



4M Industries, Inc. Supplier Quality Requirements, SQR-001

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Introduction: Supplier Quality Requirements (SQRs) are requirements of the supplier that are included in the RFQ and/or Purchase Order. The 4M purchasing team will document, on the purchase order, which requirements the supplier is required to comply with and fulfill. Suppliers are cautioned to read each requirement carefully to assure understanding and to ask for clarification from the 4M purchasing agent if unsure. If a supplier is incapable of delivering on a requirement, they are obliged to let their 4M purchasing agent know in the quoting phase or upon receipt of the PO, whichever is sooner.

ISO 9001 SQR's

QUALITY SYSTEM: The supplier shall implement and maintain a quality management system that complies with applicable requirements of ISO 9001 or an equivalent system that provides inspection services adequate for providing verification that the product supplied is in full compliance with the purchase order requirements and all applicable specifications. Compliance with these requirements may be subject to audit by 4M. The supplier shall flow down to sub-tier suppliers any applicable requirements contained in the 4M purchasing document /specifications, including key characteristics where required.

PERSONNEL: Persons involved with the fulfillment of 4M purchase order's must be determined by the supplier to be competent and qualified to carry out the required processes. Supplier shall also ensure their persons are aware of their contribution to the product or service conformity, product safety and are aware of the importance of ethical behavior.

NO SUBSTITUTION: Substitution is not allowed for materials, part numbers, or processes without prior written approval from the 4M quality department.

REVISIONS OF SPECIFICATIONS: Suppliers shall work to the latest written revision of all specifications. Verbal direction is not permitted without written authorization from 4M purchasing agent.

NONCONFORMING MATERIAL: Any parts found with a nonconformance or deviation to the Purchase Order requirements shall be reported to 4M quality department. The supplier shall notify the quality department prior to any "use as is" or "repair" dispositions of non-conformances pertaining to this order. All nonconforming product shall be delivered to 4M with proper identification indicating the nonconformance, regardless of quantity. Supplier must be able to account for all product received from 4M. The Supplier shall promptly notify the 4M quality department of any nonconforming product that may have been previously delivered.

RIGHT OF ACCESS / ENTRY: 4M, our Customers and/or any regulatory or government entities, reserve the right to access the Supplier's facility, the facilities of the Vendor's sub-tier suppliers and/or any member of the Vendor's supply chain that acts as a sub-tier supplier on 4M's orders, during the production of this Purchase Order. Reasons for access may include, but are not limited, to the following: inspection of the item on order, status of items listed on purchase order and review of quality records pertaining to this purchase order.



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AS 9100 SQR's

(ISO 9001 requirements above are also applicable)

QUALITY SYSTEM: The supplier shall implement and maintain a quality management system that complies with the latest revision of ISO 9001, AS9100, NADCAP or an equivalent system that provides inspection services adequate for providing verification that the product supplied is in full compliance with the purchase order requirements and all applicable specifications. Compliance with these requirements may be subject to audit by 4M.

FIRST PIECE INSPECTION / VERIFICATION: The Supplier is required to complete first piece inspection every time a production setup is taken apart and setup again; moved to different machine; or a machine is repaired. This means the first piece from a new setup must have a full layout inspection to assure conformity before production.

RETENTION OF RECORDS: Records such as Purchase Orders, Traceability, certifications shall be retained indefinitely, or per direction of the purchasing agent as specified in the RFQ and/or purchase order. If a supplier is to go out of business, 4M requests that all documentation be forwarded to the 4M quality department.

COUNTERFEIT MATERIALS AND PARTS: Supplier shall establish, implement and maintain a Counterfeit Materials and Part Prevention program in accordance with Industry Standard AS6174.

MATERIALS: No material substitutions allowed without 4M approval and must be traceable to 4M purchase order. Must be of domestic origin (USA) or DFARS compliant. Supplier will also disclose whether materials contain any conflict minerals (tantalum, tin, tungsten or gold) as defined under Section 1502 of the U.S. Dodd-Frank Act.

PROCESS CERTIFICATION: Certification of processes as specified on the purchase order is required for each process lot.

Heat Treatment Process Certification must include (but is not limited to) the following:

- Time vs. Temperature
- Atmosphere
- Quench Media
- Hardness results on 100 percent of heat treated components, if required by specification
- Destructive testing (tensile, core hardness, etc.) as required to verify conformance to the PO, drawings, and specifications.

Plating/Coating/Finish Process Certification must include (but is not limited to) the following:

- Pre- and Post-Bake
- Plating/Finish Certification (Class and Type)
- Plating Thickness Report
- Painting Thickness Report

All certifications must reference 4M's purchase order number, lot number, quantity of parts and specification used for processing.

CONTROL OF SPECIAL PROCESSES: A special manufacturing process is one that generates product characteristics that cannot be monitored and measured using traditional inspection/verification methods. Special process integrity is confirmed through the use of known, validated methods sustained by controlled process parameters. Examples of special processes include, but are not limited to; painting, anodizing, chemical films, plating, soldering, nondestructive testing, welding, brazing, and heat treating. The Supplier shall demonstrate control over these processes to provide assurance of compliance to process specifications and requirements. Copies of special process procedures and certifications shall be made available to 4M upon request. Where the supplier uses facilities outside of their control, any external facilities are subject to the same conditions stated herein.



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TEST REPORTS: Each Process Lot shall be accompanied by one (1) legible and reproducible copy of actual test results identifiable with test parameters and product submitted. These reports shall contain the Test/Inspection Stamp of the individual performing the task, or the signature and title of the authorized representative of the agency performing the test.

Other Customer specific requirements -- 4M purchasing agent will provide.

SUPPLIER CHANGE AUTHORITY: Supplier must notify 4M of changes to processes, products, or services, including changes of their external providers or location of manufacture. Written approval of these changes must be obtained from 4M.

SUPPLIER CORRECTIVE ACTION: Nonconforming material rejected by 4M and determined to be the responsibility of the supplier may require that the supplier take corrective action to prevent recurrence. Corrective action measures shall include; a determination of the root cause of the discrepancy, determining and implementing corrective action measures and evaluation of the effectiveness of corrective action taken. Suppliers shall maintain records of corrective actions taken. Failure to respond to requests for corrective actions within the specified time frame may affect future procurement and or supplier status/approval.

KEY CHARACTERISTICS: Key Characteristic features identified on drawings, purchase orders, or acceptance documentation shall be validated by the supplier. Variable data (actual measurements) of key characteristics and other characteristics specified by 4M shall be provided with each shipment.

FOD: The supplier shall employ appropriate housekeeping practices to assure timely removal of FOD generated during manufacturing or other related operations. Suppliers shall identify areas that may have a high probability for the introduction of Foreign Objects and implement controls appropriate for the scope of work performed. The supplier shall implement FOD prevention awareness training programs appropriate for the processes required and/or products produced.

LOT TRACEABILITY. The Supplier shall maintain lot traceability for raw material, epoxies, paints, primers, etc. Records of traceability shall be made available to 4M upon request.

CALIBRATION INFORMATION. Supplier's calibration system shall meet applicable requirements of AS 9100, ISO 9001, ISO 17025, or IATF 16949 as applicable.

PROPRIETARY INFORMATION. Suppliers and/or Sub-tier suppliers upon receipt of 4M Proprietary Information shall at no time allow 4M's documents outside of their facility or released to another entity without written approval from a 4M representative. Supplier's shall comply with Customer Requirements at all times and shall have documented procedures and records. Upon completion or termination of this contract, supplier's shall return all proprietary information, technical data (or destroy the aforementioned information at 4M's representative request) furnished to by 4M pursuant to this contract.

SUPPLIERS USING SUB-TIERS. 4M Quality Assurance must be notified in writing when a sub-tier to the supplier will be used. This includes 4M pre-approval for sub-tier special processes. Prior to proceeding, the supplier must provide to 4M Purchasing, evidence that the requirements of this purchase order has been flowed down to the sub-tier, including key characteristics when required. 4M's purchase order will designate the use of customer directed suppliers, when required.



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RTX/UTC/Collins Specific Requirements (All of the above requirements are also applicable.)

ASQR-01: Supplier must meet all requirements of Raytheon Technologies (UTX), ASQR-01. Including, but not limited to, ASQR-20.1 - Supplier Sampling Requirements, ASQR-15.1 - Foreign Object Damage/ Debris Prevention, Handling, Storage, Packaging, Preservation and Delivery and ASQR-07.5 - Control of Software. The most current revision of this document can be found at:

<http://www.utc.com/Suppliers/Pages/Aerospace-Supplier-Quality-Requirement-Documents.aspx>

CODE OF CONDUCT: Suppliers must have a code of conduct that is aligned with the requirements of UTC's Supplier Code of Conduct. The most current revision of this document can be found at:

http://www.utc.com/Suppliers/Documents/UTC_Supplier_COC.pdf

UNITED TECHNOLOGIES AEROSPACE SYSTEMS (UTAS): Supplier must meet all requirements of UTAS-SCM-PRO-0003-02. The most current revision of this document can be found at:

<http://utcaerospacesystems.com/Company/suppliersdocuments/UTC%20Aerospace%20Systems/Specifications/UTAS-SCM-PRO-0003.pdf>

MP-1004-2: Supplier must meet all requirements of UTAS MP 1004-2. The most current revision of this document will be supplied by 4M Industries, Inc.

APPROVALS: Processes controlled by NADCAP must hold NADCAP approval. Materials testing laboratories must be accredited by Nadcap or by signatories to the ILAC.