



Divisions of Manufacturing Solutions

QUALITY ASSURANCE CLAUSES

Q0. SUPPLIER EXPECTATION

We expect our suppliers to develop, implement, and maintain methods and processes appropriate to their products to minimize the risk of introducing counterfeit parts and materials into deliverable products. Effective processes should be in place to detect counterfeit parts and materials, to exclude them from the delivered product, and to provide notification to recipients of counterfeit products when warranted. Additionally, our products may be used in Aviation, Space or Defense products or systems. It is important for our suppliers to manage all products carefully, so no customer or end user is ever at risk to their health or safety.

Q1. QUALITY SYSTEM

Supplier's Quality System shall comply with one of the following specifications:

- a. AS9100
- b. ISO 9001
- c. MIL-1-45208A
- d. AC7108 (Nadcap)

Q2. CALIBRATION SYSTEM

- a. Supplier's calibration system must conform to the current revision requirements of MIL-STD- 45662, ANSI/NCSL Z540-1 or ISO 10012-1 (as applicable) with complete traceability to National Institute of Standards & Technology (N.I.S.T)
- b. Suppliers of calibration services shall perform calibration in accordance with ANSI Z540-1 and/or ISO 10012-1 and ANSI Z540-1 and ISO/IEC 17025 as applicable, Certificates of Calibration must clearly state that the services was performed with equipment traceable to the N.I.S.T.

Q3. NOTIFICATION OF CHANGES

- a. The supplier shall notify **APM / OLG / DMG** of any proposed change in product and/or process definition and where required, shall obtain **APM / OLG / DMG** approval prior to the change.
- b. The supplier shall immediately notify **APM / OLG / DMG** of any change status as a Third Party registered or Customer (prime contractor) approved source.

Q4. RIGHT OF ENTRY / ACCESS

The supplier shall allow **APM / OLG / DMG** or its customers and regulatory authorities Right of Access to all facilities involved in this order, and to all applicable records.

Q5. FLOW DOWN TO SUB-TIER SUPPLIERS

The supplier shall flow down to its sub-tier suppliers the applicable requirement of **APM / OLG / DMG** purchasing documents, including key characteristics where applicable.

Q6. CERTIFICATION OF CONFORMANCE

Supplier shall certify that the hardware, material, parts, or services are in compliance with applicable drawings and/or listed notes and specifications. The supplier must retain objective evidence of compliance, subject to APM review upon request. One copy of the supplier's certification, signed by the supplier's authorized representative, shall be included with each shipment. Certification of conformance as a minimum shall include the part number, revision, quantity, serial number, specification, packing slip/shipper number, and APM purchase order.

Q7. HARDWARE CERTIFICATION OF CONFORMANCE

Hardware shipped against APM Purchase Orders shall at minimum be accompanied by a legible copy of the manufacturer's certification of conformance. Full certification files, including test reports, are the preferred method of documentation by APM but not required unless otherwise stated on Purchase Order.



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Q8. OUTSIDE PROCESS CERTIFICATION

Each shipment shall be accompanied by a legible copy of certification for processes covered by specification such as but not limited to brazing, heat treating, NDT testing, plating, surface preparation/treatment, ultrasonic inspection, welding, etc. The certification shall include the process, specification (including revision and class/condition designations), requirements detailed in the PO Notes, name of the supplier, date and signature and title of the authorize representative of the company.

Q9. RAW MATERIAL CHEMICAL AND/OR PHYSICAL TEST REPORTS

Raw material supplied against purchase orders must be accompanied by a legible copy of certified test reports of the chemical composition and/or physical properties of the metal. Certification shall include the heat number, heat code, heat lot number, or melt number, which shall be traceable to the raw material manufactures, as well as APM purchase order number.

Q10. DOMESTIC SPECIALTY METALS

Raw Material supplied under this purchase order shall be domestically manufactured or must comply with and be certified to DFARS 252.225-7014 Alt 1, unless otherwise specified in the Notes of the purchase order.

Q11. DOCUMENTATION REVISIONS

Unless otherwise specified by purchase order, the supplier shall perform work, and/or provide material or services, to the latest revisions of all applicable drawings, standards and specifications indicated or reference on the APM purchase order. Any deviations require written authorization from the issuer of the purchase order.

Q12. RECORD RETENTION

The supplier and his sub-tier suppliers shall retain all their inspection, examination, test, and certification records developed as a result of this purchase order. Records shall be stored and maintained to prevent deterioration and damage. Records shall remain legible and available for review upon request APM and/or APM customers. Records are to be maintained for a minimum of:

- a. 3 years
- b. 7 years
- c. 10 years
- d. 30 years

***** Note for Collins Aerospace must have written permission to discard records after 10 years before being able to discard them (IAW COL-ASQR-PRO-0003-02) This pertains to the whole supply chain and flow downs *****

Q13. NON-CONFORMING MATERIAL

Control: Upon discovery, the supplier shall segregate and identify non-conforming material to prevent unauthorized shipment of such material to **APM / OLG / D.MILLS**.

Notification: The Supplier shall immediately notify APM in the event of non-conforming material that cannot be reworked or replaced to purchase order requirement by the supplier.

Notification after Delivery: When the supplier discovers that a non-conforming product has been shipped to APM, the supplier is required to notify **APM / OLG / D.MILLS** within 24 hours of discovering the non-conforming product.

Corrective Action Request: Acceptance of this purchase order obligates the supplier to perform, upon request, a corrective action investigation when non-conforming materials are found at APM or customers' facilities. The response must be received by either the APM buyer or quality organization within (10) days. The corrective action response is subject to approval by the APM quality organization.



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Q14. FIRST ARTICLE INSPECTION REPORT (WHEN REQUIRED)

- a. A First Article Inspection Report (FAIR) of all characteristics affected by work performed by the supplier is required when line item is noted on Purchase Order.
- b. First Article Inspection must be performed and documented in accordance with AS9102.
- c. First Article part must be submitted to APM for approval prior to manufacturing any production parts.

Note: The First Article part shall be tagged "First Article" and shall be submitted with each initial shipment of each individual part number. (Applies for a b & c)

Q15. SAMPLING INSPECTION

- a. Supplier must perform a sampling inspection in accordance with a statistically valid plan with an accept/reject criterion of zero defects. The plan must preclude the acceptance of lots whose samples have known nonconformities.
- b. Supplier shall perform in-process inspection in accordance with ANSI/ASQC Z1.4, single normal sampling, level II with an AQL of 1.0. With an accept/reject criterion of zero defects. The plan must preclude the acceptance of lots whose sample have known nonconformities.

Q16. 100% INSPECTION REQUIRED

Supplier shall perform 100% dimensional inspection of all characteristics affected by work performed by the supplier, on all products covered by the purchase order. This clause applies to Castings, Forgings, and Outside Process manufacturers that holds risk such as Honing, Grinding, et cetera.

Q17. SOURCE INSPECTION REQUIRED

- a. First Article Source inspection by APM / OLG / DMG or their Customer is required prior to manufacturing any production parts.
- b. In-Process Source inspection by APM / OLG / DMG or their Customer is required. The operations in manufacturing sequence at which in-process inspection is required will be specified in the purchase order.
- c. Final Source inspection by APM / OLG / DMG or their Customer is required prior to shipment of parts.

Note: The supplier shall notify APM / OLG / DMG at least forty-eight (48) hours in advance of the time the product will be ready for source inspection. Upon request, the supplier shall make parts, personnel, and records available to APM / OLG / DMG or their Customer representative to facilitate the source inspection.

Q18. INSPECTION REPORTS REQUIRED

Inspection reports showing evidence of acceptance by the supplier's quality organization shall be submitted with each shipment.

Q19. APPROVED SOURCES REQUIRED

- a. This order requires the use of APM / OLG / DMG and/or their Customer's approved sources to perform certifiable special processes or provide certifiable services. Suppliers shall be certified to AS9100 and NADCAP unless conditionally approved by APM / DMG / OLG. This clause also applies to all sub-tier suppliers.
- b. This order requires the use of APM customer's approved source. Only those suppliers currently listed on the following customer's approved suppliers List (ASL) shall perform this process:

- | | | | |
|----------------------|----------------------|--------------------|--------------|
| 1. Boeing | 4. Gulfstream | 7. Lockheed Martin | 10. Sikorsky |
| 2. Collins Aerospace | 5. Kitco | 8. Parker | |
| 3. Eaton | 6. L3 Communications | 9. Raytheon | |



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Q20. QUALIFIED PERSONNEL

All processes performed on this Purchase Order shall be performed by qualified personnel only.

Q21. SOFTWARE CONTROL

The supplier shall maintain a software control system that establishes the requirements for the control and verification of software use for manufacturing and acceptance of APM products.

Q22. PACKAGING

Packaging and packing shall be in accordance with best commercial practices. Methods used shall be sufficient for protection against damage from the normal handling, shipping, and storage conditions. Parts received in individual packaging should be returned in the same manner. Metal to metal contact is an UNACCEPTABLE condition. Proper packaging shall be used to safeguard the part finish. Special packaging instructions listed on the Purchase Order shall be implemented and noted as required, unless otherwise acknowledged by the issuer of the PO.

Q23. PERSONNEL AWARENESS:

Personnel awareness in accordance with AS9100 Section 8.4.3 Information for External Providers

Note: Failure to comply shall be cause for rejection of the product or process supplied at the supplier's expense. (This note applies to all the above clauses)