Supplier Quality Manual

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Purpose

The purpose of this manual is to establish WSI Industries quality requirements and expectations to suppliers. It is the intent of WSI to develop partnerships with suppliers who are able to provide parts/materials/processes and services consistently to specifications, at a competitive price, and in accordance with the defined delivery schedule. This manual is intended to assist suppliers in their understanding of requirements regarding specific management, communication, and reporting processes.

1.0 Scope

The contents of this manual apply to all manufacturers and outside processers such as foundries, machine shops, welder/fabricators, painters, coating applicators, any supplier that supplies a production part or processes a production part.

2.0 Quality System Requirements

WSI encourages suppliers to develop quality systems that provide for continuous improvement and emphasize defect prevention while reducing variation and waste. Suppliers are strongly encouraged to pursue certification or compliance with ISO 9001, AS9100C or an equivalent quality management system. Some suppliers will be required to have ISO 9001 certification or show evidence that their quality system is compliant with ISO 9001.

3.0 Approved Supplier List (ASL)

Production parts, materials, processes and services will only be purchased from suppliers on the WSI ASL. WSI evaluates and selects suppliers based on their ability to supply goods and services in accordance with specified requirements.

4.0 Supplier Assessments

At its discretion, WSI will conduct Quality System audits at supplier's facilities with prior notification. The goal of these audits is to understand the supplier's manufacturing and process capabilities, quality management systems and to identify continuous improvement opportunities. Suppliers will be sent a self-assessment survey before the audit date. This self-assessment must be returned to WSI prior to commencement of the on-site audit.

Following the audit, WSI will forward any findings and corrective actions requests (CAR) or opportunities for improvement (OFI) to the supplier. Results of the audit and the supplier's implementation of corrective actions will be used in the sourcing decision of potential suppliers as well as the ongoing evaluation of incumbent suppliers.

5.0 Product Quality Planning

WSI may help facilitate formal quality planning activities with the Supplier. The intent of these activities is to communicate product quality expectations and verify that the suppliers have adequate process control to maintain an acceptable level of capability to ensure overall product quality and continuous improvement.

Quality planning elements may include the following:

- Process Flow Charting
- Root Cause Analysis
- Design Failure Mode & Effects Analysis (DFMEA)
- Process Failure Modes & Effects Analysis (PFMEA)
- Process Capability Studies
- Packaging Evaluations
- Prototype Builds
- Design Reviews
- Measurement Systems Analysis (MSA)

6.0 First Article Submission Process (When requested)

The purpose of the first article approval is to validate that the supplier's production processes have the capability to meet and maintain compliance to the specifications and quality requirements. Specifications will be noted on, or attached to, the WSI purchase order.

Suppliers shall conduct a first article production run and produce parts utilizing intended production equipment, tooling and processes. The supplier will then submit sample parts from this first article production run to WSI Quality for verification by WSI personnel.

The raw materials used in first article samples, product trials, and qualification samples are subject to the same material traceability requirements as production components. Certifications for all sample materials shall be provided as requested. The mechanical, chemical or otherwise

specified requirements of these materials are essential performance characteristics that affect the integrity of the results of the qualification activity and the predicted accuracy of the performance of the product.

First article samples will be required for new parts, as well as a result of changes to existing parts, processes, tooling (including modifications and repairs of existing tools), drawings, manufacturing locations, sub-contractors, or materials.

The following are required as part of the first article submission process when requested:

- Ballooned Drawings (All affected dimensions, notes and material specs)
- Dimensional Results (FAIR)
- Material Certifications
- Process Certifications (when applicable)
- Identified FAIR Sample

The following may also be required based on criticality of the part.

- Process Capability Studies
- PFMEA
- Control Plan
- Process Flow Diagram

7.0 Inspection Records

WSI may request inspection data. This data may be a onetime request or on an ongoing frequency. Types of data that we may request:

- In-process Inspection Data
- CPK summary of “Key Characteristics”
    - Key Characteristics are to be monitored and must maintain a 1.33 Cpk minimum. 100% inspection is required for features that are less than 1.33 Cpk. This requirement is required to be flowed down to your Tier II suppliers.

8.0 Deviation Requests

If a supplier manufactures product that does not conform to specifications, a deviation request must be submitted. Deviation requests must include descriptive details of the nonconformance, and either the number of parts affected, or the time frame to which the temporary deviation applies. Nonconforming product may not be shipped by supplier prior to documented approval of the deviation request by WSI approved personnel.

9.0 Process Changes

WSI must control products and services provided by our supply base based on approved and validated products and processes. WSI requires notification and written approval of any proposed changes **BEFORE** implementing such change(s). Notification must be given to WSI in writing with acknowledgement of notification. In the event this procedure is not properly followed WSI will take appropriate actions needed to recover any costs associated with any complications caused by unapproved changes to the products and services provided. This will include, but not limited to, scrap, rework, sorting etc.

10.0 Engineering Change Request (ECR)

Suppliers are not allowed to make changes to a part without WSI written approval. Should a supplier wish to make a permanent change to a part, drawing or specification, an ECR must be submitted to WSI and approved prior to making the requested change.

11.0 Corrective Action Request (CAR)

Upon receipt of nonconforming material, WSI may issue a Corrective Action Request (CAR) Nonconforming material may be identified during incoming inspection, audit, assembly, customer returns, and other opportunities, as applicable.

WSI reserves the right to sort suspect material within a lot of material rather than reject the entire lot to avoid shutdown of its production processes. Supplier may be asked to sort defective lots at their location (with return) if time permits. Alternatively supplier may be required to do the sort at WSI or end customer facility

Upon receipt of CAR, suppliers must:

- Implement containment of suspect/defective material or services to prevent use by WSI
- Inform WSI of supplier's plan to replace suspect/defective material or services
- Provide to WSI the short-term corrective actions with regard to producing additional material or undertaking additional services without defects
- Send WSI the initial containment response within 3 business days

Within 14 calendar days of receiving the notification of suspect/defective material or services, suppliers must:

- Define and verify the root cause(s) of all defect(s)
- Submit a plan to implement permanent corrective action(s) to mitigate or eliminate the root cause(s)
- Submit a plan to verify and validate the permanent corrective action(s)

In the event that the complexity of the process prevents a timely root cause discovery, the supplier must provide a plan to identify the root cause. WSI will review the CAR response and accept or reject the corrective action plan and communicate this to the supplier. If WSI rejects the proposed corrective action plan, details regarding rejection will be provided. Supplier's resubmission of rejected CAR responses is required within 5 calendar days of the supplier's receipt of WSI's notification of rejection. WSI reserves the right to perform verification of the effectiveness of the corrective action at the supplier's facility which may include review of process maps, PFMEA, process capability data before and after corrective actions are implemented.

12.0 Containment

Suppliers are responsible for developing processes to protect WSI from receiving material that does not meet the quality requirements and specifications set by WSI.

13.0 Supplier Development

In an effort to continually improve overall quality levels, WSI may provide assistance to suppliers (including incumbent suppliers) who fail to meet performance levels and expectations set by WSI.

14.0 Supplier Quality Meetings

Suppliers who fail to meet performance levels and expectations set by WSI may be required to attend quality improvement meetings at a location determined by WSI.

15.0 Insurance

The Supplier shall maintain the following minimum insurance coverage's:

- Worker's Compensation as statutorily required.
- Commercial General Liability (including Product Liability) insurance and if necessary, Umbrella/Excess Liability insurance with a combined total limit not less than 1$ million per occurrence.
- The insurance policy shall list WSI Industries as an Additional Insured.
- At WSI's request, an original certificate of insurance shall be provided to WSI attesting to the types of insurance listed above.
- Supplier's insurers of insurance broker/agents shall by written notice, notify WSI at least 30 days in advance of any material change or cancellation that would reduce the coverage described above.

16.0 Cost Recovery

Suppliers may be held responsible for costs incurred by WSI or WSI's customers, as a direct result of receipt of nonconforming material. Costs may include, but are not limited to:

- Administrative
- Sorting of suspect material
- Rework
- Product recall
- Premium Freight
- Production Downtime
- Third party containment
- Scrap
- First Article rejection
- Overtime
- Laboratory Testing
- Travel and related expenses
- Customer charges related to any of the above

17.0 Material Traceability and Certification Requirements

Suppliers must maintain full material traceability of material purchased by the supplier or supplied by WSI if required. WSI may require documentation such as:

Certificate of Compliance (C of C)

Document in which the manufacturer declares that the products supplied are in compliance with the requirements of the PO. and design records.

Material Certification

Document in which the manufacturer declares that the products supplied are in compliance with the requirements of the PO. Manufacturer supplies test results based on a comparable part or product. [Based on EN 10204:2004 (E) Type 2.2]

Material Test Report

Document issued by the manufacturer in which manufacturer declares that the products supplied are in compliance with the PO. and or specification(s). Manufacturer supplies test results traceable to the material or products supplied.

It is acceptable for the supplier to use test results obtained from the supplier of raw materials or components which provides the original inspection/testing documents.

Process Certification

Document in which the supplier declares that the outside service provided is in compliance per the PO. Such services may be (but not limited to) plating, heat treat, coating etc.

18.0 Product Repairs

Repairs on product manufactured for WSI are not allowed without written approval from WSI. A repair is an act or process to restore the functional capability of the defective part in a matter that precludes compliance to the drawings or specifications.

19.0 Delivery Requirements

Suppliers are expected to achieve 100% on-time delivery (OTD) for material and services per the delivery date specified in the PO. On-time is defined as minus 5 plus 0 days. If a supplier is unable to deliver or ship the product or complete the service by the required delivery or ship date as stated in the PO, it is the supplier's responsibility to notify WSI as soon as possible.

20.0 Supplier Performance Monitoring

Critical suppliers will be monitored for On Time Delivery and Quality on a scheduled basis. During this review process, WSI will determine if actions are warranted. Activities detailed in sections 5, 12, 13, 14, 15, 17 and 20 may be used, performed and/or requested based on the performance review observations.

21.0 Supplier Awareness

You as a supplier must be aware of the following expectations

- Your contribution to product or service conformity – understanding what the seller does, may adversely affect conditions of the parts resulting in non-conformities
- Your contribution to product safety – By assessing safety critical items identified on the print and making sure they conform
- The importance of ethical behavior – The seller will conduct its business fairly, impartially and in an ethical and proper manner

22.0 Document Revisions

Revision	Page No	Section No	Paragraph No	Description of Change
1	N/A	N/A	N/A	Initial release
2	10	21	N/A	Added Supplier performance monitoring notice
3	11	22	N/A	Added Supplier Awareness