



SUPPLIER PURCHASE ORDER QUALITY MANUAL AND QUALITY CLAUSES

The following quality requirements apply to all Suppliers and all Purchase Orders.

- Supplier shall ship fully conforming product with zero defects.
- Supplier shall ensure, prior to shipment, all hardware or service is conforming by conducting all applicable inspections.
- Supplier shall ensure all products are shipped in packaging that conforms to Astrolab's guidelines such that damage from typical handling and transport is prevented. Upon receipt of damaged hardware, initial assumption shall be that hardware was packaged incorrectly by the Supplier.
- Supplier shall clearly communicate nonconformance findings or issues impacting on-time delivery within 48 hours of discovery via email to the Buyer listed on purchase order.
- Supplier shall reply and close non-conformances caught and communicated by Astrolab within 48 hours of receipt or acknowledge receipt and provide estimated closure timeline to Buyer listed on purchase order.
- If Astrolab receives an unauthorized shipment of non-conforming hardware, Supplier shall replace the hardware with conforming hardware at Supplier's cost under expedited production conditions. In all conforming, non-conforming, authorized, unauthorized situations, Supplier shall implement corrective action(s) to ensure subsequent shipments are conforming.
- Supplier must ensure that the clauses associated with this purchase order are flowed down to all its sub-tier suppliers. Supplier is required to direct all its external providers to ensure that the requirements of the final product are met.
- The Supplier must have a Quality System consistent with industry standards. The Buyer reserves the right to review the Supplier's Quality system.
- Where the Supplier utilizes sample inspection plans or other statistical techniques, these must be statistically valid. If the sample contains rejected items, the Supplier must, for the rejected feature or parameter, use a documented method, such as 100% screening to assure the buyer that zero rejects are present.
- The Supplier must follow all requirements stated on the purchase order, drawing, data specifications and process instructions to ensure product conformity, documentation and records are obtained.
- When requested by Buyer or its customers, Supplier will provide test specimens for inspection/verification, investigation and/or auditing purposes.
- When design and development activities are applicable to the product/services provided by Supplier, the Supplier agrees to maintain adequate design and development control including proper review, validation, and verification activities. Supplier also agrees to control design changes and maintain records as appropriate.
- When noted on the Purchase Order, the Supplier must submit certifications for raw material (chemical and physical characteristics) and/or processes (stating specification) used in the manufacturing of the item(s). If outside processing is performed; a certification from subcontractor is to be provided. Note: when specified on the Purchase Order, raw material such as titanium, aluminum, etc. must have the appropriate heat lot identified on each piece for heat lot traceability.



- The Supplier and any of its subcontractors performing special processes, that are non-standard according to their approved process flow, must submit a certification listing the specification designation/number and that the special process was performed in accordance with such specification.
- The Supplier must provide means of end item traceability. The Supplier may use the original manufacture Lot/Date Code/Serial number or their own method for identifying the end item product as required for proper traceability. Serialized shipments must have the serial numbers listed on the shipper and on the corresponding intermediate packaging.
- The Supplier must maintain the calibration of equipment(s) used to manufacture, test, control, monitor, or measure processes. The calibration standards used must be traceable to international or national measurement standards; when no such standards exist, the basis used for calibration or verification is retained as documented information.
- The Supplier must use special packaging when required on the purchase order, or when not specified, Supplier may use specially designed shipping containers and/or good commercial practices as deemed necessary to prevent shipping damage. As a minimum, the label must contain the following information: Part number, Revision, and date of manufacture and Buyer's Order Number.
- When requested, the Supplier must perform a First Article Inspection (FAI) of one item from the first production lot, or as required by the Buyer. The FAI must consist of recorded actual drawing, specification values, and/or requirements (dimensional, test data, processes, drawing notes, etc.) and may be documented on the drawing or on a separate report form. The first article item must be clearly identified by an external identification marking, and a copy of the FAI must accompany the First Article part. The Buyer reserves the right to verify any or all of the characteristics documented on the FAI report at the Supplier's facility.
- Source Inspection may be conducted by the Buyer at the Supplier's facilities or where designated in this Order prior to shipment. Inspection/test and/or in-process inspection/test of the articles specified in this Order must be performed by the Supplier and may be witnessed by the Buyer's Quality Representative. Prior to fabrication start, the Supplier and the Buyer must determine the process steps at which Source Inspection must be conducted. The Supplier must notify the Buyer of the scheduled inspection/test five (5) days in advance. The method of product release must be a stamp or signature by the Buyer's Quality Representative on the Supplier's shipping or inspection documents.
- The Seller shall comply with NAS412, Foreign Object Damage/Foreign Object Debris.

Applicable quality forms/documentation shall be delivered both physically (printed, included in shipping package) and sent via email to supplierqualitydocuments@astrolab.space. The email's subject line shall reference the Purchase Order Number and Purchase Order Line Item(s). Failure to include required quality forms/documentation in both the physical shipment and via email is considered a non-conformance and order is eligible for rejection.



QUALITY CLAUSES

Relevant Quality Clauses are applicable when referenced within any section of the purchase order.

QC01 | [Certificate of Conformance](#) – a certificate of conformance shall be provided for each shipment which addresses each Purchase Order Line Item. The certificate shall include, at a minimum:

- Part Number
- Revision
- Purchase Order Number and Purchase Order Line Item
- Lot Number
- Serial Number(s) *if applicable*
- Quantity
- Manufacturing Date

QC02 | [First Article Inspection Report \(FAIR\)](#) – a completed FAIR per AS9102B (or aerospace industry equivalent). The unit utilized to perform each FAIR shall be clearly labeled if included within the initial delivery lot. If a FAIR has already been provided for the same part number (irrespective of revision), a FAIR is not required.

QC03 | [Dimensional Inspection Data](#) – a dimensional inspection data report per AS9102 Form 3 (or aerospace industry equivalent) for each shipment and all quantities in the Purchase Order Line Item. The dimensional inspection data must conduct 100% inspection of characteristic and note callouts on the drawing, for a single piece part.

QC04 | [Testing Data](#) – a record of test results demonstrating conformity to drawing callouts, notes, or specifications. Test data shall be traceable to the Unit Under Test and the Unit Under Test be traceable to the Purchase Order Line Item. Test data must be collected with calibrated equipment traceable to the National Institute of Standards and Technology (NIST) or test equipment with current validation records.

QC05 | [Raw Material](#) – for raw material shipments or supplier provided material in the form of bar, plate, sheet, tubing and castings the material certification shall be provided. Material certification shall be supplied with each shipment and be legible. Certifications must be provided by the manufacturer. Distributor certifications are NOT ACCEPTABLE. If material is provided through distribution, the distributor must provide a C of C confirming that there is unbroken traceability from all intermediaries back to the original manufacturer including heat treating.

QC06 | [Dimensional Inspection Data - Partial Quantity](#) – a dimensional inspection data report per AS9102 Form 3 (or aerospace industry equivalent) for each shipment and the first and last units only in the Purchase Order Line Item. The dimensional inspection data must conduct 100% inspection of characteristic and note callouts on the drawing, for a single piece part.

QC07 | [Key Dimensional Inspection Data](#) – a dimensional inspection data report per AS9102 Form 3 (or aerospace industry equivalent) for each shipment and all quantities in the Purchase Order Line Item. The dimensional inspection data must conduct inspection of only the Key Characteristics and note callouts on the drawing, for a single piece part.



QC08 | Source Inspection L1 – Astrolab Inspector or 3rd party Senior Quality Inspector with 5 or more years experience in, and applicable training for, mechanical components and assemblies only. Level 1 inspection covers Visual Inspection and paperwork review. Level 1 inspection also covers basic NDE.

QC09 | Source Inspection L2 – Astrolab Inspector or 3rd party Senior Quality Inspector with 8 or more years experience in, and applicable training for, the applicable commodity: Mechanical, Electronics, or Programmable Equipment. Level 2 inspection covers mechanical assemblies with tolerance $\neq/ > .005''$ and minimal GD&T. All electronics inspections and NDE are covered in this source inspection as well as basic CMM and PCMM.

QC10 | Source Inspection L3 – Astrolab Inspector or 3rd party Senior Quality Inspector with 10 or more years experience in, and applicable training for, the applicable commodity: Mechanical or Programmable Equipment. Level 3 inspection covers precision mechanical inspection. Level 3 inspection covers CMM and PCMM ad hoc and model based programming.

QC11 | Special Handling – requirements for the following product categories:

A) Limited Life Products subject to degradation with age or varying temperatures must be clearly stated on the certificate of conformance/packing slip or product/packaging in addition to expiration date, cure date and lot identification. Product/materials shall have a minimum of 80% shelf life remaining at time material is received.

B) Hazardous Materials shall be properly packaged in accordance with the applicable Federal Regulations (DOT). Containers will be plainly marked as to the contents with appropriate warnings, precautions, instructions and storage conditions. Appropriate documentation (SDS, handling, etc.) shall accompany each shipment.

C) Electrostatic Sensitive Devices (ESD) shall be packaged and labeled in accordance with the appropriate specification/drawing requirements (i.e., ANSI/ESD S20.20-1999) for the product/material.

D) Age Control of EEE Parts and Assemblies All Electrical, Electronic, or Electromechanical (EEE) parts procured from the Supplier shall have been manufactured within 5 (Five) years from the delivery date. Manufacturing date shall be clearly stated on the Certificate of Conformance.

QC12 | End Item Data Package – the supplier shall provide an end item data package for product final acceptance and include it with the shipment or transmit the end item data package electronically as determined by Astrolab. The data pack must include the following (when applicable):

- a. Suppliers certificate of conformance – See QC01 Certificate of Conformance.
- b. Certificate(s) of conformance from sub-tier suppliers which contain the sub-tier supplier's name, location, contract number, part number and revision, and serial number.
- c. Specification or drawing (or both if each are applicable to this Purchase Order) number and revision.



- d. As-built configuration, including a parts list identifying all part numbers, revision, serial numbers (when required), lot numbers, quantities, manufacturer, consumed materials, and life limiting information such as shelf life or number of cycles.
- e. Proof of conformance to defined characteristics and source traceability of the raw material See- QC05 Raw Material.
- f. Incorporated engineering change notices.
- g. Type of inspection performed, equipment calibration log, and recorded results.
- h. All acceptance or qualification test data and reports – See QC04 Testing Data.
- i. Total quantity of items tested, quantity of items accepted, and quantity of items rejected.
- j. Applicable waivers, deviations, and incident reports.

Astrolab will refuse to accept the item if the Supplier fails to submit certifications, documentation, test data, or reports required by this Purchase Order. Written approval must be obtained from Astrolab for any deviations to the end item data package.

QC13| Packaging Requirements – the supplier shall package items according to the following standards:

- a. Use of materials that protect against shock, vibration, moisture, and ESD (for electronics), ensuring compliance with ANSI/ESD S20.20. (i.e. Anything that is shock and vibrate sensitive, needs to be in foam (polyethylene or polyurethane), bubble wrap, or paper pads to ensure no room to move in hard case.)
- b. As needed, use double-boxing (place the electronics in a smaller, cushioned box, then pack that box into a larger one with more padding) for sensitive electronics
- c. Packaging must suit specified transport modes, ensuring integrity during transit
- d. Conduct pre-shipment inspections to ensure packaging will prevent damage; all packaging will be inspected upon receipt
- e. Labeling must be affixed to outside of packaging and easily visible

QC14| Temperature and Shelf-Life Requirements – When materials delivered under this Purchase Order are temperature controlled, shelf life sensitive or perishable, the Supplier must provide documentation that reflects date of manufacture, date of test, shelf life, expiration date and storage temperature as they apply to each lot or batch. Container labels must also reflect applicable lot or batch numbers, storage temperature and expiration date. The product delivered to Purchaser must have a minimum of 80% remaining of shelf life upon receipt, unless approved by Purchaser in advance. Supplier shall ensure that items shipped as kits with multiple components shall contain all components that have at least 80% of the shelf life remaining. When temperature controlled (or time and temperature controlled) material is included, the Supplier must provide material packaging suitable to maintain proper temperature during transportation from their facility to Purchaser. The Supplier must provide the



necessary temperature measuring equipment to monitor the material during transportation to assure compliance with the specifications of this Purchase Order.

QC15| **Material Certs** – When materials delivered under this Purchase Order are fabricated from a material, the supplier must provide a report from the supplier’s source certifying that the material is as specified by the Purchaser.

QC16| **NADCAP** – The supplier shall maintain Nadcap accreditation for all special processes performed under this purchase order, as applicable (e.g., heat treating, nondestructive testing, chemical processing, etc.). All processes must be performed in accordance with the latest revision of the applicable Nadcap checklist (e.g., AC7114 for NDT, AC7108 for Chemical Processing) and industry standards specified in the purchase order. Evidence of current Nadcap accreditation and compliance, including certificates and audit results, shall be made available upon request. Any lapse in accreditation or nonconformance must be reported to the buyer within 24 hours of discovery. Sub-tier suppliers performing Nadcap-accredited processes must also comply with this requirement.

QC17| **Fracture Critical** – All parts under this purchase order shall undergo 100% nondestructive inspection (e.g., radiographic, ultrasonic, magnetic particle, or penetrant testing) per the applicable specification (e.g., ASTM E1444, AMS-STD-2154). Inspection personnel must be certified to Level II or higher per NAS 410 or equivalent.

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