

<p>Experi-Metal Inc. 6385 Wall Street Sterling Heights, MI 48312</p>		<p>SUPPLIER QUALITY MANUAL</p>	<p>DOC: EMI REV: ReI Date 9/1/2020</p>
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SUPPLIER QUALITY REQUIREMENTS

RECORD OF REVISIONS

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SUPPLIER QUALITY REQUIREMENTS

Purchase Order Supplement

GENERAL REQUIREMENTS FOR AEROSPACE SUPPLIERS

1.0 PURPOSE

This document establishes the Experi-Metal, Inc. (EMI) quality system requirements for all suppliers when the purchase order Product Code is listed as PPAERO or MATLAERO on the purchase order issued by EMI. All written and oral communications with the supplier as well as the supplier's specifications, procedures, and reports shall be in English.

2.0 APPLICABILITY

This SUPPLIER MANUAL will be identified as a purchase order requirement on all EMI purchase orders when procuring products for EMI aerospace/defense customers (Product code PPAERO/MATLAERO). Suppliers will be responsible for implementing all the requirements of this manual in addition to the specific requirements defined by the purchase order. The supplier shall flow down these requirements to sub-tier suppliers when they are used. Acceptance by EMI auditor, source-inspector, receiving-inspector, engineer, or any other representative of EMI does not relieve the supplier of their responsibility to furnish products or services that conform to all purchase order requirements. In the event that the purchase order conflicts with the requirements of this document, the purchase order will supersede this document.

3.0 DEFINITIONS

Group 1: Functional Hardware that cannot be verified at EMI.

Group 2: Unless otherwise stated on the purchase order, product made to EMI drawings or EMI's customer drawings or specifications that are not Group 1.

Group 3: Standard and/or catalog components (NAS, MS, etc.).

Supplier: The seller to EMI who provides a product or service in accordance with purchase order agreement.

Sub tier Supplier: A direct supplier to EMI's supplier.

EMI: A buyer and/or representative of EMI, otherwise known as the buyer.

Purchasing Agent: An agent of EMI authorized to negotiate and issue contracts on behalf of EMI.

Purchase Order: A contract between EMI (buyer) and its supplier (seller) for the procurement of products or services.

Key Control Characteristics (KCC): An attribute or feature whose variation has a significant effect on product fit, form, function, performance, service life, or producibility that requires specific actions for the purpose of controlling variance as identified on the Engineering drawing or the EMI process sketch.

Vendor Material Review Record (VMRR) is a request from supplier to EMI for material review disposition.

4.1 GENERAL REQUIREMENTS

IMPORTANT: EMI's Purchase Order number must appear on all invoices, shipping papers, containers & correspondence. Goods are subject to EMI's inspection and approval. If shipment will be delayed for any reason, the supplier must advise EMI's buyer immediately, stating all the necessary facts. To avoid errors, review specifications and requirements carefully and if unable to complete orders as written the supplier must notify EMI promptly.

Upon acceptance of an order, the supplier agrees to all the requirements that are applicable as stated in this Supplier Manual. Suppliers are responsible to apply document control when a new revision of the manual is received. If the document is not available on the EMI website, then consider the last hard copy sent by the buyer as the latest revision level.

Supplier Quality Management System Requirements

All EMI suppliers and supplier candidates must demonstrate compliance to the following quality standards, as applicable: Exceptions will be identified in EMI's Approved Supplier List:

- **AS 9100:** Manufacturers
- **AS 9120:** Distributors.
- **NADCAP:** Special Processors.
- **ANSI/NCSL-Z540.3 or IEC/ISO17025:** Calibration Laboratories

4.2 EMI's Special Processor Definition

Any of the processes listed below that are performed in accordance with an applicable specification

(Military, AMS, ESS, etc.) are defined as special processes and requires NADCAP accreditation except where noted:

- Welding (fusion welding, electron beam welding, laser welding, resistance welding, torch and induction brazing, and furnace brazing)
- Soldering (NADCAP accreditation is not required, EMI approved only)
- Chemical Processing (etching, chemical milling, chemical film, passivation, plating, and anodizing)
- Heat Treating (normalizing, solution heat treating, nitriding, annealing, stress relieving, hardening, tempering, and carburizing)
- Non-Destructive Testing (i.e., penetrant, magnetic particle, ultrasonic, or radiographic)
- Testing (metallurgical, chemical)
- Surface Enhancement (shot peen)
- Electrical Discharge Machining (NADCAP accreditation is not required, EMI approval only).

4.3 Quality System Status

The Supplier shall notify EMI regarding any change of certification status within 48 hours (including failing an audit). Notification to be sent via email to EMI.Supplier.Quality@gmc-emi.com.

Changes in the supplier's management, ownership, location/address, and/or quality system may require EMI quality re-approval. It is the responsibility of the Supplier to provide to EMI Supplier Quality Engineering a written statement of any of these changes within (30) days of change.

4.4 Source Inspection

The supplier is responsible for meeting all purchase order requirements including the requirements of this document. When a supplier's performance fails to comply with specified requirements, EMI may impose source inspection at the supplier's facility at the supplier's expense. EMI reserves the right to debit the supplier's account to compensate for EMI inspection or related activities that take place as a result of a supplier's lack of performance, or capability to supply conforming product or services. Source inspection may also be part of a contract as a EMI customer requirement and in this case the same applies if imposed due to failing to comply. If EMI customer source inspection is required the PO will reflect this requirement.

4.5 Approved Source List

Unless otherwise specified on the purchase order, suppliers listed in EMI's ASL may subcontract work to their approved suppliers for Group 1, Group 2 and Group 3 items, and are fully responsible for the control of those suppliers, including flow down of the applicable requirements from EMI's purchasing documents, including critical items and key characteristics where required. Sub-tier suppliers who are performing special processes for Group 1 and Group 2 must be NADCAP approved or on EMI's customers' ASL. Contact EMI Buyer if approved sources are not defined on the order or if approved suppliers are not available. Sub-tier suppliers may not subcontract any EMI works to their suppliers. Suppliers or sub-tiers providing Group 3 hardware are exempt from the NADCAP or EMI approved special processors requirement.

4.6 Right of Access

The supplier shall grant EMI, its customers, and regulatory authorities the right of access to applicable areas of all facilities at any level of the supply chain involved in the order and to all applicable records. The supplier shall flow down this right of access clause to all sub-tier and raw material suppliers through the supplier's purchasing system.

4.7 Working with Specifications

When specifications are called out on drawings, the EMI process sketch, or the purchase order (PO), the supplier must ensure they are working to the correct specifications and revisions. Revisions are in effect at the time of PO issuance. If the specification cannot be met contact the EMI representative for resolution.

4.8.1 Source of Specification Control Designed Articles

All items controlled by a Source Control Drawing or Specification Control Drawing, (SCD) utilizing the supplier's designed article shall be of the configuration depicted and described on the SCD. The supplier shall not make any changes to their design that conflicts or violates any of the requirements of the SCD without obtaining EMI's engineering approval. Any change to the supplier's design, materials, processes, suppliers, or facilities for an SCD item requires a formal written notification to EMI's Purchasing Agent. Suppliers that are providing purchased items to an SCD may utilize their own approved sources except for special processes called out by specification number on the SCD, in which case the supplier must use the EMI's customers ASL or NADCAP Approved Sources.

EMI Review of Supplier Documentation: The supplier shall make all drawings, associated lists, and other engineering documentation establishing the configuration design of the purchased item, available for buyer review and approval at seller's facility when directed by EMI buyer.

4.8.2 No Change Clause

Seller shall make no change in design, materials, manufacturing location, manufacturing processes, or sources of supply, after buyer's acceptance of the first production test item or after acceptance of the first completed end item, without written approval.

4.8.3 Delivery Documentation

The supplier shall provide all certifications and test data as required by the purchase order or the EMI process sketch. All certifications and test data shall be in the English language stating the acceptance for each item delivered in accordance with the purchase order/contract. The documentation shall be submitted electronically into EMI's documentation portal prior to shipment unless alternate method approved by EMI. A certification of conformance must be submitted with every shipment and be signed by the supplier's quality representative who can attest to the conformance of the articles and shall include the signatory's title and date. This does not preclude the use of electronic stamps or signatures and, therefore, EMI, will allow electronic stamps and signatures from its suppliers on certifications.

It is the supplier's responsibility to assure that special processes are performed by EMI's Customers' approved sources.

The Certificate of Conformance shall include the following information:

- 4.8.3.1 EMI purchase order.
- 4.8.3.2 Part number and revision as listed on the PO.
- 4.8.3.3 EMI part number and revision.
- 4.8.3.4 Quantity shipped.
- 4.8.3.5 Supplier's name.
- 4.8.3.6 Supplier's address.
- 4.8.3.7 Statement of conformance attesting to the conformance of the article(s).
- 4.8.3.8 DFAR statement per paragraph 4.20 (when specialty metals apply).

4.8.3.9 Serial numbers (when required by drawing, may be on test data).

4.8.3.10 Manufacturer's name and lot date code (if applicable) for purchased components.

4.9 Latent Defect Reporting

In the event a condition is discovered that affects previously delivered product, the supplier shall notify EMI of the condition within 48 hours of discovery. Notification shall be in the form of an email addressed to EMI.Supplier.Quality@gmc-emi.com. The email must include all pertinent information concerning the condition (i.e., part numbers, serial numbers, quantities, time frame, description of condition), and the corrective action taken to prevent recurrence.

4.10 Material Review Submittals, Deviations Waivers, Work transfers

Suppliers must comply to all purchase order requirements, including any document, specification, sketch, drawing, standard, or instruction specified in the purchase order. A supplier may request approval to waiver from the requirements of the purchase order or deviate from those requirements prior to product realization. No transfers of work shall take place unless approved by EMI engineering.

4.11 Vendor Material Review Records

Any request for material review action for nonconforming product on a EMI order must be submitted to EMI Supplier Quality Manager. Only when a supplier has obtained a disposition via a Non-Conforming form from EMI with a disposition that allows the supplier to ship the product to EMI. The supplier shall reference the Non-Conforming form number on the Certificate of Conformance document. The request must be accompanied with a corrective action.

4.12 Change Request (ECR)

To request a change to a EMI drawing or specification requirement, the supplier may submit an Engineering Change Request (**ECR**) that can be submitted to EMI Engineering through the Purchasing Agent. Only when the ECR is approved by Engineering, and with a corresponding purchase order change notice reflecting the change, the supplier may ship the product to EMI. The ECR form and instructions may be obtained by contacting EMI buyer.

Approval of ECR's will be contractually binding through a Purchase Order Change, which reflects the requested change.

4.13 Quality Records

The supplier shall establish and maintain a record-retention system that will ensure quality records are retained for a minimum of 15 years and 40 years for space/flight safety, critical/major rotor parts after product shipment (unless otherwise specified on the PO). All test records shall be maintained for a minimum of 20 years. Prior to discarding any quality record, the supplier shall contact EMI's Quality Manager and obtain written approval.

4.14 Conformity Requirements

Requirements for FAA conformity will be communicated through EMI Purchase Orders.

4.15 Age Sensitive, Life-limited Parts

Parts shall be segregated by manufacturing lot/cure date when shipped to EMI. Suppliers must provide product to EMI with at least 25% remaining shelf life or as directed in PO.

Each container shall be labeled with part-number, revision, part name, quantity, manufacturer name, manufacture date code, lot or batch number, cure/mix date and expiration date.

Suppliers shall ensure that there is a FIFO system and a procedure in place to control and document the temperature storage conditions and shelf life requirements for applicable materials.

4.16 Code of Conduct

Suppliers are required to abide by the latest GKN Aerospace Code of Conduct which is available their website.

4.17 Control of EMI Supplied Product and Tools

- Product Control: The supplier shall establish and maintain a documented procedure to identify, store, control, account for inventory balance, and maintain EMI supplied material or articles that are provided for the supplier to incorporate into EMI procured articles. Any such product that is lost, damaged, or is otherwise unsuitable for use shall be recorded per the supplier's internal procedure and submitted to EMI.
- Excess EMI Furnished Material: The supplier shall contact the Purchasing Agent to obtain disposition instructions for excess EMI furnished material.
- Certification of EMI Furnished Material: Strict accountability of the material furnished for this order must be maintained. A certification stating that the parts were manufactured from the material furnished by EMI is required.
- Tool Control: The supplier is responsible for proper storage, control, monitoring for life, and handling of EMI tools as well as protection against damage or affects from the environment. The supplier also is responsible to maintain the identification and whereabouts of the tools, as appropriate, to assure its intended use and recall when needed.
- Notification of Tooling Condition: The supplier shall advise EMI Purchasing and Procurement Quality Assurance in writing when the condition of the tool is worn or damaged such that it may affect the ability to produce conforming product. The supplier must advise EMI purchasing with sufficient time in advance to allow EMI to disposition the tool by repair or replacement and assure continuity of part supply without the need for deviation from specifications
- Batch Management and First-in-First-out (FIFO): Supplier will maintain positive control, segregation, and identification of furnished material to be incorporated into procured articles that include EMI assigned batch numbers. The supplier will use product in a FIFO sequence and report to EMI in their shipping paperwork the EMI assigned batch numbers that were used in the manufacture of the procured articles.

4.18 Direct Shipment to Customers

EMI does not allow any supplier to "Direct Ship" to customers. All shipments must be shipped to EMI to be processed through EMI's quality system. It is the supplier's responsibility to contact the Purchasing Agent for a written authorization for exception to this rule prior to making any customer direct shipment.

4.19 Submission of Electrical Discharge Machining (EDM) or Other Metallurgical Test Specimens

EDM is prohibited on EMI design detail parts unless specified on the drawing and approved by EMI in accordance with ESS008. Unless otherwise specified on the purchase order, all metallurgical lab samples required to be submitted to EMI for approval prior to processing must be submitted to the Purchasing Agent identified on the purchase order. The Purchasing Agent will forward the samples to the metallurgical lab and return the results to the supplier.

4.20 Preservation, Packaging, and Shipment

Unless otherwise specified on the purchase order, the supplier shall incorporate good commercial standard practices for the preservation, packaging, and shipment to preclude damage to products, with not metal to metal contact during shipment to EMI or deterioration while in storage at EMI. Identification on packages shall include the PO number and line item to which they apply. Use of staples paper clips, or other potential foreign object debris (FOD) is prohibited in the part direct packaging.

4.21 Foreign Object Damage/Debris, Counterfeit Parts Avoidance, Awareness requirements

Unless otherwise specified on the purchase order, the supplier shall establish and maintain a Foreign Object Damage (FOD) and Counterfeit Parts Avoidance programs that meets the requirements for aerospace applications.

Suppliers must ensure that persons (employees) are aware of:

- Their contribution to product or service conformity
- Their contribution to product safety
- The importance of ethical behavior

4.22 Specialty Metals

When the end customer is the US government/military, any specialty metals, incorporated in articles delivered under a EMI purchase order, shall be subject to DFARS 252.225.7014 Restriction on Acquisition of Specialty Metals and DFARS 252.225-7009 Restriction on Acquisition of Certain Articles Containing Specialty Metals.

This clause does not apply to Specialty Metals melted in a qualifying country (as defined in DFARS 225.872-1) or incorporated in an article manufactured in a qualifying country. The supplier shall insert the substance of this clause in all their purchase orders to their sub-tier sources where specialty metals applies.

The following Specialty Metals (DFARS) certifications are required:

- Assembly Suppliers: The supplier's certification of conformance must state: "All specialty metals contained in the product being shipped conform to the DFARS requirements". Supplier must maintain the actual mill certifications at their facility.
- Detail Parts and Standard Hardware Suppliers: A copy of the mill material certification must state the melt source and be sent in with each shipment of the product containing Specialty Metals.

4.23 Procurement of Castings and Forgings

Suppliers must demonstrate a successful quality management system for managing their sub-tier sources and for inspection and testing of castings and forgings to obtain approval to procure these items for EMI or EMI's customers. The supplier shall not procure castings or forgings unless process approval to do so is granted by EMI Buyer and assure these are purchased by an approved source.

4.24 Country of Origin

Commercially Available Off-the-Shelf Items, domestic end product, qualifying country end product, and foreign end product, as referenced in this paragraph, are defined as per DFARS 252.225-7001 Buy American Act and Balance of Payments Program.

If the item supplied does not qualify as a Commercially Available Off-the-Shelf Item (COTS), the supplier must include the following statement in their quote and on their Certificates of Conformance:

"The offeror certifies that the following end products are domestic end products or qualifying

country end products. The country of origin is _____."

4.25 First Article Inspection (AS9102)

The supplier shall perform a First Article (FAI) and submit the First Article Inspection (FAIR) with delivery of product in accordance with the requirements of AS9102, current revision and as directed in the PO. First Articles for castings, forgings, and molded products also shall be in conformance with EMI's customers' current applicable requirements. FAIR is not required with each shipment.

The supplier shall flow this requirement to their sub-tier sources.

Supplier must maintain records for annual visual acuity testing of all Individuals performing Visual Inspections (calibration, non-weld, in-process, layout, dimensional).

4.26 Corrective Action

Corrective actions, when requested by EMI, shall be responded to in a timely manner that complies with the AS9100 standards and shall be documented on the EMI corrective action forms or other forms that contain the same information.

4.27 Supplier Charge Back Policy – Agreement

EMI reserves the right to charge back the supplier for the cost of rework of defective material that is deemed necessary to be completed on site at EMI. EMI also reserves the right to charge back to the supplier the cost of product that is determined to be scrap and not re-workable. The cost is calculated by using the sum of material, outside processing and value added up to the process point where the parts are determined to be scrap. EMI will notify the supplier in writing of any non-conformance that may result in a charge back prior to incurring any additional costs.