

# Procurement Quality Requirements

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## Scope

This Quality Assurance Specification establishes the specific quality requirements that apply when one or more of the following Quality Requirements (QR's) are specified by code on AMPAERO Purchase Orders. These requirements are in addition to those set forth in any other contractual document. The provisions indicated herein are an integral part of a Purchase Order.

Compliance with these requirements does not reduce Seller responsibility for furnishing materials and services that fully comply with all Drawing(s) and Specification(s) Requirements, nor does it guarantee acceptance of materials or services by AMPAERO. In the event that materials or services are found to be defective and cannot be demonstrated by the Seller to be in conformance with the Purchase Order Requirements, AMPAERO shall have the right to reject them.

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- QR 1 INSPECTION SYSTEM:** The Seller shall establish and maintain an inspection system in accordance with AS9100.
- QR 2 QUALITY SYSTEM:** The supplier shall maintain a quality system that complies with **ISO 9001/AS9100**, latest revision.
- QR 3 RIGHT OF ACCESS:** AMPAERO, our customer representatives, and regulatory authorities shall have Right of Access to all facilities involved in the order, including all subcontractors or sub-tier suppliers and all applicable quality records.
- QR 5 QUALITY SYSTEM REQUIREMENTS:** The supplier shall prepare a manufacturing and inspection test plan, indicating operational sequence, inspection and test points, and other pertinent control media for the items to be fabricated on this Purchase Order. The inspections and tests at each control point shall be clearly identified. Two (2) legible and reproducible copies of the plan shall be submitted to AMPAERO Quality Assurance prior to start of production. Plan is subject to disapproval by AMPAERO. Written acceptance of the plan is required. All changes shall be submitted to AMPAERO for approval.
- QR 6 SOFTWARE QUALITY REQUIREMENTS:** The Seller is required to maintain a software quality assurance program in compliance with D6-51991, CAD/CAM Quality Assurance.
- QR 7 CONTROL OF CHANGES:** Seller agrees not to make any location change or change in product and / or process definition materials or design details which would affect the part or any component part thereof without prior written Buyer approval. The Seller will identify, on the Statement of Conformance and/ or packing sheet, the as-built engineering revision level of the end item product being delivered.
- QR 8 SUPPLIER CORRECTIVE ACTION:** Seller shall, on request, on forms designated by Buyer, provide statements of corrective action on failures of Seller's hardware or Quality System. Corrective action statements, at Buyer's option, may require approval signature by Buyer, AMPAERO Quality Assurance and Government Quality representatives.
- QR 9 AMPAERO SURVEILLANCE:** Work under this contract is subject to Buyer surveillance at Seller's plant. Buyer's Quality Assurance Representative may elect to conduct inspection either on a random basis or 100% inspection. Seller will be notified if Buyer inspection is to be conducted on specific shipments. No shipments are to be held for Buyer inspection unless notification is received prior to, or at time of, material being ready for shipment.
- QR 10 CUSTOMER / GOVERNMENT SURVEILLANCE:** During performance on this contract, Sellers quality program or inspection system and manufacturing processes are subject to review, verification, and analysis by authorized Customer and/or Government Representatives. Customer and/or Government inspection or release of product prior to shipment is not required, unless Seller is otherwise notified. A copy of the AMPAERO Purchase Order shall be furnished to the Customer and/or Government representative, upon request.
- QR 11 SHELF LIFE AND TEMPERATURE SENSITIVE MATERIALS:** The Seller shall identify all materials and articles that have definite characteristics of quality degradation with age or environment. The Seller shall affix this information directly on the material container or article. This identification shall indicate the date useful life was initiated and the date or cycle at which the useful life will be expended. When environment is a factor in determining useful life, the identification shall include the storage conditions (i.e., temperature humidity, etc.) required to achieve the stated life. A minimum of 75% of the applicable material/article shelf life shall remain upon receipt of the material by AMPAERO or the material is subject to rejection and return to the Seller.
- QR 12 PACKAGING:** Unless otherwise specified by the item drawing, specification or Purchase Order, the Seller is responsible for assuring that all items are delivered without damage or deterioration and are efficiently and economically packed for the method of transportation and type of handling involved. Unit and intermediate packaging shall be employed as necessary to prevent damage or deterioration.
- QR 13 STATIC SENSITIVE MATERIALS:** The following requirements apply to materials, devices or assemblies capable of being degraded, damaged or destroyed by static electrical charges or discharges. All items shall be preserved, packaged and packed in such a manner as to preclude their exposure to the generation or discharge of static

energy. Packaging (including unit, intermediate and shipping containers) shall be clearly marked or labeled to indicate that the contents are subject to damage or degradation by static electricity.

- QR 14 MATERIAL SAFETY DATA SHEETS:** Material(s) noted on this Purchase Order must be supplied in accordance with OSHA's hazard communication standard 29CFR1910-1200, OSHA instruction CPL2-2.38 dated August 5, 1985 "Materials Safety Data Sheets". Materials not received in compliance with aforementioned OSHA requirements and California State codes will be subject to immediate rejection and return at supplier's expense. In addition, if Seller is aware of any additional precautions and/or handling techniques instituted with regard to other customers, the Seller is required to submit those safeguards with the MSDS. Seller is required to forward a Toxic Substances Control Act (TSCA) certification letter to the AMPAERO Buyer for the product(s) purchased on this Purchase Order, with the statement that every chemical component of the product(s) is listed by the Toxic Substances Control Act Inventory (P.L.94-94-969).
- QR 15 IDENTIFICATION:** Parts, assemblies and components shall be identified per the engineering drawing and marked with the date of manufacture. When identification is not specified on the engineering drawing, the product shall be identified with the part number specified on the Purchase Order. When items are too small to be easily identified, parts may be bagged or tagged, with the proper identification indicated on the bag or tag. Raw material procured to Federal, Military, Aerospace or other specifications shall be marked per the identification specification that is referenced in the controlling specification.
- QR 16 RUBBER CURE DATA:** All synthetic rubber/elastomeric parts such as hoses, o-rings, gaskets or raw goods shall be permanently marked with the cure date in accordance with MIL-STD-129. Assemblies that contain synthetic rubber/elastomeric parts shall have the cure date of the oldest part permanently marked on the assembly in accordance with MIL-STD-129. If any other cure date requirement is called out on the customer drawing or specification, it shall take precedence over MIL-STD-129.
- QR 17 CALIBRATION SYSTEM REQUIREMENTS:** Seller shall have a calibration system that assures compliance with ANSI/NCSL Z540-1. AMPAERO Quality Assurance must approve any deviation or waiver to this requirement.
- QR 18 INSPECTION DATA:** The Seller shall furnish a legible and reproducible copy of inspection data sheets that record objective evidence of acceptance for all AMPAERO drawing, specification, and purchase order requirements for each assembly, sub-assembly, or component covered by this Purchase Order. This requirement includes all raw materials, and/or processing. This requirement applies to AMPAERO suppliers and to the supplier's sub-tier sources to the extent necessary to determine acceptability of items under this Purchase Order.
- QR 19 TOOLING:** Tooling produced by this Purchase Order shall be built, identified, and records or lists per the applicable AMPAERO customer's tool design manuals and specifications. Tool proofing inspection is required. Duplicate tools shall be referenced separately and tool proofing performed for each tool. Any tooling rework requires reproofing.
- QR 20 CERTIFICATE OF CONFORMANCE:** Each shipment of material, parts, or assemblies shall be accompanied by a legible and reproducible copy of a Certificate of Conformance with the signature of responsible representative stating material, process, or article being shipped meets requirements of applicable drawings or specification cited in Purchase Order. Supplier shall include date of manufacture on Certificate of Conformance.
- QR 21 MATERIAL TEST REPORTS:** A legible and reproducible copy of material test reports shall accompany each shipment of material, parts, or assemblies. Test reports shall be identified with specification number and heat and/or cure lot number. Chemical and physical test reports shall include actual numerical values for each property tested in accordance with the applicable specification. When more than one specimen is required, test results of each is required on the report. Specification and revision shall be shown on each test report furnished.
- QR 22 CERTIFIED TEST DATA:** A legible and reproducible copy of certified test data shall accompany each shipment of material, parts, or assemblies. Test shall be identified with specification number and heat and/or cure lot number. Chemical and physical test data shall include actual numerical values for each property tested in accordance with the applicable specification. Specification and revision shall be shown on each report furnished. Test data shall include the following statement (or equivalent): "Test reports are on file and available upon request."
- QR 23 APPROVED PROCESS REQUIREMENTS:** A legible and reproducible copy of special process certifications (i.e. testing, heat treat, nondestructive testing, etc.) shall accompany each shipment of material, parts, or assemblies. Special processes shall be performed by customer (process specification owner) approved sources. Certifications are to include all specifications listed in the order of sequence and the date performed.

- QR 24 FIRST ARTICLE INSPECTION:** The Seller shall perform and submit with shipment a First Article Inspection (FAI) report on the initial part or lot (as applicable) at the detail, subassembly and/or assembly level. The Seller shall tag or otherwise non-evasively identify the part(s) used for the FAI and submit with shipment. FAI records shall also be on file and available for each part that the supplier is under AMPAERO contract for, including purchased parts, customer-supplied parts, and raw materials such as castings, forgings, extrusions, and standards. The results of the FAI shall be documented on data sheets and shall indicate 100% conformance to engineering drawing characteristics, special processes, functional test, and laboratory requirements. The data recorded on the FAI records shall include a list of the characteristics required by the drawing (including applicable drawing notes), the required tolerance range, the actual measured dimension results, the drawing zone, the inspection media, and, where physical testing is required, the results of the tests. FAI records shall be updated to include the delta changes whenever there is a change to the drawing, specification, supplier, or manufacturing process. Subsequent FAI's shall be performed under the following conditions: tooling rework or modification and/or change(s) in supplier's manufacturing method. Engineering drawing revisions or AMPAERO revisions affecting dimensional characteristics shall require a new FAI incorporating the differences and/or tool proofing inspection.
- QR 25 REPORT OF DISCREPANCY:** Any departure from drawing specifications or other Purchase Order requirements shall be documented by the Seller and submitted to the AMPAERO Buyer for consideration and disposition. A copy of this Material Review document shall accompany each affected shipment. If the seller detects a nonconformance subsequent to delivery to AMPAERO the seller must disclose the nature of the nonconformance to AMPAERO in writing within 48 hours of the discovery.
- QR 26 TRACEABILITY/LOT AND BATCH CONTROL:** Seller shall maintain lot and batch control of raw materials and detail parts to purchased items through the use of lot, batch, serial number, or date of manufacture, as applicable, for all items in the shipment.
- QR 27 AMPAERO SOURCE INSPECTION:** AMPAERO Source Inspection is required prior to shipment. The Seller shall provide notification to the assigned Source Inspector a minimum of three (3) days in advance of product being ready for inspection. Seller shall provide a copy of the applicable and current Purchase Order to the assigned Source Inspector upon request. Evidence of AMPAERO Source Inspection (acceptance stamp on shipping document) must accompany each shipment of product to AMPAERO. In the event of the need for waiver of Source Inspection, written authorization must be obtained from the Buyer and accompany each applicable shipment of product. Acceptance by AMPAERO Source does not absolve the supplier of responsibility of verifying 100% compliance the product to purchase order, applicable drawing, and specification requirements, nor does it preclude subsequent rejection by AMPAERO, or our customer/end user.
- QR 28 GOVERNMENT SOURCE INSPECTION:** Government inspection is required prior to shipment from your plant. Upon receipt of this contract the Seller shall provide a reference copy of the Purchase Order to the cognizant Defense Contract Management Area Operation (DCMAO) representative within one (1) working day of its receipt, so that appropriate planning for Government Inspection can be accomplished. A record of this transmittal shall be retained by the Seller and provided to AMPAERO upon request. If Seller cannot locate the DCMAO, notify the AMPAERO Buyer immediately. Evidence of Government Source Inspection (acceptance stamp or office number and signature on shipping document) must accompany each shipment of product to AMPAERO. Acceptance by Government Source does not absolve the supplier of responsibility of verifying 100% compliance the product to purchase order, applicable drawing, and specification requirements, nor does it preclude subsequent rejection by AMPAERO, or our customer/end user.
- QR 29 QUALITY ASSURANCE RECORDS RETENTION:** Seller shall retain manufacturing planning, all certifications, and test reports required to assure that commodity conforms to the contractual and technical requirements of the Purchase Order for a minimum of seven (7) years (unless stated otherwise on Purchase Order).
- QR 30 AMPAERO FURNISHED MATERIAL:** Parts or assemblies manufactured from AMPAERO furnished material shall be accompanied by reproducible copy of a certification stating that parts and/or assemblies were produced from AMPAERO furnished material. Certification shall be identified with the part number and Seller's lot number, Material Manufacturer's name and material certification number if drop shipped from material manufacturer to Seller, or AMPAERO Packing Slip number if shipped from AMPAERO.
- QR 31 APPROVED SUPPLIERS:** All processes to be completed by Boeing D1-4426 approved suppliers.  
<http://www.boeing.com/companyoffices/doingbiz/d14426>
- QR 32 APPROVED SUPPLIERS:** All processes to be completed by Goodrich/ROHRQualifiedSupplierDocument<http://materiel.bfg.com/>
- QR 33 APPROVED SUPPLIERS:** All processes to be completed by Lockheed Martin approved suppliers<http://xena.lmtas.com/gcs/cgi-bin/gcs.pl>
- QR 34 APPROVED SUPPLIERS:** All processes to be completed by Northrop Grumman ISA approved suppliers. (Military)<https://oasis.northgrum.com/contract/contract.htm>
- QR 35 APPROVED SUPPLIERS:** All processes to be completed by Vought Aircraft Ind. approved suppliers. (Commercial)<http://www.vought.com/suppliers/contract/contract.htm>

QR 36 **APPROVED SUPPLIERS:** All processes to be completed by Bombardier Aerospace approved suppliers <http://www.aero.bombardier.com/htmen/suppliers.htm> R 37

**SPECIAL PROCESS SUPPLIERS:** All special process suppliers must provide evidence of NADCAP Certification.

QR 37 **SNECMA Terms and Conditions General and Aerospace Requirements:** <Http://www.snecma.com/spip.php?rubrique145&lang=en>

SHELF LIFE & TEMP. SENSITIVE RAW MATERIALS (ADHESIVES, SOLVENTS, ETC.)		MACHINED PARTS		OUTSIDE PROCESSING		CALIBRATION	
QR 1	INSPECTION SYSTEM	QR 1	INSPECTION SYSTEM	QR 1	INSPECTION SYSTEM	QR 8	SUPPLIER CORRECTIVE ACTION
	OR		OR		OR		
QR 2	QUALITY SYSTEM AS9100	QR 2	QUALITY SYSTEM AS9100	QR 2	QUALITY SYSTEM AS9100	QR 9	AMPAERO SURVEILLANCE
QR 8	SUPPLIER CORRECTIVE ACTION	QR 6	SOFTWARE QUALITY REQUIREMENTS	QR 8	SUPPLIER CORRECTIVE ACTION	QR 10	CUSTOMER / GOVERNMENT SURVEILLANCE
QR 9	AIREPS SURVEILLANCE	QR 7	CONTROL OF CHANGES	QR 9	AMPAERO SURVEILLANCE	QR 12	PACKAGING
QR 10	CUSTOMER / GOVERNMENT SURVEILLANCE	QR 8	SUPPLIER CORRECTIVE ACTION	QR 10	CUSTOMER / GOVERNMENT SURVEILLANCE	QR 17	CALIBRATION SYSTEMS REQ'S
QR 11	SHELF LIFE & TEMP SENSITIVE MATERIALS	QR 9	AMPAERO SURVEILLANCE	QR 12	PACKAGING	QR 20	C OF C
QR 12	PACKAGING	QR 10	CUSTOMER / GOVERNMENT SURVEILLANCE	QR 15	IDENTIFICATION		
QR 14	MATERIAL SAFETY DATA SHEET	QR 12	PACKAGING	QR 20	C OF C		
QR 15	IDENTIFICATION	QR 15	IDENTIFICATION	QR 23	APPROVED PROCESS REQUIREMENTS		
QR 20	C OF C	QR 18	INSPECTION DATA	QR 25	REPORT OF DISCREPANCY		

QR 21	MATERIAL TEST REPORTS
QR 23	APPROVED PROCESS REQUIREMENTS
QR 25	REPORT OF DISCREPANCY
QR 26	TRACEABILITY
QR 29	QUALITY RECORDS RETENTION
QR 31	BOEING
QR 32	GOODRICH / ROHR
QR 33	LOCKHEED
QR 34	NORTHROP GRUMMAN
QR 35	VOUGHT
QR 36	BOMBARDIER
QR 37	NADCAP APPROVAL

QR 20	C OF C
QR 21	MATERIAL TEST REPORTS
QR 23	APPROVED PROCESS REQUIREMENTS
QR 24	FIRST ARTICLE INSPECTION
QR 25	REPORT OF DISCREPANCY
QR 26	TRACEABILITY
QR 29	QUALITY RECORDS RETENTION
QR 30	AIREPS FURNISHED MATERIAL
QR 31	BOEING
QR 32	GOODRICH / ROHR
QR 33	LOCKHEED
QR 34	NORTHROP GRUMMAN
QR 35	VOUGHT
QR 36	BOMBARDIER
QR 37	NADCAP APPROVAL

QR 26	TRACEABILITY
QR 29	QUALITY RECORDS RETENTION
QR 31	BOEING
QR 32	GOODRICH / ROHR
QR 33	LOCKHEED
QR 34	NORTHROP GRUMMAN
QR 35	VOUGHT
QR 36	BOMBARDIER
QR 37	NADCAP APPROVAL

MISC.	
QR 2	QUALITY SYSTEM (AS9100B)
QR 13	STATIC SENSITIVE MATERIALS
QR 16	RUBBER CURE DATA
QR 19	TOOLING
QR 22	CERTIFIED TEST DATA
QR 27	AMPAERO SOURCE INSPECTION
QR 28	GOVERNMENT SOURCE INSPECTION