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**Procurement Quality Codes**

**BSP-8.4.3-02**

Rev 2

**Quality Manager**

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# **PURPOSE**

* 1. This procedure identifies quality codes applicable suppliers as specified by quality requirement flow downs.
1. **SCOPE**
	1. This procedure applies to customer or Collins-Simpsonville flow-down of quality clauses to supplier purchase orders.
2. **TERMS, DEFINITIONS, ABBREVIATIONS, ACRONYMS**
	1. PO – Purchase order. Herein refers to PO’s from Simpsonville to suppliers.
	2. QA – Quality Assurance
	3. SO – Sales Order. Herein refers to orders from customers to Simpsonville.
3. **REFERENCES, RELATED DOCUMENTS**
	1. Commercial/Industry Documents:
		1. AS9100D
	2. QMS Documents:
		1. COL-PRO-0022-01 , Special Process Requirements for Internal Operations and Supplier Flowdown
4. **RESPONSIBILITIES**

The following tasks are performed by Collins Simpsonville quality.

Note: Procurement is responsible for ensuring the supplier is on the Woven ASL and the DPAS rating (if required) is correct. Product Engineering is responsible for ensuring the part configuration is correct.

1. **PROCEDURE**
	1. Quality Engineer
		1. Obtain open supplier PO
		2. Determine where used for Simpsonville part number being procured
		3. Review open sales orders for these part numbers.
		4. Determine if part type is COTS, MILSPEC, Source Specific, or standard purchase.
		5. Compare sales order quality clause requirements to supplier purchase order quality clauses.
			1. Determine that specified clauses align to part type and customer requirements.
			2. If not, update supplier quality clauses to meet most stringent customer quality requirements.
2. **FORMS AND DOCUMENTED INFORMATION**

7.1. Not Applicable. Clauses for each part number are maintained in ERP system.

**8. REVISION HISTORY**

|  |  |  |
| --- | --- | --- |
| **Revision** | **Date** | **Description of Changes** |
| 2 | 11/1/22 | Q10 added g) – RMA # and the phrase ‘rework parts or replacement parts’ as applicableQ11B - Updated Reference to customer linkQ11F - Added QA clause Q11FQ109 - Rev items indicated as ‘\*\*\*’ must be manufactured to the latest documented revision. |
| 1 | 11/10/20 | Added QA clause Q118 |
| 0 | 6/18/20 | Initial Release – supersedes QAP-20027 |
|  |  |  |
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**Table A**

Quality Clauses

|  |  |
| --- | --- |
| **Clause ID** | **Clause Scope** |
| **Q1** | **Quality / Inspection System approved by Woven Electronics – The supplier has been** **evaluated per section 3.0 and is on the Approved Supplier List.** |
| **Q2** | **Deleted** |
| **Q3** | **Deleted** |
| **Q4** | **CALIBRATION SYSTEM COMPLYING WITH: ANSI/NCSL Z540.3 or ANSI/NCSL Z540.1** |
| **Q5** | **Quality System complying with:** |
| **Q5A** | **QUALITY SYSTEM COMPLYING WITH: AS9100** |
| **Q5B** | **QUALITY SYSTEM COMPLYING WITH: ISO9001 or AS9100****If the Supplier is a distributor, it is their responsibility to assure that the original** **manufacturer maintains a Quality System complying with the requirement.** |
| **Q10** | **Certificate of Compliance (CoC) required – The Supplier shall provide a CoC for each** **shipment that includes the following as a minimum:** **1. Identification of:**  **a) Company submitting Certification**  **b) Woven PO Number**  **c) Woven Part Number (Specification and Revision Level, as applicable)**  **d) Customer Part Number (Specification and Revision Level, as applicable)**  **e) Shipped Quantity**  **f) Certification Date** **g) RMA # and the phrase ‘rework parts or replacement parts’ as applicable** **2. Statement: The Items Supplied Comply with All Purchase Order Requirements** **3. Signature or Initials and Title of a duly authorized company representative** **4. The Manufacture’s CoC with Traceability to the Supplier’s CoC**  **(Note: Traceability may be in the form of the Manufacturer’s Date Code;**  **Heat, Cast, Lot, Batch, Manufacturing or Assembly Order Number; or as**  **specified by Material Specification)** **5. All documents provided with the CoC must be legible****6. Other requirements as specified by the Purchase Order** |
| **Q11** | **Special Process Certification – The Supplier and/or sub-tier suppliers shall have a** **NADCAP Approved procedure for the performance of special processes, i.e. soldering,** **welding, brazing, plating, anodizing, coating, painting, etc. Procedures are subject to** **review and / or approval by Woven Electronics or our Customer.** |
| **Q11A** | **Special Process Certification – The Supplier and/or sub-tier suppliers shall have** **a BOEING Approved procedure for the performance of special processes, i.e. soldering,** **welding, brazing, plating, anodizing, coating, painting, etc.** **Approved Boeing suppliers can be found at:** **http://www.boeingsuppliers.com/d14426/index.html.** |
| **Q11B** | **Special Process Certification – The Supplier and/or sub-tier suppliers shall have a** **NADCAP and NORTHROP Approved procedure for the performance of special** **processes, i.e. soldering, welding, brazing, plating, anodizing, coating, painting, etc.** **Approved Northrop suppliers can be found at:** **https://oasis-aspl.myngc.com/** |
| **Q11C** | **Special Process Certification – The Supplier and/or sub-tier suppliers shall have a** **NADCAP and LOCKHEED MARTIN Approved procedure for the performance of special** **processes, i.e. soldering, welding, brazing, plating, anodizing, coating, painting, etc.** **Procedures are subject to review and / or approval by Woven Electronics or LOCKHEED** **MARTIN. Approved special processors can be found through Exostar / LMC P2P.** |
| **Q11D** | **Special Process Certification – The Supplier and/or sub-tier suppliers shall have a** **NADCAP and RAYTHEON Approved procedure for the performance of special** **processes, i.e. soldering, welding, brazing, plating, anodizing, coating, painting, etc.** **Procedures are subject to review and / or approval by Woven Electronics or RAYTHEON.** **Approved special processors can be found through Raytheon.** |
| **Q11E** | **Special Process Certification – The Supplier and/or sub-tier suppliers shall have a** **NADCAP and BELL HELICOPTER Approved procedure for the performance of special** **processes, i.e. soldering, welding, brazing, plating, anodizing, coating, painting, etc.** **Procedures are subject to review and / or approval by Woven Electronics or BELL HELICOPTER. Approved special processors can be found through Bell Helicopter** **Sell2Bell site.** |
| **Q11F** | **Special Process Certification – The Supplier and/or sub-tier suppliers shall have a** **NADCAP and HAMILTON SUNDSTRAND Approved procedure for the performance of special processes, i.e. soldering, welding, brazing, plating, anodizing, coating, painting, etc. Procedures are subject to review and / or approval by Woven Electronics or HAMILTON SUNDSTRAND. Approved special processors can be found on the 80 Report and 85 Report found at:** [**https://suppliers.utc.com/Pages/Home**](https://suppliers.utc.com/Pages/Home) |
| **Clause ID** | **Clause Scope** |
| **Q12** | **Soldering Requirements – ANSI/J-STD-001 or other specification as indicated.** |
| **Q13** | **Test data required – test data as identified in the specification, drawing, or** **purchase order must be included with the item.** |
| **Q14** | **Time or Temperature Sensitive Materials – The material and / or container must** **be identified with the applicable expiration date or shelf life, special storage** **conditions (i.e. temperature for storage) etc. All shelf life controlled materials** **must have a minimum of 60 days or ½ their shelf life (whichever is less)** **remaining upon receipt.** |
| **Q15** | **Electrostatic Sensitive Devices – Supplier shall assure that devices are** **manufactured, identified, and packaged to provide protection against electrostatic** **damage.** |
| **Q16** | **Solderability to the requirements of MIL-STD-202, method 208. Supplier shall** **provide a certificate stating the solderability requirements have been met and any** **expiration time period.** |
| **Q16A** | **No steam aging** |
| **Q16B** | **1 hr. steam aging** |
| **Q16C** | **4 hr. steam aging** |
| **Q16D** | **8 hr. steam aging** |
| **Q16E** | **Special requirement: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_** |
| **Q21** | **Wire to be spooled and labeled per NEMA WC27500.** |
| **Q31** | **First Article Inspection Report – Supplier shall provide an inspection report of all** **drawing notes, dimensions, and verification of materials used per the BOM. The** **report may be in the Suppliers format but must contain essential elements of** **AS9102. Required or new production and if the existing part has been out** **production more than 2 years.** |
| **Q31A** | **Suppliers shall use AS9102 First Article Inspection Report.** |
| **Q32** | **Woven Electronics Source Inspection – WEC QA to be notified 5 days prior to** **shipment for source inspection instructions.** |
| **Q33** | **Government and / or WEC Customer Source Inspection required – Notify WEC** **QA 10 days prior to shipment for source inspection instructions.** |
| **Q34** | **Special Quality Provisions noted on Purchase Order.** |
| **Q35** | **UL or CSA Listing / Recognition – items must be identified per UL / CSA requirements.** |
| **Q35A** | **UL listing or recognition** |
| **Q35B** | **UL and CSA listing or recognition** |
| **Q36** | **UL 94V-0 required – material supplied must meet the requirements UL 94V-0.** |
| **Q36A** | **UL 94V-1 required– material supplied must meet the requirements UL 94V-1.**  |
| **Q36B** | **UL 94V-2 required– material supplied must meet the requirements UL 94V-2.** |
| **Q41** | **Standard Level Packaging** |
| **Q42** | **Special Packaging requirements noted on Purchase Order.** |
| **Q43** | **Mercury Contamination – Supplies furnished under this purchase order shall not** **contain metallic mercury or mercury compounds and shall be free from mercury** **contamination. Mercury contamination of the supplies will be cause for rejection** **of the material. The supplier is required to furnish a certificate stating that the** **supplies furnished under this order contain no metallic mercury or mercury** **compounds.** |
| **Q50** | **Delegation of Verification – inspection or tests are delegated to the supplier per** **the attached detail.** |
| **Q60** | **Right of Entry – the Supplier shall allow Woven Electronics representatives, our** **customer, and regulatory agencies the right of entry to facilities as necessary to** **determine and verify the quality of contracted work.** |
| **Q61** | **Notification of Transfer of Work – Woven Electronics must be notified when** **manufacture / assembly of Source Controlled Drawing parts are re-located or** **other substantial changes to the production line occur. 30 day prior notification is** **requested.** |
| **Q70** | **RoHS – Items are required to be RoHS compliant.** |
| **Q75** | **Requirements for Soldered / Plated Electrical / Electronic components - Items** **provided on this purchase order SHALL NOT HAVE PURE TIN finishes.** **Additionally, any tin-lead plating or solder process/processing shall result in a** **finish of not less than 3% lead composition.** |
| **Q100** | **Document Retention required. Seller shall retain build, test and inspection, first** **article inspection, sampling records, material chemical or physical records for a** **period of (see below) years and are subject to review / audit by Woven** **Electronics and/or our Customer.** |
|  | **Q100A** | **3 years** | **Q100E** | **15 years** |
|  | **Q100B** | **5 years** | **Q100F** | **20 years** |
|  | **Q100C** | **7 years** | **Q100G** | **30 years** |
|  | **Q100D** | **10 years** | **Q100H** | **40 years** |
| **Q105** | **Engineering Changes – No changes to the items purchased are allowed without** **written approval of Woven Electronics. Contact your Buyer for more information** **on submission of changes.** |
| **Q106** | **Waiver or Deviation – A written request for deviation or waiver from contracted** **drawing or specification is required prior to shipment of product to Woven** **Electronics. Contact your Buyer for more information on submission of requests.** |
| **Q107** | **Acceptance Test Plan Approval – An ATP identifying the instrumentation, test** **conditions, test methods, data sheets shall be submitted for approval prior to start** **of work.** |
| **Q108** | **Tooling / Process Controls – Seller shall notify the Buyer if any of the following** **have occurred; production tooling out of service for 1 year or more; rework,** **refurbishment or replacement of any tooling used to produce the item; any** **change in the manufacturing process that alters the configuration, composition, or** **physical properties of the item.** |
| **Q109** | **Requirements Flow down – Sellers system shall assure that applicable quality** **and technical requirements within this purchase order are flowed down to** **subcontracted supplies and services. Rev items indicated as ‘\*\*\*’ must be manufactured to the latest documented revision.**  |
| **Q110** | **Foreign Object Damage (FOD) Prevention – The Seller's program shall utilize** **effective FOD prevention practices. NAS412 shall be used as a guideline for** **development of prevention practices.** |
| **Q111** | **Supplier Qualification – Seller agrees to maintain controls to assure that after** **successful qualification, neither any design, material, part, process, procedure,** **tooling, or test equipment shall be changed in any way without written approval of** **the Buyer.** |
| **Q112** | **Notification of Non-Conformances – The Supplier shall notify Woven Electronics** **of any non-conformance subsequently identified in materials, products shipped.** **Notification shall be within 24 hours of discovery.** |
| **Q113** | **Silver Coated Copper Wire – Corrosion Control – Raytheon # P8658300.** **Silver coating material thickness shall be measured and certified in accordance** **with ASTM B298. Wire and cable materials shall be certified in accordance with** **specifications which require use of ASTM B298 certified conductor strands.** |
| **Q114** | **Printed Wiring Board - Shall meet solderability of J-STD-003, Class 3, Category** **#3 after an 8-hour steam age preconditioning, followed by Edge Dip Method (IPC-****TM-650, 2.4.12), using no activated flux Type ROLO; solderability conformance** **shall include BGA pads on boards when applicable.** |
| **Q115** | **Rigid PC Boards - Shall be certified to conform and comply with IPC-6012C-2010,** **Class 3 for manufacturing, inspection, test and acceptance. The purchased lot** **shall be inspected to IPC-6012C-2010, Class 3, AQL 4.0; sampling plan.** |

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| **Clause ID** | **Clause Scope** |
| **Q116** | **Boeing Clauses listed below can be found at:** **http://www.boeingsuppliers.com/idscommon/clauses/clause\_index.htm** |
|  | **Q116A** | **Boeing clause Q011S** | **Q116B** | **Boeing clause Q011P** |
|  | **Q116C** | **Boeing clause Q020** | **Q116D** | **Boeing clause Q029** |
|  | **Q116E** | **Boeing clause Q073 & Q074** | **Q116F** | **Boeing clause Q132** |
|  | **Q116G** | **Boeing clause Q224P** | **Q116H** | **Boeing clause Q224S** |
|  | **Q116J** | **Boeing clause Q831** | **Q116K** | **Boeing clause GP7** |
|  | **Q116L** | **Boeing clause D607** | **Q116M** | **Boeing clause H101** |
|  | **Q116N** | **Boeing clause H900** | **Q116P** | **Boeing clause H927** |
|  | **Q116R** | **Boeing clause GP1** | **Q116S** | **Boeing clause Q219P** |
|  | **Q116T** | **Boeing clause Q320** | **Q116U** | **Boeing clause H106** |
|  | **Q116V** | **Boeing clause H108** | **Q116W** | **Boeing clause H217** |
|  | **Q116X** | **Boeing clause H202** | **Q116Z** | **Boeing clause H202S** |
|  | **Q116AA** | **Boeing clause Q227** | **Q116BB** | **Boeing clause Q091** |
|  | **Q116CC** | **Boeing clause Q186** | **Q116DD** | **Boeing clause H200** |
|  | **Q116EE** | **Boeing clause Q143** | **Q116FF** | **Boeing clause Q114** |
|  | **Q116GG** | **Boeing clause Q40** | **Q116HH** | **Boeing clause Q019** |
|  | **Q116JJ** | **Boeing clause Q053** | **Q116KK** | **Boeing clause Q041** |
|  | **Q116LL** | **DFARS 252.204-7012** |  |  |

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| **Clause ID** | **Clause Scope** |
| **Q117** | **Raw Material & Certified Material Test Report (CMTR) Submittal – Supplier shall:** **1. Provide two raw material specimens from the mill heat or lot of raw material** **used to manufacture the items supplied and of sufficient size to create two** **material test coupons in accordance with ASTM-E8.** **2. Tag or mark each specimen with the mill heat or lot number traceable to the** **original mill CMTR.** **3. Include a copy of the original mill CMTR.** **4. Package the specimens and CMTR in an envelope or separate package** **marked for QA Receiving Inspection.** |
| **The following examples demonstrate typical Quality Clause Code use.** **Note: Customer requirements shall take precedence.** |
| **Commercial** |
| **Q1 Standard WE approved Quality System** **Q10 Certificate of Compliance** **Q41 Standard Packaging** **Q60 Right of Entry** **Q61 Notification of Transfer of Work** **Q112 Notification of Non-Conformance** |
| **Military** |
| **Q5A, Q5B Quality System to ISO/QS-9000 series, AS9100, or equivalent** **Q10 Certificate of Compliance** **Q41 Standard Packaging** **Q60 Right of Entry** **Q61 Notification of Transfer of Work** **Q106 Waiver or Deviation** **Q109 Requirements Flow down** **Q110 FOD Prevention** **Q112 Notification of Non-Conformance** |
| **Plus:** |
| **Chemicals, potting materials, epoxies, etc.** **Q14 Expiration date identification** |
| **Wire** |
| **Q16 Solderability** **Q21 Wire spooling, Identification** |
| **Q118** | **PCB SHOULD BE 63% TIN / 37% LEAD SOLDER TY. SURFACE FINISH** |