



Supplier Quality Requirements

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SQR-01 Quality Management Systems –

Under this contract, the supplier shall flow down the substance of this clause to all subcontracts awarded.

AS9100 Suppliers: The supplier will at a minimum maintain and implement a documented quality management system, available in the English language, which is certified to AS9100 and/or ISO9001 (AS9120 is acceptable for distributors, ISO 17025 is acceptable for material test and calibration laboratories). This system is subject to review by Three Sigma Mfg. Quality Assurance.

Less than AS9100 Suppliers – Suppliers who do not maintain a quality system certified to AS9100 and/or ISO9001 must maintain documented procedures, available in the English language, that address the following:

1. Identification and Traceability
2. Control of Nonconforming Material
3. Control of Customer Property
4. Process Control
5. Measurement and Monitoring of Product
6. Training
7. Preservation of Product
8. Control of Quality Records
9. Internal Audit
10. Contract / Purchase Order Review

Additionally, the supplier shall promptly notify Three Sigma Mfg. of any changes in the management representative with assigned responsibility and authority for the quality system.

SQR-02 Certifications –

Under this contract, the supplier shall flow down the substance of this clause to all subcontracts awarded.

Purchased Complete Product - A certificate of conformance shall accompany each shipment and include a statement that the product provided meets the controlling engineering and purchase order requirements. The certificate of conformity shall include traceability (manufacturer's production order/lot number) to the product provided. The certificate of conformity shall also include a listing of special processes performed by supplier and the supplier's sub-tier. This will include the special processor name and process designation (specification, type, class, and/or grade, material condition, etc. as applicable).

Raw Materials and Hardware - A certificate of conformance shall accompany each shipment and include a statement that the product provided meets the controlling engineering and purchase order requirements. The certificate of conformity shall also include traceability (metals - heat lot number, perishables - batch number) to the product provided. Distributors of hardware or raw material are required to include the legal name of the product manufacturer on the certificate of conformance immediately following the part number and provide copies of the original manufacturer certifications. Certified physical and metallurgical test reports are to be provided where required by controlling specification.

Processes - A certificate of conformance shall accompany each shipment and include a statement that the product provided meets the controlling engineering and purchase order requirements. The certificate of conformity shall also include traceability (Three Sigma Mfg. PO) to the product provided. The certificate of conformity shall also include a listing of special processes performed. This will include the process designation (specification, revision, type, class, and/or grade as applicable). For primer and paint processes, the average coating thickness will be

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documented on the certificate of conformance. Certified physical and metallurgical test reports are to be provided where required by controlling specification.

SQR-03 Shelf Life – The manufacturing and applicable expiration dates must be noted on each individual container and certification. Product must be shipped to Three Sigma Mfg. with a minimum of 60% of its certified shelf life remaining, unless otherwise specified by the PO requirements.

SQR-04 First Article –

Under this contract, the supplier shall flow down the substance of this clause to all subcontracts awarded. Supplier shall perform First Article Inspection in accordance with AS9102 (latest revision) on all supplied product. Supplier shall furnish FAI supporting documentation (material certs, work orders, etc).

First Article Inspection - Supporting documents shall be provided within FAI reports Supporting documents shall consist of but are not limited to:

- Material Certifications
- Process Certifications
- Bubble Drawings
- Acceptance Data Reports
- Acceptance Test Results
- Production Planning
- Any additional documentation related to the FAI being inspected

Delta FAIs shall have applicable supporting documentation as necessary.

SQR-05 Statistical Process Control – Statistical process control is required and shall be implemented on this order as defined on the purchase order.

SQR-06 Pre-production First Part Approval – The supplier shall submit the first part to Three Sigma Mfg. for inspection verification.

SQR-07 Manufacturing Facility Location – Supplier is required to notify Three Sigma Mfg. of changes in manufacturing facility location. Upon review of the proposed changes, Three Sigma Mfg. may require additional information.

SQR-08 Product Packaging – Product must be boxed, banded, and/or shipped in a manner that will ensure that no damage will occur. External threads must have special protection against damage. All supplied product must be segregated by part number and lot.

SQR-09 Right of Entry –

Under this contract, the supplier shall flow down the substance of this clause to all subcontracts awarded. Three Sigma Mfg. and/or Three Sigma Mfg's customer or government representatives will have the right to survey facilities and review all processes, subcontractors, contracted parts, procedures and records.

SQR-10 Subcontracting– Supplier is authorized to subcontract special processes (as defined and controlled by Three Sigma Mfg. customer specifications) outside of supplier's capabilities. All other subcontracting requires written consent from Three Sigma Mfg. Purchasing and approval by Three Sigma Mfg. Quality Assurance. Supplier shall flow down to Subcontractors any/all applicable requirements in the purchasing documents, including key characteristics, where required.

Note: The supplier is required to obtain written approval from Three Sigma Mfg. prior to any subcontracting outside of the United States.

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SQR-11 Three Sigma Mfg. Supplied Drawings– All engineering drawings provided by Three Sigma Mfg. are Three Sigma Mfg. property and must be returned with this order.

SQR-12 NADCAP – Supplier must be NADCAP approved as applicable for the processes being performed. NADCAP approval is required for the following processes:

- Heat Treating (AC 7102)
- Welding (AC 7110)
- Chemical Processing (AC 7108)
- Non-Destructive Testing (AC 7114)
- Surface Enhancement (AC 7117)
- Composites (AC 7118)
- Material Testing (AC 7101)

SQR-13 Quality Records –

Under this contract, the supplier shall flow down the substance of this clause to all subcontracts awarded.

Suppliers shall maintain quality records, including traceability, throughout all stages of manufacturing. No quality records shall be destroyed without the written consent of Three Sigma Mfg.

SQR-14 Revision Control – Unless otherwise specified on the PO, latest revision applies on all engineering and specifications used in product manufacture. Documents may be provided to you by your Three Sigma Mfg. Buyer. Engineering and Three Sigma Mfg. Condition of Supply revisions, are listed directly on the Three Sigma Mfg. PO. POCs may be provided to you by your Three Sigma Mfg. Buyer as required.

SQR-15 Inspection Options –

Under this contract, the supplier shall flow down the substance of this clause to all subcontracts awarded.

Supplier shall perform 100% for in-process and final inspection or Seller shall conform to the requirements of document D1-8007, “Requirements for Supplier Statistical Plans”. Any characteristics identified in the design documentation as “Safety” or “Critical” (or similar) shall not be accepted using statistical product acceptance methods.

SQR-16 Non-conforming Product –

Under this contract, the supplier shall flow down the substance of this clause to all subcontracts awarded.

Supplier shall provide written notification to Three Sigma Mfg. within one (1) business day when a nonconformance is determined to exist, or is suspected to exist, on product already delivered to Three Sigma Mfg. under any order. When the following is known, written notification shall include:

- A - Affected process(es) or product number(s) and name(s)
- B - Description of the non-conforming condition and the affected engineering requirement (i.e., what it is and what it should be)
- C - Three Sigma Mfg. purchase order/line item/release, manufacturer lot number, quantities, and dates shipped to Three Sigma Mfg.
- D - Outside Services non-conforming parts are to be tagged with a description of non-conforming condition. The Supplier shall not use dispositions of use-as-is or repair on nonconforming product.

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SQR-17 Counterfeit Parts –

Under this contract, the supplier shall flow down the substance of this clause to all subcontracts awarded.

Supplier shall put into place a documented program to avoid, detect, mitigate, and disposition counterfeit parts and materials.

Suppliers should utilize and reference AS6174 for guidance. Suppliers shall also flow down counterfeit parts programs requirements to their sub-tiers, especially but not limited to:

- Electronic parts suppliers
- Raw material suppliers
- Distributors

SQR-18 Foreign Object Damage Control Program (FOD) –

Under this contract, the supplier shall flow down the substance of this clause to all subcontracts awarded.

The supplier shall establish, document, and maintain a program to control, eliminate FOD, and/or contamination during the Supplier's manufacturing, assembly, test, inspection, packaging, and shipping operations. When applicable, the Supplier's FOD control program shall include controls to preclude FOD or contamination at the Supplier's sub-tier sources. The following elements shall be included in the Supplier's FOD control program.

- FOD prevention training
- Manufacturing planning consideration for FOD prevention
 - Work sequencing
 - Cleanliness of work area
 - Control of tools, personal items, fasteners, scrap, etc.
 - Protection from FOD during handling, packaging and shipping
 - Periodic (At least annually) evaluation of the FOD control program for effectiveness

QC-19 Spirit AeroSystems Supplier Additional Requirements - Boeing Programs - Wichita

Acceptance of Detail Parts – Final Product Acceptance for all detail parts and/or assemblies must include 100% inspection of temper (Conductivity and Rockwell Hardness) for aluminum alloys, and 100% Rockwell Hardness inspection for steel and CRES alloys. Inspection of temper must be accomplished after the final machining operation on fully tempered material and/or the final heat treatment operation, where applicable. The required range must be listed along with the range of measured values at the appropriate place on each work order and, where applicable, be transferred from process certifications. For clad materials, the type of instrument used to verify compliance must also be listed. Sampling of hardness inspections may be allowed for certain alloys or tensile strength ranges if permitted by the governing customer documents or the corresponding heat treatment specification. Actual values are to be recorded on the Certificate of Conformance.

Tooling – Suppliers utilizing Boeing or Spirit owned tooling are required to comply with D33200, Boeing Suppliers' Tooling Document and STM-130030-1 Spirit AeroSystems, Inc. Tooling Requirements.

Approved Process Sources (D1-4426)- The Supplier is required to maintain compliance with this document as maybe revised from time to time. This document defines the approved sources for special processing, composite raw materials, composite products, aircraft bearings, designated fasteners, and metallic raw materials. All manufacturing and inspection processes which are controlled by D1-4426 shall be performed only by the sources specified in the document. *Under this contract, the supplier shall flow down the substance of this clause to all subcontracts awarded.*

Metallic Raw Material Procurement - Metallic raw materials used for product must be procured from Boeing or a Boeing designated service provider (TMX) unless otherwise approved in writing by Three Sigma Mfg..

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Commodities include: Aluminum sheet, plate, extrusion and coil as well as all wrought and unwrought titanium mill products. This requirement excludes stainless steel materials. *Under this contract, the supplier shall flow down the substance of this clause to all subcontracts awarded.*

Validation of Raw Material Test Reports – When the supplier utilizes test reports to accept supplier purchased raw material, the following requirements apply:

Test reports shall be checked 100% against supplier’s requirements and applicable specifications.

Validation test requirement: Supplier shall periodically validate test reports for raw material accepted on the basis of test reports. That validation shall be accomplished by supplier or other independent party through periodic, scheduled tests of raw material samples. Schedules for frequency of tests will be established by supplier based on historical performance of the raw material supplier.

Supplier shall retain test reports provided by the raw material supplier, as well as supplier’s validation test results as quality records traceable to the conformance of product supplied. *Under this contract, the supplier shall flow down the substance of this clause to all subcontracts awarded.*

Production Certificate - The Supplier is required to place the following statement on all shipping documents:

“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.”

APPLICATION NOTE FOR SUPPLIER: THE PREFERRED LOCATION FOR THE STATEMENT IS ON THE SHIPPING DOCUMENT, NEXT TO, OR FOLLOWING, THE CERTIFICATE OF CONFORMANCE (C of C). THE STATEMENT MAY BE PRINTED, STAMPED OR ATTACHED AS A LABEL OR STICKER TO THE SHIPPING DOCUMENTATION. IT IS ALLOWABLE TO REPLACE "Seller" WITH THE COMPANY NAME OR "WE".

Boeing requires that the provisions/requirements set forth above be included in Sellers direct supply contracts as well as the obligation that they be flowed to the applicable sub-tier supply chain. For purposes of this note, Supply Chain shall mean Seller's complete network of material, equipment, information, and services integrated into products and services. It focuses on direct and all lower tier suppliers. *Under this contract, the supplier shall flow down the substance of this clause to all subcontracts awarded.*

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