



QUALITY CLAUSES

R&D ELECTRONICS, INC.

PRODUCT ASSURANCE REQUIREMENTS FOR PURCHASE ORDERS

The following terms apply as indicated on the face of Purchase Orders. In the event any term cannot be met, notify R&D Inc.'s Purchasing Agent immediately.

Changes are indicated by a bar in the margin of the line that was changed for this revision.

1. Reservation of Government, Regulatory Authorities and Customer Rights: During performance on this purchase order, your inspection system and manufacturing processes are subject to review, verification, inspection and analysis by authorized Government Representative, Regulatory Authority and/or R&D's customer. Government/Customer inspection or release of product prior to shipments is not required unless you are otherwise notified.
2. Optional R&D Source Inspection: R&D source inspection reserves the right to inspect any or all the materials on this purchase order. If the supplier is notified in writing by R&D of mandatory inspection points, the supplier will be required to notify R&D Quality Control 48 hours in advance. Shipments shall not be made without accompanying source release inspection stamp by R&D Representative, or a waiver issued by R&D Quality Control office. Copies of the purchase order with change orders and related documents shall be made available to the R&D Representative upon request.
3. Government Inspection: "Government inspection is required prior to shipment from your plant. Upon receipt of this purchase order, promptly notify the Government Representative who normally services your plant so that appropriate planning for Government inspection can be accomplished." The Government QAR shall also be notified 72 hours in advance of the time articles and materials are ready for inspection or test. The supplier shall furnish copies of purchasing documents to the Government Representative upon his request. In the event the representative or office cannot be located, our purchasing agent should be notified immediately.
4. Certificate of Compliance: A Certification of Compliance (C of C), signed by a suppliers representative, must accompany each lot of parts delivered to R&D Electronics. This C of C is an indication that all requirements of the associated purchase order, drawing (s) and specification(s) have been met. The C of C must contain, as a minimum:
 - Name and address of supplier
 - Description of the part (if applicable)
 - Part number and revision
 - Quantity of acceptable parts
 - R&D Electronics purchase order number
 - Serial/Lot number, if applicable
 - Conformance Statement.
 - Title and specification number of process including revision level
 - Sellers unique customer assigned identification number

Catalog Item Information: Complete catalog and/or drawing data/information for all: a) electrical, b) dimensional, c) physical, and d) chemical properties, as applicable shall be furnished with each lot shipment to R&D Electronics.

- 4a. OEM/OCM: Seller shall only purchase products to be delivered or incorporated directly from the Original Component Manufacturer (OCM)/Original Equipment Manufacturer (OEM), or through an OCM/OEM authorized distributor chain. Work shall not be acquired from independent distributors or brokers unless approved in advance in writing by R&D ELECTRONICS. When this clause is invoked the SELLER shall provide OCM/OEM documentation that authenticates traceability of the affected items to the applicable OCM/OEM.
5. Packaging: The supplier's Quality Control organization shall be responsible for ensuring that items of this procurement are packaged in such a manner that the dimensional integrity is preserved, contamination and corrosion are prevented, and no physical damage occurs, or when specified, that packaging is in accordance with the applicable Packing, Handling, Storage, and Transportation and requirements documentation cited in and attached to the order.
6. Limited Life/Age Control: All items with limited shelf life shall be clearly marked with the manufacture's name, type of material, shelf life, date of manufacture, and usability limiting date. A minimum of 75% of shelf life shall be remaining on all items on this order. If items have no shelf life limitations, supplier shall so state in shipping documents. NOTE: The supplier shall include the Hazardous Material identification System (HMIS) and the Material Safety Data Sheet (MSDS) with the material as required. The HMIS or MSDS will not be required if a delivery has been made within one year of purchase date or there is a revision to the HMSI or MSDS data sheets since the last delivery to R & D. First time suppliers must include the HMIS or MSDS with the first delivery.
7. Material Control: If material or hardware is supplied by R&D, a copy of the R&D shipping document must accompany your return shipment to R&D along with a certification that hardware was procured from the material supplied by R&D. In either case all certifications must be dated and signed by an official of your organization. ALL unused material (including any drop) supplied by R&D must be returned to R&D identified with the Purchase Order number, and material type unless otherwise directed by R&D buyer.
8. Material Traceability: Submit with each shipment a certificate of conformance stating: The material type, applicable specifications, lot/heat number, date code, serial number and the manufacture of the material. The seller must be able to trace these materials to all delivered items.
- 8a. Chemical/Physical Reports: A manufacturer's test report must accompany this item and include the following information:
 - A. Manufacturers name and address
 - B. Part number with revision (if applicable)
 - C. Chemical analysis with actual test values
 - D. Tensile, shear, hardness with actual test values (as applicable).The test report must be signed or stamped by a representative of the manufacturer. If the supplier is not the manufacturer, the supplier may provide a photocopy of the original manufacturer's test report.
9. Functional Test Reports/Verification: When functional tests are specified by this purchase order or by the design documentation, the actual test results shall be submitted.

9a. Functional Test Report/Verification First Article: When functional tests are specified by this purchase order or by the design documentation, the actual test results shall be submitted. A copy of the test procedure shall be submitted with the first report on each item(s) purchased under this purchase order. When specified by the purchase order for test verification/witness by R&D a 48 hour notification is required prior to start of test. Copies of the purchase order, test procedure, and related correspondence shall be made available to the R&D Representative upon request.

9b. Functional Test Procedures: When required Functional Test Procedures shall be submitted for approval prior to use of procedure.

10. Special Process Procedures: The seller shall control all special processes utilized in the fabrication and inspection or test of the delivered materials. Special processes are defined as those operations that impact characteristics related to corrosion protection, durability, or long term product performance, and cannot be evaluated economically or non-destructively on the final delivered item. Welding, plating, burn-in, environmental stress screening (ESS) protective treatment, radiographic examination, magnetic particle inspection, dye penetrant inspection, ultrasonic testing or welding, soldering, brazing, shot peen, impregnation, casting and heat treatment are examples of such processes. Procedures shall be prepared which provide, as applicable, control of equipment, environment, personnel skills, process material, process methods, process sequence of events and verification testing. A copy of the special process provider's certificate of compliance that certified each process was accomplished in accordance with the applicable specification shall be submitted for review and each shipment as objective evidence that special process was performed to the specification requirements.

11. Special Process Suppliers: Where R&D's Customer requires the flow down of specific purchase order notes applicable to special processes those special process suppliers used will be required to be on R & D Electronics' Customers Approved Special Process Supplier List. To view the LMCO Approved Special Processes Supplier List go to the following website: <http://www.myexostarcom>

11.1 Special Processes: Seller Controlled (LM 1839) :

The seller is responsible to assure all special process providers are capable and qualified to perform the special process in accordance with specification requirements. Objective evidence of seller special process approvals shall be retained by the seller and is subject to buyer periodic audit. When using Lockheed Martin approved special process providers a copy of the special process provider's certificate of compliance that certifies the process was accomplished in accordance with the applicable specification is acceptable objective evidence. Use of special process providers approved by Lockheed Martin is recommended.

To view the Lockheed Martin approved process suppliers list go to the new special processor search tool found within the Lockheed Martin Exostar Portal; <http://www.myexostarcom> or contact your buyer for assistance.

11.2 Special Processes, Lockheed Approved (LM1838):

Special processes referenced by specification within the Lockheed Martin engineering design shall be identified, documented and maintained by the seller. Changes to special processes referenced within the Lockheed Martin engineering design or special process suppliers require prior written Lockheed Martin written approval. All special process providers shall be approved by Lockheed Martin, including those provided by sub-tier special process providers. Only suppliers listed as approved for the specific special process may be used in the manufacture of Lockheed Martin contracted articles. This approval may include NADCAP approved special process providers provided prior written approval from Lockheed Martin Missiles and Fire Control has been granted for each provider and each process.

A copy of the special process provider's certificate of compliance that certifies each process was accomplished in accordance with the applicable specification shall be available for review by the buyer as objective evidence the special process was performed to the specification

requirements. To view the Lockheed Martin approved process suppliers list go to the new special processor search tool found within the Lockheed Martin Exostar Portal; <http://www.myexostar.com> or contact your buyer for assistance.

11.3 Special Processes; Seller Control (LM1837)

The seller shall identify, document and have sole control over any and all special processes/processors referenced by specification in the design. The seller is solely responsible to assure all special process providers are capable and qualified to perform the special process in accordance with specification requirements. Objective evidence of surveys shall be retained by the seller. A copy of the special process provider's certificate of compliance that certifies each process was accomplished in accordance with the applicable specification shall be available for review by the buyer as objective evidence the special process was performed to the specification requirements.

12. Documentation Maintenance: The supplier shall retain objective evidence of the item supplied (Manufacturing, assembly, inspection, test, and special process records) for seven (7) years after the contract is complete. These records shall be made available to R&D upon request. Records may be archived to an offsite location, but shall remain legible and readily retrievable. R&D reserves the right to periodically audit the sellers' historical records, retention policies and practices. Prior to removing the records from retention, subcontractor shall request disposition of the data records from R&D.

13. N/A

14. Quality / Inspection System: The supplier shall maintain a Quality System that meets the requirements of ISO 9001:2000, (ISO) ANSI Q9002, AS9003, and ISO 9003 or as a minimum, MIL-I-45208. Manufacturers shall certify parts and material that were inspected and comply with applicable drawing specification and purchase order requirements. Distributors providing items must maintain manufacturing records indicating test and other manufacturing data to reflect manufacturer's compliance to AS9100, AS9120, ISO9001, Q9003 or MIL-I-45208 as a minimum. Distributions shall make every attempt to purchase material direct from the manufacture. When such is not possible, the distributor will provide documentation that identifies all distributors and the manufacture with each shipment.

15. First Article Inspection: A First Article Inspection (FAI) is required on this product in addition to inspection requirements elsewhere in this purchase order. First article inspection shall be performed in accordance with Aerospace Standard (AS)9102 latest revision. An FAI shall be conducted by the seller and objective evidence submitted with each shipment (ref para. 5.2 of AS9102). All dimensions and characteristics must be recorded as specified on the applicable drawing.

16. 100% Inspection: The supplier shall perform and record inspection of all measurable characteristics for one (1) part of each line item 100%. The remaining lot shall be inspected per MIL-STD-105. This data is to be recorded in the unit of measure as indicated on the drawing. This data shall be submitted with each part(s) shipment. The record must identify each characteristic and the allowable tolerance limits, and show objective evidence that each characteristic has been inspected and accepted. A drawing road map shall be supplied along with the AS9102 or equivalent inspection reports.

17. General Inspection: The supplier shall generate and maintain records and data of all inspections and test performed. Records shall disclose the status of articles, materials, evidence of inspections, tests performed, and include dates. 100% inspection shall be performed on all critical and major characteristics and interface control points. This data is to be recorded in the unit of measure as indicated on the drawing.

18. Calibration System: The supplier shall have a calibration system/program which meets the requirements of MIL-STD-45662, ISO 100012-1, and/or ANZI 540.1. Certificate of Compliance (Calibration) shall state demonstration of standard used.

19. R&D Inspection: R&D Source Inspection is required on this order. All items are subject to in-process surveillance by R&D Quality Control Representative. Shipments shall not be made without source release inspection by R&D. The supplier shall notify R&D Quality Control 48 hours in advance of designated Mandatory Inspection Points. Copies of the purchase order with change orders and related documents shall be made available to the R&D Representative upon request. The First Article Inspection Report must show evidence of R&D Source acceptance and must accompany the first article shipment.

Note: Source release does not constitute final acceptance, which is performed upon receipt and inspection of the item at the designated R&D receiving department.

20. Electrostatic Discharge Control (ESD): The supplier shall be responsible for assuring that parts are procured, handled and packaged in accordance with “Electrostatic Discharge Control”, DOD-STD-1686, DOD-HDBK-263 or ANSI/ESD S20.20-1999.

21. Reserved

22. Reserved

23. Specialty Metals: The supplier shall certify their product meets the requirements of DFARS 252.225-7009 *Restriction on Acquisition of Certain Articles Containing Specialty Metals*, providing only products that contain specialty metals that are in compliant with the DFARS clause.

24. Pure Tin: All products supplied on this purchase order shall be free of solder, plating, coatings, and claddings that exhibit either of the following:

- a) Material composition greater than 97% tin by weight
- b) Tin alloy with composition of less than 3% lead by weight

Noncompliance to this requirement must be approved in writing prior to acceptance of this purchase order.

25. First Article Inspection: (first time suppliers): The supplier is required to perform 100% inspection and record variable (actual) data for the first article manufactured to the configuration specified on this order. An inspection report and any associated data (material certs, test reports, etc.) shall be delivered along with the first article shipment. This data is to be recorded in the unit of measure as indicated on the drawing. The inspection records shall identify all drawing characteristics, the allowable tolerance limits and the actual dimensions measured.

26. Quality Management System: ISO Q9001 or AS9100 Quality Program requirements and compliance thereto are applicable to this purchase order and are subject to review/audit.

27. Foreign Object Debris/Damage Prevention: The supplier shall develop and maintain a Foreign Object Debris/Damage (“FOD”) prevention program for manufacturing areas to prevent introduction of foreign objects into any item delivered under this purchase order. The supplier shall employ appropriate housekeeping practices to assure timely removal of residual/debris generate, if any, during manufacturing operations

and /or normal daily tasks. The supplier shall determine if sensitive areas that may have a high probability for introduction of foreign objects should have special emphasis controls in place appropriate for the manufacturing environment. The supplier shall determine the need for, and implement, FOD prevention awareness training programs.

28. Process Change Control: Seller agrees that the work produced internally and/or the work procured from sub-tier suppliers under this contract shall comply with the following requirements unless a documented request for change is approved by an R & D Electronics procurement representative.

1. Work shall not be moved from the original location of manufacturer to another location of manufacture within a production facility or to any other production facility.
2. Where first article inspection is required, work shall not be moved from the original location where the product was produced at the time of first article inspection acceptance.
3. No changes shall be made to the design, manufacturing processes, materials or activities that affect fit, form or function.
4. A fit, form or function analysis shall be performed, documented, and included with any request for change.
5. A documented process shall be in place to review, identify and submit a request for change to R & D Electronics procurement representative. Such notification shall not constitute approval of the proposed change nor relieve supplier of supplier's obligation to comply with requirements contained in this contract. If the proposed change is approved, the change shall be incorporated into the purchase order by amendment.
6. The establishment of process controls and development of control plans where key characteristics have been identified.

29. Control and Notification of Non-Conforming Product: Upon discovery, the Supplier shall segregate and control non-conforming material to prevent unauthorized shipments of such material to R & D Electronics. The supplier shall immediately notify R & D Electronics in the event of nonconforming material that cannot be reworked or replaced to purchase order requirements by the supplier. The supplier shall hold the material until R & D renders a disposition. The disposition shall be referenced on the Suppliers shipping document with each applicable shipment.

29a. Control and Notification of Non-Conforming Tooling/Equipment: Upon discovery of out of tolerance tools/equipment during the calibration process, immediately notify the Quality Department of the nonconformance.

30. Specifications and Standards: Military specifications and standards referenced shall be to the latest revision level in effect on the date of this order, unless otherwise specified.

31. Requirements Flow-down: The seller shall have systems and methods to assure full compliance to all Purchase Order PO Quality Clauses applicable to this PO. When products or services applicable to this PO are procured by the seller from sub-tier suppliers, the seller agrees to flow down the appropriate requirements to the lowest level sub-tier. The appropriate requirements include but are not limited to key characteristics, control of special processes, record retention, counterfeit parts prevention plan and flow down of Quality System. The seller shall flow the Quality PO note requirements as necessary to assure full compliance is achieved.

32. Counterfeit Part Prevention

Seller shall not deliver products that contain counterfeit items (such as, but not limited to, software, material and electrical/mechanical parts/assemblies). SAE AS5553 provides guidance for counterfeit prevention. Suppliers delivering counterfeit part(s) to R&D shall be

responsible for and any costs incurred by R&D or its customers as a result of the counterfeit part(s), including, but not limited to any rework, repair, or replacement.

In the event the seller learns of counterfeit parts in the supply chain, written notification shall be sent to the contracting officer, the DoD Inspector General and to GIDEP (Government Industry Data Exchange Program) within 30 days.

Flow down of this requirement is mandatory to the lowest sub-tier supplier level (ref Clause 31).

33. Order Processing: Processing to be accomplished in performance of this purchase order is directly related to Lockheed Martin Aeronautics Company purchase order and must be accomplished in accordance with process specification(s) on this purchase order and Lockheed Martin Aeronautics Company Appendix QJ. All requirements of such Appendix QJ paragraph 12. a. – f. shall be accomplished. Appendix QJ is located at: <http://www.lockheedmartin.com/aeronautics/materialmanagement/>

33. a Engineering Flow down Requirement (LM Aero):

Flow down of engineering specification requirements apply to this order. See EMAP database located on the Lockheed Martin external web page at: <http://www.lockheedmartin.com/aeronautics/materialmanagement/> under “Engineering”, then Material & Process Specifications-All Programs”. Please contact your purchasing agent with any questions.

34. Requirements Flow Down: This is a result of a rated contract certified for national defense. The supplier is required to follow all provisions of the Defense Priorities and Allocation System Regulation (15CFR799). The rating(S) is specified on this purchase order.

35. Certificate of Origin: (C of O): A Certificate of Origin (C of O) for all items produced or manufactured in the USA, Canada, or Mexico is required to be provided. The C of O shall be signed by the Corporate Officer or authorized employee of the manufacturer having direct knowledge of the origin of the product. The following information must be clearly recorded on the C of O:

- 1). Letterhead including the Manufacturer’s name, address, phone and fax number.
- 2). Date of C of O issuance.
- 3). Printed name, title and signature of Manufacturer Official certifying all data on the C of O.
- 4). R&D Electronics purchase order number along with the applicable prime contract number. This will be located on the suppliers purchase order.
- 5). Part number as listed on the purchase order.
- 6). Manufacturer’s part number (if different).
- 7). Product description.
- 8). Country of Origin address
- 9). Manufactured since / / (enter date)

For all products manufactured outside the three countries listed above, a C of O is not required. However, the country of origin must be clearly identified on the part. For products that cannot be marked or are on the J-List under CFT Sec 135.33, the container must be marked with the country of origin. The marking must be permanent, legible, and conspicuously located. The packing list must clearly identify the country of origin for each line item. Payments to supplier may be delayed or products may be returned to supplier if deliveries on this purchase order are missing country of origin markings or have noncompliant certificates of origin.

36. Supplier Corrective Action Request: Seller agrees to provide a formal response to any supplier corrective action request (SCAR) within the timeframe indicated on the SCAR. Seller is also requested to contact the buyer of record when the material associated with the SCAR investigation has not been returned by buyer to seller or more time is required to adequately perform an investigation (request for extension). Failure to provide a formal response to a SCAR within the established due date may adversely affect your supplier approval status for future procurements.

37. Performance Assurance Warranty Clause: In addition to all other remedies set out in this Purchase Order, Contract or Scheduling Agreement, if any nonconforming work is identified within the warranty period, R&D Electronics shall be entitled to receive and SELLER shall pay to R&D Electronics as a warranty expense(1) the lesser of \$4,000 or 5% of the cost of the nonconforming work for R&D ELECTRONICS processing costs for supplier responsible non-conformances, except where the nonconformance is identified by the SELLER prior to delivery in which case the warranty expense shall be the lesser of \$2,500 or 5% of the cost of the nonconforming work; and (2) all costs incurred by R&D Electronics to remove and replace the nonconforming work, including without limitation all costs incurred by R&D Electronics relating to the removal of such nonconforming work, the reinsertion of conforming work and any testing necessitated by the reinstallation of Seller's conforming work; and (3) pay R&D ELECTRONICS other reasonable costs from delays and disruptions caused to R&D Electronics by Seller's nonconforming work.