

# QD54 - SUPPLIER QUALITY ASSURANCE REQUIREMENTS



## Applicable to all Purchase Orders

- All items delivered shall be manufactured in accordance with applicable industry standards for good workmanship and shall be fit for purpose, in all respects.
- Packaging shall be of a standard, to prevent damage and deterioration during shipment and storage.
- Individual boxes must not exceed 25kg in weight; anything above this weight must be palletised and secured accordingly.
- Electrostatic sensitive items must be packaged to prevent static damage and conspicuously marked as static sensitive, including the documentation.
- Limited life Materials or articles having a definite characteristic of quality degradation with age shall be marked in a manner to indicate when the useful life will be expended, including the documentation.
- Products will not be accepted with less than 75% shelf life remaining.
- All suppliers shall ensure all work is carried out in a manner preventing Foreign Object Debris from contaminating the deliverables.
- Items with open orifices must be capped, bunged or packaged in a way to prevent contamination during storage and shipping.

The supplier shall use the quality codes and documentation submittal requirements for each shipment. Applicable requirements must be flown down to sub-tier suppliers. In the event any requirement cannot be met, notify the UEL buyer immediately for clarification, direction and authorisation.

Please ensure that each PO is reviewed to realise the quality requirements that UEL stipulate per part, per shipment as they may differ from part to part. The coding and their requirements can be found within QD54 'SQAR' which is available from the UEL website. It is the supplier's responsibility to ensure that the latest revision level of SQAR codes are downloaded.

**Codes SQAR 1 through 14 applies only when indicated on the Purchase Order.**

### **SQAR 1. Supplier Measurement Results**

Under this code Suppliers shall provide with the delivered goods, results obtained in the course of inspection/testing listed against the requirements of the UEL Inspection Report / drawing (typically class 1 & CSI Parts). Such results shall be certified by a senior member of your staff responsible for Quality Assurance and such certificate shall state the position or status of the signatory from within your Organisation. Certificates or Release Documents shall be provided with the relevant goods or materials and shall bear the complete purchase order number.

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## **SQAR 2. Certificate of Conformity**

Under this code each delivery of product shall be supported by appropriate Certificate of Conformity signed by a senior member of your organisation responsible for Quality Assurance / Inspection.

Certificates of Conformity provided must include but not be limited to the following information:

UEL's Purchase Order number.

Supplier's delivery note number.

Drawing / Issue numbers and / or Specification / Issue numbers.

Batch / Serial numbers.

A statement stating that the goods have been inspected and tested to drawings / specifications quoted in the order.

The goods conform in all respects to the requirements of the Purchase Order and have been manufactured and released under the scope of your QMS approval.

## **SQAR 3. Source Inspection**

All work under this code is subject to acceptance at the source at either 100% or random inspection. The supplier must notify the UEL buyer 72 hours before the shipment is ready for inspection.

## **SQAR 4. F.A.I.R. First Article Inspection Report**

A FAIR is requested to be compiled in accordance with AS9102 FAI format; an Excel or Word format is available from the UEL Website. Documents other than those contained in AS9102 may be used; however they shall contain all "Required" and "Conditionally Required" information and have the same field reference numbers. All fields shall be addressed but may be marked as "not applicable" (N/A) if appropriate. Blank fields are not acceptable! Each engineering design characteristic shall be checked by direct measurement with currently calibrated measuring devices. Results from inspection of design characteristics shall be expressed in quantitative terms (variables data) when a design characteristic is expressed by numerical limits. The results recorded shall be in the units specified on the drawing or specification. CMM reports for models must indicate points inspected, tolerances and actual measurements recorded must be included in the FAI report. Attribute data (e.g., go/no go, accept, pass, etc) may be used if no inspection technique resulting in variables data is feasible. Attribute data is permitted when the design characteristic does not specify numerical limits (e.g., break all sharp edges, markings, etc).

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Every design characteristic and drawing requirement, including drawing notes, shall have its own unique characteristic number. The numbers shall be recorded on the ballooned drawing(s) adjacent to the characteristic in addition to the form. This ballooned drawing(s) must be part of the UEL package.

Material certification, NDT, treatments and finishing certification must be submitted as part of the FAI documentation package, detailing reference to any UEL Engineering Specification.

Any discrepancies or non-conformances discovered during the FAI shall be documented and actioned by the appropriate UEL authority. All rejection documentation, UEL's dispositions and corrective action shall become part of the FAI report.

Any NC's accepted at FAI shall be re-measured as a Delta FAI when the next batch is manufactured to demonstrate the corrective actions have been successfully applied.

All relevant material certification and special process certification must be included as part of the FAIR documentation package.

### **SQAR 5. Raw Material Certification of Conformity**

Base metal material certification should be in accordance to BS EN 10204 type 3.1. All materials must be supported with traceable link through all stages of the supply chain back to the original source.

### **SQAR 6. Special Process Certification.**

Shall be submitted with each shipment to specify that all special processes or inspection methods, such as plating, anodizing, chemical conversion, heat treatment, non destructive testing, destructive testing, sub contract laboratory analysis, demonstrate compliance with the drawing, specifications, or purchase order and are accomplished by approved source utilising approved equipment and personnel. The certificate must contain a reference to the UAV ES specification, where applicable. The certificate must contain a statement of conformity relating to the process completed and must be signed and dated by the responsible official on behalf of the processing organisation.

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## **SQAR 7. Material Safety Data Sheet.**

All potentially hazardous materials shall be accompanied with the relevant MSDS.

## **SQAR 8. Acceptance Test Report.**

Test data to provide evidence of compliance with all acceptance test requirements as outlined in the applicable specifications. Test data shall be complete and shall cover all test and/or inspections performed and shall be traceable to the specific batch under test.

## **SQAR 9. Calibration.**

Gauges, fixtures or equipment may be procured with the following certification required.

**SQAR 9A** – Calibration traceable to National Standards

**SQAR 9B** – UKAS calibration certification

## **SQAR 10. Critical Safety Items.**

Parts manufactured and supplied under this code are identified as “CRITICAL” and have bespoke UEL control plans which must be adhered to in accordance with the AAI Corporation Textron Systems document QA-SP65.

Key elements of this programme include:-

- a) Suppliers shall not make any changes to the manufacture of CSI parts or control plans, without prior written approval from UEL and AAI.
- b) All CSI parts for UEL will be level 4.
- c) Identification of measurements methods and minimum measurement accuracies for critical characteristics.

Suppliers shall endorse the control plan reference and issue level to which they have been manufactured on their outgoing Certificate of Conformity.

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## **SQAR 11. AQAP 2110 Nato Quality Requirements for Design, Development and Production.**

Under this code the products are to be manufactured, inspected/tested and released under your ISO9001 / AS9100 approval and in accordance with AQAP.21-10 requirements. All requirements of this contract may be subject to GQA (Government Quality Assurance) surveillance. You will be notified of any GQA activity to be performed.

A Copy of AQAP 21-10 can be downloaded from

<http://www.nato.int/docu/stanag/aqap2110/aqap2110e.pdf>

## **SQAR 12. Commercial Automotive Parts.**

Certificate of Conformity to be produced if available.

## **SQAR 13. Electrical workmanship and Test requirements.**

All parts manufactured and supplied under this code shall conform to the following requirements :-

- a) Soldering shall be performed (iaw) IPC/EIA J-STD-001 Class 3. Prior to production the supplier must supply UEL with objective evidence of demonstrated proficiency for personnel ( operators / inspectors ) performing this work.
- b) Acceptance of electronic assemblies shall meet the requirements of IPC-A-610 class 3.
- c) Cables / harness shall be assembled in accordance with IPC/WHMA-A-620 class 3.
- d) Printed circuit board assembly shall be in accordance with IPC-6011 / 6012 class 3, MIL-PRF-55110 or MIL-PRF-31031.
- e) Printed circuit assemblies shall be assembled, soldered and accepted in accordance with J-STD-001 class 3 and IPC-A-610 class 3.
- f) The use of lead-free solder is **prohibited** for all parts and assemblies.

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### **SQAR 14. Limited Life Materials**

Limited life Materials or articles having a definite characteristic of quality degradation with age shall be packaged as follows:

(Please note that the list is not exhaustive)

Best practice methods and OEM guidance to be utilised during handling and packaging that ensures that part integrity is not compromised.

Products will not be accepted with less than 75% shelf life remaining.

Part Description	Packaging requirement
Drive belts Oil Seals Flexible Couplings Heat Shrink Tubing (Spool) Fluran Tubing (Spool) Silicone hoses (Ram pipes, water pipes)	To be packed within UV resistant bags and placed within individual boxes clearly identified with the UEL part number, revision level and marked in a manner to indicate when the useful life will be expended (cure date & shelf life).
Gaskets O rings AV Mounts Diaphragms Plus other life limited parts	That are manufactured from the same batch can be packaged in quantities of 10 per UV bag. Each UV bag to be placed within boxes clearly identified with the UEL part number, revision level and marked in a manner to indicate when the useful life will be expended (cure date & shelf life)..