/current/25_8.htm#225.872)

**Specialty Metals\*** are defined by DFARS clause 252.225-7008, current revision:

Each shipment shall be accompanied by one legible copy of an approved Certificate of Conformance that certifies the origin of material melt of specialty metals by a qualifying country.

#### **The certificate shall list the following:**

1. Supplier name
2. Phoenix Purchase Order (PO) number
3. Phoenix and / or supplier part number, including dash and revision letter (if referenced on the PO)
4. Quantity
5. Lot Number (manufacturer/melt/heat/batch number)
6. Material Type and specification number or an actual material certification traceable to the Phoenix part and PO number.
7. Country of material melt
8. Copy of Mill Certification and chemical/physical reports from the producing mill.

### **SQC 33A - Certificate of Material Conformance, Use of All Domestic Metals**

Suppliers are to provide and certify that all metal constituents in the items provided originated or were melted in United States. Each shipment shall be accompanied by one legible copy of an approved Supplier Certificate of Conformance.

### **SQC 34 - Certificate of Domestic Origin**

Suppliers are to certify that all constituents in the items provided originated in the United States. Each shipment shall be accompanied by one legible copy of an approved Supplier Certificate of Conformance.

### **SQC 38 – Calibration Services**

Supplier test equipment calibration services must have a calibration system conforming to MIL-STD-45662A, ANSI/NCSS Z540-1 or ISO10012, or 17025. Calibration procedures must be maintained which provide sufficient information for periodic calibration of measuring and test equipment (M&TE).

**The report, as a minimum, shall include the following information:**

1. Date of Calibration
2. Specification(s) to which calibrated
3. Identification or serial number of the item to which the report pertains
4. Evidence of traceability for all calibrations performed to the National Institute of Standards and Technology (NIST).
5. Name and certification of the agency performing the calibration(s) if other than the supplier.
6. Results of calibration(s) performed including the initial (as received) and (as returned) measurements. The data shall include a statement of uncertainties (tolerances) or accuracy of standards used, including data for any out-of tolerance conditions found.
7. Relevant environmental or other conditions under which the calibration was obtained and for which the stated tolerances are valid, as applicable.
8. Corrections which must be applied if standard conditions of temperature, gravity, air buoyancy, etc. are not met or differ from those at time and place of calibration, when applicable,
9. Each shipment shall be accompanied by one legible copy of an approved Supplier Certificate of Conformance.
10. Suppliers must return replaced parts to Phoenix

### **SQC 42 – Test Data**

One copy of the Supplier's or sub-tiered supplier's test data, identifiable to the material or items supplied, will normally accompany shipment and will reference the Phoenix Cables Inc. Purchase Order number, the test performance, the lot number and serial numbers (as applicable), and the applicable specification. All test data, qualifications and acceptance test reports will meet Phoenix PO requirements, as applicable and to be kept on file at the seller's facility for a minimum of 5 years or Purchase Order requirement.

### **SQC 43 – Printed Wiring Board (PWB) Requirements**

#### **SQC 43A – PWB Coupons and Test Data-**

Each shipment shall be accompanied by one representative test coupon for each lot or batch along

with a legible copy of all applicable test data from the tests conducted on printed wiring boards **or subassemblies** submitted to Phoenix Cables Inc.

#### **SQC 43B – PWB DPA Requirements**

The supplier shall provide one representative printed wiring board destructive physical analysis (DPA) cross-section sample and DPA report for each panel unless otherwise specified. Along with a legible copy of the report, the supplier is to provide a certification with a signature of the agency representative that performed the DPA attesting to conformance to specification requirements. (Electronic signature or signed validation is acceptable unless otherwise specified by contract)

#### **SQC 43C – PWB Design Services**

Artwork shall be supplied to Buyer for approval in electronic format that is readable with free viewers. Fabrication of the PWB shall not proceed prior to artwork approval by the Buyer. If no changes are made to the design, the final artwork shall be supplied to Buyer for documentation purposes.

#### **SQC 43D – PWA Sub-Tier Flow down Requirements.**

Printed Wiring Assembly (PWA) suppliers shall assure complete flow down of applicable Phoenix requirements to all sub-tier suppliers. Supplier shall be provided the applicable drawing, applicable Quality Assurance Provisions and any other requirements stated in the Purchase Order applicable to the PWA or sub-tier supplier.

#### **SQC 43E- PWB Testing**

PWB's on this order shall be tested to the requirements of IPC-6012, IPC-6013, or MIL-P50884, Group A and B prior to delivery. Copies of Group A test data shall accompany each shipment of PWB's. Group B test data shall be retained on file.

**Coupons and Micro-sections** The PWB supplier shall incorporate coupons on the fabrication panel that are representative of all the technology in the PWB including the worst-case condition of such features (e.g. annular rings, etc.).

*Micro-sections shall be performed on a read and record basis with data included in the PWB certification. One additional set of coupons shall be provided to Buyer with each lot of PWB's.*

### **SQC 43F - PWA Assembly Special Processes and Certifications**

The PWA supplier shall provide separate certifications from each supplier of a special process. Special processes include wire bonding, soldering, plating, PWB manufacture, adhesive bonding, etc. Certifications shall include lot date codes or lot numbers for all components used in the assembly, including those supplied by all suppliers of special processes shall be a Phoenix approved or directed supplier (PWA supplier may add the applicable Phoenix PO# reference on the sub-tier certs).

#### **Each certification shall contain as a minimum:**

1. Supplier name
2. Supplier Address
3. Phoenix PO Number
4. Part number, dash number and revision
5. Quantity processed
6. Lot date code or batch number
7. Process name, specification (with revision), along with type and class.

### **SQC 45 – Chemical Test Reports**

Each shipment shall be accompanied by one legible copy of the actual test data from the chemical tests conducted on materials submitted to Phoenix. The reports must contain the material lot number, specification, material type, and signature of the responsible representative or subtier supplier

(Electronic signature or signed validation is acceptable unless otherwise specified by contract) attesting to conformance to specification requirements.

### **SQC 46 – Physical Test Reports**

Each shipment shall be accompanied by one legible copy of the actual test data from the physical tests conducted on materials submitted to Phoenix Cables Inc.. The reports must contain the material lot number, specification, material type, and signature of the responsible representative or subtier supplier, attesting to conformance to specification requirements. (Electronic signature or signed validation is acceptable unless otherwise specified by contract)

### **SQC 47 – Inspection Plan and Report**

The Supplier shall complete, sign and date the supplied Inspection Plan & Report (IP&R) or Receiving Inspection Operation Sheet (RIOS) to the specified AQL\* (Acceptable Quality Level), or submit documentation that includes all the requirements of the supplied IP&R or RIOS

*NOTE: Suppliers are to fill in the “Actual/Span” blanks only when a characteristic is found to be out of tolerance, which requires a VIR submittal to Phoenix prior to delivery (see page 1).*

Inspection Plan AQL's\* provided in these plans are for sample size determination only. There is no implied or permissible reject quantity allowed for deliveries to Phoenix based on AQL table accept/reject allowances.

### **SQC 54 – Special Process Procedure**

The supplier must get approval from Phoenix Cables Inc. on “special” processes that will be performed when making these parts. Examples of special processes are welding, heat-treating, cleaning, electroplating, anodizing, chemical film, or non-destructive testing. If there is any doubt if a process is considered “special”, contact Phoenix for help.

#### **To get approval of a special process:**

1. Send a copy of the procedure to Phoenix
2. Do not start work on the job until get written approval (email).
3. Before shipping the product, make sure the following information is on the Certificate of Conformance:
  - a. The special process procedure number
  - b. The procedure revision
  - c. Any specifications that apply to the process
  - d. Material lot number
  - e. Serial numbers if they are serialized
4. If any special process were performed on the product by an outside processor (sub-tier), review their Certificate of Conformance for the same items before shipping

### **SQC 56 – Product Baseline Changes**

Supplier shall notify Phoenix of any proposed changes to the established baseline of company ownership, materials, processes, sub-tier suppliers or inspection testing methods, techniques and/or facility changes. Request is to be submitted on Phoenix form (Form 015), Vendor Information Request (VIR), available upon request, Phoenix Quality Engineering approval is required prior to implementation of any proposed changes. Process changes do not apply to standard hardware (nuts, bolts, washers, etc.) that is ordered to military, federal or industry specifications or standards (e.g., MS, AN, NAS, etc.) or to metallic raw material (plate, sheet, bar, extrusion, etc.) that is purchased from a mill.

### **SQC 58 – Packaging of Springs and Threaded Items**

For springs, packaging shall ensure that the items do



not become inter-twined, tangled or damaged. The use of tubes or rods for packing shall be employed.

For threaded items, all internal and external threads shall be sufficiently protected to prevent damage to any processed surface during transit.

**SQC 59 – Removed**

**SQC 60 – Serialization**

Each line item carrying this SQC shall be identified by serial number, as required in the Purchase Order, drawing, and/or specification. No duplication of serial numbers is allowed. The supplier shall assign serial numbers unless provided by Phoenix Cables Inc. in the purchase order. The material for all serialized items shall be traceable to their source. This requirement applies to all sub-tier suppliers.

**SQC 62 – Homogeneous Requirements**

All material and/or parts supplied under this Purchase Order shall be from one homogeneous and identical lot; that is, there was no change in the material constituents, manufacturing location, process, or design during manufacture of the lot by the supplier.

**SQC 63 – Manufacturing Lot or Batch Number**

All parts, materials, and/or applicable documents shall be identified by the supplier with a lot number, date lot code, batch number, heat number, heat code, heat lot number or melt number. Where it is not practical to mark the part, the smallest container package shall be marked or tagged with the above data. All applicable documents (chemical and physical reports, certifications) shall include the above- required identification, as well as a reference to the Phoenix Cables Inc. Purchase Order Number.

**SQC 70 – First Article Inspection (FAI) Each Order**

This clause requires a FAI with every order. The FAI shall be conducted on 1 part that is representative of the lot provided unless otherwise specified. The FAI will be performed on all applicable drawings (including notes) and specifications. All suppliers must use the AS9102 format. The FAI must be maintained by the supplier and be made available for Phoenix review upon request. The First Article shall include a ballooned drawing along with the First Article Inspection Report. The part/s used to perform the FAI must be clearly identified and included with the shipment.

**The First Article Inspection Report shall include:**

- A. Tool part number and serial number.
- B. Cavity ID number (Note if tool has multiple cavities,

the FAI must be performed on each cavity)

**SQC 70A– First Article Inspection (FAI) As Req.**

The supplier shall perform an initial FAI as defined in SQC 70. After the initial FAI is performed, supplier resubmittals are only required if there has been a lapse in production for more than one year or as defined in AS9102 Par. 5.3. If the supplier has not had a lapse in production that exceeds 24 months, the supplier must state on a certification that:

- 1. This product has not seen any lapse in production that exceeded 24 month.
- 2. There have been no changes to the manufacturing process or product design or any other items as noted in AS9102 Par 5.3 since the first article was performed.

**SQC 70B – First Article Inspection (FAI) As Req.**

This clause has the same requirements of SQC 70A except the lapse in production cannot be greater than 12 month.

**SQC 72 – Tool Proofing**

Tool proofing shall be accomplished on all Phoenix authorized, vendor-furnished tools manufactured or acquired for use on this order by the Supplier's Quality Control. The Supplier shall not manufacture or modify any such tooling unless authorized by a tool order. Objective evidence of proper control and maintenance shall be maintained by the Supplier and subject to audit by Phoenix Cables Inc.

**SQC 80 – Certificate of Qualified Products List (QPL)**

Each shipment shall be accompanied by one legible copy of a Supplier Certificate of Conformance (or the supplier's equivalent form with the same information) that identifies the materials as qualified to the required specification and listed on an official Government Qualified Products List (QPL). Where material is qualified but not included in the QPL, the certification shall reflect the qualifying test report number. Approved vendor listings issued by prime contractors will be utilized when required by contract.

**SQC 81 – Special Requirements**

Refer to the Purchase Order notes or attachments for description of special requirements.

**SQC 84– Electrostatic Discharge (ESD) Protection**

Line items given SQC 84 shall be identified, handled, processed, and packaged to provide proper

electrostatic discharge protection within the guidelines of JEDEC/EIA 625-(Requirements for Handling Electrostatic Discharge Sensitive Devices).

### **SQC 86 – Removed**

### **SQC 91 – Change Control**

Supplier shall not implement any changes in design, materials, processes, or control without prior written approval (via the Phoenix buyer), from the cognizant Quality Assurance or Program Engineering representative prior to supplying services and/or material. The supplier is also responsible for compliance by sub-contractors.

### **SQC 92 – MRB Limited Authority**

Supplier is delegated limited Material Review Board (MRB) authority for Class II defects, which is SCRAP or REWORK. All other discrepancies will require suppliers to submit a Vendor Information Request (VIR) Form (Form 015). The VIR must have concurrence from Phoenix Quality Assurance Material Review Board prior to shipment. Nonconforming material shall be identified by Vendor Information Request Form (Form 015) with shipping documents and must include evidence of Phoenix concurrence. Disposition of non-conformance to drawings or specifications shall **not** be considered as precedence for additional or future dispositions.

### **SQC 93 – Statistical Process Control (SPC)**

The supplier shall provide variables data to support compliance to the required capability, as outlined in a supplier or Phoenix generated and/or Phoenix approved SPC Plan.

### **SQC 94 – Mission Assurance Requirements**

#### **SQC 94A - Configuration Control & Notification**

The supplier shall be responsible for:

1. Controlling changes to parts or components manufactured to the established baseline of Phoenix drawings and specifications, Phoenix controlled supplier drawings, specifications and processes to ensure that the end product meets the specified configuration requirements. Only Phoenix is authorized to approve changes to these drawings, processes and specifications.
2. Maintaining a system to control processes that fulfill the requirements of the purchase order, at its facilities and that of its sub-tier suppliers is required.
3. The supplier shall notify Phoenix prior to any

changes to their sub-tier's designs (including proprietary designs), parts/components, materials, fabrication methods, processes\*, tooling, equipment or methods used in the testing and acceptance of products delivered to Phoenix.

**NOTE:** *\*If the process performed by the Supplier or its sub-tier suppliers is identified as a Critical and/or Special Process then it shall be controlled by the Supplier in accordance with Supplier Quality Clause SQC 25. The Supplier shall obtain Phoenix written approval prior to making any changes to such processes.*

4. The supplier shall notify Phoenix within one (1) working day of any recall notices for any product, raw material and/or components procured by the Supplier. The Supplier is also responsible to notify Phoenix of all such recall notices or GIDEPS from wholesalers, manufacturers, and sub-vendors and agencies.
5. Supplier shall inform Phoenix within ten (10) working days as to whether a GIDEP ALERT is applicable. Phoenix shall notify the Supplier of GIDEP ALERTS or other potential recall notices.

#### **SQC 94B- Approval of Acceptance Procedures**

The supplier shall provide assembly and acceptance procedures to Phoenix for approval and is required to obtain written approval prior to any changes.

#### **SQC 94C- Obsolete**

#### **SQC 94D - Written Authorization to Subcontract**

The Supplier shall notify Phoenix Cables Inc. and receive Phoenix written approval prior to subcontracting work in excess of 40%, excluding cost of material, of the cost to produce any line item of the purchase order or RFQ.

#### **SQC 94E- Quality Program Plan (QPP)**

The Supplier shall prepare and submit a Quality Program Plan (QPP) to Phoenix. Contents of the plan used to implement requirements of the Purchase Order are subject to disapproval by Phoenix. The QPP shall include, as a minimum, the following:

1. A description or organization chart showing the Quality Control Organizational relationship to other functional organizations (i.e. Engineering, Purchasing, Manufacturing, etc.).
2. A detailed definition of the Supplier's method for assuring product quality at all phases of inspection and test from procurement through receiving,

fabrication, testing, acceptance, preservation, packaging and shipping.

3. Flowcharts indicating inspection and test verification points through the receiving, fabrication, assembly and shipping sequence.

#### **SQC 94F - Foreign Object Elimination (FOE) Program**

The supplier shall establish and maintain an FOE program acceptable to Phoenix. The FOE program will be subject to review and approval by Phoenix. The material supplied on this purchase order shall be manufactured in an environment that is free of foreign object contamination. Any instances where foreign object contamination has occurred or is suspected will be reported to Phoenix prior to material acceptance and delivery. The intent of this quality requirement is to maintain continual awareness of the need to eliminate sources of foreign object contamination for all supplied material.

#### **SQC 94G - Test Failure and Anomaly Notification**

In the event of any Acceptance Test Procedure (ATP) or Destructive Lot Acceptance Test (DLAT) failure or anomaly, the test setup will be frozen and Phoenix will be immediately notified. Unless a safety issue is involved, there will be no activity performed until a formal failure review board (FRB) is conducted with Phoenix. If the FRB decides the test equipment is not the cause of the failure or anomaly, the FRB may allow continued testing on other production units.

Within any production lot or batch, parts which fail to meet ATP OR LAT criteria during Non-Destructive testing will be set aside until completion of the specific test in process. Upon completion of the test set non-conforming parts will be documented and segregated from accepted product.

#### **SQC 94H - Training and Certification Program**

The Supplier shall implement and maintain an employee-training program subject to review and approval by Phoenix Cables Inc.. The plan should include a required-skill vs. training matrix, re-training and decertification provisions and provide documented evidence of competence.

#### **SQC 94J - As-Built & Traceability Data**

With each delivery, the supplier will provide an As-Designed vs. As-Built drawing record along with specific traceability information for each and every component and/or material provided in the finished assembly.

#### **SQC 94K Date Code Limitation-Electronic Items**

Electronic items provided on this order must have a date code of manufacture of 18 months or less from the date of shipment.

#### **SQC 94M “No Pure Tin” Certification and Data**

With each delivery, the supplier must separately certify (for each date code or lot supplied) that no pure tin or lead free components, finishes, material or solder was used or present in or on the components. The preferred method of testing is XRF. The certification must include spectrum analysis data showing composition of material on terminals of the device performed by the supplier or OEM and be included with each shipment. Each test report shall specify, the method used, tests performed, lot or date code designator and the results of the analysis. Each certification shall reference the Phoenix Purchase Order number and be signed by an authorized company representative.

The definition of pure tin is >97% Sn (Tin) or <3% Pb (Lead).

In the event that tests were conducted at an independent lab or sub-tier, the reports will note supplier name, address, purchase order, part number date of tests, and lot or date code designator and date of tests. The report is to be certified and signed by an authorized company representative.

#### **SQC 95 Boeing Approved Processors**

The Supplier and any sub-tier contractor shall be or utilize Boeing approved process sources in accordance with DI-4426, which, along with information on Boeing approved processors and the User Instructions for the document, can be obtained from the Boeing website.

**NOTE:** *Boeing approved processors can be found at: [http://www.boeing.com/companyoffices/doingbiz/index\\_quality.html](http://www.boeing.com/companyoffices/doingbiz/index_quality.html)*

The supplier shall supply copies of the approved processor certification to Buyer with each shipment. If a specific Boeing inspection or processing criteria or requirement is referenced in the PO, the supplier shall include a specific reference of compliance to this on the supplier certification(s) with each shipment.

#### **SQC 96 Lockheed Approved Processors**

The Supplier and any sub-tier contractor engaged in special processes (i.e. soldering, cleaning, X-Ray, welding, magnetic particle and penetrate inspection, heat treating, plating, etc.) shall have either:

- 1) Lockheed Martin approval of special processor, or
- 2) Lockheed Martin approval of supplier quality system to control sub-tier's performing special process.

Approval of special process sub-tier contractors does not relieve the Supplier of the responsibility for exercising control measures necessary to ensure that work performed by sub-tier contractors is in accordance with specification requirements. The supplier shall have records of Lockheed Martin approval on file available for review. The supplier shall provide legible copy of an approved special process certificate with each shipment that lists processor's name/address and process specification/revision traceable to the Phoenix part and PO number.

*Note: A list of first tier Lockheed Martin approved special processors can be found in Exostar LM Procure to Pay Portal under Current Approvals Tab. Contact you Phoenix Buyer for a list of current approval processors.*

### **SQC 97 Single Heat Lot Control (USA/NASA)**

The Supplier shall furnish the entire lot on this order from the same heat lot. The Supplier shall indicate the heat lot number on the Certificate of Conformance and flow down the heat lot requirement to all sub-tier processors. Sub-tier processors shall record the heat lot number on all certifications submitted to the Supplier.

### **SQC 98 Test Document Review**

The supplier shall review the entire test document to ensure all test requirements are met, regardless of the individual test paragraph identified in the Purchase Order.

### **SQC 99 – United Launch Alliance (ULA) Approved Processors**

The Supplier and any sub-tier contractor engaged in special processes (i.e. soldering, cleaning, X-Ray, welding, magnetic particle and penetrant inspection, heat treating, plating, etc.) shall have either:

1. ULA approval of special processor, or
2. ULA approval of supplier quality system to control sub-tier's performing special process.

Approval of special process sub-tier contractors does not relieve the Supplier of the responsibility for exercising control measures necessary to ensure that work performed by sub-tier contractors is in accordance with specification requirements. The Supplier shall have records of ULA approval on file available for review. The Supplier shall provide legible copy of an approved special process certificate with each shipment that lists processor's name/address and process specification/revision traceable to the Phoenix Cables Inc. part and PO number.

*NOTE: A list of ULA approved special processors can be retrieved from*

<http://www.ulalaunch.com/site/pages/Suppliers.shtml>

### **SQC 100 – Counterfeit Prevention**

Definitions:

The terms shown below are defined in Aerospace Standard SAE AS5553.

- Suspect Part
- Counterfeit Part
- Original Component Manufacturer (OCM)
- Original Equipment Manufacturer (OEM)
- Authorized Supplier

Requirements:

The supplier shall maintain a counterfeit prevention process internally and with its supplier using SAE AS5553 as a guide. The supplier shall immediately notify Phoenix Cables Inc. with the appropriate information if the supplier becomes aware or suspects that items delivered in accordance with Phoenix purchase orders are, or contain suspect, or confirmed counterfeit parts.

The suppliers shall be the OEM/OCM or purchase material directly from the OEM, OCM, or authorized supplier. The supplier is not authorized to deliver any material to Phoenix Cables Inc. not procured from or manufactured by an OEM, OCM, or authorized supplier. Any departure from a specified OCM/OEM or an authorized supplier in the part documentation shall require the supplier to submit a Vendor Information Request (VIR) form (**Form 015**) for Phoenix approval prior to delivery. The supplier is not to deliver product until the VIR receives Phoenix and Customer signature approval and is submitted back to the supplier. The approved VIR form must accompany the shipment along with other specified certifications. This approval will come only after Phoenix has notified their customer along with Phoenix receiving and concurring to the specific instructions documented in the customer's counterfeit Parts Management Program (PMP).

The supplier shall flow down the requirements of this SQC code to lower tier suppliers and ensure compliance.

**Each shipment shall contain a certificate of conformance containing the following information;**

1. Supplier name and address
2. Evidence of "authorized supplier" status
3. OEM/OCM name and address
4. Original OEM/OCM traceability information
5. Phoenix Cables Inc. Purchase Order Number
6. Phoenix Part number and Supplier Part number including dash number(s) and revision letter(s)
7. Batch identification for the item(s) such as date codes, lot codes, serializations, or other batch identifications.
8. Signature or stamp with the title of the supplier's authorized personnel signing the certificate.

