



## Aerofab Corporation Purchase Order Quality Clauses

<b>DOC. #</b>	<b>FRM-741</b>
Rev.	D
Rev Date:	01/15/2018

### REVISIONS

REV	SHEET	DESCRIPTION	DATE	PREPARED/REVISED BY
A	ALL	Initial Release	07/15/2013	B. Mariscal
B	Document	Added Q30 Record Retention	01/08/2014	J.P. Garcia
C	Document	Q2, Q3, Q11 changed to "Deleted." Q16: Changed form to FRM-830. Q17: Changed to "latest industry standard." Q22: AWI-42-24 changed to QOP-440.	08/05/2014	J.P. Garcia
D	Document	Q27: Removed revision levels from ISO/AS references, added counterfeit product reference Q30: Updated retention periods to current requirement	01/15/2018	A. Tardif
E	4	Q27: Added personnel awareness requirements to reflect AS9100 revision D requirements.	02/04/2019	A. Tardif
F	4	Q27: Added the tracking of supplier performance & additional controls based on those metrics	01/04/2021	E. Brown

# AEROFAB PURCHASE ORDER QUALITY CLAUSES

Date: 01-04-2021



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- Q1** **AEROFAB SOURCE INSPECTION:** Aerofab source inspection is required. Inspection shall be conducted at the *Seller's* facility and shall be requested and accomplished prior to shipment. When the items on the Purchase Order are ready for inspection, notify the Aerofab purchasing representative so that coverage can be arranged. Drawings, specifications and/or other pertinent data as required by the Purchase Order shall be made available to the Aerofab Quality Representative, at the time of product presentation.
- Q2** Deleted
- Q3** Deleted
- Q4** **CONTRACT/DRAWING DIRECTED SOURCE/QUALIFIED PRODUCTS LIST:** This item/service is to be procured from a listed source.
- Q5** **ROCKWELL HARDNESS/ELECTRICAL CONDUCTIVITY TEST:** Verification is required. Certifications must show actual readings as well as specification requirements (High and Low).
- Q6** **SERIALIZATION:** Requirement that all parts have unique serial numbers maintained and/or assigned. Maintain S/N traceability at all stages of manufacturing or processing. Indicate S/N's on all certifications, inspection reports, shipping documents and/or other documentation as applicable.
- Q7** **AEROFAB FURNISHED DOCUMENTS:** All drawings, specifications, mylars, or related data are to be returned to Aerofab upon completion of the PO or Contract.
- Q8** **TECHNICAL OR PROPRIETARY DATA:** All data provided to support manufacturing or process of this order is proprietary and shall not be reproduced in whole or part and shall be returned upon completion of the PO or contract.
- Q09** **CUSTOMER-FURNISHED PROPERTY:** Tooling provided with this order is Customer-Furnished by the OEM and shall be returned with final shipment of parts or product. Seller shall have a documented procedure and take precautions to protect tooling from deterioration, damage, and loss. Seller accepts financial responsibility for damaged or lost customer furnished tools while in its possession.
- Q10** **FLOWDOWN / SUBCONTRACTING:** Subcontracting all or part of the work procured on this PO without written approval of AEROFAB is prohibited. If approved by Aerofab the seller shall flow down to sub-tier suppliers the applicable requirements in the purchasing documents, including key-characteristics where required. All approved subcontracted operations must meet all provisions of the PO and be certified by the subcontractor.
- Q11** Deleted
- Q12** **FLOWDOWN:** Northrop's (SQR) Quality System Requirements are hereby imposed.
- Q13** **FLOWDOWN:** Lockheed's Attachment "Y" Quality System Requirements are hereby imposed.
- Q14** **WRITE-IN REQUIREMENTS:** Any requirements not specified above shall be explained in detail here or in an accompanying document.
- Q15** **FLOWDOWN: Lockheed's Appendix QR "Quality Requirements Seller Quality Requirements"**  
For AEROFAB Purchase Orders (AEROFAB Vendor codes)  
  
"Processing to be accomplished in performance of this purchase order is directly related to a Lockheed Martin Aeronautics Company purchase order and must be accomplished in accordance with process specification(s) on this purchase order and the revision in effect as of the date of this PO of Lockheed Martin Aeronautics Company Appendix QJ. All requirements of such Appendix QJ paragraph 12.a-f. shall be accomplished. Appendix QJ is located at [www.lmaeronautics.com/material-management/](http://www.lmaeronautics.com/material-management/)."
- Q16** **CAUSE AND CORRECTIVE ACTION:** When requested in writing by AEROFAB seller shall provide proof of corrective action, root cause and root cause corrective action for any deficiencies deemed supplier responsibility on Corrective Action Request (FRM-830). Failure to respond in a timely and/or effective manner may result in future on-site review, source inspection at supplier's facility, being placed on purchase order hold status and/or removal from the AEROFAB Approved Supplier List (ASL).
- Q17** **LATEST SPECIFICATION REVISIONS:** The supplier shall use the latest specification revision as called for in the purchase order. If the purchase order does not contain specification revisions, then revisions shall be per the latest industry standard.



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- Q18** **Foreign Object Debris/Damage Prevention:** Seller shall maintain a FOD prevention program. Seller's FOD prevention program shall include the review of design and manufacturing processes to identify and eliminate foreign object entrapment areas and paths through which foreign objects can migrate. Seller shall ensure work is accomplished in a manner preventing foreign objects or material in deliverable items. Seller shall maintain work areas and control tools, parts and materials in a manner sufficient to preclude the risk of FOD incidents. Seller shall document and investigate each FOD incident and ensure elimination of the root cause of each incident.
- Q19** **Lockheed Q4R FOD Prevention Clause:** Seller shall maintain a FOD prevention program in accordance with the requirements of Lockheed Quality Clause Q4R and assure same requirements are flowed down to Seller's subcontractors at every tier. The complete text of Clause Q4R can be found at the following web address: <http://www.lmaeronautics.com/material-management/> under Quality Appendices.
- Q20** **Preference for Domestic Specialty Metals:** This contract requires compliance with DFARs 252.225-7014. These requirements shall apply to Seller and shall be flowed to all Seller's sub-tiers who provide specialty metals pursuant to this contract.

"As prescribed in 225.7002-3(b)(1), use the following clause:

PREFERENCE FOR DOMESTIC SPECIALTY METALS (JUN 2005)

(a) *Definitions.* As used in this clause—

(1) "Qualifying country" means any country listed in subsection 225.872-1 of the Defense Federal Acquisition Regulation Supplement.

(2) "Specialty metals" means—

(i) Steel—

(A) With a maximum alloy content exceeding one or more of the following limits: manganese, 1.65 percent; silicon, 0.60 percent; or copper, 0.60 percent; or

(B) Containing more than 0.25 percent of any of the following elements: aluminum, chromium, cobalt, columbium, molybdenum, nickel, titanium, tungsten, or vanadium;

(ii) Metal alloys consisting of nickel, iron-nickel, and cobalt base alloys containing a total of other alloying metals (except iron) in excess of 10 percent;

(iii) Titanium and titanium alloys; or

(iv) Zirconium and zirconium base alloys.

(b) Any specialty metals incorporated in articles delivered under this contract shall be melted in the United States or its outlying areas.

(c) This clause does not apply to specialty metals—

(1) Melted in a qualifying country or incorporated in an article manufactured in a qualifying country; or

(2) Purchased by a subcontractor at any tier.

ALTERNATE I (APR 2003)

As prescribed in 225.7002-3(b)(2), substitute the following paragraph (c) for paragraph (c) of the basic clause, and add the following paragraph (d) to the basic clause:

(c) This clause does not apply to specialty metals melted in a qualifying country or incorporated in an article manufactured in a qualifying country.

(d) The Contractor shall insert the substance of this clause, including this paragraph (d), in all subcontracts for items containing specialty metals."

- Q21** **Right of Entry:** Seller agrees that its facility, fabrication inspection system, methods and procedures applicable to this purchase order are subject to surveillance by the Buyer, Buyer's Customer, and Government agencies with direct contract or certification responsibilities to verify the quality of work and to obtain information relative to production status of the job.

- Q22** **AEROFAB Supplier DPD / MBD:** Seller's Compliance to Boeing DPD/MBD Requirements D6-51991: The engineering contained within this purchase order is digitally controlled per AEROFAB Procedure QOP-440. Outside sources are required to be DPD/MBD approved by AEROFAB unless the following "alternate" dataset control procedure is used. Seller will not outsource any DPD/MBD work pursuant to this purchase order without written authorization.

### 1.0 Alternate Control Procedure:

1.1 Outside fabrication suppliers using translations of AEROFAB approved datasets for use in fabrication and inspection operations must have their IGES translations created in the supplier's CAD/CAM system verified by AEROFAB.

1.2 Suppliers are required to control AEROFAB approved dataset translations in such a manner as to preclude the use of unapproved translations.

1.2.1 This control must be evidenced on the supplier's manufacturing paperwork indicating the file used in fabrication operations.

1.3 Translation Approval:

1.3.1 AEROFAB approved datasets will be provided to the supplier on the supplier's AEROFAB website portal located at [www.Aerofab-corp.com](http://www.Aerofab-corp.com).



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- 1.3.2 The supplier will download the dataset into the supplier's CAD/CAM system and generate the translation they will use.
- 1.3.3 The supplier will then upload their translation back into the AEROFAB supplier portal for approval.
- 1.3.4 AEROFAB will provide notification to the supplier of the check results in the supplier's AEROFAB website portal.
- 1.3.5 Unapproved translations must be corrected and resubmitted for approval.

- Q23** **Dimensional Inspection Report:** A completed copy of an AS9102 Form 3 or equivalent must accompany each item specified on the purchase order. 100% Inspection is required with actual recorded results, for all characteristics on all parts to ensure conformance to drawing and specification requirements. A copy of this inspection record is required with the shipment of product.
- Q24** **Changes to Supplier Designed Parts:** *Seller* must and shall not make any changes to the processes or materials specified under the purchase order. *Seller* shall notify Aerofab in writing prior to any proposed changes to supplier controlled design, parts, materials, fabrication methods or processes, that may affect function, interchangeability or reliability of hardware delivered to Aerofab or of any changes to facility location, ownership or quality management following a quality survey /audit by Aerofab.
- Q25** **AS9102 First Article Inspection:** A complete First Article Inspection in accordance with the requirements of AS9102 is required. This first article will consist of one piece. This piece must be identified and packaged separately along with the report when shipped with the production parts.
- Q26** **Nonconforming Material (Product):** If nonconformances are detected during manufacturing or inspection, the supplier quality assurance personnel shall disposition the nonconformance in one of the following categories: **(a) Rework or completion of operations:** If the nonconformances are in this category, the articles shall be reworked to specification, resubmitted to normal inspection and/or test operations and must meet all drawing requirements **(Note: Repair is not allowed).** **(b) Scrap:** If the article is dispositioned in accordance with the supplier procedures for controlling and disposition of scrap material. Replacements, if required, must be accompanied with the required test samples and certifications. **(c) Submit for Aerofab preliminary review:** Dispositions outside the above will require Aerofab preliminary review action. The supplier shall segregate and control the nonconforming material to assure no further work is accomplished on the discrepant item(s) until Aerofab preliminary review disposition is obtained. The supplier shall request Aerofab preliminary review action. The material must be held at the supplier facility pending direction from Aerofab. When Aerofab preliminary review action is completed, the disposition will be provided to the supplier immediately. **Internal nonconformances in the supplier's daily operations shall be evaluated for their potential to exist in previously produced or delivered product. If a potential latent defect is determined, a written notice to Aerofab is required within 24 hours of discovery.**
- Q27** **Quality System Requirements:** Seller is required to maintain an "Inspection and Test Quality System" compliant to the requirements of AS9003. In lieu of this requirement, AS9100 or ISO9001 compliant systems are acceptable. "Third party" certification is not required. However, the supplier may submit evidence of "third party" certification in-lieu of completing the second section data requirements of the supplier survey form required for Aerofab approval. Seller shall plan, implement, and control processes, appropriate to the organization and the product, for the prevention of counterfeit or suspect counterfeit part use and their inclusion in product(s) delivered to Aerofab. Seller shall ensure personnel performing work in relation to this order are aware of their contribution to product or service conformity; their contribution to product safety; and the importance of ethical behavior. Aerofab will monitor supplier performance through internal metrics. Suppliers with inadequate performance are required to implement corrective actions and may be placed on more stringent controls such as source inspection, first article inspections, on-site surveillance, up to disapproval by Quality and thus be prevented from receiving new purchase orders.
- Q28** **Certificate of Conformance:** *Seller* shall submit with each shipment a Certificate of Conformance stating that the items furnished to Aerofab are in conformance to the Purchase Order/Drawing requirements applicable to the items delivered. Any recognized aerospace, military and/or industry standard, when imposed by the drawing, specification or Purchase Order must be specifically stated and form a part of the certification. *Seller* shall have on file all material, chemical and physical test reports and C of C's for processes performed by sub-tier suppliers and shall make these documents available for review by Aerofab Representative upon request. As a minimum, each supplier and/or sub-tier certification must contain the following information: (a) Purchase Order Number (b) Lot Number (c) Quantity Shipped (d) Part Number (e) Name and address of the company issuing the certification (f) The date of issue, and (g) Signature and title of the Seller's authorized representative.
- Q29** **Raw Material Chemical and Mechanical Test Reports:** *Seller* shall supply one copy of mechanical and/or chemical test reports for each lot, batch or heat, whichever is applicable. *Seller* shall supply original mill certification with shipment of material specified on the purchase order. The report must show that material/parts delivered are acceptable and identifiable to the product being delivered. The heat number and material manufacturer must appear on the certification. All metal alloys shall require traceability to the original heat number and shall comply with the current material specification revision in effect when melted (or at time of contract award). The heat number and material manufacturer



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must appear on the certification. Material converters are responsible for maintaining heat lot traceability and are prohibited from welding, brazing, or otherwise joining coils.

**Q30** **Record Retention:** All documentation (e.g., inspection records, contracts, purchase orders, process and material certifications, test reports, nonconforming material records) for materials supplied to Aerofab Corporation shall be retained at the supplier for a minimum of ten years after the last delivery, and are not to be destroyed unless written approval is first obtained from Aerofab Corporation.

The supplier shall assure that all documentation is readily retrievable and available for review by Aerofab Corporation, its customers or regulatory authorities as directed by Aerofab Corporation. Aerofab Corporation shall maintain the right, at any time whether before or after completion of the contract, to direct delivery of all or any portion of the documentation on either a permanent or temporary basis.