



WAM Supplier Quality Manual COR-SQ-0002 Rev 2

WAM Supplier Quality Manual

Supplier Name:

Supplier Address:

WAM Suppliers shall review the attached WAM Supplier Quality Manual and acknowledge receipt of said manual by signing this document. The signed acknowledgement of receipt shall be electronically submitted to the following address:

WAM Director of Quality - [Matthew Rigerman@Beminc.com](mailto:Matthew.Rigerman@Beminc.com)

WAM Suppliers shall review the attached WAM Supplier Quality Manual and shall electronically submit the Self Assessment Survey, copies of ISO Certification and the Risk Management Policy to your local WAM Purchasing contact.

Supplier Quality Representative Printed Name & Signature:

Date: _____



1. General Information

1.1 Policy Statement

It is the policy of Williams Advanced Materials, Inc and its related subsidiaries (hereafter referenced as "WAM") that materials and services used in the design and production of WAM products be procured in a professional and ethical manner that results in achieving the lowest total cost of ownership for WAM and its customers. Further, all purchased materials and services must be in compliance with agreed upon requirements, be delivered on time, and have competitive lead times and prices.

- It is the policy of WAM that timely delivery of high quality materials and services which satisfy customer expectations is ensured by the utilization of established systems, policies and procedures.
- WAM maintains procedures to assist supply chain management in carrying out the duties as prescribed by this manual.
- The terms supplier, subcontractor, distributor and vendor are viewed as synonyms. Supplier is the most common generic term used, and it will be the term most often used in this manual.
- The following conventions are used in the standard:
 - The words "shall" and "must" indicate mandatory requirements.
 - The words "should" indicate mandatory requirements with some feasibility allowed in compliance methodology.

1.2 Purpose

The purpose of this manual is to define the basic quality systems and business procedures required of the suppliers who currently or potentially manufacture and/or supply production material and / or services to WAM.

This manual also defines quality requirements, business practices and applicable documents for these suppliers, in order to maintain their status as an approved supplier.

1.3 Scope

This procedure applies to all Suppliers of materials and services that directly affect the form, fit, function, quality or reliability of WAM finished product.



2. Administrative Policies

2.1 Control of “Company Private” information

It is the responsibilities of the individual providing “company private” or “company restricted” data to ensure that the people receiving said data are aware of their responsibility to follow prescribed procedures to protect it.

2.2 Regulatory Agency Compliance

It is the supplier’s responsibility to ensure that their product is in compliance with all applicable regulatory agency and product safety requirements, and claims including that stated in supplier published product advertising, catalogues and data sheets. The supplier must be prepared at all times to substantiate compliance by providing copies of test reports and making records available for review if requested.

2.3 Green Procurement Supplier Specification

WAM is committed to the protection and preservation of the environment in all its business operations. We strive to control impacts to the environment from business activities while promoting environmental improvement throughout our entities and associates.

2.3.1 Environmental Management

The supplier should:

- Have a documented Environmental Policy that is communicated to all employees.
- Have a documented Environmental Management System (EMS) that at a minimum conforms to ISO 14001 or other internationally recognized standard by 2012.
- Ensure proper environmental controls in place to ensure hazards (i.e. wastewater, emissions to air, hazardous waste, etc.) are properly controlled to meet applicable regulatory requirements.
- Have a process in place to identify the full materials content of products sold to WAM and to certify their conformance to applicable regulatory requirements (e.g. RoHS, REACH).



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- Place requirements on their suppliers to comply with applicable environmental regulations.

2.4 Social Accountability

The Supplier shall be committed to ethical conduct, full compliance to applicable national and international laws and respect for human rights in the spirit of Electronic Industry Code of Conduct (**EICC**) including:

- Having a written labor policy ensuring conformance to all applicable labor laws and requirements covering all of the following: freely chosen employment, child labor avoidance, working hours, wages and benefits, humane treatment, non-discrimination, and freedom of association.
- Having a written ethics policy covering all of the following: business integrity, no improper advantage, disclosure of information, intellectual property, fair business practices, and protection of intellectual property.
- Place requirements on your suppliers to comply with applicable labor laws.

2.5 Risk Management Policy

The supplier shall have an up-to date documented Risk Management Policy ensuring that in the event of disaster or inability to perform, the supplier has plan to take necessary action in order to minimize and or eliminate such risk, from WAM.

This shall be provided to the **local WAM Purchasing contact** upon completion of the **WAM Supplier Self-Assessment Survey**.



2.6 Control of Proprietary Data

DEFINITION: Proprietary data is information 1) owned by a private individual or company, 2) the unauthorized distribution and use of which could adversely affect its owner, and 3) is protected by the owner's internal controls and procedures. This may include drawings, trade secrets, financial, statistical and private information withheld from general knowledge, part specifications, processes, which could, if released, adversely affect legal or business matters.

WAM requires all suppliers to have a signed Non-Disclosure Agreement in place as part of the normal business relationship.

2.7 Antitrust Compliance Program

Procurement procedures support corporate policy in regards to compliance with the Antitrust Laws of the United States.

All responses to inquiries from foreign or U. S. government antitrust authorities must be coordinated with the WAM Legal Department.

2.8 Gifts and Gratuities

WAM holds the highest standards for its suppliers. WAM associates cannot receive monetary gifts or gratuities from suppliers.

2.09 Associated Documents

WAM Supplier Self-Assessment Survey
WAM Supplier Request for Change Procedure
WAM Supplier Request for Change Form

National and International Standards

ISO 9001 Quality management systems – Requirements
ISO/IEC 17025 General requirements for the competence of testing and calibration laboratories
EICC Electronic Industry Code of Conduct



3 Acronyms / Terminology and Description / Definition

Approved

The supplier status is such that WAM's Sourcing may buy qualified products from that supplier.

ASL

Approved Supplier List listing all Suppliers who have been approved to provide materials and services to WAM

Certificate of Analysis

Signed document that provides quantitative data for the items being delivered that certifies that the product conforms to all purchase order requirements and, reference specifications.

Certificate of Conformance

Signed document certifying that delivered products conform to all purchase order requirements and, reference specifications.

Disqualified

The supplier performance has proven unacceptable such that no further orders may be placed.

RMA

Returned Material Authorization: typically a requirement for returning nonconforming products to the supplier.

SCAR

Supplier Corrective Action Request: formal request for improvement issued by any member of the team.

SQE

Supplier Quality Engineer

WAM Director of Quality

Responsible to maintain the overall WAM Quality System which includes but not limited to Supplier Quality. The WAM Director of Quality may designate functions outlined in this document to his/her discretion.



4. Supplier Policies

4.1 Supplier Performance & Monitoring

The various WAM Purchasing Managers are responsible for maintaining the Approved Supplier List (ASL) for their respective suppliers.

WAM supplier expectations are defined in section 5. Conformance to these requirements is verified by means of supplier surveys, requested self-appraisals, and on-site assessments performed by WAM or a third party. All requirements in each applicable element shall be fulfilled for a supplier to be considered qualified to provide materials or services to WAM.

4.1.1 Criteria for a Supplier to be added to the ASL:

Suppliers must submit a signed acknowledgement that the WAM Supplier Quality Manual has been reviewed.

Suppliers must complete the WAM Self Assessment Survey and meet a minimum score of 70% (survey is based on the WAM Supplier Quality Manual). Based on survey results, the WAM may request a Supplier Process Audit be performed prior to addition to the WAM ASL.

Suppliers who are mandated for use by a WAM end user or are considered a "Single Source Supplier" may be exempt from the scoring system and be placed directly on the ASL.

Criteria for suppliers to maintain approved status on the on the WAM ASL

Suppliers must meet a minimum 70% score on the WAM Quarterly Supplier Scorecard. Suppliers who fail to meet this minimum rating for 2 consecutive quarters shall be issued a SCAR for poor performance. Continued poor performance shall be reviewed for possible removal from the WAM ASL (reference section 4.2.)

Due to the criticality of some products and services provided to WAM, additional criteria for Suppliers to maintain an approved status on the ASL may include but not limited to: Supplier Process Audit results, Quarterly Business Reviews, and overall supplier trend performance. The WAM Director of Quality maintains the responsibility to review such actions as necessary.



4.2 Discontinuing Business Relations with a Supplier

The removal of a supplier from active status should only be done following a thorough investigation conducted by the WAM.

Prior to supplier removal as an approved supplier, the WAM shall:

- Review the Supplier Performance Scorecard and any related Process Audits.
- Initiate a formal written request to the Supplier for written Corrective Action to performance issues (e.g. SCAR).
- Review the Supplier Performance and recommendation for removal from the Approved Supplier Listing with the WAM Executive Team.
- Send a written notification of removal from the Approved Supplier Listing to the affected Supplier with a 60 day probationary period exclusion which includes steps identified to remain on the ASL.
- Send a final written notification of removal from the Approved Supplier Listing (ASL) to the affected Supplier which includes steps to be returned to the ASL.

4.3. Supplier Quality

4.3.1 Supplier Performance rating system

The local WAM Purchasing and Quality Managers are responsible for maintaining the Supplier Performance Rating table for their respective suppliers. This table provides visibility into each supplier's quality and delivery performance from the WAM Supplier Score Card.

4.3.2 Supplier Quality Audits

The local WAM Purchasing and Quality Managers have full discretion on when and which suppliers to audit. Process Audits may be conducted on an annual basis for identified key suppliers and may be conducted on a more frequent basis based on WAM business needs and or supplier performance. WAM utilizes a formal Process Audit to document process audits. An audit score is created from each process audit and becomes part of the WAM Supplier Performance Rating system.



4.4 Nonconformance and Deviations

4.4.1 Definition of Non-Conforming Product and Product Delivery Issues

Non-Conforming Product - Product delivered to WAM not meeting WAM's specifications constitutes Non-Conforming Product. Examples include, but not limited to, dimensional measurements, product purity requirements, incorrect invoices, and or packaging.

WAM reserves the right to issue a Supplier Corrective Action Report (SCAR) for any product non-conformance. WAM understands that some non-conforming product may not be identified until after the product has been delivered to the customer. In the case that a Supplier notifies WAM proactively regarding non-conforming product, WAM reserves the right not to issue a SCAR.

Product Delivery – Product delivered late to the agreed to delivery date and in quantity less than agreed to by WAM constitutes a late shipment. Excess late shipments or under quantity shipments may result in issuance of a SCAR to the supplier.

4.4.2 Request to ship Non-Conforming Product to WAM

Delivery of product to WAM not meeting supplier's internal manufacturing specifications for measurements as identified on the control plan, acceptance criteria, outlier limits, or WAM specifications requires:

- Supplier to review non-conformance through a cross functional Material Review Board (MRB) to determine acceptability of shipping material to WAM.
- Issuance of a **WAM Supplier Request for Change Form** to the WAM Quality Engineer specifying nature of non-conformance, associated data with non-conformance, and supplier's MRB explanation of why supplier does not believe non-conformance will not impact WAM's product performance, quality or yield.
- Approval of the **WAM Supplier Request for Change Form** by WAM Quality provides authorization for the supplier to ship material to WAM.



4.4.3 Nonconformance Reporting

WAM utilizes a Supplier Corrective Action Report (SCAR) system to notify suppliers of potential non-conformances either related to product, process or service offered to WAM. SCAR's may also be issued for delivery related issues. Suppliers shall maintain a system to effectively manage all SCAR reports issued to their organization.

WAM requires that all SCAR's be responded to utilizing the 8D disciplined problem solving format. Acknowledgement of the SCAR, issuance of an RMA for the material to WAM and provide containment shall be made within 48hrs. Root cause and corrective action plan shall be completed within 10 business days of the receipt of samples. 8D disciplined problem solving reports shall be sent to WAM via electronic messaging systems (email) to the appropriate WAM Purchasing or Quality contact. Suppliers not meeting the above guidelines for communication of disciplined problem solving efforts may be subject to issuance of SCAR for corrective action on communication. WAM understands that some root cause and corrective actions may require additional time above the guidelines listed. When these issues arise, suppliers are required to utilize the disciplined problem solving format for communication of plans to resolve the SCAR. Action items, due dates and person(s) responsible for actions are to be identified in the disciplined problem solving format.

5.0 Supplier Quality Controls

The Supplier shall have a process to manage and track changes in requirements and product data. This shall include revision history documentation of the resulting changes in engineering documentation. Any proposed changes to product Fit, Form or Function shall be communicated to WAM via the **WAM Supplier Request for Change Procedure & WAM Supplier Request for Change Form**. All proposed changes cannot be implemented until WAM approves of said changes.

5.1 Proposed Changes

Revisions to technical requirements can only be made by authorized personnel. Any proposed changes to product Fit, Form or Function shall be communicated to WAM via the **WAM Supplier Request for Change Procedure & WAM Supplier Request for Change Form**. Proposed changes cannot be implemented until WAM approves of said changes.



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Note: Engineering changes (supporting documentation) or copies thereof, shall not be made available to suppliers or commercial customers without appropriate Legal Department approval and confidentiality agreements.

5.2 Product Identification

The Supplier shall have a system of manufacturing control such as a route card, run card, control software, etc, used for the identification of products with regard to type, lot or serial number, and their status during all stages of production and test. The shipments containing finished products shall be labeled according to relevant WAM's specifications.

5.3 Product Traceability

The Supplier shall have a system for ensuring finished product traceability back to factory, date code and lot or serial number as specified by WAM. The Supplier shall also have a system for identifying and tracing critical raw materials back to the source.

5.4 Quality Plan

WAM is a leader in the industry and continuously strives to improve Quality and provide world-class products to our customers. To ensure we are able to meet and maintain this objective, WAM expects the following elements to be present with its suppliers. In the event the supplier does not have an element of this plan, WAM will at its discretion, decide if we want to work with and assist the supplier in developing the missing element(s).

The requirement of the quality plan is one of the most critical steps in becoming an approved supplier to WAM. WAM's intent is to purchase material from suppliers on a Ship to Stock Program. This is a process where WAM receives parts and materials from suppliers and uses them with a minimum of internal inspection and test costs, or losses resulting from the supplier's fault non-conformances. WAM will not accept the cost of excessive testing and poor quality, and will not pay the cost of our suppliers doing extensive testing or the resulting poor yields and escapes.

The quality plan will normally consist of the following elements as a minimum, however; additional requirements may be requested by WAM:



5.4.1 Quality System

Suppliers shall have an effective quality system in place that assures consistent on-time delivery of conforming product. Registration to **ISO 9001:2008** by an accredited third party certification body is preferred. In the event the supplier is not registered, a plan to achieve compliance and or certification by December 2011 is required. Certification and or compliance plans must be provided to WAM.

Registration to **ISO/IEC 17025** is required for calibration and testing laboratories.

5.4.2 Process Flow Diagram & Value Stream Mapping

A critical element of the Quality Plan is a comprehensive flow diagram of the overall process from receipt of purchased material to shipment of materials to WAM that includes:

- All operations, inspection and test gates including incoming material
- Critical inputs and outputs and the parameters defined to control quality of each process/part.
- Statistical Control techniques used to control processes
- Value added & Non-Value Added process steps and non-value add material transfer / handling steps
- Inspection or test methods and acceptance criteria
- Equipment used for test, inspection and measurement of WAM product require Gage reproducibility and repeatability (R&R) studies to demonstrate the capability of the equipment and measuring process. These studies shall be performed using the ANOVA method outlined in the **AIAG Measurement System Analysis (MSA)** manual. All such equipment with > 30% error needs to be reported to WAM.



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5.4.3 Failure Mode and Effect Analysis (FMEA), Control Plan and Continuous Improvement Plans

It is strongly recommended that the supplier develop a Process or Product FMEA and use those results to determine the appropriate test and inspection points as well as appropriate control methods. Utilizing ascribed quality standards, a Control Plan is recommended for all processes that supply material to WAM. Additional information can be found in the **AIAG manuals**. Continuous Improvement Plans shall be created for any RPN >150 defined on the FMEA. WAM maintains a template for these documents; reference **WAM Lean Six Sigma Templates**.

5.4.4 Corrective Action and Failure Analysis

WAM uses a Supplier Corrective Action Request (SCAR) as the trigger to engage the supplier for a request for containment, root cause analysis, corrective action and verification. The supplier shall have a formal, disciplined problem solving process with evidence that key personnel have been trained. Failure Analysis capabilities and support needs to be identified in the Quality Plan.

Reference section 4.4.3 Nonconformance reporting for WAM expectations for responsiveness to issued SCAR's.

5.4.5 Document Control System

WAM requires suppliers to have a Document Control system in place. Suppliers must ensure that the latest WAM specifications, work instructions, and other related documents are maintained in this system.

5.4.6 Internal Quality Audits

Suppliers shall perform internal quality audits in accordance with documented procedures and control plans. The supplier shall review audit results, plan corrective action and perform follow-up verification of corrective action effectiveness.

The supplier will publish the frequency of internal audits performed in the supplier facility in the Quality Plan. Periodically, the supplier may



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be requested to share details of the internal audits and follow-up items with WAM.

5.4.7 Work Environment

Suppliers shall determine and manage the aspects of work environment needed to achieve conformity to product requirements. Examples of aspects include but are not limited to temperature, humidity, cleanliness and electrostatic discharge protection. Suppliers are encouraged to maintain the highest levels of cleanliness within their respective processes to reduce / limit the amount of foreign debris in their processes. Clean room environments are recommended for final inspection and packaging at a minimum for electronic components (not bulk materials).

Suppliers who handle ESD sensitive parts shall establish and maintain an ESD management system in accordance with ANSI/ESD S20.20.

Suppliers shall address product safety and means to minimize potential risks to employees especially in manufacturing process activities including:

- Maintaining a written occupational safety and health program that enables the organization to identify and control workplace hazards and risks
- Senior management commitment to provide and maintain a safe and healthful workplace for employees
- Establishing and maintaining plans and procedures to identify the potential for, and responses to, incidents and emergency situations (e.g. written emergency action plan)
- Maintaining and routinely testing life-safety systems (e.g. fire, smoke, toxic gas, critical exhaust, back-up power, etc.) to assure their reliability and readiness
- Appropriately segregating, storing and handling hazardous materials to minimize hazardous materials incidents

5.4.8 Problem Resolution, Escalation and Key Contacts



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The quality plan will also define who has authority for resolving quality, technical and supply issues and the escalation process to the next level of management in the event that a decision can not be reached at any level.

The supplier shall designate a key contact person and will furnish their name, daytime phone number, pager/mobile number, and email address. This individual will be the owner for taking action on quality alerts and assuming all reports and corrective action request are rendered to WAM in a timely fashion. The supplier will be responsible for the assuring the availability of this individual or a back-up is available to WAM at all times.

5.5 Reports

All shipments must be accompanied by a certificate of conformance and/or certificate of analysis traceable back to the items being delivered. The supplier may be requested to provide periodic reports or summary reports of inspection or test results. Additionally the supplier may be requested by WAM to provide periodic summary reports of Failure Analysis and evaluation results on SCARs / RMAs. These will need to be in the format prescribed by WAM.

5.6 Supplier Self Assessment Survey

WAM Supplier Self-Assessment Survey needs to be completed by the supplier every three years or more often if requested by WAM and will be kept on file by WAM. This form will also be used as the template for on-site audits performed by WAM.