

Mid-America Aerotech, LLC

Supplier Quality Requirements - SQR-1

PURCHASE ORDER ATTACHMENT

PURPOSE

This document defines restrictions and quality system requirements applicable when goods and services are procured to Mid-America Aerotech, LLC. (MAA) part numbers or Military, Federal or Industry specifications or standards.

SCOPE

The following are special MAA quality requirements and selective clauses in nature and will appear on a Mid-America Aerotech Purchase Order, and when applicable.

ORDER OF PRECEDENCE

The order of precedence for Mid-America Aerotech (MAA) purchases is defined in Mid-America Aerotech Purchase Order Attachment.

010. PROCESS RESTRICTIONS

Unless otherwise directed by the Purchase Order, the following process restrictions apply:

- a. **Glass Beads** are prohibited from use in the processing or manufacturing of design authority parts, components, or assemblies unless by specific note on the drawing. Requests for exceptions shall be submitted in writing to the Mid-America Aerotech buyer for each specific part number.
- b. **Elastomeric Compounds** shall have 75% or greater shelf life remaining upon receipt at MAA based on SAE ARP5316. The supplier shall identify manufacturers name, the compound trade name, batch number, cure date, and specific gravity range for each lot. In addition, elastomeric compounds used in assemblies and/or kits shall be marked with the cure date of the oldest synthetic rubber part in the assembly as well as the date of assembly.
- c. **Electronic Components** (i.e., transistors, integrated circuits, connectors, etc.) ordered to military specifications, the component manufacturer and lot / date code for each component must be identified on the packing list.
- d. **Electrical Discharge Machining (EDM)** is not permitted for manufacture of design authority parts unless allowed by specific note on the design authority drawing. Requests for exceptions shall be submitted in writing to the MAA buyer for each specific part number.
- e. **Electrostatic Discharge Protection** – Devices designated by the drawing as static sensitive, or otherwise applying static sensitive technology, must be properly handled, packaged, and labeled in conformance with ANSI/ESD S20.20 or BS EN 100015-1.

020. QUALITY REQUIREMENTS

Unless otherwise directed by the Purchase Order, the *following* quality system requirements apply:

- a. **Quality System Requirements** – Suppliers must maintain a quality system that, at a minimum, complies with ISO9001 (latest revision). When supplier compliance and/or certification to AS9100, AS9110, ISO9001, EASA Part 21, EASA Part 145, or FAA FAR 145 is specified by MAA the supplier is responsible to notify the MAA buyer within 5 working days of any changes in Quality System status, including extensions or reductions in scopes of approval, third party and/or regulatory Quality Approvals that are either gained or withdrawn. The supplier's loss of certification or failure to notify MAA of their loss of certification may result in being disapproved as a MAA supplier.
- b. **Record Retention** – Suppliers shall retain verifiable objective evidence of build, inspection & test records, special process certifications, raw material certifications and certificates of conformance for a minimum of ten (10) years from date of shipment, unless a longer period is otherwise specified. The data shall be made available to MAA upon request, at no extra charge. Records shall be appropriately identified in accordance with customer, regulatory and company defined requirements.
- c. **Calibration System** – Calibration of measuring and test equipment used for product acceptance shall be traceable to established international or national measurement standards (e.g., BSI, NIST). Procedures for periodic calibration, certification and maintenance of tools and equipment shall be established and followed.
- d. **Inspection System** – Suppliers shall develop inspection procedures and maintain records of inspection. Records shall include evidence of inspection for all attributes (i.e., first article inspection) of products / processes supplied to MAA. The inspection system shall evaluate products/processes to assure that only hardware/services that conform to Purchase Order requirements are delivered to Mid-America Aerotech.
- e. **Travelers** – Suppliers shall maintain a traveler or equivalent control mechanism that directs procedures appropriate for the control of quality and configuration through all stages of production.

- f. **Nonconforming Product** – Suppliers shall develop procedures that assure product that does not conform to specified requirements is not shipped to MAA. Dispositions of *Use As-Is* or *Repair* for products shall require written authorization prior to shipment. Suppliers are also required to notify the MAA Buyer within 24 hours of discovering any nonconformance that could potentially affect hardware that has previously been shipped to MAA.
- g. **Statistical Techniques** – Suppliers are responsible for understanding and reducing variation within processes and are encouraged to use control-charting techniques. When control charting is not performed, sample inspection of all attributes shall be performed to ANSI/ASQ Z1.4 (MIL-STD-105), Level II 1.0 AQL, c = 0.
- h. **Special Processes** – It will be the responsibility of the supplier to utilize an approved special processor that meets the quality standards of MAA quality requirements. The use of a MAA/Customer approved supplier does not relieve the supplier from responsibility to furnish acceptable supplies.
- i. **Supplier Control** – Suppliers, including dealers and distributors, are responsible for ensuring that the applicable requirements of this Purchase Order are imposed on lower tier procurements for raw material, components or process services being used in the manufacture of products or services being provided.
- j. **Prohibited Sources** – MAA suppliers and/or sub-tier suppliers are prohibited from using any source listed on the US Government Excluded Parties List System (EPLS), (ref. <https://www.sam.gov/SAM/pages/public/searchRecords/search.jsf>), in the production of products to be delivered to MAA.
- k. **Counterfeit Parts Prevention** – The supplier shall have a program in place to prevent the delivery of counterfeit parts and materials to MAA. All parts, materials, and assemblies (electrical, mechanical, raw material) included in the purchased product delivered to MAA shall be procured only from an MAA-approved distributor, OEM (Original Equipment Manufacturer) or OCM (Original Component Manufacturer). The supplier is responsible for the flow-down of this requirement to its sub-tier contractors and their compliance to it. Further guidance on counterfeit parts avoidance can be found in SAE documents AS5553 (Electronics) and AS6174 (Material).
- l. **Certificate of Compliance (Conformance)** – The Certificate of Compliance (Conformance) is a quality record that shall include part number and drawing revision, Military, Federal, or Industry specification number, purchase order number, quantity, date shipped, and manufacturer's name and authorized representative signature. The supplier shall furnish information on their source of supply that could include items such as serial numbers, lot numbers, heat numbers, batch, date code and cure date unless otherwise stated on the Purchase Order.
- m. **Right of Entry** – MAA, MAA's customer and relevant regulatory authorities will have access to supplier's, and all other facilities involved in the order, where they will have access to all procedures, practices, processes, associated documents, and records related to quality assurance, quality control and configuration control. MAA reserves the right to determine and verify quality of work, records, and material. The supplier shall notify MAA of any change in the location of supplier's facility.
- n. **Responsibility for Conformance** – Acceptance of product shall not be used as evidence of effective control of quality by the supplier and shall not absolve the supplier of responsibility for acceptable products or preclude subsequent rejection by MAA customers.
- o. **Industry Specifications and Standards** – For all Military, Federal, and Industry specifications and standards, the supplier shall comply with the revision in affect at the time the MAA Purchase Order is issued. MAA reserves the right to request a different revision that would be specified on the Purchase Order.

030. GOVERNMENT PRIORITY

If this order is covered by the Defense Priority Allocation System. It carries a priority rating. See remarks on the Purchase Order header for contract number and/or rating.

040. PENETRANT INSPECTION – GENERAL

Penetrant inspect all parts per ASTM E1417 or OEM specifications. One copy of the certified inspection report shall accompany each shipment.

050. MAGNETIC PARTICLE INSPECTION – GENERAL

Magnetic Particle inspect all parts per ASTM E1444 or OEM specifications. One copy of the certified inspection report shall accompany each shipment.

060. CERTIFICATION OF X-RAY

All parts requiring radiographic certification shall be submitted to an approved x-ray laboratory and processed in accordance with applicable specifications and standards. Findings shall be reported on an appropriate form, including the name of the reader, and signature and title of an authorized laboratory representative. The x-ray film shall be Kodak "M" or equivalent for aluminum and magnesium thickness to 3/4 inch. Kodak type "AA" or equivalent shall be used for heavy alloys of over 3/4 inch thickness.

- 070. SPECIAL CASTING INSPECTION**
Visual and nondestructive test inspect per AMS-STD-2175 or drawing requirements. One copy of the certified visual and nondestructive test inspection report shall accompany each shipment. MAA's customer's approved sources are used when required.
- 080. ULTRASONIC TESTING**
Ultrasonic testing shall be accomplished as required by the applicable material specification and evidence of such tests shall be included on or with the material properties test report. MAA customer's approved sources are used when required.
- 090. RAW MATERIAL CERTIFICATION**
Raw material certification is required with each shipment.
- 100. HEAT TREATMENT – GENERAL**
Each shipment shall be accompanied by one legible copy of the detailed heat treatment cycle used. The report must contain the signature and title of an authorized representative of the agency performing the process and must assure conformance to specification requirements.
- 110. CHEMICAL TEST REPORT**
Each shipment shall be accompanied by one legible copy of the Chemical Test Report verifying the chemical ingredients of the material furnished. The report must contain the signature and title of an authorized representative of the agency performing the process and must assure conformance to specification requirements.
- 120. PHYSICAL TEST REPORT**
Each shipment shall be accompanied by one legible copy of the Physical Test Report verifying the physical properties of the material furnished. The report must contain the signature and title of an authorized representative of the agency performing the process and must assure conformance to specification requirements.
- 130. HARDEN ABILITY TEST REPORT**
Each shipment shall be accompanied by one legible copy of the hardenability test identifiable to the heat number of each heat of material. This may be included on the Materials Properties Test Report.
- 140. GRAIN SIZE – MATERIAL TESTS**
The material test grain size as required by the applicable material specification shall be included on or with the Materials Properties Test Report.
- 150. BEND TEST**
Bend test specimens shall be made as required by the applicable material specification and evidence of such test shall be included on or with the Materials Properties Test Report.
- 160. FUNCTIONAL TEST REPORT**
Each shipment shall be accompanied by one legible copy of report of actual test results identifiable with the test parameters and products submitted. These reports must contain the signature and title of an authorized representative of the agency performing the test and must assure conformance to specified requirements.
- 170. SHOT PEENING**
Shot Peening will be accomplished in accordance with AMS-S-13165 as supplemented by overhaul technical data or OEM specifications. One copy of the certification stating shot size, pressure and coverage will accompany each shipment.
- 180. GEAR TESTING**
Each gear manufactured for use in Group 1 applications will be accompanied by a CNC gear checking equipment in lieu of Red Line Charts. The chart will include the gear's part number and revision, purchase order number, lot number/ID number and acceptance signature of an authorized company representative of the supplier.
- 190. CONDITIONS FOR THE USE OF OEM TECHNICAL DATA**
- a. OEM Technical Data is being furnished to your company for the sole purpose of responding to a Mid-America Aviation RFQ or performing on purchase order number.
 - b. All OEM Technical Data is considered proprietary and will be marked accordingly.