



Aerospace Manufacturing, Inc.

MANUAL

DOC #:

QM - 5001

REVISION:

01

DATE:

01/05/2023

QUALITY CLAUSES FOR SUPPLIERS

Approved:
Quality Manager

Approved:
Operations Director

Change Record

Rev	Date	Authored/ Revised By	Description of Change
01	01/05/2023	G. Haugdahl	Initial Release

1.0 Introduction

- 1.1 The quality clause requirements documented herein are applicable to all AMI products, process, and service suppliers. Some requirements are commodity specific, in which case the commodity will be referenced. The requirements with no specific commodity referenced apply to all suppliers.
- 1.2 The quality clauses supplement purchase order's specific requirements.
- 1.3 Where the supplier is unclear on the quality clauses documented herein or cannot meet applicable clauses, it is the supplier's responsibility to communicate with the AMI purchaser to clarify requirements or obtain a deviation approval.

2.0 Scope of Supply

- 2.1 **Production Item Suppliers:** Suppliers who provide an item that is a raw material, defined special process, semi-finished or finished component that is an element of the deliverable item to the customer.
- 2.2 **Product:** Suppliers who manufacture physical products that are contained in or on AMI deliverables to customers. This supplier typically does not include consumable shop supplies that are not part of the customer deliverable but are used to manufacture the product. For example, a product supplier supplies the paint that is used on a deliverable product to the customer, but not the masking material for the paint operation. Product suppliers include suppliers who manufacture chemicals for special processes such as paint, Alodine, etc.



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- 2.3 **Raw Material**: A special type of product supplier or distributor that provides raw material which AMI or its suppliers then converts into finished or semi-finished products. For example, sheet metal, plate, extrusions, rod, bar, plastic, forgings, castings, etc.
- 2.4 **Distributor**: Suppliers who do not manufacture products but instead purchase and distribute finished products to AMI from other sources. This typically includes fastener hardware (nuts, bolts, rivets, etc.) chemicals for special processes (paint, Alodine, etc.), and system components (connectors, tubes, valves, etc.). Raw material distributors are considered as Raw Material suppliers.
- 2.5 **Special Process**: Suppliers who perform controlled special process services on AMI, customer, or supplier product. For a comprehensive list of special processes and aerospace industry requirements visit Nadcap-PRI website <https://p-r-i.org/nadcap/>. AMI might specify additional processes considered special per AMI customer prime/subscriber requirements.
- 2.6 **Services**: Suppliers who perform contracted services other than special processes that require an elevated level of quality control. Examples include:
- Sub-contracted machining or assembly operations on production product
 - Calibration services performed on production measurement equipment
 - Mechanical tests or chemical analysis for production process verification

3.0 Clauses

Clause 1: AMI's Quality Policy

Aerospace Manufacturing Inc. is dedicated to meeting customer expectations by delivering Quality products on time.

We strive to improve our Quality and Delivery performance by setting internal objectives and periodically reviewing the results to keep our goals in sight.

AMI's Quality objectives are to:

- Promote a Quality culture throughout the organization which empowers each individual to take ownership and accountability of their outputs.
- Continually review and improve the Quality of our products and services.
- Maintain safety in the workplace AND the product.
- Build close relationships with our suppliers and customers, resulting in long-term, reliable partnerships

Clause 2: AMI's purchase order confirmation

It is the supplier's legal obligation to review AMI purchase order requirements to ensure understanding prior to work execution. Supplier shall confirm receipt of purchase order and indicate expectable completion date.

Suppliers shall notify AMI when:



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- Technical data and/or revision(s) in the supplier's possession does not agree with the technical data and/or revision data specified in the AMI Purchase Order.
- Any additional technical data is required. AMI shall furnish suppliers with such technical data in a reasonable time after receipt of such request.

The Purchase Order requirements are unclear. The supplier shall not start execution of the Purchase Order until all requirements are clarified at all sub-tier levels. The supplier shall not proceed based on its own interpretations and assumptions.

Clause 3: Communication language

The primary language of communication with AMI shall be English. Unless otherwise specified, all data shall be available in the English language. The supplier is responsible for the accuracy and provision of all translations to other working languages, unless otherwise agreed with AMI.

Clause 4: Supplier performance

AMI expects its suppliers to meet 100% on quality and 100% on time. The supplier shall adhere to the requirements of this document to be able to maintain its approval status with AMI.

The supplier is responsible and accountable for complying with purchase order requirements including quality clauses documented herein and for meeting AMI set performance expectations. Supplier performance level is based on product conformance and on-time delivery performance, as well as responsiveness to corrective action requests and business relations. Failure to comply with requirements or to achieve an acceptable performance level may result in an on-site audit, additional source inspections or removal from AMI approved supplier list.

Clause 5: Nonconforming product control and disclosure

Rework of nonconforming items to drawing configuration, or scrap of nonconforming items, may be made without prior AMI approval where permissible in the drawing and/or specification. Otherwise, nonconforming items shall not be repaired or used by the supplier or its sub-tiers without first receiving explicit repair or use-as-is instructions and disposition from AMI Quality.

Upon discovery of nonconforming or suspected nonconforming product that has been shipped to AMI, the supplier shall notify AMI procurement and/or quality through a written disclosure within 3 business days from the issue discovery internally.

The written notification will consist of the following information as applicable:

- Part number and description.
- Purchase order Number and line.
- Supplier production batch or lot number.
- Quantity in batch.
- Detailed text indicating the drawing and specification(s) requirement, the nonconformity, potential effect to performance, reliability, and safety.
- Photos or sketches as appropriate.
- Recommended disposition or repair scheme.
- Immediate corrective action/Containment plan.



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- Root cause of the nonconformity.
- Corrective action planned and taken (including documented evidence).
- Replacement plan.
- Identification plan (How will the parts be identified to indicate that rework has been performed?)

Supplier shall submit, when applicable, a supplemental written notification within 2 weeks from the initial notification containing the following information:

- Action's status update.
- Records of full root cause analysis investigation with planned corrective actions.
- Additional information as requested by AMI.

Clause 6: Supplier changes

Suppliers, including sub-tiers suppliers or any level of supply chain, shall notify AMI of any changes involving top management, quality, design, procurement, manufacturing, organization name and ownership, quality system and Nadcap accreditation status, temporary or permanent shut-down and bankruptcy situations, and any other changes that show a significant risk to AMI acquiring conforming products and services on-time according to contract and purchase order.

Clause 7: First article inspection report (FAIR)

When specified on the purchase order, suppliers shall complete FAIR(s) on the first production of each detail part, sub-assembly and assembly in accordance with the latest revision of AS9102 Aerospace standard.

Parts under FAI clause may be subject to Delta FAI per AS9102 standards or when specified in the purchase order. Management of FAIs and Delta FAIs is the responsibility of the supplier.

The FAIs shall be repeated when specified in the purchase order. Copies of the supplier FAI or Delta FAI reports are required to accompany the applicable item delivery documents and a copy shall be retained as a quality record by the supplier. Alternately, the reports may also be submitted via electronic means in a manner and format agreed in advance with AMI Quality.

Clause 8: Inspection and test reports

Supplier shall prepare verifiable and lot-traceable inspection/test reports documenting dimensional characteristics, raw material and processing certifications, qualitative testing, and any non-conformances. All records must be validated by Supplier's authorized personnel by either an inspection stamp or signature and title and dated. These records must be available to AMI within 2 business days of a written request.

Clause 9: Limited shelf-life material control

Suppliers that provide limited shelf-life products that deteriorate or become unstable to the degree that a storage period must be assigned to assure that the material will perform satisfactorily in service shall have the expiration date identified on the product and the delivery documentation. The remaining shelf life must be a minimum of 75% of the total shelf life for the material at time of delivery unless otherwise specified. Limited shelf-life products delivered in multiple quantities shall be from the same batch or lot and have the same expiration date.

Clause 10: Right of entry

AMI, its customers, and regulators reserve the right of entry into supplier's and sub-tier supplier's facility or any



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level of supply chain at an arranged time during or after the performance of a contract/purchase order to perform inspections/audits relating to the contract/purchase order. During any such audit or inspection, the Supplier shall furnish, without additional charge to auditing party all reasonable access to facilities and assistance for the safe and convenient performance of the audit, inspection, or test. AMI will endeavor to provide notice at least two (2) weeks prior to any visit.

Approval of audited or inspected system, process, part does not absolve the supplier and its sub-tiers of the responsibility for system process, product conformity and compliance to contractual requirements.

Clause 11: Identification and traceability

The Supplier's Quality system shall provide clear identification and traceability of materials, components, assemblies, and processes throughout all stages of storage, manufacturing, assembly, shipping, and delivery. All raw material and process certification must be kept on file. These documents are required to be attached and referenced on all FAIR submissions.

Parts from different purchase orders shall be kept separated even if the part number is the same.

Part marking and/or tags shall not be removed unless otherwise specified in the purchase order or written authorization from AMI Quality is granted.

Raw material must be line marked. Heat number line marked on the material must match material certification.

Weld wire must have individual identification. Weld wire can be embossed, flagged, ink line marked or color coded.

Clause 12: Records and data retention

Unless otherwise specified, all quality records shall be maintained by the supplier for a minimum of ten years after product shipment. Quality records include, but are not limited to, first article inspection reports, work orders, inspection criteria, test and inspection results, nonconforming material documentation, and certifications. Records shall be made available to AMI upon request.

In addition, the supplier shall ask permission for records to be discarded when the ten-year milestone has been reached, as some of the records might be required to be transferred to AMI.

If supplier begins a liquidation (bankruptcy) process, they shall notify AMI immediately for instructions on records ownership transfer (i.e., transfer to AMI) to avoid legal issues with applicable customers and authorities.

Clause 13: AMI property control items

AMI supplied items shall be stored and controlled in a way to prevent unauthorized use and be adequately protected against damage and deterioration.

Suppliers do not have authority to modify the items without prior written consent unless the modification is part of the agreed regular production process.

AMI supplied items shall be returned immediately upon request.

Clause 14: AMI supplied or owned tooling and product

Supplier shall maintain a formal internal product and tool control system that allows for the proper segregation, care, upkeep and maintenance, and accountability of AMI's Tooling. The supplier is responsible for compliance with the applicable AMI and/or AMI's customer specific tooling requirements.

Suppliers who possess AMI owned tooling shall notify AMI Quality regarding the status and location of all AMI tooling. Reasons for notification may include but not limited to the following: initial receipt, need for repair, transfer



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to outside of the supplier's facility, newly fabricated, remastering, and calibration.

Suppliers shall notify AMI quality if the tool is not used, or the revision level of a tool does not match what is flowed down through AMI's purchase order.

Regular inventories of such tooling shall be performed with the results maintained in accordance with contractual requirements. Upon request the results of such inventories shall be forwarded to AMI for review. Prior written approval from AMI is required before modification or disposal of AMI owned tools.

Suppliers shall validate the condition of AMI tools before each use and address any damage, missing tooling components, or wear to the tooling prior to producing parts.

Suppliers furnishing an initial order of parts from newly received, newly manufactured, modified, or reworked tooling shall perform a first article inspection that complies with AS9102 when specified in the purchase order. The FAI shall be submitted to AMI along with the first lot shipment.

AMI may require a periodic tool inspection. The tool may be sent back to AMI for inspection, or the inspection may be completed at the supplier's facility by the supplier, or by third-party service. The supplier shall comply with the periodic inspection requirements or submit a written request for extension to AMI. The request for extension shall include the reasoning for the request and a date when the inspection will be completed.

Tools which control or check the final configuration of deliverable items are required to be inspected to engineering requirements a minimum of once per year (or inspected prior to use if used infrequently).

Clause 15: Variation management

If drawing features are identified as key characteristics, the supplier shall implement effective process controls to minimize variation of those characteristics. Key characteristics may be identified in engineering drawings and specifications.

In addition to the drawing key characteristics, the supplier shall identify and control any additional key characteristics (process, part, subassembly, or system) that may have a significant influence on product fit, performance, service life, or producibility of the product, if any.

Clause 16: Supplier and use of sub-tier suppliers

The supplier and their sub-tiers executing work to AMI purchase order require their scope of work to be approved by AMI prior to manufacturing and shall not relocate or subcontract any work without prior AMI written approval.

Suppliers shall notify AMI in advance of changes in the manufacturing facility location.

If certain items and processes require pre-approval, qualification, and validation by the customer and/or AMI, AMI shall be informed in a timely manner to ensure pre-approvals, qualifications and validation will be completed to purchase order before full scale production.

After the initial approvals are granted, subsequent changes will continue to require AMI approvals. The supplier shall notify AMI in advance of any proposed change to the production process and shall receive approval prior to implementing the change.

The supplier and its sub-tiers shall ensure that all applicable requirements including drawings, specifications, qualifications, special requirements, critical items, key characteristics, etc. under the contract with AMI are flowed down internally and to all sub-tiers performing work on AMI's items.

The supplier and its sub-tiers shall not make any configuration changes to any items, which could affect conformance, form, fit, function, performance, or price without AMI's prior written consent.

Notification and approval of configuration changes include those items which are superseded by another item. Any



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supplier configuration change requests shall be submitted to AMI Quality in writing for approval prior to configuration change processing.

These requirements apply to all affected suppliers and their sub-tiers.

Clause 17: Document revision levels

Unless otherwise specified in the contract or purchase order, the latest revision of referenced engineering documents (e.g., drawings, specifications, standards) and industry standards (e.g., ISO, ASTM, AS, AMS, NADCAP checklists) applicable but not limited to products, processes, materials, services, systems, shall apply.

It is the supplier's responsibility to purchase and maintain the industry standards at latest revision.

The NADCAP checklist can be found at www.eauditnet.com.

Clause 18: Counterfeit parts

A Counterfeit part is:

An unauthorized copy, imitation, substitute, or modified part (e.g., material, part, component), which is knowingly misrepresented as a specified genuine part of an original or authorized manufacturer. Those parts are unacceptable at AMI.

Counterfeiting can include but is not limited to:

- Deceit of the consumer.
- Deceit of the purchasers of new goods or replacement parts.
- Infringement of intellectual property rights.
- Violation of national, regional, or international laws.

Counterfeiting can include false claims regarding:

- Intellectual property rights.
- Details of manufacture.
- Trade dress.

Suppliers may use AS6174 as a guideline for material, parts, assemblies, and other procured items (except for electronic parts, which are covered by AS5553), or similar standard. The counterfeit suspect and counterfeit product will not be shipped back to supplier to avoid its entrance back to supply chain and it will be reported by AMI in the GIDEP system.

Clause 19: Packaging and labeling

Unless otherwise specified in the purchase order the following packaging and labeling requirements apply to AMI purchased parts:

Packaging

- Supplier shall ensure that all items are adequately protected from damage, loss, deterioration, degradation, or substitution.
- Each package and pack shall provide physical, chemical and cleanliness protection to prevent damage to or deterioration of the product. Foam sheets, bubble wrap, or other cushioning and void fill material are



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acceptable but must be non-dust producing and mold resistant.

- Miscellaneous wadding such as newspaper or rags, plastic, staples, paperclips, shipping peanuts, clear tape, and loose fill packing material shall not be used as support/ dunnage.
- Each container must be properly marked or labeled with part number, origin, and destination.

Labeling

- Labelling shall be non-fading, clear, legible, and durable (capable of lasting throughout shipment) marking in a color which shall contrast with the color of the container.
- When reusing containers, unnecessary or obsolete markings/labels must be entirely removed or covered.
- Precautionary, handling, and hazardous material markings and labels shall be applied to assure proper handling and description of contents, as required.

Clause 20: Delivery documentation

Suppliers shall tender to AMI for acceptance only items that have been inspected in accordance with the appropriate inspection system and have been found by the supplier to be in conformity with all requirements of the applicable Purchase Order and engineering requirements.

The supplier confirms and represents that the items meet and/or exceed all applicable AMI, government, customer and/or supplier design control documents, inspection, validation, and functional test requirements, unless otherwise noted in AMI dispositioned forms accompanying the items.

Suppliers shall include with each shipment a certificate of conformance (C of C) attesting the release of the items included in the shipment. Alternatively, an electronic copy may be provided to AMI in a manner agreed between AMI and the supplier.

The C of C shall contain the following information as minimum:

Information required on C of C	Raw Material	Hardware	Manufactured Parts	Product or raw material with Special Processes	Laboratory test reports	Calibration test reports
Supplier Name and address	X	X	X	X	X	X
Name and address of supplier who manufactured the item (if not the same as the direct supplier to AMI)	X	X	X	X	X	X
Date of test/manufacture or certification	X	X	X	X	X	X
AMI Purchase Order number	X	X	X	X	X	X
Identifying Part Number and revision level (If applicable)	X	X	X	X	X	X
Serial Numbers (if applicable)	X	X	X	X	X	X
Applicable engineering documents and/or specifications the product conforms to or was tested against, including revision level.	X	X	X	X	X	X



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Information required on C of C	Raw Material	Hardware	Manufactured Parts	Product or raw material with Special Processes	Laboratory test reports	Calibration test reports
The unique identification number (e.g., lot number) of the supplied product/service - traceable to the manufacturer and raw material source (if applicable)	X	X (Not required for standard catalogue fasteners)	X	X	X	X
All valid test/process results, and if applicable, failing test/process results			X	X	X	X
Mechanical and Chemical Property Test results of the material and, if applicable, any additional special test results such as non-destructive testing. Mill certification of Chemical Properties without actual test data shall be accepted as well.	X					
Material alloy, temper, size, and shape	X					
Special Process performed (i.e., Heat Treat, NDT, Surface finishing, etc.)			X	X		
Details of the process or test performed if not specifically described by specification (processing parameters, times, temperatures, equipment used, batch or lot numbers, thickness measurements, dimensional maps, etc.)				X	X	X
Quantity of items delivered and/or quantity of items accepted and rejected (when applicable)	X	X	X	X		
The disclosure of nonstandard practice					X	X
Any unusual observations (identified as "Observation")					X	X
Any applicable nonconforming item document numbers	X	X	X	X	X	X
Statement of conformance to required specifications and any additional purchase order requirements. (When certifying to a specification, the results were obtained in accordance with the requirements of that specification.)	X	X	X	X	X	X
Authorized supplier representative title, name, and stamp/signature	X	X	X	X	X	X

Suppliers shall also provide, and retain on file:

- Relevant test reports for raw material used to manufacture supplied items showing physical, chemical, mechanical, and metallurgical properties.



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- Certifications for all controlled special processes used to manufacture supplied items.

Those documents shall:

- Be traceable by lot number to the applicable AMI product.
- Follow the requirements of this clause.
- Be retained in accordance with **Clause 12**.
- Be readily accessible for verification during AMI audits or other verification activities.

Each page of the reports should be numbered and have unique identification traceable to the supplied part.

“White-outs” or erasures on a signed report, test record, C of C, or copies are prohibited.

Retest/recalibration and nonconforming values shall be identified.

If AMI supplied product/material for processing, all specimens provided by AMI shall be accounted for.

Customers shall provide a C of C for customer-supplied material or services. However, the information provided on the C of C is at the discretion of the customer when the item is used for their programs.

Clause 21: Personnel competency and conduct expectation

Suppliers shall ensure that personnel are aware of the importance of product conformity, safety, and ethics requirements, as well as their contribution to it.

Product and service conformity — We expect our suppliers to provide products and services that conform to all applicable engineering, regulatory, and Purchase Order requirements. In pursuit of ensuring product and service conformity, suppliers shall implement adequate systems and processes to produce, evaluate, and improve the products and services provided to AMI.

Product safety — Suppliers shall protect the health, safety, and welfare of those who may be affected by their activities by complying with all applicable engineering, regulatory, and Purchase Order requirements. Suppliers shall ensure that systems and processes are adequately implemented and enforced to ensure that product is able to perform to its designed or intended purpose without causing unacceptable risk of harm to persons or damage to property.

Ethics — AMI expects suppliers to conduct business in accordance with the highest ethical standards. Our suppliers are partners and extensions of our company and must not conduct business in a manner that could damage AMI's reputation or cause AMI to be in violation of any laws or regulations.

Competency — Supplier personnel performing operations on parts within the scope of AMI's Contract, Purchase Order and Terms and Conditions, are required to be competent. The supplier shall implement AMI competency requirements for applicable operations, including but not limited to manufacturing and verification (inspection and test) operations. In absence of AMI requirements, the personnel competency shall be managed per supplier internal requirements, aerospace industry specific.

Clause 22: Control and Inspection plans

Upon request, suppliers shall develop control and/or inspection plans to address possible or known process or part issues. The supplier shall provide a copy of the control and inspection plans to AMI and maintain continued conformity to the plan. The supplier shall not implement changes to the control and inspection plan without providing prior notification to AMI. Changes to established control plans must be reviewed and approved by AMI Quality.



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Clause 23: Sampling plans

The supplier can apply sampling plans. However, the application of sampling plans on lots with known or suspected nonconforming parts is prohibited.

Clause 24: Quality program requirements

Customer requirements flown down to AMI may include specific quality program and / or record retention requirements. Those are also to be flowed down to our suppliers. AMI Procurement will provide the necessary information to the supplier to allow for compliance with the applicable requirements.

The following flow down requirements may be mandated as appropriate.

- ISO9001 Certification
- AS9100 Certification
- NADCAP Certification
- Customer specific requirements