



Modern Industries Inc.

Purchase Order Quality Requirements for Fabrication of Rockwell Collins Products

1. General

1.1. Supplier shall notify Modern Industries Purchasing Department when;

1.1.1. The PO price and supplier's quoted price are different, no price on the PO or are unable to comply with all PO and Quality Requirements. Non-Compliance may render the product unfit for use.

1.1.2. As to any product or service obsolescence at least 180-days in advance of such obsolescence. Notification must include reason for obsolescence, last time buy date, and specifications and pricing for alternative products or services recommended to replace obsolete product or service.

1.1.3. In the event material is scrapped at supplier's fault, supplier will be debited the total cost of Modern Industries investment of said product. (Machining & Special Process Suppliers Only).

1.2. Modern Industries maintains a 3-day ship window on all shipments. Any shipment arriving outside this window is subject to refusal of shipment and returned to supplier at the supplier's expense.

1.3. Material for set-up piece to be furnished by supplier.

2. Quality System

2.1. The supplier shall have a Quality System compliant to AS 9100 (Current Revision). This system shall be documented and be available for review by a Modern Industries representative prior to the initiation of production and throughout the life of the purchase order.

2.2. The Supplier shall notify the Buyer in writing of any change in management/ownership, facility relocation and to quality management system. Changes shall be subject to review by Modern Industries.

2.3. In the event that the Suppliers quality system is non-compliant, or if the Suppliers quality system registration is suspended or expires during the performance of the Order, the Suppliers shall notify the Buyer in writing. Notification shall be within ten (10) working days of the revocation, suspension, or expiration.

3. Unique Part Number Control

3.1. The Supplier shall maintain a documented process to assure published data and

specifications maintain a unique part number. The Supplier shall change the Supplier's part number when introducing changes which affect the performance, form, fit, function, or interchangeability of the Supplier's product.

4. Materials

4.1. Material substitutions are not allowed unless authorized by engineering drawing / model, material specification, or superseding of a material specification. This applies to (and is not limited to):

- Material grade (or stock such as bar, rod, tube, extrusion, and flat)
- Material Condition (i.e. heat treat)
- Material Mill or Foundry Source as applicable.

4.2. Part(s) must meet customer drawing, specifications and current revision level.

4.3. Materials or parts shall be manufactured/processed to the latest material or process specification revisions in effect at the time of commencement of the manufacture/processing.

4.4. Raw material

4.4.1. Scope: section 4.4.1.1 applies to suppliers who supply raw material / forgings / castings directly to Modern Industries and Modern Industries suppliers.

4.4.1.1. Definition: every kind of metal or non-metal shape to be used by the supplier for further machining and processing to get semi-finished or ready made parts which includes, but is not limited to, bar stock, tubes, plates, and sheets.

4.4.1.1.1. The supplier shall maintain traceability from the raw material manufacturer's heat, lot numbers to each individual forging, casting and swaging. Heat or lot numbers shall be noted on supplier's Certification of Conformance.

4.4.1.1.2. Suppliers shall have a method to test each batch / heat / lot of material per section 3.4.1.5.4.

4.4.1.1.3. Physical and Chemical Test Reports

4.4.1.1.3.1. Each lot in each shipment shall have test reports, which provide quantitative evidence that the materials shipped possess the chemical and/or physical properties required by the applicable specifications. Reports must provide, at a minimum the manufacturer's name, manufacturer's part number and the Rockwell Order Number. Certification of compliance to base material requirement is sufficient evidence only when provided by the manufacturer of the material.

4.4.1.1.3.2. Testing shall be in accordance with the requirements of the engineering specification

4.4.1.1.4. Supplier shall provide test specimens when required by the

purchase order in accordance with specification requirements.

5. Subcontracting

5.1. No subcontracting of items listed on the PO without Modern Industries written approval.

5.1.1. When subcontracting is approved, the supplier shall,

5.1.1.1. Demonstrate control of all sub tier suppliers.

5.1.1.2. Ensure customer approved suppliers are utilized.

5.1.1.3. Ensure the capability of all sub tier suppliers and the quality of all products.

5.1.1.4. Maintain an approved supplier list.

5.1.1.5. Ensure all requirements are flowed down.

5.1.2. If a processor is used, that special processor:

5.1.2.1. Listed on the end customer's Approved Supplier List as an approved processor.

5.1.2.2. Is approved for the process specification being performed.

6. Special Process Accreditation

6.1. When a special process is performed, the processors shall complete and maintain accreditation of special processes to NADCAP.

6.2. Special processes are defined as the following but not limited to:

- Welding/Brazing
- Anodizing/coating
- Plating/Electrodeposition
- Encapsulating/Potting
- Ultrasonic inspection
- Dry film lube
- Chemical Cleaning/Milling
- Bonding/Lamination
- Radiographic inspection
- Impregnation/Passivation
- Leak testing
- Eddy current inspection
- Heat Treatment/Annealing
- Penetrant inspection
- Vibration/Qualification test
- Magnetic particle insp.

7. Standard Components:

7.1.1. Suppliers of standard hardware shall maintain traceability to actual manufacturer and manufacturing lot.

7.1.2. The supplier shall ensure that all standard hardware procured from approved manufacturers and distributors in compliance specification requirements.

8. Electrostatic Device Protection

8.1. Devices identified as electrostatic discharge sensitive shall be handled, stored, packaged and shipped in such a manner as to preclude damage from electrostatic discharge. Electrostatic protection process shall be modeled after EIA JESD-625 "Requirements for Handling Electrostatic-Discharge-Sensitive (ESDS) Devices". Electrostatic protection requirements specified on the component specification/drawing or elsewhere on the Order take precedence over this paragraph.

9. Workmanship

9.1. The Supplier shall establish workmanship plans and acceptance standards in accordance with the performance and reliability requirements of the specified. The plans and acceptance standards shall be modeled after J-STD-001 "Requirements for Soldered Electrical and Electronic Assemblies" and ANSI/IPC-A-610 "Acceptability of Printed Board Assemblies". Workmanship requirements specified on the component specification/drawing or elsewhere on the Order take precedence over this paragraph.

10. Testing

10.1. When applicable; retain test specimens used for testing to assure process of product conformity as required by governing specification.

10.2. Furnish certifications identifying processes performed. Certifications shall provide current specification level, items such as but not limited to thickness, hardness, results, or special process parameters with each shipment.

10.3. Material Certifications shall reflect actual values, including mill data.

10.4. Qualified Personnel shall complete inspection and tests as applicable.

11. Certification

11.1. Each shipment shall be accompanied with a Certificate of Conformance (MII-FRM-00111), Material Certification, Certification for each Special Process performed and Detailed Inspection Report (DIP) as applicable.

11.2. Certifications from a sub-tier to the supplier shall provide traceability to the manufacturer and manufacturing lot.

11.3. Certification for material and special processes will be required with each shipment.

11.4. Certifications shall include the following:

- Seller certifies that the special processes required by this order were performed by the processor listed below, and that the document(s) appended hereto in the form of processing certifications or listed below, is/are evidence of performance of Seller or processor in accordance with applicable specifications.
- Rockwell Order Number.
- Rockwell part number
- Number of items in shipment
- Processor name

- Processor address
- Process performed
- Complete process specification and revision (i.e. ASTM E 1417/E 1417M-11e1)

12. First Articles

12.1. The supplier shall perform a First Article Inspection (FAI) in accordance with AS 9102 (Current Revision).

12.2. A First Article Inspection Report (FAIR) shall be provided for each new part number, revision level, new lot and or annually.


12.3. The supplier shall provide an itemized blue print containing all characteristics including but not limited to the notes and title block items corresponding to FAI R.

13. Inspection

13.1. Sampling Inspection is prohibited unless otherwise specified on the PO.

13.2. A detailed inspection report (DIP) containing 100% product verification is required.

14. Critical and Key Characteristics

14.1. Devices having one or more characteristics identified as "Critical" or "Key" or by the symbol "  (X is a unique number designating each characteristic reported)", shall be inspected and/or tested 100%.

14.2. All inspection/test data on the key characteristic of each part/device shall be submitted in accordance with the electronic form defined by 074-8432-999 with each delivery to Modern Industries, including the data on failed or rejected parts/devices.

15. Source Inspection and Process Verification

15.1. Source inspections or process verifications shall not absolve the Supplier of the responsibility to provide acceptable product nor shall it preclude subsequent rejection. Source inspections or process verifications by Modern Industries shall not be considered by the Supplier as evidence of effective control of quality.

16. Changes and Modifications

16.1. No changes or modifications to operations, process, or an approved technique sheet that has been identified as being Fixed or Frozen without Modern Industries written approval.

17. Nonconforming Material

17.1. Any non-conformance from the requirements of the drawing, specification, delivery or purchase order requirements must be reported with root cause and corrective action in writing. All non-conformances shall be documented within shipping documents and individual parts specifically identified as non-conforming.

18. Material Review Authority

18.1. Material review authority shall not extend to "repair" or "use-as-is" for supplier specified or customer specified requirements without prior documented approval from the customer. The Supplier shall submit to Buyer all requests for variance from Contract, Purchase Order, specification or drawing requirements

18.2. Definitions:

18.2.1. Repair - The subjection of nonconforming material to an approved process designed to reduce but not completely eliminate the nonconformance

18.2.2. Rework - All work performed on articles with known deficiencies so as to cause such articles to fully comply with documented requirements

18.2.3. Use as is - Material with minor non-conformances dispositioned by formal MRB where authorized, when the material is determined to be satisfactory for its intended use.

19. Packaging

19.1. Metal-to-Metal contact is prohibited. Product must be packaged to protect from damage.

19.2. Return parts, prints, documents and gages in the same containers as received unless otherwise directed in writing from Modern Industries.

20. Foreign Object Debris (FOD)

20.1. Suppliers shall have a written procedure which addresses elimination of Foreign Object Debris (FOD)

20.1.1. Minimum requirements shall include:

- Review of design and manufacturing process.
- Performance measurement
- Annual Training.
- Material handling and part preservation
- Housekeeping
- Tool and hardware accountability
- Work is accomplished in a manner to prevent FOD
- Modern Industries has the right to perform FOD audits
- Supplier shall perform periodic self-assessments
- Physical entry control into FOD controlled areas
- Flow down requirement to sub tier suppliers

21. Records

21.1. Maintain All Quality Records for a minimum of seven years past the end of the contract or forward All Quality Records to Modern Industries with shipment unless otherwise specified.

21.2.The supplier is to request approval in writing prior to the destruction of records pertaining to product supplied to Modern Industries.

21.3.Methods shall be in place to prevent tampering or loss of records. A digital archive of data is preferred.

22. Right of Access

22.1.Modern Industries, its Customers and Regulatory Agencies reserve the right of access to the supplier's premises to determine quality of work, records and material on parts and processes noted herein. This right shall also extend to the Seller's subcontractors.

22.2.The supplier shall flow down this requirement to all of their sub-tier suppliers.

23. ITAR and EAR compliance

23.1.Suppliers and Processors shall ensure compliance to ITAR and E.A.R. requirements when handling parts and documentation.

23.2.The supplier shall flow down this requirement to all of their sub-tier suppliers.

