

Supplier Quality Requirements and Clauses

Supplier Quality Requirements – General

The following Quality Notes (QN01 through QN21) apply to and form a part of all Purchase Orders issued by Advanced Conversion Technology, Inc. (ACT), as applicable to the item or service provided. Table 1 is used to define the QN(s) applicable to specific commodities (Purchase Order Items) or outsourced processes specified on the ACT Purchase Order or specified documents, drawings, or processes listed on the ACT Purchase Order:

Commodity	Description	QN(s) Applicable
Electronic Components	Resistors, Capacitors, Transistors, Diodes, Relays, Fuses, I.C.s, etc.	QN01-QN06,QN08-QN12,QN15-QN20,QN22
Mechanical Components	Screws, Nuts, Washers, Lock Washers, Rivets, Inserts, Helicoils, Spacers, etc.	QN01,QN03-QN06,QN08-QN12,QN15-QN20,QN22
Connectors	Electrical Connectors, Terminals, Lugs, Pins, etc.	QN01,QN03-QN06,QN08-QN12,QN15-QN20,QN22
Metals	Metal Stock, Aluminum Stock, Copper Stock, etc.	QN01,QN04-QN09,QN11-QN12,QN14-QN20,QN22, QN23
Process Materials	Solder, Tape, Insulator Material, Thermal Material, Ties, Wraps, Lacing Material, Shrink Tubing, Wire, etc.	QN01,QN04-QN07,QN09-QN12,QN15-QN20,QN22
Chemicals	Coatings, Epoxies, Solvents, Paints, Oils, Fluxes, Potting Materials, Thermal Compounds, etc.	QN01,QN03-QN07,QN09-QN12,QN15-QN22
Finishes	Plating, Anodizing, Chemical Conversion, Painting	QN01,QN04-QN07,QN09-QN13,QN15-QN22
Custom Items	Any item to be Manufactured or Processed in accordance with an ACT Purchase Order Specified Document, Drawing, or Process	QN01-QN13,QN15-QN22
Calibration	Calibrations of Instruments, Equipment, Items	QN05-QN06,QN11,QN15,QN17,QN20,QN22

Table 1

In addition to the QN's listed, Purchase Order flow down requirements may be listed on the Purchase Order in the form of "Custom Generated Notes" specifying item requirements. When listed, Purchase Order requirements take precedence.

Note: Table 1 does not apply to office products, cleaning supplies, maintenance items such as HVAC air filters & parts, plumbing supplies, facility electrical switches, circuit breakers, conduit, etc. unless otherwise specified on the Purchase Order. Any questions to the applicability of the listed Commodities shall be sent to the ACT Purchasing Representative.

QN01 Certificate of Conformance:

Each shipment to ACT must include a Certificate of Conformance (C of C). As a minimum, the C of C shall include:

1. Supplier's name and address
2. ACT purchase order number
3. Part number of item and any applicable revisions
4. Quantity shipped
5. Serial number(s), date code(s), lot/batch/heat number(s), as applicable of item(s) shipped Statement of conformance to all purchase order requirements. Supplier certifies that the manufacturer and Supplier have performed all inspections and required tests identified on the ACT Purchase Order and the delivered items meet all of the requirements identified within the ACT Purchase Order and all referenced documents.

QN02 ESD Handling Requirements:

1. **Electrostatic Discharge Sensitive Items (ESDS):** Supplier shall take necessary actions to ensure that static susceptible units, assemblies and components are adequately protected from electrostatic discharge (ESD) damage in accordance with MIL-STD-1686 or ANSI/ESD S20.20.
2. **Electrostatic Discharge Sensitive Items (ESDS) Packaging:** ESDS items shall be packed in a manner that shields the item from extraneous radiation and/or static electricity or discharge. Packages shall be marked with ESD cautionary note and/or symbol.

QN03 Counterfeit Material Avoidance:

All product supplied to this purchase order shall be procured from the original equipment or component manufacturer (OEM/OCM) or the OEM/OCM's authorized distributor. Traceability documentation or information back to the manufacturer is required with each shipment.

Supplier represents and warrants that only authentic materials are used in products delivered to ACT and shall not contain any counterfeit items and or documentation. Supplier shall only purchase authentic items directly from the Original Equipment Manufacturer (OEM) or through the OEM's authorized distribution chain. It is the responsibility of the Supplier to ensure not only the validity of the products/components/materials it purchased for use in the final item sold to ACT but also the documentation and certifications (e.g. raw material certifications) from its supply base. For electronic components, the Supplier must have procedures in place that are IAW SAE AS5553 "Counterfeit Electronic Items; Avoidance, Detection, Mitigation and Disposition."

Supplier shall flow the requirements of this provision to its subcontractors and suppliers at any tier. If at any time the supplier, sub-tier supplier or sub-contractor suspects a counterfeit item was introduced into a delivered item or assembly, the supplier, sub-tier supplier or sub-contractor shall notify the ACT Purchasing or Quality Department in writing within 48 hours of the suspect discovery.

Supplier shall maintain records per QN11.

QN04 Nonconforming Product:

Supplier shall not deliver any nonconforming items to ACT. Material Review Board (MRB) authority is NOT delegated: Nonconforming items require ACT documented approval prior to shipment.

QN05 Subcontracted Work:

Supplier shall flow down all requirements specified on the Purchase Order to the Supplier's subcontractor(s) as a control of work transfer to ensure conformity requirements are established and achieved. When a Government Contract Number is referenced on the Purchase Order, Supplier shall indicate the Government Contract Number on all subcontract Purchase Orders.

QN06 Proprietary Information:

Supplier shall hold confidential all documents, specifications, electronic data, tooling, etc. provided with this Purchase Order. Distribution shall be restricted to necessary subcontractors as required for the performance of work on this Purchase Order and must be approved in writing by ACT.

QN07 Shelf Life Controlled Material:

The Supplier shall identify each item, container or package with the Date of Manufacture, Date of Expiration and applicable Storage and Handling requirements. All age sensitive raw material shipments are preferred to have 90% of the original shelf-life and should have at a minimum 80% of the shelf-life remaining. Supplier shall only ship materials retaining 80% of their effective shelf life unless exceptions are approved on the ACT Purchase Order.

QN08 Preference for Domestic Specialty Metals:

Supplier (including its suppliers at every tier), by acceptance of this Purchase Order, certifies that any goods ordered herein comply with the "specialty metals" requirements in 10 USC 2533b and DFARS 252.225-7008, 7009 and/or 7010, as applicable, and that Supplier shall maintain the required manufacturer's certifications and shall make them available to the Buyer upon request.

QN09 Conflict Minerals:

Suppliers shall ensure that items supplied to ACT are in compliance with Section 1502 of the Dodd-Frank Wall Street Reform and Consumer Protection Act. Metals used in the manufacture or construction of items supplied shall be DRC "Conflict Mineral" free (not originating from the Democratic Republic of the Congo (DRC) or adjoining counties). "Conflict Minerals" are tantalum, tin, gold, tungsten, or their derivatives in accordance with the Dodd-Frank Wall Street Reform and Consumer Protection Act. Suppliers are expected to adopt policies and management systems with respect to conflict minerals and to require their suppliers to adopt similar policies and systems.

QN10 Foreign Object Debris (FOD) Control:

Supplier shall prevent, detect and remove foreign objects that could result in foreign object damage to the products supplied under this purchase order using NAS412 as a guideline. Supplier's practice shall be proportional to the sensitivity of the design of the product to FOD, and to the FOD generating potential of the manufacturing methods.

QN11 Records:

The Supplier shall maintain accurate inspection and test records subject to review by ACT, Customer and/or Government representatives. Records not provided with shipment shall be retained for ten (10) years.

QN12 Quality System Requirements:

The Supplier shall provide and maintain a Quality Assurance System acceptable to ACT. All supplies and services specified in the Purchase Order shall be subject to appropriate control of quality as necessary to assure compliance with the referenced documents and specifications. Records of all inspection, tests, and other verifiable documentation of quality shall be kept complete and available for review.

The Supplier shall provide such facilities and assistance as may reasonably be required by ACT's representatives in the performance of their functions. ACT's representatives may perform audits and maintain surveillance of the Supplier's facility to assure compliance with the Quality Program and evaluate the degree of capability and the continuing application of such ability to comply with these requirements. This function shall also apply to sub-tier suppliers within the Supplier's cognizance.

QN13 Special Processes:

Special Processes are required by work under this Purchase Order, the Supplier shall only utilize Special Process Vendors approved by ACT if the process will be subcontracted per QN05. Special Processes include but are not limited to: Plating, Anodizing, Welding, Heat Treat, and Non- Destructive Testing. Shipments must include a Process Certification signed by an authorized representative of the processor and may be included as part of the Certificate of Conformance required for QN01. Approval status of Special Process Vendors may be obtained by contacting the ACT Purchasing Department.

QN14 Raw Material Test Reports:

Each shipment of raw materials shall include Chemical and Physical Test Reports as required by the Material Specifications applicable to work under this Purchase Order. Raw materials include any form of aluminum, steel, stainless, brass, or copper stock material. Test Reports must indicate actual values of testing performed on the represented material lot. Test Reports shall be signed by an authorized representative of the material manufacturer; the name & title of the signatories must be typed on the report.

QN15 Corrective Action Response:

Discrepancies identified by ACT may result in a Supplier Corrective Action Request. The Supplier shall acknowledge receipt of a SCAR request within forty-eight (48) hours. The written response shall include the method of containment for the discrepancy and the measurement method used to ensure compliance. Response shall include root cause analysis, corrective action implemented, the corrective action implementation date and preventive action taken to eliminate any recurrence.

QN16 No Change Policy:

No changes without ACT written authorization may be made to items manufactured in accordance with ACT documents or specifications. Suppliers shall notify ACT of any change in supplier controlled designs, materials or process specifications, change of subtier suppliers or change in plant locations. Notification shall occur as soon as the situation is known or 30 days prior to implementation whichever is greater.

QN17 Access to Supplier's Facility:

ACT reserves the right to inspect any or all work under this Purchase Order at Supplier's facility. The Supplier shall grant the right of access to ACT, their customer and regulatory authorities to the applicable areas of all facilities, at any level of the supply chain, involved in the order and to all applicable records. Supplier shall be notified on the Purchase Order if ACT source inspection is required. Unless otherwise notified, no shipments are to be held for source inspection. ACT customers reserve the right to inspect any or all work under this Purchase Order at Supplier's facility. Supplier shall be notified on the Purchase Order if customer source inspection is required. When a Government Contract Number is referenced on the Purchase Order, the Government reserves the right to inspect any or all work under this Purchase Order at the Supplier's facility. Supplier shall be notified on the Purchase Order if Government source inspection is required.

QN18 Communication:

All communication, technical guidance and instructions having contractual impact shall be accomplished directly between the Buyer and the Supplier's authorized representative. No contract or specification deviations shall be made without the written authorization of the Buyer.

QN19 Calibration System:

The Supplier shall maintain a calibration system as outlined in MIL-STD-45662A, ISO 10012-1, ISO/IEC 17025, ANSI/NCSL Z540-3, as applicable. Standards and equipment used for calibrations shall be traceable to International or National Measurement Standards (NIST). Calibration data shall be made available upon request. The Supplier's calibration system is subject to audit by authorized representatives of ACT.

QN20 Cyber Security:

Supplier (including its suppliers at every tier), by acceptance of this Purchase Order, certifies that adequate security is provided on all covered information systems – systems that process, store, or transmit federal contract information (FCI) or covered defense information (CDI).

- FCI is defined in the FAR 52.204-21.
- CDI is defined in the DFARS 252.2004-7009 and 252.2004-7012..

The controls apply to information that is unclassified, but still needs to be controlled. Items marked with DoD Distribution Statements B through F, statements of work, and specifications are a few of the many types of information that can fall within these definitions and need to be adequately secured.

These regulations are mandatory flow down requirements for suppliers, unless your company supplies Advanced Conversion Technology with only commercial off-the-shelf items (COTS) as defined in the Federal Acquisition Regulations (FAR) at 48 CFR 2.101.

QN21 Paint Process Materials:

Each shipment of any material item to be used as part of a painting or marking ink process, shall include a copy of the most current Manufacturer's Technical Data Sheet for the item and painting process.

QN22 Combating Trafficking in Persons:

Supplier (including its suppliers at every tier), by acceptance of the Purchase Order, certifies a policy is in place to prevent agents and subcontractors at any tier and at any dollar values from engaging in trafficking in persons (including the activities identified in the U.S. Government's policy prohibiting trafficking in persons set forth in FAR 52.222-50(b)) and to monitor, detect, and terminate any agents, subcontracts, or subcontractor employees that have engaged in such activities, agents and subcontractors performing work under a federal contract subject to FAR 52.222-50(h). This policy is to adequately assess the practices of its agents and subcontractors with respect to combating trafficking in persons compliance. If ACT determines that there is a reasonable risk that an agent or subcontractor has engaged in trafficking in persons (including the activities identified in the U.S. Government's policy prohibiting trafficking in persons set forth in FAR 52.222-50(b)), or has otherwise violated FAR 52.222-50, ACT will determine and administer appropriate action.

QN23 Aluminum Extrusions:

Aluminum extrusion material including cut lengths or blocks shall be free of process defects including Textural Streaks, Transverse Welds, Longitudinal Welds, and Back-end Condition/Coring.

Supplier Quality Requirements – Special

The following Quality Note requirements apply only when specifically called out on the Purchase Order:

QN30 ACT Source Inspection:

Prior to shipment, Inspection and acceptance of product furnished under this order is required at the Supplier's facility by a Quality Assurance Representative of ACT. Evidence of such inspection and acceptance shall be provided with the shipment. Please contact the ACT Quality Assurance Department at 717-939-2300 at least forty-eight (48) hours in advance of the time the articles are available for inspection or test.

QN31 Government Inspection:

Prior to shipment, Inspection and acceptance of product furnished under this order is required at the Supplier's facility by a Quality Assurance Representative of the U.S. Government. Upon receipt of this Purchase Order, Supplier shall promptly notify the Government Representative who normally services Supplier's facility, in order that proper planning by the Government source inspection can be accomplished. If the representative of the Government Inspection Office cannot be located, contact the ACT Quality Assurance Department at 717-939-2300 immediately.

QN32 First Article Inspection:

Concurrent with the first production delivery, Supplier shall submit the first article product(s) to the ACT Quality Assurance Department with documents and data representing results of the Supplier's First Article Inspection (FAI), showing actual dimensions or values of each product characteristic and evidence of compliance to applicable document notes. FAI shall be performed in accordance with AS9102 or other ACT approved process. The First Article product(s) shall be clearly identified by tagging and other positive method.

QN33 ACT First Article Inspection:

ACT inspection and acceptance of First Article product(s) is required prior to Supplier starting production. Supplier shall submit the first article product(s) to the ACT Quality Assurance Department with documents and data representing results of the Supplier's First Article Inspection (FAI), showing actual dimensions or values of each product characteristic and evidence of compliance to applicable document notes. FAI shall be performed in accordance with AS9102 or other ACT approved process. The First Article product(s) shall be clearly identified by tagging and other positive method.

QN34 Sampling Inspection:

Supplier may perform sampling inspection of all characteristics on product(s) covered by the Purchase Order. Records of Inspection results showing actual values, lot size, sample size and number of units accepted in sample shall accompany each delivery of product(s). Sampling Plans must indicate acceptance number equals zero (0), no defects in sample for lot acceptance.

QN35 100% Inspection:

Supplier shall perform 100% inspection of all characteristics on all product(s) covered by the Purchase Order. Records of inspection results showing actual values shall accompany each delivery of product(s).

QN36 Traceability:

Supplier is required to maintain traceability of materials supplied by ACT to the processed product Batch and/or lot numbers of materials provided and shall be referenced on the processed product certifications provided with each shipment. In addition to the normal product identification, any identification tags from materials supplied by ACT shall be affixed to the processed product.

QN37 GIDEP Notification:

GIDEP stands for Government Industry Data Exchange Program. This is a network of U.S. Government and industrial organizations that cooperate in identifying and preventing unsuitable or questionable materials from being used. Problems with items, or equipment that are of mutual concern to NASA and associated suppliers are reported via the GIDEP Alert system. An Alert is a warning that faulty or counterfeit parts or raw materials are in circulation. Alerts are issued by a member of GIDEP. The supplier shall establish a systematic approach to evaluate and respond to GIDEP Alerts forwarded by ACT and to investigate, resolve, and document item problems.

Upon receipt of an Alert from ACT, the supplier shall determine whether or not the Alert is applicable to the operations or materials of the supplier or supplier sub tier suppliers. If applicable, an investigation shall immediately be initiated to determine the impact. The supplier shall submit a written response within 5 working days to ACT on each Alert received. An open Alert requiring immediate closure due to a pending flight may require closure information to be submitted by phone. Appropriate action shall be recommended or taken with ACT approval. Results of the investigation shall be reported to ACT.

QN38 Early Shipment Authorization:

Supplier is authorized to delivery items listed on the Purchase Order with no penalty for early delivery.