



# **Supplier Development & Quality Manual**

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## Foreword

An important building block for a successful relationship is communication and collaboration. The requirements contained within the Supplier Quality Manual are written with the strict intent of communicating the expectations of Wabash National Corporation (“Wabash”) and its customers. First and foremost, suppliers must be capable of meeting Wabash’s service, delivery, quality, and cost expectations. The manual provides both existing and potential suppliers the information required for securing business and maintaining a successful relationship.

All suppliers are expected to implement a quality system such as ISO 9000, TS 16949, or an equivalent system.

At a minimum, suppliers are expected to fulfill the following elements to ensure a successful relationship.

- Communication
- Order Verification
- Process Capability
- Process Controls
- Defect Prevention
- Internal Assessments
- Corrective & Preventative Actions
- Document Retention
- Continuous Improvement
- Competitive Pricing
- 100% On-Time Delivery
- Total Cost

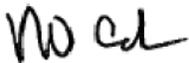
Wabash expects suppliers to assume full responsibility for the quality and delivery of their supplied products and the consequences resulting from a lack of meeting expectations defined by this manual. The commitment to adhering to these expectations will enable us to consistently meet and potentially exceed our mutual end customers’ expectations.

Wabash intends to purchase goods and services from suppliers who are leaders in their field and incorporate a spirit of continuous improvement throughout their organization

## Wabash National Supply Chain Management Mission Statement

In order to exceed customer expectations on an ongoing basis, we will identify, select, and proactively develop suppliers who provide superior quality products and services and are willing to collaborate with us to provide the best overall value to Wabash National Corporation and our customers.

Continuous improvement will be an expectation from each supplier. We will measure and monitor performance, rewarding those suppliers who exceed our expectations, and helping to develop those who fall short.



Nicholas D. Adler  
Vice President – Supply Chain Management

**NOTE:** This manual contains a brief summary of expectations and requirements that involve our suppliers and sub-suppliers. Suppliers are responsible for obtaining copies of the latest revisions of publications. Copies of AIAG publications can be obtained from the Automotive Industry Action Group. Publications for guidance include ISO-9000, TS 16949 Quality System Requirements, Quality System Assessment (QSA), Advanced Product Quality Planning (APQP), Statistical Process Control (SPC), Measurement System Analysis (MSA), Failure Mode and Effects Analysis (FMEA), and Product Part Approval Process (PPAP).

## 1.0 PURPOSE

This Supplier Quality Manual provides a concise understanding of Wabash's quality expectations and outlines the minimum requirements that Wabash requires its suppliers and sub-suppliers to meet. This manual will strengthen inter-company relations and improve the communication between Wabash and its suppliers.

## 2.0 SCOPE

This manual specifically applies to all suppliers (direct, non-production / capital, and to the extent applicable, indirect materials or services providers), and sub-suppliers that do business with Wabash. This manual does not alter or reduce any other contractual requirements covered by purchasing documents or requirements of engineering drawings or specifications. This manual describes the minimum requirements expected and is applicable to all production material and service suppliers whether the products and/or services are provided directly or indirectly through sub-suppliers.

## 3.0 GENERAL

This manual is based on nationally recognized quality system requirements such as ISO 9000 and TS 16949 and is considered an integral and legally binding part of the Wabash Purchasing Agreement ("Purchase Order"). It shall be read and understood by the supplier.

Wabash increasingly makes use of items from suppliers in the manufacture of its products. The condition, reliability and delivery of these items crucially influence the quality of the products we provide to our customers. A supplier's quality and delivery capabilities are therefore essential criteria in any purchasing decision reached by Wabash.

### **Wabash expects that suppliers will focus on:**

- Communication of requirements and performance within the supplier's organization and Wabash.
- Order verification to ensure understanding of requirements, capacity and capability to provide product or service.
- Ongoing process capability to ensure product and/or service delivery and quality.
- Product process controls to ensure efficient and effective delivery of quality product and/or service requirements to Wabash.
- 100% on-time delivery of defect-free products (zero defect target) assuming full responsibility of the products supplied and any resulting consequences due to the lack of meeting Wabash expectations.
- Internal assessments of processes, product and metrics for effectiveness.
- A quality system based on ISO 9000, TS 16949, or an equivalent system.
- Consistent application of corrective and preventative methods in order to avoid and eliminate sources of defects.
- Appropriate records of system, process and product performance to ensure adequate performance evaluations and continuous improvement, including the need for problem resolution.
- Continuous improvement of all processes to increase efficiency and effectiveness while maintaining or reducing the costs of supplied products to Wabash.
- A competitive total cost.

## **4.0 SUPPLIER QUALITY SYSTEM**

Wabash recommends that all suppliers actively strive to attain a certification such as ISO 9000, TS 16949 or an equivalent system while complying with Wabash minimum requirements. Certified suppliers shall notify Wabash within 10 working days if their Certificate of Registration is put on suspension. The supplier shall forward a new copy of its certificate if it has expired.

As a minimum requirement, suppliers are expected to fulfill the following elements to ensure a successful relationship. Wabash may require additional items in the event of nonconformance or ineffective corrective actions.

### **4.1 Engineering Processes / Controls**

A process to ensure that submitted requirements are understood. This process (at a minimum) shall ensure effective communication of:

- Material requirements.
- Key Product Characteristics (KPC).
- Appropriate engineering drawings and specifications are exchanged between parties and available where needed with all revisions communicated promptly.

As deemed necessary due to criticality of the part, performance history, etc., Wabash may require a detailed development plan from the supplier including implementation of Advanced Product Quality Planning (APQP) elements. When APQP is imposed, records shall be maintained.

### **4.2 Sub-Supplier Material Control**

It is the supplier's responsibility to ensure and control the quality of all components and raw materials (customer supplied or purchased) used to manufacture product for Wabash.

Each supplier is fully responsible for the control and continuous improvement efforts of their sub-suppliers. Sub-suppliers that furnish products affecting Wabash designated characteristics (KPC's) must implement appropriate controls as specified in this manual. The supplier will review sub-supplier controls and quality management systems requiring their sub-suppliers to conform to the requirements specified herein.

Wabash reserves the right to verify and approve purchased products at the supplier and sub-supplier's premises to ensure that contracted products conform to all specified requirements.

### **4.3 Processes / Product Control**

Wabash is expecting zero-defect material and parts delivered. Suppliers must ensure that a process yields services or components that meet specification. In order to ensure product quality, suppliers must complete process and product verifications, including the review of equipment (machinery, tools, fixtures, etc.) affecting the quality of product.

The supplier shall not be permitted to make changes to product and/or processes that may affect the fit, form or function without prior written approval from an authorized representative of Wabash.

The supplier must submit a request for deviation to their Supplier representative of any new product offering, significant process change or any product changes affecting product delivered to Wabash. Reference Section 4.5.3 for further details on the Wabash Deviation Process.

#### **4.3.1 New Product Assessments and Source Inspection**

New suppliers or components to Wabash may, upon decision of the Supplier Development & Quality (SD&Q) representative, require an initial audit and/or source inspection performed at their manufacturing facility prior to Production Part Approval Process (PPAP).

Source Inspection is a process that is performed at the supplier's site utilizing the supplier's resources. Source Inspection may be required in the event of, but not limited to, program launches and design

changes. The source inspection process is to be performed in addition to normal process controls and must be performed as the last step prior to parts leaving the supplier's facility.

Suppliers have to provide inspection reports and material certifications for each delivery for certified material. These inspection reports must be enclosed in a plastic envelope, addressed to the attention of the SD&Q representative, and attached to the outside of the box or dunnage unless provisions are approved otherwise by Wabash.

#### **4.3.2 New Product Verification**

A supplier is expected to maintain a PPAP and will retain records of this process on file for Wabash products. A PPAP submission as well as additional requirements may be outlined by the SD&Q representative through Purchase Orders as a requirement of the supplier.

A PPAP is used to determine whether all Wabash requirements are properly understood by the supplier and that the process has the capability to produce products meeting these requirements during an actual production run at the quoted requirements. Reference the Wabash PPAP requirements in Appendix B.

Suppliers must ensure that all drawing clarifications are resolved before production tooling is finalized and production parts are made.

After product approval, the supplier will notify a Wabash SD&Q representative of any proposed changes to the process and/or product such as but, are not limited to: manufacturing location, sub-supplier, tooling, process or materials, etc.

*A Supplier may be required to re-submit a PPAP every two (2) years from the date of the last approved PPAP for re-certification purposes as deemed necessary by Wabash SD&Q.*

Product shipped to Wabash for approvals without an authorized PPAP Purchase Order will be rejected. Additionally, suppliers cannot ship PPAP nor subsequent production parts until approval has been granted by the Wabash SD&Q representative.

#### **4.3.3 Product Verification Activities**

The supplier quality system must have sufficient controls to ensure that all product shipped conforms to the order quantity, physical, dimensional, and visual requirements described by Wabash. Records identifying criteria and release authorization shall be maintained.

When raw material is processed or consumed by a supplier, it is the supplier's responsibility to ensure certificate of material analysis is available for review for Wabash's required retention period.

KPC's are significant for fit, form, function, appearance, safety, reliability, durability, and the ability to process or assemble a product. Where Wabash drawings denote KPC's, the supplier shall identify these characteristics internally and in all relevant documentation - Failure Mode and Effects Analysis (FMEA), Control Plans, Process Flowcharts, etc.

Although all specified dimensions are important, any items identified as a KPC by Wabash requires adequate controls to ensure the quality of product delivered.

The supplier must notify Wabash immediately upon recognizing quality problems that might endanger the delivery of quality product.

#### **4.3.4 Process Capability Analysis**

A process to review and ensure continuing capability shall be established by the supplier for designated KPC's. All KPC's specified by Wabash shall be controlled through this system and records of review maintained.

Suppliers must evaluate process capability on a regular basis to ensure ongoing continuous improvement. Records of such reviews must be maintained.

**Capability Indices and Acceptance Criteria:**

Whether conducting the initial short term process capability study (Cpk) or a longer term process performance capability study (Ppk), the following acceptance criteria will be used:

$Cpk/Ppk \geq 1.67$	Preferred results, process is acceptable.
$1.33 \leq Cpk/Ppk \leq 1.67$	Acceptable results, corrective action may be deemed necessary to improve the process.
$Cpk/Ppk < 1.33$	Potentially acceptable results, corrective action and 100% inspection may be required to improve the process.

Evidence of statistical process control documentation must be available upon Wabash’s request. Wabash may require the supplier to submit a capability summary report monthly or per shipment for specific characteristics as outlined in Purchase Orders. Each supplier must expend continuous effort to improve the stability and capability of their processes.

**4.4 Measuring and Testing Equipment**

Adequate gauges and measuring/testing equipment for process control are mandatory. This equipment is to be provided by the supplier and, when feasible, must be designed to provide variable data. The supplier must establish, implement and maintain a process to verify the acceptability of all gauges, tool masters, fixtures and measurement/test systems to ensure the integrity of the systems. Records of verification must be maintained.

All Wabash funded gauges must receive Wabash design approval prior to construction or the supplier will be held accountable for changes. Prior to making any modifications to Wabash funded gauges, a Supplier must receive approval from their key Wabash representative.

For all KPC’s and when requested, suppliers shall perform gage repeatability and reproducibility (Gage R&R) studies on all gauges, test equipment and measuring instruments. Where the variation measurement equals or is greater than 30%, the measurement system must be corrected. Gauge studies must be repeated if modifications are made or gauge integrity is in question.

**4.5 Control of Nonconforming Product**

Suppliers to Wabash shall have necessary controls in place to ensure that 100% conforming product is being shipped. Sufficient controls and corresponding records to ensure containment, disposition and disposition authorities of nonconforming product shall be established.

A review of the supplier’s performance will be conducted between a supplier and the appropriate Wabash SD&Q representative and, if necessary, determine methods for improvement.

**4.5.1 Supplier Location**

Nonconforming or suspect nonconforming material found at the supplier’s location must be quarantined to ensure it is not shipped to Wabash. Shipment of this product must not be made until the nonconformance has been appropriately dispositioned. Reworked or sorted material must be inspected before shipment. Dispositions of repaired product must be approved in advance, as required, by a Wabash SD&Q representative.

Nonconforming material or suspect nonconforming material discovered by the supplier after shipment to Wabash must be communicated to a Wabash SD&Q representative. Suppliers should make all

efforts to have material in-transit recalled in agreement with Wabash Buyer / Logistics procedures. Wabash will work with the supplier to contain nonconforming product or adjust production schedule where possible to allow verification of product by a qualified supplier representative.

#### **4.5.2 Wabash National Location**

Wabash reserves the right to perform random audits on material received from suppliers. When actual or suspected nonconforming product is found at Wabash, the product will be rejected and will not be used in production, with all other available rights and remedies reserved.

A Wabash SD&Q or Quality Assurance representative will immediately notify the supplier either electronically and/or verbally when nonconforming material has been found and confirmed. The supplier must confirm receipt of the concern, initiate an investigation at the source and implement the necessary containment activities as agreed upon by Wabash.

Containment actions required to maintain production at Wabash are the responsibility of the supplier. All arrangements required for sorting, rework, etc., must be made by the supplier and communicated to a Wabash SD&Q representative. In the absence of this communication, Wabash will implement appropriate action (e.g. subcontracted sorting), to maintain production and assess costs associated with the activity (e.g. labor, downtime, etc.) to the supplier.

Where containment actions are required beyond the property of Wabash, the supplier must respond with a containment plan to Wabash within 24 hours (48 hours for overseas suppliers) unless otherwise designated by Wabash.

When requested by a SD&Q representative, a qualified supplier representative will be present at Wabash within 24 hours of notification to verify the nonconforming material and coordinate any required sorting or rework activities. A qualified supplier representative may be requested to be present at Wabash immediately, depending on the urgency of the situation. Further actions required of the supplier will be dependent on the outcome of the nonconforming material review.

The supplier will replace any returned material with certified stock identified with labeling identifying the material as certified material. Subsequent shipments must be certified according to the guidelines specified by the SD&Q representative. Certification must continue until the Wabash representative is satisfied with corrective actions.

Wabash may request third-party source inspections (at supplier expense) and specific supplier data be sent in for review. At Wabash's discretion, additional containment actions may be implemented at the supplier's expense to ensure 100% conforming material.

Upon notification of nonconforming product, the supplier shall initiate a corrective action report identifying the root cause and permanent corrective actions taken to resolve the issue. The corrective action must be submitted to the Wabash SD&Q representative for review in accordance with Section 4.6.

All costs associated with the nonconforming material or delivery delays impacting Wabash production will be charged back to the supplier when deficiency is determined to be the liability of the supplier. See Appendix C - Costs Associated with Nonconformance or Delivery Delays.

Wabash SD&Q may impose (at supplier's expense), source inspections or request the supplier to submit final inspection reports. When corrective action and containment is required, Wabash may determine additional requirements and length of time for containment.

#### **4.5.3 Deviation Process**

Whether identified at the supplier's facility or found at Wabash, the need for any proposed deviation from specifications must be documented and approved via Wabash's deviation process. The necessary deviation request form can be obtained from an authorized Wabash SD&Q representative. Completed forms must be submitted to the Wabash SD&Q representative for review and processing. Final approval must be received back from Wabash prior to a supplier shipping deviated product.

#### 4.5.4 Controlled Shipping and New Business Hold

Wabash reserves the right to determine the need for and require implementation of additional measures when it is deemed a supplier's performance has declined significantly. Details of these additional requirements and processes are shown below.

##### Controlled Shipping – Level 1 (CS1)

CS1 is a containment and problem solving process. It involves implementation of a redundant inspection process at the supplying location to sort for a specific nonconformance, implement a root cause problem solving process and isolate Wabash from the receipt of nonconforming material. The redundant inspection must be in addition to normal controls and is enacted by the supplier's employees. The data obtained from the redundant inspection process is a critical measurement of both the effectiveness of the secondary inspection process and of the corrective actions implemented to eliminate the initial nonconformance.

The implementation of CS1 may be triggered by, but is not limited to, at least one of the following issues:

- Repeat quality issues in six consecutive months (a PPM > 10,000).
- Evidence of incapable processes.
- A repeat failure mode captured in a Supplier Corrective Action Report (SCAR) in two consecutive months.
- Inadequate containment and/or resolution of nonconformance.
- Warranty conditions traced to Supplier's components/parts.

Suppliers in CS1 are required to take the following actions:

Step 1: CS1 Inspection - Contain the suspect product and perform a redundant 100% inspection process by either the supplier's employees or an outside third-party inspection company. Daily reports on CS1 inspection and findings must be sent to Wabash.

Step 2: Correction Actions - Identify the root cause of the defect and incorporate irreversible corrective actions.

Step 3: Verification - Verify the corrective actions are effective. This includes proper documentation and closure of any related SCAR.

##### Controlled Shipping – Level 2 (CS2)

CS2 is a heightened inspection requirement implemented at a supplier's facility when it is deemed CS1 actions have not been effective. A supplier must put in place an additional layer of inspection administered by a Wabash authorized third party inspection source. CS2 focuses on a specific nonconformance and is in addition to normal controls and CS1.

Wabash may require CS2 activities when the supplier has failed to correct the problem(s) in CS1 or has had major quality problems. This determination is typically based on the following conditions, but can vary depending on the situation:

- Critical quality problem at a Wabash customer location.
- Major disruptions to a Wabash manufacturing line.
- More than four SCARs within a month.
- CS1 fails to contain or resolve issue.
- Duration, quantity, and/or severity of the quality problem.

Suppliers in CS2 are required to take the following additional actions:

Step 1: CS1 Inspection - Maintain all required actions of CS1.

Step 2: CS2 Inspection – An additional redundant inspection process will be performed by a Wabash authorized third party inspection and sorting company. The supplier will be responsible for the contracting of and payment to this third party.

Step 3: Corrective Action - Identify the root cause of the defect and incorporate irreversible corrective actions.

Step 4: Verification - Verify the corrective actions are effective. This includes proper documentation and closure of any related SCAR.

If the supplier has not taken actions as instructed, Wabash may, at its discretion, contract a third party and deduct that amount, including administration costs, from the payment to the supplier for the product (with any occurrence, with any reject).

### **Controlled Shipping Exit Criteria**

Suppliers in CS1 or CS2 must get approval from Wabash in order to be removed from these additional requirements. An exit criteria will likely be communicated by Wabash including the actions necessary to return to good standing.

Absent more formal communication, the default criteria listed below will be utilized:

- Closure & verification of all SCAR action items with acceptable activities.
- 90-day (3 months) period without any delivery or quality issues on all products supplied to Wabash (clock restarts with any occurrence).
- Documentation must be submitted showing the root cause was verified. Examples of appropriate documentation include, but are not limited to, a control plan and operator work instructions.
- Implement an effective internal audit process covering communication and production.

The good standing will be collectively validated by different Wabash departments. Wabash ultimately holds the responsibility for determining whether or not a supplier in CS1 or CS2 can exit the CS process.

### **New Business Hold (NBH)**

Wabash reserves the right to place a supplier in NBH whenever deemed appropriate. The following conditions listed below represent, but are not limited to, reasons for taking such action:

- Extreme frustrations on quality, delivery and/or service level(s).
- Repeat disruptions of Wabash's production schedule.
- Ineffective resolution of production failures.

The exit criteria for NBH will be addressed according to the situation. Wabash ultimately holds the responsibility for establishing and administering the exit criteria.

## **4.6 Corrective & Preventative Actions**

All suppliers must establish and maintain documented procedures for implementing a system of closed loop corrective and preventive action with disciplined problem solving methods. Records of such activities shall be maintained.

Supplier corrective action reports shall be submitted to the Wabash SD&Q representative utilizing the Wabash SCAR form or a similar format for all deviations from specification or requirements reported by Wabash to the supplier. Where corrective actions are required for product, capability analysis shall be performed and submitted to support effectiveness of the change.

Wabash may require as part of a required corrective action plan the implementation of appropriate APQP elements.

## **4.7 Supplier Development and Continuous Improvement**

The supplier is expected to implement a continuous improvement philosophy to encourage process improvements in performance related to quality, cost, and delivery. Records of improvement shall be maintained.

Wabash expects suppliers to participate actively in continuous improvement programs at both the supplier's location and at Wabash. The supplier shall communicate to Wabash all opportunities for improvements in the areas of Product Design, Reliability, Quality, Process, Delivery, Costs, and Packaging. The benefits of such improvements shall be shared through annual productivity cost reductions.

### **Supplier Development**

Wabash will collaborate with and support the development of its suppliers as applicable and recognize suppliers for sustained performance and continuous improvement. Through this relationship, improvement opportunities will be identified, developed and implemented.

The initiatives listed below include, but are not limited to, foundational tools Wabash can utilize to create additional value, support growth, and enhance operational income.

- APQP
- Lean Manufacturing Principles
- Process Audits
- 6S Process Methodology
- Standardized Work
- Problem Solving

## **4.8 Wabash Supplier Improvement Program (WSIP)**

Suppliers with ongoing performance issues will be candidates for inclusion in the WSIP. Chronic poor performance on scorecard metrics and/or ongoing poor communication required to support our production operations are all key factors contributing to consideration for inclusion. Entrance into this program will be communicated by SD&Q leadership and can be triggered due to a number of factors included, but not limited to, those shown below:

- Failure to achieve on-time delivery
- Poor quality PPM
- Repeat and/or numerous SCARs
- Production Interruptions or Line Stoppages
- Involved in Controlled Shipping 1 or 2
- Involved in New Business Hold
- Schedule increases prompting supplier capacity issues
- Frequent schedule move out requests by supplier
- Missed shipments
- Short shipments that impacted Wabash
- Poor communication

Cross-functional teams led by Wabash SD&Q representing both Wabash and the involved supplier will be required to meet regularly to address any identified areas for improvement. Action items will be documented and tracked addressing key areas of improvement. Suppliers will remain in the program until established exit criteria is met. Once met, SD&Q leadership will notify the supplier that they have successfully exited the program.

## **4.9 Traceability**

Suppliers must monitor and track lot traceability throughout the entire production process. Supplier must be able to demonstrate lot traceability from final product back to raw materials.

The supplier must employ a system in order to track lots, batches, part numbers, and manufacture dates. Traceability records must be maintained and be readily available to Wabash.

## **4.10 Internal Assessments**

A supplier must conduct regular internal assessments of processes, product and metrics for effectiveness and continued compliance to requirements. Records of review shall be maintained.

## **4.11 Communication**

Communication is a critical factor for success. Appropriate methods to communicate requirements and performance must be established within the supplier's organization. Where performance or significant changes in business climate may change the financial viability of the supplier's organization or effect products supplied, the supplier shall communicate this information to their key Wabash representative.

Any significant changes in operational climate (e.g. facility, machinery, material, etc.) that may change the suppliers manufacturing process must be communicated to your Wabash SD&Q representative for awareness and consideration of additional requirements supporting the PPAP.

## **4.12 Quality Policy**

Suppliers must develop, implement and maintain a documented approach for the control and continuous improvement of quality in products and services provided.

## 5.0 SUPPLIER PERFORMANCE RATINGS

Supplier performance at a minimum will be rated in the following areas:

- Service
- Delivery
- Quality
- Cost

Wabash utilizes more comprehensive metrics to evaluate ongoing performance of involved suppliers via their Supplier Portal Scorecard system. Expectations of each supplier are to maintain acceptable performance in these key metrics as defined by the system. Overall scores are based on a 100-point scale with each metric carrying an appropriately weighted portion of the overall scale.

The overall scores fall into one of four performance categories:

- Excellence – greater than 93.0%
- Green – 84.0% to 93.0%
- Yellow – 70.0% to 83.9%
- Red – less than 70.0%

All suppliers must understand that a score of less than 70% makes them a candidate for new business hold until an acceptable evaluation score is achieved.

In addition to the scorecard evaluations, Wabash reserves the right to review a Supplier's performance if deemed necessary at any point throughout the year.

## 6.0 SUPPLIER RELATIONSHIP

### 6.1 Wabash or Customer Owned Tooling

The supplier is expected to maintain Wabash-owned and customer-owned assets located at the supplier's facility. The supplier will receive asset numbers from Wabash to be placed on the assets. It is the supplier's responsibility to track and identify Wabash tooling in their facility and the supplier should tag the tooling "Property of Wabash National". These assets are to be used solely for the production of Wabash products. When there is no future need for these assets, the supplier must ask direction for disposition. Records of tooling shall be maintained.

### 6.2 Tooling Declaration on Commercial Invoice

Suppliers shipping product made with Wabash-owned tooling located at facilities outside the country to which it is being shipped must declare the cost of the tooling on the commercial invoice accompanying the first production order.

### 6.3 Purchase Order Confirmations

Purchase Orders submitted by Wabash shall specify the quantity, type, and required delivery date for the Products ordered. Suppliers shall have twenty-four (24) hours after receipt of a Purchase Order to provide written confirmation of the Purchase Order Agreement as is or with exception. If the Seller fails to confirm the Purchase Order within this time, Wabash shall reserve the right to obtain the specified product from an alternative source.

A process to ensure that submitted requirements are understood by both parties shall be implemented, with records relating to the process maintained. This process shall ensure (at a minimum):

- Capacity
- Revision level of drawings / specifications
- Delivery requirements can be met
- Price

## 6.4 Packaging Plan

The supplier is expected to comply with basic or specific packaging instructions defined by requirements. Suppliers will establish packaging methods to ensure that material is adequately identified and protected from damage through delivery.

The following are basic requirements that a supplier must adhere to in developing all containerization. These requirements may be altered / modified by supplemental requirements from Wabash. The use of these guidelines in no way relieves the supplier of responsibility for the quality of the delivered part. These guidelines should apply to all production parts prior to quote submission. Any deviations or alterations must be approved in writing by Wabash.

Goals:

- All parts are received in superior quality.
- Parts are presented with operator ergonomics and work cell efficiency considered.
- Achieve maximum pack density while minimizing costs.
- Provide for responsible final disposition of obsolete packaging materials by maximizing the use of recyclable materials to minimize disposal of dunnage.

Supplier Responsibilities:

- Review the Packaging Manual located at [www.wabashnational.com](http://www.wabashnational.com) to ensure all guidelines are understood and met.
- Discuss with Wabash any specific requirements for receiving material / parts at the manufacturing facility.
- Ensure the pack validation can be completed within / before the program start-up date.
- Returnable packaging designed, owned, and provided by the supplier must be approved by Wabash prior to shipments ship dates.
- The supplier name and the container identification must be clearly visible on each container.

Note: Wabash reserves the right to include packaging requirements into the PPAP if deemed necessary.

## 6.5 Labeling

As a minimum, Wabash part number, Vendor number, Purchase Order number, lot number, quantity packaged, manufacture date, and approval for shipment will be identified.

## 6.6 Business Conduct

Wabash expects their employees and suppliers to maintain business practices that ensure all source selections are based on sound business criteria. Wabash maintains a strict code of business ethics addressing relationships with suppliers and their employees. For further information, please contact a Supply Chain representative.

## 6.7 Hazardous Materials

If any hazards apply to the supplied product, the supplier shall submit a Safety Data Sheet (SDS) with each shipment and label the product containers accordingly following the Global Harmonization Standard (GHS) requirements. If the part, product or material is determined non-hazardous by the manufacturer, a letter shall be submitted to the Wabash Purchasing Department stating this condition. It is the supplier's responsibility to inform Wabash immediately if the hazardous status of material supplied to Wabash changes. SDS documents for hazardous material supplied to Wabash shall be maintained.

## 7.0 DOCUMENT RETENTION

The supplier must retain adequate quality system records, available for review according to the table below, unless otherwise approved by Wabash SD&Q.

Section		Document Example	Retention Period
4.1	Engineering Processes / Controls	APQP records	15 years
4.3.2	New Product Verification	PPAP records	Part Life + 1 year
4.3.3	Product Verification Activities	Final product inspection criteria and release authorization	5 years
		Material Analysis	15 years
4.3.4	Process Capability Analysis	Capability studies, Control Charts, etc.	5 years
4.4	Measuring and Testing Equipment	Calibration records	3 years
4.5	Control of Nonconforming Product	Nonconformance, Quantity, Disposition, and Disposition authority	5 years
4.6	Corrective & Preventative Actions	Problem description, Short term action, Long term actions, Implementation dates, Effectiveness reviews	5 years
4.7	Supplier Development / Continuous Improvement	Performance improvement related to quality, cost, and delivery	5 years
4.9	Traceability	Lots, Batches, Part numbers, Manufacture dates	15 years
4.10	Internal Assessments	Process audits / reviews, Product audits / reviews	5 years
6.1	Wabash or Customer Owned Tooling	Asset numbers, Asset location	Life of Asset
6.3	PO Confirmations	Confirmation of order requirements	5 years
6.7	Hazardous Materials	Safety Data Sheet	Indefinite

## 8.0 GLOSSARY OF SELECTED TERMS

<b>ISO-9000</b>	International Standards Organization – Series 9000
<b>TS 16949</b>	Technical Standard for Quality System – Automotive
<b>AIAG</b>	Automotive Industry Action Group
<b>FMEA</b>	Failure Mode and Effects Analysis identifies potential failures within a design or process and controls established to prevent the effects.
<b>GR&amp;R</b>	Gauge Repeatability and Reproducibility studies determine how much of your observed process variation is due to measurement system variation.
<b>PPAP</b>	Production Part Approval Process
<b>Cpk</b>	Cpk is the potential of a processes capability and is calculated using the within-subgroup variation, but not the shift and drift between subgroups.
<b>Ppk</b>	Ppk is for the overall processes capability.
<b>KPC</b>	Key Product Characteristic
<b>SPC</b>	Statistical Process Control
<b>SCAR</b>	Supplier Corrective Action Report

## APPENDIX A

### Advanced Product Quality Planning (APQP)

Wabash may require a detailed development plan from the supplier based on the criticality of the part, performance history, etc. Wabash recognizes that communication between the supplier and customer during the APQP process is critical. Therefore, frequent meetings between the supplier and Wabash are highly recommended and will be scheduled to review the supplier's progress. Any issues that affect the program must immediately be brought to the attention of the proper Wabash SD&Q representative.

Advanced quality planning must include a review of all drawings, applicable specifications and other Wabash supplied documentation. This is to ensure products are designed for manufacturability and assembly at a defect-free level and to ensure that these same products meet quality and reliability requirements. Reference AIAG Advance Product Quality Planning materials for additional information.

Elements contained in the advance quality planning activities shall include, but are not be limited to:

- Key product/process characteristics
- Feasibility studies
- Process flow diagrams
- FMEA
- Control plans
- Packaging plans

Wabash highly encourages the use of APQP methods and may specify their use as a corrective action requirement. In the event a supplier fails to meet Wabash expectations, Wabash may require as part of the corrective action the following elements of APQP:

<u>Phase</u>	<u>Task</u>
General	<ul style="list-style-type: none"> <li>• Quality concept</li> <li>• Quality goals</li> <li>• Determination of the handling of faulty parts, analysis, report</li> <li>• Planning of Quality data reporting (SPC, faulty parts)</li> </ul>
Design Definition	<ul style="list-style-type: none"> <li>• Review of specifications</li> <li>• Design FMEA</li> <li>• Test concept (testing, ability, testing range)</li> <li>• Special and Key characteristic identification</li> <li>• Packaging</li> </ul>
Qualification of Product Process Definition	<ul style="list-style-type: none"> <li>• Design Validation</li> <li>• Process FMEA</li> <li>• Logistic FMEA</li> <li>• Test Equipment FMEA</li> <li>• Control Plan</li> <li>• Planning of testing concepts (test equipment)</li> <li>• Planning of packaging, shipment, transportation</li> </ul>
Qualification of Process	<ul style="list-style-type: none"> <li>• Product validation</li> <li>• Capability studies (Cpk, Measurement System Analysis)</li> <li>• Release of production of testing equipment</li> </ul>
Release Process	<ul style="list-style-type: none"> <li>• PPAP procedure according to AIAG</li> <li>• Release of the production line (e.g. Run@Rate)</li> </ul>

## **APPENDIX B**

### **Production Part Approval Process (PPAP)**

#### **1.0 PURPOSE**

The purpose of PPAP is to determine if engineering design and specification requirements are properly understood by the supplier and that the supplier process has the potential to produce product consistently meeting these requirements during an actual production run at the quoted production rate.

#### **2.0 APPLICABILITY**

PPAP shall apply to all suppliers of bulk materials, production materials, or production parts unless waived by Wabash. The following conditions may trigger the need for PPAP:

- New part or product.
- Part or product modified by an engineering change.
- Correction of a discrepancy on a previously submitted part.
- Use of other construction or material than was used in the previously approved part or product.
- Production from new, modified, or replacement tooling (except perishable tools).
- Change or upgrade of previously approved production processes and equipment.
- Transfer of tooling or equipment to/from one plant site to another.
- Change of suppliers for parts, materials, or services (e.g. heat-treating, plating, etc.).
- Changes in production processes at your suppliers' facilities.
- Production from tooling that has been inactive for greater than 12 months.
- Changes in test or inspection methods.
- Consolidation of current manufacturing sites that currently service Wabash or relocating a manufacturing facility from its current residency.

Sample parts for PPAP are required to be numbered and labeled. Each of these individual samples requires a full dimensional layout according to provisions of Section 4.0, unless otherwise indicated by a Wabash SD&Q representative. Wabash reserves the right as deemed necessary to conduct functional and/or performance-related testing as a part of a PPAP submittal. Approval will be communicated as per Section 3.0.

**NOTE:** If there is any question concerning the need for PPAP, contact your SD&Q representative.

#### **3.0 PART SUBMISSION STATUS**

##### **3.1 Full Approval**

The supplier is authorized to ship production quantities of the product subject to releases required by Wabash Purchase Orders.

##### **3.2 Interim Approval**

The supplier is authorized to ship limited production quantities of the product subject to releases required by Wabash Purchase Orders. Interim approval will only be granted when the supplier has an action plan agreed upon by Wabash SD&Q identifying the root cause(s) limiting full approval and the specific actions and timing required to implement the necessary corrections. A resubmission to obtain "full approval" is required.

Material covered by an interim approval that expires and fails to meet the all conditions of the agreed-upon action plan will be rejected. No additional shipments are authorized unless an extension of the interim approval is granted.

##### **3.3 Rejection**

Nonfulfillment of the requirements specified in Section 4.0. Correction shall be submitted and approved before production quantities may be shipped. The supplier shall be notified by Wabash of the submission disposition. After production approval, suppliers shall assure that future production continues to meet all requirements.

#### 4.0 PRODUCT APPROVAL REQUIREMENTS

The supplier shall submit the following as required in a completed electronic package, utilizing this check sheet as guidance for the package. A PPAP package may be submitted utilizing the suppliers internal documents (excluding sections # 1 and # 12), provided the documents are comparable to the ones listed below.

#	Requirement	Design Responsible	Design Excluded	Description
1	PPAP Approval Requirements Check Sheet (Form # QMS-F-0672)	Submit	Submit	Signify the availability of requirements with in the package.
2	Design drawings	Submit	Submit	Hard copy product drawings related to submitted product.
3	Design FMEA (Form # QMS-F-0673)	Submit	N/A	Recognition and evaluation of the potential failure of a product design and its effect. Categories include: Item / Function, Hypothetical Failure Mode, Hypothetical Effect(s) of Failure, Severity rating, Hypothetical Cause(s) / Mechanism(s) Failure Occurrence rating, Current Design Controls Detection rating, Recommended Action(s), Responsibility & Target Completion Dates. Design verification must be clearly identified in document.
4	Design verification plan & record (DVP&R) (Form # QMS-F-0674)	Submit	N/A	Functional Characteristics, Functional Requirements, Test type, Testing result, Accept / Reject, Remarks. A copy of specific design and material testing reports shall be made available to WN upon request.
5	Appearance Approval Report (Form #QMS-F-0675)	Submit	Submit	Applies to parts with color, grain, texture or surface appearance requirements.
6	Process Flow Diagrams (Form # QMS-F-0676)	Submit	Submit	A diagram that uses graphic symbols to depict the nature and flow of the steps (Inspections, Operations, Decisions, Inventory), in a process from receipt to ship.
7	Process FMEA (Form # QMS-F-0677)	Submit	Submit	Recognition and evaluation of the potential failure of a process/product and its effect. Categories include: Item / Function, Hypothetical Failure Mode, Hypothetical Effect(s) of Failure, Severity rating, Hypothetical Cause(s) / Mechanism(s) Failure Occurrence rating, Current Design Controls Detection rating, Recommended Action(s), Responsibility & Target Completion Dates.
8	Control Plan (Form # QMS-F-0678)	Submit	Submit	Itemized documented plan for control of the product characteristics and the associated process variables throughout the manufacture process to ensure capability and stability of the product over time.
9	Measurement System Analysis (Form # QMS-F-0679)	Submit	Submit	Verify the acceptability of all gauging used to measure the product during manufacture and all measurement data submitted through PPAP.
10	Master Sample Product, Dimensional, & Material Performance Test Results. (Form # QMS-F-0680)	Submit	Submit	A complete dimensional, functional, and material certificate of analysis supplied for each submitted item. As a minimum, 1 finished sample product from each machine, die, and mold cavity producing the item. Supplier may substitute the use of Eng. Drawing for measuring record.
11	Process Capability & Part Functionality Verification (Form # QMS-F-0681)	Submit	Submit	Minimum of 30 piece capability analysis of production process pieces from each machine, die, and mold cavity producing the item. Capability Hierarchy: Each key characteristic (KPC), identified by design drawings. If no KPC, each specifically tolerance characteristic identified on the design drawing. If no specifically tolerance characteristics, perform a dimensional analysis of length, width, height. As a minimum, 30 pieces from the capability analysis samples to be submitted for production verification runs at Wabash.
12	Part Submission Warrant (Form # QMS-F-0682)	Submit	Submit	A document by which the supplier of a part gives evidence to the customer that they are able to satisfy the requirements of Delivery Date, Quality, Process Capability and Production Rate.
13	Qualified Laboratory Documents	Submit	Submit	Where external laboratories are used for verification of product, laboratory certifications and traceability to Nationally recognized organizations must be submitted.
14	Checking Aids / Tooling Drawings	Submit	Submit	List of tooling drawings, copy of attribute drawings and/or manufactured variable gages with visual work instructions for use that will be utilized.

## **APPENDIX C**

### **Costs Associated with Nonconformance or Delivery Delays**

All costs associated with nonconforming material provided by supplier or supplier's delivery delays will be charged back to the supplier.

A \$500.00 processing charge could be billed to the supplier for the nonconformance. However, if the nonconforming material is required to continue production, it will be sorted or reworked by Wabash personnel (or a designated source) at the supplier's expense.

Absence of required source inspection or certification material reports are grounds for rejection and the supplier will be charged for failure to provide this information.

Delivery related costs affecting production shall be assessed to the supplier at the full burden rate of production per unit loss.

Summary of costs that may be assessed include, but are not limited to, the following:

- Transport and handling costs for returning non-conforming material
- Expedited freight (from the supplier and to the end customer)
- Premium time incurred for having to work overtime, holidays, and weekends
- Expenses and lost profits associated with unscheduled shutdowns or changeovers due to lack of parts
- Administrative costs incurred for non-compliance to Wabash packaging and labeling requirements
- Administrative costs for preparation of processing quality documents
- Scrap and/or rework costs of all associated material, subassemblies and finished product affected by the supplier's non-conforming material
- Travel expense incurred by Wabash employees due to product issues
- Additional costs associated with non-conformity found at customers
- Sort and rework time required to continue regular production

If Containment Activities are required at the supplier's locations in order to ensure delivery of defect free products to Wabash, the supplier may be required to pay for a third-party agency to implement this activity. **A flat charge of \$500.00** could be billed to the supplier for each of these Non-Conformances in addition to any sort and/or rework charges as detailed in Section 4.5 - Control of Nonconforming Product.

## **APPENDIX D**

### **Summary of Revisions**

#### **Revised 4/23/18 – Numerous Sections**

General updates of the entire manual were made to reflect changing business conditions.

#### **Revised 9/28/17 – Section 5.0 Supplier Performance Ratings**

Updated to reflect new Scorecard ratings.

#### **Revised 10/18/07 - Index**

Added Appendix D

#### **Revised 10/18/07 - Section 4.3.4 Process Capability Analysis**

Changed table for Capability Indices from  $Cpk \leq 1.33$  to  $Cpk < 1.33$ .

#### **Revised 10/18/07 - Section 4.5.2 Wabash National Location paragraph 8**

Changed section reference from 2.15 to 5.13

#### **Revised 10/18/07 - Section 4.3 Process / Product Control paragraph 3**

Changed sentence from: “The supplier must notify the Wabash SD&Q representative of any process or significant equipment change affecting the producing of Wabash product”.

Changed sentence to: “The supplier must submit a request for deviation to their Supplier representative of any new product offering, significant process change or any product changes affecting product delivered to Wabash”.

#### **Revised 10/18/07 - Section 5.0 Supplier Performance Ratings**

Changed sentence from: Suppliers are expected to achieve 100% delivery and less than 500 PPM rating for nonconforming material to achieve an acceptable rating on a monthly basis.

Changed sentence to: Suppliers are expected to achieve 100% delivery to the promised date and maintain less than 500 PPM rating for nonconforming material to achieve an acceptable rating on a monthly basis.