



Blue Origin, LLC Quality Clauses

The quality clauses listed below are applicable for Blue Origin hardware and material. Questions regarding the clauses or a need to resolve conflicting requirements contained in a purchase contract should always be directed to the Blue Origin Purchasing Representative. Quality clauses are only applicable when specified on the PO. These Quality Clauses correlate to CPM-PR0009-G 06/12/2020

QC-001* Certificate of Conformance. A certificate of conformance or certificate of compliance shall accompany all shipments, stating that the process, product, or service furnished is in conformance with all PO and drawing requirements and must contain the following information:

- a. Supplier's full name and address
- b. Blue Origin purchase order number, revision, and PO line number
- c. Blue Origin Part number
- d. Blue Origin Drawing number, Rev.
- e. Serial numbers (as applicable)
- f. Heat / Lot no. / Date Code / Job Tracking no. (as applicable)
- g. Quantity shipped
- h. List of all closed / approved Non-Conformances
- i. Authorized Quality Representative Signature, title, and date

QC-002* Counterfeit Parts. F Supplier shall have a counterfeit parts avoidance, detection, mitigation, and disposition program plan using as acceptable standards AS5553 for electronic parts and AS6174 for all other material. Supplier shall only deliver authentic components, devices, pieces, material, modules, assemblies, subassemblies, goods, etc. that are manufactured by or obtained from original equipment manufacturers (OEMs), original component manufacturers (OCMs), or authorized distributors. Supplier shall make available to Blue Origin documentation that authenticates and provides traceability of the Parts to the applicable OEM or OCM.

Approval to use another source other than defined above requires the submittal of a comprehensive risk mitigation test and inspection plan to the Blue Origin Procurement Representative. The risk mitigation plan shall define appropriate tests and inspections, as well as acceptance criteria, to validate the products authenticity. Test results shall be reviewed and approved by Blue Origin Quality Engineering prior to shipping or incorporating into deliverable hardware.

QC-003* Parts Substitution. Part substitutions are not authorized unless a Blue Origin Procurement Representative has approved them in writing. The supplier shall notify the Blue Origin Procurement Representative of any End of Life, obsolete or Form, Fit, or Function issues.

QC-004* Foreign Object Debris/Damage (FOD) Prevention and Part Cleanliness. The Supplier shall develop and maintain a Foreign Object Debris/Damage ("FOD") prevention program for manufacturing areas and associated support function areas. The intention is to prevent introduction of foreign objects into any item delivered under this Purchase Order (PO). Conformance to AS9146 is preferred, however National Aerospace Standard 412 (NAS 412), IPD J-STD-001, and IPD-WP-116, can also be used as guidelines.

The Supplier shall conduct production processes appropriate to prevent, detect, and remove all FOD from product(s) during manufacture and provide parts clean and free of all FOD prior to shipment to Blue Origin. FOD contamination can be cause for rejection of material.

QC-005 Deliverable Data: First Article Inspection. FAI shall be performed by the Supplier in accordance with the latest revision of Aerospace Standard AS9102. Supplier shall utilize the current AS9102 forms, or equivalent, including:

Form 1 – Part Number Accountability

Form 2 – Product Accountability – Materials, Special Processes and Functional Testing

Form 3 – Characteristic Accountability, Verification and Compatibility Evaluation

All data fields as listed in AS9102 as Required (R), Conditionally Required (CR) or Optional (O) shall be completed on Forms 1, 2, and 3 if the data field is applicable. If the field is not applicable, mark with N/A. Form 3 Block 5 Char. No. shall be identified on the drawing. Form 1 Blocks 23 and 24 are not required to be completed.

Supplier shall be required to perform a new FAI when there is a lapse in production exceeding twenty four (24) months. In addition, any changes or deviations as defined in AS9102 shall require a full or partial FAI.

The completed First Article Inspection Report (FAIR) shall accompany the product on which the FAI was performed when shipped to Blue Origin.



When the end item deliverable for this purchase order is software or includes embedded software, the supplier shall account for the software testing, installation, and configuration verification within the FAI documentation.

This note is not applicable for standard catalog, MIL-STD, or commercial off-the-shelf parts/assemblies.

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QC-007 Deliverable Data. Nondestructive Test (NDT Report): The Supplier shall provide a copy of an NDT reports (radiographic, ultrasonic, penetrant, etc.) for each item (as applicable), authorized by a representative of the Supplier's Quality function, with each shipment.

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QC-009 Deliverable Data. Material Property Test or Material Certification Data: The supplier shall provide the results of any material property test as required by the engineering drawing, referenced specification or component specific criteria for each material lot.

QC-010 Deliverable Data: Acceptance Test Procedures (ATP). As required by the drawing or specification, the supplier shall generate an ATP for final acceptance testing, to include any revision of the ATP, as well as test programs, software, and hardware. The ATP shall include equipment lists, equipment calibration status, and test procedure and data sheet(s) necessary to verify the functional requirements, weight, and outline of dimensions required by the equipment specification. This ATP and any subsequent changes must be submitted in advance and approved by the Blue Origin Purchasing Representative prior to testing deliverable end items. The supplier shall provide final complete detailed ATP data for each item, in supplier format, and as authorized by a representative of the supplier's Quality function with each shipment.

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QC-014 Deliverable Data – Harness. The Supplier shall take pictures showing the fabrication condition of the harness(es) of the following if applicable to the build: wire termination and connection of connector before installation of backshell/boot, Teflon film applied to cables/wires before EMI overbraid, and depth of potting material in backshell. Pictures to be submitted to Blue Origin with the shipment.

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QC-018 Deliverable Software / Complex Electronic Hardware For software or Complex Electronic Hardware (CEH) installed in a safety critical system, supplier shall define, implement, and maintain a quality system (QMS) or quality plan (QP) that defines quality planning, processes, and metrics to ensure software and CEH development requirements are met. Supplier's QMS or QP shall meet:

- AS9115 and as applicable the following industry standards:
 - DO-178C if supplying deliverable software
 - DO-254 if supplying CEH
 - or Blue Origin approved alternate means of compliance with an equivalent level of safety to DO-178C and DO-254

QC-019 Deliverable Data – End Item Data Package (EIDP). The supplier shall provide an End Item Data Package (EIDP) for product final acceptance and with the shipment. The EIDP shall include at a minimum the following (when applicable):

- a. Supplier's Certificate of Compliance/Conformance
- b. Certificate of Compliance/Conformance from sub-suppliers which contain sub-supplier name, location, contract number, part number and revision, and serial number
- c. Specification / Drawing number and revision
- d. As-built configuration, including a parts list identifying all part numbers, revision, serial numbers (when required), lot numbers, quantities, manufacturer, raw material conformance report, consumed materials, and life limiting information such as shelf life or number of cycles.
- e. Proof of compliance to traceability to material lot (serial number, lot number, batch number, software version, heat lot etc.) and any applicable requirements imposed by drawing or specification standards
- f. Non-conformances with proof of Blue Origin acceptance
- g. Incorporated Engineering Change Notices
- h. Type of inspection performed, equipment calibration log, and recorded results
- i. All acceptance or Qualification Test data and reports



- j. Total quantity of items tested, quantity of items accepted, and quantity of items rejected
- k. Recorded Part Mass
- l. Applicable GIDEP alerts, waivers, deviations, and incident reports

Blue Origin shall refuse to accept the item if the supplier fails to submit certifications, documentation, test data, or reports specified in the procurement document. Documentation shall include Blue Origin's source inspection if such source inspection is performed.

Written approval shall be obtained from Blue Origin for any deviations to the EIDP.

QC-020* Material Review Authority. The Supplier and/or any of their suppliers/subcontractors do not have authority to process use-as-is, repair, or standard repair procedures via their Material Review Board (MRB) for Blue Origin designed parts or product unless otherwise specified in this purchase order or other contractual documentation.

When a nonconformance is discovered by the supplier, the supplier shall notify the Purchasing Representative with the relevant information via the supplier waiver request form or equivalent. Blue Origin will perform the MRB review per our internal processes and procedures. Depending on the risk of the product and the operating environment, Blue Origin may authorize Material Review Authority to the supplier.

Nonconforming Blue Origin designed product may be dispositioned as use-as-is or repair, after review and authorization from the appropriate Blue Origin Responsible Engineer (or designee) and Quality representative. The repair process should be approved in writing by the Responsible Engineer (or designee) prior to implementation.

The Blue Origin Purchasing Representative will notify the supplier of the MRB disposition and next steps. The Purchasing Representative must be notified and approve any shipment of nonconforming parts or products.

This MRB authority requirement is not applicable to Commercial off the Shelf (COTS) products or supplier designed hardware.

QC-021 Electronic Data Transmission. The Supplier shall communicate all data and documentation as specified by general notes, quality clauses, and/or other required documentation electronically. Documents shall be sent via one or more of the following methods:

1. The Blue Origin Supplier Portal.
2. Email to the Purchasing Representative with Blue Origin Purchase Order number in the subject line. Files should be named as follows: "Part Number_PO Number" (example: 123-034-02_PO1234). Supplier shall attach to the email an individual file for each line item. Documents corresponding to that line item shall be submitted via PDF. Note that all ITAR restricted information must be encrypted and the password supplied separately.
3. Secure File Transfer Protocol (FTP) Server

QC-022* Change Control Requirements. For Blue Origin Designed Products and Class 1 Changes:

Blue Origin defines Class 1 changes as changes that are non-interchangeable and break backward compatibility including but not limited to fit, form, or function.

The supplier or sub-tier supplier shall not incorporate changes to design, material, part, process, procedure, tooling or test equipment without prior written approval through the Blue Origin Purchasing Representative for changes to Blue Origin designed products or for Class 1 changes.

For Supplier Design Authority, COTS Products, and Class 2 Changes:

Blue Origin defines Class 2 changes as changes that are interchangeable in all applications.

Supplier shall provide notification prior to implementation of changes via a Product Change Notice (PCN) or some other communication method for review and concurrence of the change classification. These notifications shall be submitted through the Purchasing Representative as the supplier becomes aware of the change.

Risk Notification – Product Alerts: Blue Origin shall be promptly notified whenever the Supplier becomes aware or reasonably suspects that any product delivered to Blue Origin is, or contains a component that is, subject to a recall notice, warning alert, GIDEP Alert, and/or any other type of notification or concern regarding product authenticity, quality, safety, process integrity, and/or specification compliance.

QC-023 Temperature / Perishable / Shelf Life Sensitive Materials. When materials delivered under this purchase order are temperature/shelf life controlled and/or perishable, the supplier shall provide certifications for temperature, perishable and age sensitive materials (e.g. epoxies, paints, bonding agents, prepregs, adhesives, etc.), which reflect date of manufacture, date of test, shelf life, expiration date, and storage temperature as it applies to each lot/batch. Container label(s) must also reflect applicable lot/batch number(s), storage temperature, expiration date, and date of shipment.



Product delivered to Blue Origin shall have a minimum of 80% remaining of shelf life upon receipt, unless approved by Blue Origin in advance.

When temperature controlled (or time at temperature controlled) material is involved, the supplier shall provide material packaging suitable to maintain proper temperature during transportation from their facility to Blue Origin. The supplier shall provide the necessary temperature measuring equipment to monitor the material during transportation to assure compliance to the specifications of the Purchase Order.

QC-024 Manufacturing Software. Any software used for manufacturing of hardware or software deliverables, including firmware, shall have a system for control including procedures, records and revisions available for review any time upon request from Blue Origin.

QC-025* Sub-tier Suppliers. The supplier shall have processes in place to assure full compliance to all quality Purchase Order (PO) notes and requirements applicable to this PO. When products or services applicable to this PO are procured by the supplier from sub-tier suppliers, the supplier shall flow the quality PO note requirements and all other requirements, as necessary, to ensure full compliance is achieved.

QC-026 Deliverable Data: Report of Design Characteristics. The supplier shall inspect, record, and provide a report of design characteristics for each attribute / feature that is specified / listed in the PO. If no requirements are specified, no additional reporting is required. The inspection report shall be submitted as part of the documentation package accompanying each shipment.

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QC-028 Sampling Inspection. Sampling inspection may be utilized during performance of this order. Prior to use, the sampling plan must be submitted to Blue Origin Purchasing Representative and approved. Blue Origin Quality Engineering will evaluate the risk and determine the appropriate acceptance requirements. The use of sampling inspection in no way affects Blue Origin's right to reject any unit(s) of product found defective.

QC-029* Special Processes. All special processes as identified by Blue Origin engineering and/or the purchase order require Nadcap accreditation or approval in writing by Blue Origin. Certifications for the special processes listed shall be submitted with each shipment and include the specification and revision level:

Metallic and non-metallic Additive Manufacturing (including but not limited to Laser Powder Bed and Laser Powder Spray), Brazing, Coatings, Chemical Processing, Castings, Forgings, Heat Treating, Hot Isostatic Press (HIP), Non-Destructive Testing, Non-Conventional Machining (e.g. Chemical milling, Electrostatic Discharge Machining (EDM)), Laser Cutting, Surface Treatments (e.g. Alodine, Anodize, Plating), Thermal Spray Coatings, Non-metallic composites, Welding

Prior to selecting/using a Nadcap accredited or Blue Origin approved special process supplier, the supplier and/or sub-tier suppliers shall contact the selected special process supplier and confirm that they currently perform the specific Type, Class, Method, etc. per the associated drawing requirements.

Supplier shall notify Blue Origin Purchasing Representative within three (3) business days of receiving information related to the suspension or disapproval of the supplier or sub-tier supplier's special process approval by their accreditation body. Supplier shall also notify Blue Origin of any work delivered to Blue Origin during the period of any such suspension or disapproval.

If the shipment contains multiple special processed lots within each manufactured lot, each processed lot must be segregated and identified to maintain complete traceability in each shipment. (Example: When a manufacturing work order is split into two separate heat-treated lots, each heat-treated lot shall be segregated and identified to maintain traceability in the shipment). Also refer to QC-034 Traceability for additional requirements.

QC-030* Source Acceptance Blue Origin source acceptance shall be performed as specified (in-process and/or final). Please notify Blue Origin five (5) working days in advance of the date source acceptance will be required at your facility. A Blue Origin source acceptance does not preclude subsequent inspection nor does it relieve the supplier of the responsibility to provide acceptable product. Source acceptances may include Blue Origin personnel or contractors from Blue Origin in addition to Blue Origin customer representatives and/or regulatory authorities.

QC-031* Quality Management System. Supplier shall maintain a quality management system (QMS) conforming to the requirements of the elements described in AS9100, AS9120, or ISO_9001. Third party registration by an accredited registrar may be accepted. The supplier's QMS will be subject to review and approval at all times by Blue Origin whether or not the supplier holds a 3rd party accreditation. Suppliers declaring system compliance to AS9100, AS9120, or ISO_9001 with no formal accredited registrar may be reviewed by Blue Origin.

Supplier shall notify Blue Origin Purchasing Representative within three (3) business days of any suspension or disapproval of the supplier's QMS by their accreditation body. Supplier shall also notify Blue Origin of any work delivered to Blue Origin during the period of any such suspension or disapproval.



If a non-conformance that affects the product or its performance is discovered by the supplier prior to shipment a request for waiver must be submitted. All such requests must be made in writing. Under no circumstances shall nonconforming shipments be made without written approval from the Blue Origin Purchasing Representative.

When a supplier has determined or suspects that an undocumented nonconformance has been shipped to Blue Origin, the supplier shall notify the Blue Origin Purchasing Representative of the condition in writing within three (3) business days of when the nonconformance was recognized.

QC-032* Calibration. The Supplier shall perform all inspections and tests using calibrated equipment. For calibration service providers or test laboratories, accreditation to ISO 17025 is preferred. Materials used to meet applicable drawing requirement and procurement documents shall not be excluded.

QC-033* Identification/Marking. The Supplier shall identify all items, parts, components, sub-assemblies and/or assemblies as required by the drawing, as specified by the Blue Origin Purchase Order, or per the SAE specification for the product.

QC-034* Traceability. Each manufacturer's lot within each shipment must be segregated and identified to include the quantity and lot number on each Certificate of Conformance. There must be clear links (e.g. heat #, Lot/Batch number) that tie the entire certification package of the shipment together. This includes special process certifications performed by sub-tier suppliers.

- Raw material and forging stock that is provided to Blue Origin shall include lot, heat lot, batch number, etc. as applicable, and origin of manufacture.
- Components/Assemblies shall include the original manufacturer's part number, lot number and date code. Traceability data for electronics, electrical parts, raw material, and mechanical parts shall be readily retrievable and provided to Blue Origin upon request.
- Distributors shall maintain clear traceability to the original manufacturer for each lot in a shipment and it shall be readily retrievable and provided to Blue Origin upon request.
- Any additional traceability requirements will be listed in the PO Notes.