



CHAMPION AEROSPACE LLC PURCHASE ORDER QUALITY CLAUSES

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INTRODUCTION

Supplier shall meet the applicable requirements of the latest revision of the Quality Clause (QC) in effect as the date of the issue Purchase Order unless otherwise amended on the approved Purchase Order document. Contractual Quality Clause(s) are specified on the Purchase Order (PO) and/or signed agreement by Quality Clause number (QC #). Reference CHAMPION AEROSPACE LLC QP 6-3. Refer to www.ChampionAerospace.com/vendor-portal for information.

SCOPE

Applies to Suppliers with issued Champion Aerospace LLC Purchase Orders place on and after October 1, 2019.

DEFINITIONS

Champion Aerospace LLC– for this document defined as the Customer with which an agreement or purchase order has been approved and provided for a scope of work, goods, or services.

QC # QC Title and Description

100 QUALITY MANAGEMENT SYSTEM (QMS) REQUIREMENTS:

- a. Establish, implement and maintain a QMS or register to AS/EN/JISQ 9100:2016 and/or ISO 9001:2015 or deemed compliant (acceptable) to AS/EN/JISQ 9100:2016 and/or ISO 9001:2015 as determined by CHAMPION AEROSPACE LLC.
- b. **FOD:** Establish, implement and maintain a Foreign Object Damage (FOD) Prevention Program compliant to NAS 412 Foreign Object Damage (FOD) Prevention Guidance Document, AIA (Aerospace Industries Association).
- c. Where the Supplier is registered to AS/EN/JISQ 9100:2016 and/or ISO 9001:2015, the Supplier is responsible for informing CHAMPION AEROSPACE LLC Quality Department at quality@champaero.com when there are changes to the status of the registration (addition, change in scope, renewal, revoked).
- d. Supplier is responsible for informing CHAMPION AEROSPACE LLC Quality Department at quality@champaero.com when there are changes as a minimum to:
 - Supplier ID/DUNS number (if changing, provide old and new numbers),
 - Supplier Quality Contact for CHAMPION AEROSPACE LLC (name, title, email, and phone number),
 - Supplier Quality Manager change,
 - Changes in manufacturing, assembly, testing, or storage locations,
 - Changes to the company ownership,
 - Where specified changes requested by sub-tier Suppliers, CHAMPION AEROSPACE LLC approval prior to implementation, and
 - Transfer of work from an existing sub-tier source to a new Supplier, CHAMPION AEROSPACE LLC approval prior to implementation.
- e. Quality records are required to be retained for a minimum of ten (10) years. Quality records shall be made available within 24 hours upon CHAMPION AEROSPACE LLC request for its customers or regulatory bodies such as the FAA.
- f. Suppliers are responsible for a Supplier management process to ensure relevant requirements are flowed down.
- g. Suppliers are responsible to ensure product(s) manufactured utilize only authentic, conforming, specified material requirements, and meet stated design requirements.



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h. Prevention of Counterfeit Parts: Suppliers are responsible to have an established, implemented and maintained "Prevention of Counterfeit Parts" process and all persons including sub-tier Suppliers are aware of the requirement and need to prevent the use of counterfeit parts as part of their contribution to product or service conformity, contribution to product safety and the importance of ethical behavior. Compliance to AS/EN/JISQ 9100:2016 and/or AS/EN/SJAC 9110:2016.

i. Suppliers are responsible to ensure that when Nonconforming Material part(s) are being returned to CHAMPION AEROSPACE LLC where the Supplier HAS NOT PERFORMED ANY WORK that the shipping documentation is "FLAGGED/MARKED" at the TOP of the packing list and the CofC if applicable with a statement that is clearly visible (min. 18 font size),

"PARTS BEING RETURNED – NO WORK DONE"

(OR SIMILAR WORDING TO INFORM CHAMPION AEROSPACE LLC Incoming Receiving).

j. Suppliers using media acceptance authority, i.e. stamps, electronic signatures, passwords, etc. shall have a process that is established, implemented and maintained for control.

k. Procedures shall be implemented to ensure that eye examinations, including visual acuity and color vision, as applicable, are administered by a medically qualified/trained person for all individuals performing visual inspection and/or other product acceptance activities that require visual acuity, including gage and instrument calibration.

- Intervals shall not exceed one year for visual acuity and three years for color vision.
• Individuals shall be tested in at least one eye, either corrected or uncorrected.
• Records shall be retained for each individual for the length of employment.
• Table of People to Include at a minimum:

Table with 2 columns: Visual Inspection Employee Include., Shall be compliant with.. Rows list activities like Calibration, In-process inspection, Final release, Welding, Layout, FAI, Dimensional and vision requirements like Snellen 14/18, (20/25), or Jaeger2.

l. Former QC 150, Suppliers are responsible to have an established, implemented and maintained process for Software Controls used in manufacture, inspection or acceptance, and engineering to ensure configuration, backup, and ownership control.

m. Receiving Documentation of the "Packing List" and "Certificate of Conformance (QC250)" shall be included in Box 1 of the shipment.

First Article Inspection (QC220) maybe submitted along with documentation BUT electronic submission is the preferred method.

NOTE: Electronic copies of documentation DOES NOT EXEMPT the requirement to include the documentation in Box 1 of the shipment. Failure to include documentation may result in returned product.



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- n. QMS process established and implemented to identify, control, calibrate and maintain inspection, measuring and test equipment that is used to establish or verify product requirements.
- o. Champion Aerospace LLC may request suppliers to develop and implement a Zero Defect Plan (ZDP). Where requested, the ZDP shall include requested information to drive improvements.

101 ESD (Electro-Static Discharge) Program – The supplier shall implement and maintain an ESD program compliant with requirements in ANSI/ESD S20.20-2014.

110 CALIBRATION SYSTEM

The Supplier is responsible to establish, implement and maintain a calibration system that conforms to the applicable requirements of ISO ISO/IEC 17025 or ANSI/NCSL Z540.3. Where the Supplier contracts calibration services, the service provider shall be certified to ISO ISO/IEC 17025 or ANSI/NCSL Z540.3. ISO 10012 maybe used as a guidance in the calibration system.

120 GAGE CALIBRATION AND TESTING LABORATORIES

- a. Where the Supplier contracts gage calibration or testing services, the service provider shall be certified to ISO ISO/IEC 17025 or ANSI/NCSL Z540.3.
For MATERIAL TESTING LABS ONLY, Nadcap, GE Aviation S400 Accreditation Program, or Honda Aerospace approval is required.
- b. The Supplier is responsible for informing CHAMPION AEROSPACE LLC Quality Department at quality@champaero.com when there are changes to the status of the registration (addition, expiration, change in scope, renewal, revoked).
- c. QC 180 also applies where QC 120 is specified.
- d. All Calibration Certification documents shall include at a minimum the following items:
 - a. Supplier's Name and Address
 - b. Supplier's Accreditation Certificate number to ISO/IEC 17025 or ANSI/NCSL Z540.3 and Date of Expiration
 - c. Unique Certificate Number
 - d. CHAMPION AEROSPACE LLC Purchase Order Number
 - e. Equipment Identification of the Calibration Service:
 - CHAMPION AEROSPACE LLC Gage Identification Number
 - Serial Number
 - Model Number
 - Equipment Manufacturer
 - Type of Equipment (Electronic, Mechanical, etc.)
 - Description
 - f. Calibration Details:
 - Date of Calibration
 - Calibration Due Date (Next)
 - Calibration Interval
 - Temperature and Relative Humidity (Conditions service performed in)
 - Calibration Procedure (Used in calibration)
 - As Found Decision (In Tolerance, Out of Tolerance, etc.)



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- As Left Decision
- Name of Person Performing Calibration
- g. Calibration Test Data
 - Testing Point
 - Standards
 - Tolerance – and +
 - As Found Reading
 - As Left Reading
 - Measurement Uncertainty
- h. NIST Traceability, all standards and procedures must be traceable to NIST. Where no procedure exist, approved CHAMPION AEROSPACE LLC procedure shall accompany the Certificate
- i. Standards Used in the Calibration
 - Identification
 - Type/Description
 - Last Calibration Date
 - Calibration Due Date

130 PREFERENCE FOR DOMESTIC SPECIALTY METALS

- a. Supplier agrees to comply with Defense Federal Acquisition Regulation Supplement DFAR 252.225-7009, Restriction on Acquisition of Certain Articles Containing Specialty Metals, when this clause is specified in the purchase order.
- b. Use of foreign specialty metals may only be used with written authorization from CHAMPION AEROSPACE LLC.

140 MATERIAL PROHIBITION SUBSTITUTION

A. Unauthorized Material Substitution (General)

- a. Unauthorized material substitutions are not permitted on CHAMPION AEROSPACE LLC product. Unauthorized material substitution includes any deviation from the engineering definition of a raw material.
- b. Supplier agrees and understands that such deviations only apply to this purchase contract, and only as indicated in the CHAMPION AEROSPACE LLC authorized document.

B. Metallic Materials (Specific)

- a. Temper or Condition Conversion - Unless specifically authorized by the engineering definition, conversion of a raw material (i.e. heat treat to change the temper or condition of the material) constitutes material substitution of the condition provided by the manufacturer.
- b. Metallic Raw Materials - Supplier shall ensure that metallic materials covered by current or obsolete/superseded specifications are produced using standard industry practices. Raw material must not be re-certified. Raw material certifications for material or parts shall reflect the form and size of the raw material as originally manufactured by the raw material producer.

C. Specification Supersession



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- a. For government specifications and standards canceled after June 1994, Supplier shall submit a Request for Deviation/Waiver to use appropriate current industry standard specifications.
 - D. **Reports** – Raw material certification as required by First Article quality clause 220.
- 150 SOFTWARE QUALITY ASSURANCE** – For delivered software, the software functions shall deliver the designed output based on input.
For control of supplier software see QC 100.i. for non-deliverable software.
- 160 MATERIAL REVIEW BOARD (MRB)**
MRB authority for “USE-AS-IS” and repair dispositions is NOT granted on CHAMPION AEROSPACE LLC designed products.
- 170 NONCONFORMING MATERIAL**
- a. See QC 100.i.
 - b. Authority to ship nonconforming material must be obtained through approval of CHAMPION AEROSPACE LLC Quality Engineer or Engineering representative using the Supplier Request for Deviation/Waiver Form 113008 prior to shipment.
 - c. Nonconforming material shipped without prior approval is subject to return at the Supplier's expense.
 - d. Each Supplier is required to report to CHAMPION AEROSPACE LLC within 24 hours if a product or article has been released that is suspect or subsequently found not to conform to the applicable design data.
- 180 CHAMPION AEROSPACE LLC/CUSTOMER/GOVERNMENT/REGULATORY BODIES/FAA ACCESS**
The Supplier will allow access by CHAMPION AEROSPACE LLC, it's CUSTOMER, GOVERNMENT, REGULATORY BODIES, FAA access for the right to audit any and all systems, processes and materials in accordance with the purchase order, contract, FAR requirement and/or any other requirement outlined and agreed upon.
- 190 SOURCE INSPECTION AND SUVEILLANCE ASSESSMENT**
- a. Supplier will allow access by CHAMPION AEROSPACE LLC, its CUSTOMER, GOVERNMENT, REGULATORY BODIES, FAA access where source inspection or surveillance assessment of system, procedure(s), facility is required and is mandatory prior to shipment of the purchased items.
 - b. Supplier shall make available during the visit: its equipment, gages, and measuring and testing equipment when required to determine conformance to contractual requirements.
 - c. Where needed, the Supplier's personnel shall be made available for operation of such equipment, gages, and measuring and testing equipment and for verification of accuracy and condition.
- 200 GOVERNMENT SOURCE QUALITY ASSURANCE (GSQA)**
- a. GSQA inspection required prior to shipment.



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- b. Upon receipt of this purchase order quality clause, the Supplier shall promptly furnish a copy to the GSQA inspector who normally services the Supplier's facility or to the GSQA inspector as identified by CHAMPION AEROSPACE LLC.
- c. Where delivery of items will be delayed due to GSQA requirements, the Supplier shall notify the CHAMPION AEROSPACE LLC Purchasing representative immediately (**within 72 business hours**).
- d. The Supplier shall ensure that all shipping documents contain evidence of GSQA inspector activities.

210 TRACEABILITY

- a. Traceability shall be maintained from receipt of raw material through finished product.
- b. Records and material must be identified by lot number, material type, specification and applicable revision identifier or date of issue, heat number, serial number, etc., as required to maintain traceability.
- c. Records shall be maintained in conditions outlined in the Supplier's QMS to protect record integrity and access.
- d. **Records shall be maintained on file according to the specified time, or where length of time is not specified according to time in QC 100.e.**

220 FIRST ARTICLE INSPECTION (FAI)

- a. Submit First Article sample with report for first build, revisions, and after 2-year lapse in production.
- b. **The PREFERRED process for FAI is the SAE International AS9102 First Article Inspection process. Where suppliers FAI processes differ from the AS9102, contact the Champion Aerospace LLC Quality Engineer for support.**
- c. The supplier shall furnish first article sample(s) produced using the material, tooling, processes, and planning to be used for subsequent deliveries.
- d. The first article samples(s) shall be identified and submitted with a FAI report. The FAI report shall include the CHAMPION AEROSPACE LLC drawing **and revision level** with numbered characteristics corresponding to an itemized layout reflecting actual readings and shall show compliance to all drawing characteristics, blueprint notes and specifications. Include the method of measurement for dimensional characteristics.
- e. For subsequent revisions to the drawing, only those characteristics, notes or specification affected by the revision require reporting.
- f. A copy of the raw material C of C is required for an initial build first article and a first article submitted after a 2-year lapse in production.
- g. Special Process First Articles, require the Supplier to follow instructions on CHAMPION AEROSPACE LLC Form 106009 attached as part of the purchase order or located on the CHAMPION AEROSPACE LLC supplier portal and submit for approval with first article sample(s).

NOTE: Submit initial build first article prior to production run shipment unless otherwise directed by CHAMPION AEROSPACE buyer.

230 **Not used with this revision.**

240 SPECIAL PROCESSES



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- a. The supplier shall maintain current process control as documented in an approved Technical Plan.
- b. The Technical Plan document must include items listed in QC 220 and be submitted for CHAMPION AEROSPACE LLC approval prior to submission of the first production order.
- c. Once the Technical Plan is approved by CHAMPION AEROSPACE LLC, it is considered to be a FIXED PROCESS and no changes to the process is allowed without prior CHAMPION AEROSPACE LLC approval via a Technical Plan revision request of change submission.
- d. A Supplier Using a Sub-tier Supplier of a Special Process requires the CHAMPION AEROSPACE LLC Issued Supplier Responsible for Workmanship and Quality.
- e. CHAMPION AEROSPACE LLC reserves the right to audit Sub-tier Suppliers of Special Processes, and to Mandate or Ban the Use of Sub-tier Suppliers.
- f. Special process operators shall be certified to industry standards for soldering, welding, NDT and have current certifications, example IPC J-STD-001.

250 CERTIFICATE OF COMPLIANCE (CofC)

All Supplied parts/processes to CHAMPION AEROSPACE LLC must be certified to comply with all purchase order requirements. For Standard Off the Shelf (CATALOG) ITEMS, refer to section below. For other supplied parts/processes an accompanying CofC MUST at a minimum contain the following items and documents:

- a. CHAMPION AEROSPACE LLC's Purchase Order Number
- b. CHAMPION AEROSPACE LLC Part Number and Drawing Revision Level
- c. Quantity Supplied
- d. Supplier's Name and Address
- e. Where applicable, Supplier's Part Number
- f. For AGE SENSITIVE MATERIAL (Shelf LIFE) a Minimum of 75% of the Shelf Life Must be Remaining at Shipment Date. The CofC must include reference to:
 - a. Manufacture/Cure Date
 - b. Lot/Batch Code
 - c. Expiration Date
- g. Material and/or Special Process Specifications (CHAMPION AEROSPACE LLC, Military, Government, or Commercial) Documented on the Contract, PO or Drawing Callout.
- h. Verifiable Results (usually numerical results or observed visual criteria) of All Testing/Inspections Required by PO or Drawing Specifications for Special Processes and Other Applicable Products.
- i. Certification of 100% inspection or Cpk data when Quality Clause 310 or 360 is required on the Contract or Purchase Order.
- j. Attached Copy of Authorized Deviations/Waivers Where Applicable.
- k. Supplier Representative Signature, Title, and Date of the CofC. Computer Generated Signatures are Acceptable.
- l. For Nonconforming parts, QC 100.i. is required.

STANDARD OFF THE SHELF (CATALOG) ITEMS

For Standard Off The Shelf (CATALOG) Items, the following items are Acceptable unless otherwise specified:

- a. Packing List Type Certification where a Signed Statement is Included
- b. Reference to CHAMPION AEROSPACE LLC's Purchase Order Number



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- c. Manufacturer's Name and Part Number (Revision level not required) for Each Listed Item

NOTE: Statement including phrases such as "to the best of my knowledge and belief" are not acceptable. The statement "the material meets all applicable specifications, drawings, and PO requirements" (or similar statement) is not acceptable in lieu of supplying the information required in g. and h. above for manufactured parts and processes.

260 MATERIAL TEST REPORTS

Supplier Shall include a Copy of the Mill Test Report (MTR) which Contains the Complete Chemical and Mechanical Test Data that has been Verified by the Supplier as Meeting the Acceptance Requirements of the Applicable Raw Material Specification and/or Engineering Drawing. It is Acceptable to have Actual Test Values or Range Limit Data from the Raw Material Producer.

270 GENERAL REQUIREMENTS FOR AVIATION PRODUCTS

- a. All Parts and Processes Must Conform to the Current Revision of CHAMPION AEROSPACE LLC Specification P&M 1.29.2.
- b. **All Parts Shall be Packaged for Shipment According to CHAMPION AEROSPACE LLC Contract, PO or Specifications for Packaging. Where No Packaging Requirement is Stated, Supplier Shall Using Suitable Means to Prevent Damage during Shipping, Handling and Storage.**

280 SAMPLING

- a. CHAMPION AEROSPACE LLC Reserves Approval Authority over Sampling Plans used for Product Acceptance.
- b. All Sampling Plans will Have an Accept Number of "0" and Reject number of "1". **(DEFECTS ARE NOT PERMITTED).**
- c. CHAMPION AEROSPACE LLC Reserves the Right to Require Justification for Sampling in lieu of 100% Inspection.

290 NOT USED for THIS REVISION

300 THREADS – EXTERNAL

- a. Specified Plated Thread Dimensions are After Plating or Coating using Functional Gaging Practice.
- b. All Openings Must be Suitably Protected against Entrance of Foreign Material.
- c. **Use Suitable Packaging to Protect Against Staining and Damage during Handling, Shipping and Storage.**

310 THREAD INSPECTION AND ACCEPTANCE REQUIREMENTS

Applies to All External Threads Unless Otherwise Specified or Accepted in Writing by the CHAMPION AEROSPACE LLC Product Quality Assurance Engineer or Quality Manager.

REFERENCES:

- FED-STD-H28/20 (System)
- ANSI/ASME B1.3M
- MIL-S-8879



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CHAMPION AEROSPACE LLC Requires Suppliers of Threaded Parts possess Screw Thread Gaging Systems Capable of Complying with ANSI/ASME B1.3M System 22. The Supplier will Conduct Variables Measurement of External Threads for the following Characteristics:

- a. Pitch diameter size
- b. Functional size
- c. Major diameter
- d. Minor diameter (UNJ external only)
- e. Root radius (UNJ external only)

CHAMPION AEROSPACE LLC Requires Suppliers to Perform 100% Inspection as Described Below OR May Sample Inspect When Calculated Process Capability Index (Cpk) is Measured and Maintained ≥ 1.33 with No Inspection Points Out of Control.

Cpk Must Be Calculated Using the LESSER of:

$$\frac{(USL - MEAN)}{3 \text{ SIGMA}} \quad \text{OR} \quad \frac{(MEAN - LSL)}{3 \text{ SIGMA}}$$

Supplier Must Provide Certification of 100% Inspection or Provide the Actual Calculated Cpk values for required characteristics.

Supplier gaging and statistical calculation methods must be able to demonstrate correlation with those methods used by CHAMPION AEROSPACE LLC.

CHAMPION AEROSPACE Receiving Inspection will reject lots that do not meet the Cpk requirements of ≥ 1.33 required characteristics.

320 PRATT & WHITNEY (USA)

Supplier Must Certify the Plating Process Conforms to the Latest Revisions of PW Material Control Lab Manual, sections F-22 and F-44, in addition to other cert. requirements.

330 PRATT & WHITNEY (CANADA)

Supplier Must Certify the Plating Process Conforms to the Latest Revisions of PWC Material Control Lab Manual, sections F-22, F-23 and F-44, in addition to other cert. requirements.

340 CRITICAL ITEMS

Item being ordered is a Critical Item having a Significant Effect on the Product Realization and Use of the End Item Product; Which May Include Safety, Performance, Form, Fit, Function, Producibility, Service Life, etc.; and Requires Specific Actions to Ensure it is Adequately Managed.

350 QUALIFIED PRODUCT LIST (QPL)

Supplier Must State Manufacturer of Items Ordered and Certify that Manufacturer is on U.S. Government Qualified Products List.

360 KEY CHARACTERISTIC FLOWDOWN

- a. Item Ordered May have Requirements for Statistical Control of Selected "KEY" Characteristics.



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- b. Supplier Must Maintain a System for Control and Provide Cpk Data on Certification.
- c. The KEY characteristics Cpk must be maintained at ≥ 1.33 .
- d. When applicable, CHAMPION AEROSPACE LLC Will Identify KEY Characteristics on the Drawing and/or in the PO comments. Contact CHAMPION AEROSPACE LLC Buyer for advice if required.
- e. Sampling Inspection May Only be Used within the Guidelines Specified in Quality Clause 280.
- f. **Where Applicable, Supplier shall have a process to flow down KEY Characteristics to Sub-tier Suppliers and Ensure Sub-tier Supplier Process Capability.**
- g. Alternate Acceptance Method: 100% - KEY characteristics must be within 75% of B/P Tolerances and Centered.

REVISION HISTORY

REV	DATE	Change Description & Reason	Change Person
16	10/02/2019	100 m. Reworded for clarification because FAI is not required to be in hardcopy in Box 1, only the "Packing List and CofC" is required in hardcopy. "First Article Inspection (QC220) maybe submitted along with documentation BUT electronic submission is the preferred method."	Rae Gillespie
15	6/04/2019	ECR 505872 Document Format Changes Include: 1. Change of Header to include the form number, revision level and date, and Page information for better document control. 2. Added Introduction Section and Definitions section for understanding. 3. Formatted QC# to list of requirements where there are long requirements to aid in auditing and identification of nonconformance. QUALITY CLAUSE ADDITIONS are highlighted in RED of the Quality Clause. These significant additions were made to ensure we flow down our customer requirements and/or to ensure our suppliers have effectively implemented and maintain a Quality Management System. Where there were minor wording changes and the intent of the Quality Clause was NOT impacted or changed, there is no highlight. EFFECTIVE DATE: OCTOBER 1, 2019	Rae Gillespie