



TITLE: Quality Assurance Sub-Contract Quality Clauses	DATE: 3/25/2019
OWNER: Operations Manager	

Scope: This process outlines the Exotic Tool Welding (ETW) quality control terms and conditions levied to suppliers providing product or service for ETW. The QA codes identified on the purchase order correlate directly to the quality requirement of the individual purchase order contractual document. Any questions regarding this document should be forwarded to your ETW buyer. Changes from the last revision will be kept highlighted until a new revision.

- QA-1 Right of Entry**
Exotic Tool Welding, Inc., its customers and regulatory agencies, reserve the right of entry to vendor, their subcontractors or any place necessary to determine and verify the quality of contracted work, records, or material.

- QA-2 Quality System & Awareness**
The supplier shall maintain an effective quality management system that is appropriate to the service/product provided (AS9100, NADCAP, ISO9000, G.E., etc.). Any specific certification requirements will be stated on ETW's purchase order. The supplier must be aware of their contribution to product/service conformity, product safety, and the importance of ethical behavior. At a minimum, the supplier must address the following:
 - A. Contract Review
 - B. Control of Vendors (changed from vendor approval)
 - C. Product Verification
 - D. Traceability & Identification
 - E. Process Control
 - F. Inspection
 - G. Calibration
 - H. Non-conforming Control
 - I. Training
 - J. Record and Document Control
 - K. Control of Customer Property
 - L. Internal Audits
 - M. Control of Equipment
 - N. Qualification of Personnel

- QA-3 Record Retention Time**
The supplier shall retain ETW records for a minimum of current year plus 10 years or as specified on the purchase order. ETW shall be notified prior to the destruction of records pertaining to ETW purchase orders.

- QA-4 Certificate of Compliance**
The supplier shall furnish a certificate of compliance with each shipment that attests to compliance of the purchase order requirements.
 - A. The certificate of compliance shall certify that all materials, products, and/or services conform to the requirements listed within the purchase order to include any drawings, referenced specifications, process requirements, inspection requirements, and other relevant technical data.
 - B. Any other unspecified specifications and/or documents used in addition to determine compliance shall be annotated on the certificate.
 - C. Supplier must work to and reference all of the latest revisions to codes and/or specifications listed unless noted otherwise on the purchase order.
 - D. ETW purchase order number, part number/product/service purchased, heat/batch/lot number (as applicable), documents (as applicable), code(s)/specification(s), code(s)/specification(s) revision level(s), and quantity must be stated.
 - E. The certificate of conformance must be signed by an authorized member of the suppliers' quality team.

- QA-5 Inspection & Verification *Replaces: Certified Inspection Test Data***
 - A. As Applicable: Certified inspection/test data, indicating results of all required inspections shall accompany each shipment. 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



TITLE: Quality Assurance Sub-Contract Quality Clauses

DATE: 3/25/2019

OWNER: Operations Manager

each property tested in accordance with the applicable specification. Specification and revision shall be shown on each report furnished and shall be to the latest release.

- B. For raw materials, the supplier shall furnish with each shipment, one copy of the chemical and physical analysis of the actual laboratory test, identifiable with the material, accomplished by the original manufacturer. The provided MTR's must list the country of origin and be clear and legible.
- C. **Statistical Process Control** – Statistical process control may be required and shall be implemented as defined, including key characteristics, by the purchase order.

QA-6 Material Test Reports (MTR)

A material test report for raw material(s) is required and shall contain the following:

- A. Name/number of the specification and revision with which the material is in compliance.
- B. The lot, batch, heat lot or other traceable designation (i.e. purchase order number, invoice number, etc.).
- C. The reports shall contain the actual test results and or indicate the percentage of each element that makes up the chemical and or physical properties of the raw materials(s).
- D. A statement of conformance to the applicable specification.
- E. Filler Material Only: Unless otherwise stated on the purchase order, all filler metal is to be DFARs.

QA-7 Traceability

Supplier shall maintain lot and batch control of raw materials and details to purchased items through the use of lot, batch, serial number, or date of manufacture, traceability to original manufacturer, as applicable, for all items in the shipment. ETW supplied lots must be kept identified throughout production/processing.

QA-8 Shelf Life

- A. The supplier shall provide material that contains at least 75% of its remaining shelf life.
- B. The supplier shall provide pertinent shelf life data with each shipment.
- C. The supplier shall ensure that all materials, which are harmful to human health and/or property, are properly contained in accordance with applicable Government specifications.
- D. The containers will be marked as to contents with appropriate warnings, precautions, instructions and storage conditions.

QA-9 Safety Data Sheet (SDS)

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 and Washington state codes 296-62-05413 "Materials Safety Data Sheets". Materials not received in compliance with aforementioned OSHA requirements and Washington 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, you are requested to submit those safeguards with MSDS. Send a Toxic Substances Control Act (TSCA) certification letter to the ETW 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).

QA-10 Foreign Object Debris/Damage (FOD)

- A. The supplier shall include in their final inspection procedures, before closing, the inspection for Foreign Objects (loose parts/debris/contamination) or Damage.
- B. A copy of the procedure shall be made available to ETW, or its customer upon request.

QA-11 First Article Inspection Report (AS9102 Requirement)



TITLE: Quality Assurance Sub-Contract Quality Clauses

DATE: 3/25/2019

OWNER: Operations Manager

- A. The supplier shall perform first article inspection on the first deliverable article produced, utilizing all processes and equipment similar to those intended to produce the contracted quantity.
- B. The first article shall conform to all drawings and purchase order requirements.
- C. The results of the FAIR shall indicate 100% conformance to engineering drawing characteristics, special processes, and functional test and laboratory requirements.
- D. The FAIR part/assy shall be identified/tagged as such during shipment to ETW.
- E. A new FAIR is required for the following events:
 - a. A change in the design affecting form, fit or function of the part.
 - b. A change in manufacturing source(s), processes, inspection method(s), location, tooling or materials with the potential of affecting fit, form or function.
 - c. Major repair to production or inspection equipment that may affect product conformity.
 - d. When required as part of corrective action for a part number with repetitive rejection history (typically, a part with three repeated rejections or as required by customer).
 - e. A change in numerical control program or translation to another media.
 - f. A natural or man-made occurrence that may adversely affect the manufacturing process.
 - g. A lapse in production for two years or as specified by customer.

QA-12 Calibration

- A. Calibration System shall be compliant to one or more of the following: ANSI/ISO/IEC 17025 (ANSI/NCSL Z540.1), ANSI/NCSL Z540.3, ISO 10012, and/or MIL-STD-45662.
- B. A written procedure shall be used for calibration. A copy of this procedure shall be made available to ETW, upon request.
- C. Vendor must calibrate equipment to National Institute of Standards and Technology (NIST) standards.

QA-13 Supplier Notification / Report of Discrepancy to ETW

- A. Any departure from drawing specifications or other purchase order requirements must be documented by the Seller and submitted to the ETW buyer for consideration and disposition. A copy of this disposition document must accompany each affected shipment.
- B. The supplier shall notify ETW of latent defects of product or materials after delivery of suspected nonconforming product or materials to allow ETW the opportunity to accept said product and or notify our customer(s) of the nonconformance issues with the delivered product(s).
- C. Supplier must obtain written approval from ETW for nonconforming product disposition.
- D. The supplier shall notify ETW of all issues and obtain contract approval concerning product or materials product definition, product configuration, material substitution or other issues that are outside the scope of the contractual engineering documents.

QA-14 Sub-Tier suppliers / Supplier Flow-Down

- A. Supplier shall notify ETW to obtain approval prior to subcontracting any work on our purchase order.
- B. After approval, supplier must flow-down all applicable requirements to any sub-tier suppliers involved with this order.
- C. A legible copy of all process certifications shall accompany each shipment of material, parts, or assemblies. Special processes shall only be performed by customer-approved sources.

QA-15 Boeing Approved Sources

All special processes for details and assemblies built per Boeing drawings shall be processed utilizing D1-4426 approved vendors. All material and hardware used in details and assemblies built per Boeing drawings shall be obtained from Boeing approved sources.



TITLE: Quality Assurance Sub-Contract Quality Clauses

DATE: 3/25/2019

OWNER: Operations Manager

QA-16 Boeing Commercial – FAA Production Certificate 700

The supplier will place the following statement with all Boeing Commercial shipments:
"Seller hereby acknowledges that the parts and/or materials being shipped under this order are intended for use under Boeing's Federal Aviation Administration (FAA) issued Production Certificate 700 and no articles (or constituent parts thereof) or the accompanying paperwork (e.g., packages, shippers, etc.) contain any Federal Aviation Administration- Parts Manufacturer Approval (FAA-PMA) markings."

QA-17 Control of Changes

The supplier agrees not to make any change in supplier manufacturing facility location, ownership, quality system, change in suppliers, or any changes in product or process without written notification and approval from ETW.

QA-18 Supplier Corrective Action

Supplier shall, on request, provide statements of corrective actions on failures of supplier's product or Quality System. Corrective action statements may require approval from ETW's Quality Assurance.

QA-19 Packaging

Unless otherwise specified by the item drawing, specification of 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.

QA-20 Identification

- A. Unless otherwise specified on the PO, parts, assemblies, and components shall be identified per the engineering drawing and marked with the date of manufacture.
- B. When it is not identified, suppliers must identify part/material/product purchased with at a minimum, part/material/product name/number and ETW purchase order number.
- C. **Filler and Braze Material Requirements:**
 - Material shall be flag tagged one end (alloy & specification at a minimum required)
 - Packaging and certificate of analysis must contain: ETW purchase order number, quantity, specification & revision level, alloy, size (diameter & length), heat and/or lot number, and shelf life (if applicable)
- D. **Flux Requirements:** Packaging to include product name, specification, ETW purchase order number, manufacturer's name, manufacturer's designation, heat and/or lot number, date of manufacture, shelf life (if applicable), directions for mixing and application, and weight of contents
- E. **Tungsten Requirements:** Individual packaging of tungsten requires: tungsten type, specification(s) and rev level(s), diameter, length, quantity, batch/heat/lot number, & ETW purchase order.

QA-21 ETW Source Inspection

- A. Exotic Tool Welding reserves the right to have source inspection performed at the supplier's or sub-tiers supplier's facility prior to shipment. The requirement for source inspection will be defined on the purchase order. *Replaces: Inspection by an ETW Quality Representative is required at your plant prior to shipment of specified product.*
- B. The supplier shall furnish at no cost to ETW inspection/test data, equipment and facilities necessary to accomplish product inspection to applicable drawings, specifications and other requirements.
- C. Final acceptance of purchased product shall be at ETW facilities.



TITLE: Quality Assurance Sub-Contract Quality Clauses

DATE: 3/25/2019

OWNER: Operations Manager

Note: ETW Quality Representatives reserves the right to re-inspect or re-test specified product, review processes and review/audit facilities.

QA-22 ITAR / EAR Restrictions

Documents attached hereto may contain technology and technical information subject to the International Traffic In Arms Regulation ("ITAR") and Export Administration Regulations ("EAR"). Recipient is solely responsible for ensuring that any re-export, transfer or disclosure of this information is in accordance with the applicable government export regulations, ITAR or EAR.

QA-23 SkoFlo Industries Flow-Down Requirements (Ref SPEC-11008)

A. Material Requirements (as applicable):

1. Material Origination Requirement: SPEC-11138. Contact ETW buyer for latest revision.
2. Material test report requirement: EN 10204 3.1
3. Send MTR's via email to ETW for approval prior to use.
4. Documents Required with Shipment:
 - a. Certification of Compliance/Conformance. ETW purchase order number, part number, part description, part revision level, heat/lot number, quantity, specification(s), drawing, and drawing revision must be stated on C of C.
 - b. Completed inspection reports (ref form SF 005)
 - c. Material certification (MTR) must be clear, legible and in English
 - d. **Filler material (if applicable) must be Niton analyzed to confirm material type BEFORE use.** Send sample to ETW to Niton Analyze. Filler rod must be ordered per SPEC-11138. Contact ETW buyer for latest revision
 - e. Welder qualification (if applicable)

B. NDT Report Requirements (as applicable) per SFI-SPEC-11008. Contact buyer for latest copy / revision.

QA-24 Counterfeit Parts / Product

The supplier agrees to plan, implement, and control processes for the prevention of counterfeit or suspect counterfeit part use and their inclusion in product(s) delivered to ETW. The supplier must notify ETW of suspect or detected counterfeit parts/products. ETW suppliers must flow down counterfeit product prevention requirements to their vendors and suppliers.

QA-25 Process Acceptance Authority Media

Acceptance Authority Media (AAM) must be used to record status of tasks and/or operations. Supplier shall maintain compliance and control to AAM requirements.

QA-26 DPAS Rated Orders

If this is a rated order certified for national defense use, the Supplier is required to follow all of the provisions of the Defense Priorities Allocations System Regulation (15 CFR Part 700) in obtaining controlled materials and other products, services and materials needed to fill this order. If this is a DX Rated Order, Supplier must provide ETW with written acceptance or rejection of this order within 10 working days after receipt. If this is a DO Rated order, Supplier must promptly provide ETW with written acceptance or rejection within 15 working days after receipt. The Supplier must include reasons for the rejection in any written rejection of a rated order.



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Revision No.	Date	Prepared By	Approved By	Reason Revised
A	10/6/15	Kalee Moen	SL, KM, CE, JH, TH	Initial Release
B	3/9/16	Tim Hickok	SL, KM, CE, JH, TH	Changed QA-9 from MSDS to SDS
C	9/21/16	Kalee Carlstrom	SL, KC, CE, JH, TH	Added additional quality system requirements to QA-2, added requirements to QA-4 A., changed QA-5 title, added QA-5 C., added QA-6 E., added standards to QA-12 A., rewrote QA-17, rewrote QA-21 A.
D	8/3/17	Kalee Carlstrom	SL, KC, CE, JH, TH	Added QA-24, revised QA-2
E	12/4/17	Kalee Carlstrom	SL, KC, CE, JH, TH	Added QA-25, QA-26
F	2/20/18	Tim Hickok	SL, KC, CE, JH, TH	Revised QA-16, FAA-PMA requirements for Boeing
G	3/25/2019	Kalee Carlstrom	SL, KC, CE, JH, TH	Added note C. to QA-12, revised QA-12 B. for clarification.