



# **Global Supplier Quality Manual**

Revision 2.0, August 20, 2019

	<b>Table of Contents</b>	
<b>1.0</b>	<b>Introduction</b>	<b>5</b>
<b>1.1</b>	<b>Purpose</b>	<b>7</b>
<b>1.2</b>	<b>Applicability/ Scope</b>	<b>7</b>
<b>1.3</b>	<b>Responsibility</b>	<b>7</b>
<b>1.4</b>	<b>Definitions / Abbreviations</b>	<b>7</b>
<b>2.0</b>	<b>Manual</b>	<b>9</b>
<b>2.1</b>	<b>Application</b>	<b>9</b>
<b>2.2</b>	<b>Quality Management System of the Supplier</b>	<b>9</b>
<b>2.3</b>	<b>Quality Management System of Subcontractor</b>	<b>9</b>
<b>2.4</b>	<b>Audits</b>	<b>10</b>
<b>2.5</b>	<b>Supplier Selection/ Award Process</b>	<b>11</b>
<b>2.6</b>	<b>Product/Process Development and Planning (APQP)</b>	<b>12</b>
<b>2.6.1</b>	<b>General Development Requirements</b>	<b>12</b>
<b>2.6.2</b>	<b>Design/Process Control</b>	<b>14</b>
<b>2.6.3</b>	<b>Process Approval</b>	<b>15</b>
<b>2.6.4</b>	<b>Prototype Parts</b>	<b>16</b>
<b>2.6.5</b>	<b>Test Equipment and Gauges</b>	<b>16</b>
<b>2.6.6</b>	<b>Planning of Process Equipment/Preventative Maintenance</b>	<b>16</b>
<b>2.6.7</b>	<b>Packaging Plan / Product Identification</b>	<b>17</b>
<b>2.6.8</b>	<b>Training</b>	<b>18</b>
<b>2.6.9</b>	<b>Initial PPAP Samples / IMDS</b>	<b>18</b>
<b>2.6.10</b>	<b>Re-Submission of PPAP</b>	<b>18</b>
<b>2.6.11</b>	<b>Acceptance Tests / Test Certificates</b>	<b>19</b>

<b>2.7</b>	<b>Supply Chain Management</b>	<b>19</b>
<b>2.7.1</b>	<b>Supplier Commitment</b>	<b>19</b>
<b>2.7.2</b>	<b>Supplier Development</b>	<b>20</b>
<b>2.7.3</b>	<b>Controlled Shipping</b>	<b>20</b>
<b>2.8</b>	<b>Supplier Rating / Evaluation</b>	<b>21</b>
<b>2.8.1</b>	<b>Evaluation of Approved Suppliers</b>	<b>21</b>
<b>2.8.2</b>	<b>Supplier Charge Back / Debit</b>	<b>21</b>
<b>2.8.3</b>	<b>Product / Supplier Re-Sourcing</b>	<b>22</b>
<b>3.0</b>	<b>Non-Conforming Material</b>	<b>23</b>
<b>3.1</b>	<b>Non-Conforming Material – Immediate Action</b>	<b>23</b>
<b>3.2</b>	<b>Non-Conforming Material – Corrective Action Reports Informal</b>	<b>23</b>
<b>3.3</b>	<b>Non-Conforming Material – Corrective Action Reports Formal</b>	<b>23</b>
<b>3.4</b>	<b>Deviations for Non-Conforming Material</b>	<b>23</b>
	<b>Revision History</b>	<b>24</b>
	<b>Approvals</b>	<b>24</b>

## **INTRODUCTION**

This global supplier quality manual is for the three companies: NTF Micro Filtration USA, Inc., NTF Manufacturing USA, LLC, NTF Micro Filtration USA, Inc. Rotterdam branch, referred to as NTF.

Consistent high quality purchased products and services are essential to ensure the success of our companies. Working together as a team is necessary to form an open two-way communication channel to achieve mutually satisfactory goals. This standard provides the basis for such a channel.

NTF Supplier quality expectations are based on the following principles.

- The supplier must assume full responsibility for the quality of their products and services. NTF can only assist the supplier in meeting this responsibility, including sub- contractors.
- NTF should not have to verify that the supplier has provided acceptable product. Suppliers will have effective quality systems certified to ISO or IATF: standards. A supplier maybe conditionally approved based on new certification progress or customer waivers.
- Suppliers must continually strive to improve product quality and manufacturing productivity to meet increasing competitive pressures in our global economies.

Each supplier must build on these principles to develop effective quality systems for our mutual success.

This standard is a supplement to the other terms and conditions covered by the NTF Purchasing Documents. This does not replace or alter any of the terms, conditions, and engineering drawings or specification requirements stated in these documents.

## **QUALITY SYSTEM REQUIREMENTS**

Use of ISO or IATF standards in creating and following Quality Management System procedures is required. The APQP process as defined in the AIAG APQP Manual, latest edition, or an equivalent process is a requirement for all suppliers.

Suppliers shall notify NTF of any planned changes to the design, process or site of product provided to NTF. Examples of changes requiring customer notification and PPAP may be found in the AIAG PPAP manual. If there is any question whether notification is required NTF should be contacted for clarification. Any changes to NTF products require the supplier to utilize, fill out and submit to NTF the ECN Engineering Change Notification form or a Deviation Request. Supplier may proceed with the proposed change only after receiving the form back with approval and signature by NTF.

PPAP submissions shall be submitted as defined and required by the AIAG PPAP Manual, latest edition and any customer specific requirements provided by NTF. A level 3 PPAP is the default submission requirement along with a (6) piece sample used for dimensional verification. (3) Master Samples must be submitted with the PPAP. The measurement system shall be monitored as defined in the AIAG MSA Manual, latest edition. The supplier will also have a process to ensure compliance with all applicable government regulatory safety, health and environmental regulations including recycling, and hazardous waste handling and disposing.

# Global Supplier Quality Manual

## 1.1. PURPOSE:

The purpose of this manual is to define NTF's processes and requirements for Suppliers in a clear logical format. The manual is intended to communicate to all Suppliers, NTF's requirements and expectations, in an effort to eliminate all ambiguities and enhance communication between NTF and the Supplier community. The common goal is to meet or exceed customer requirements for quality, cost and delivery.

## 1.2 APPLICABILITY / SCOPE

This manual applies to all Suppliers of direct material to NTF.

## 1.3 RESPONSIBILITY

NTF Quality Department is responsible for the content of this manual.

## 1.4 DEFINITIONS / ABBREVIATIONS

### 1.4.1 DEFINITIONS

Key Suppliers – Suppliers that are critical to the achievement of NTF 's objectives (new technology, long lead time, high volume, high cost, high risk, safety).

Supplier –Tier I supplier to NTF

Sub-Contractor –Tier II supplier to NTF

# Global Supplier Quality Manual

## 1.4.2 ABBREVIATIONS

APQP - Advance Product Quality Planning  
CC - Critical Characteristic  
CofC - Certificate of Conformance  
CQI – Continuous Quality Improvement  
CSR – Customer Specific Requirements  
DFMEA - Design Failure Mode Effects Analysis  
IMDS - International Material Data System  
MSA – Measurement System Analysis  
NCR - Non-Conforming Report  
NIST - National Institute of Standards and Technology  
PFMEA - Process Failure Mode and Effects Analysis  
PO - Purchase Order  
PPAP - Production Part Approval Process  
QMS - Quality Management System  
RFQ - Request for Quote  
RMA - Return Material Authorization  
R&R - Repeatability and Reproducibility  
RPN - Risk Priority Number  
SC - Significant/Special Characteristic  
SPC - Statistical Process Control  
PCR – Process Change Request

# Global Supplier Quality Manual

## 2.0 MANUAL

### 2.1 APPLICATION

2.1.1 This manual and its stated requirements are a part of the Purchase Orders with all locations of NTF and affect all articles.

2.1.2 To cover all particular requirements for product and services, specific supplements to this standard can be agreed upon, but must be documented in the Purchase Order.

### 2.2 QUALITY MANAGEMENT SYSTEM OF THE SUPPLIER

2.2.1 The Supplier must implement and maintain a quality management system with a goal of having zero defects, to continually improve delivery, product quality, and quality management systems. Supplier must have a documented improvement process.

2.2.2 Suppliers of all IATF-16949 certified NTF plants will at a minimum be certified to ISO 9001 and/or IATF 16949. Any exceptions must be approved by NTF's Quality Manager and require further action.

2.2.2.1 At a minimum, for all new suppliers, Quality Department or designee will complete a potential Supplier Audit for conformity to IATF 16949 (Supplier Quality Technical Assessment – NTF-085) before approving the Supplier per customer specific requirements, with the exception of off the shelf or catalogue items. Non-automotive Suppliers may be audited annually at NTF's discretion.

2.2.3 The environment is a priority to NTF and therefore Suppliers are encouraged to be certified to ISO 14001 or working toward certification to ISO 14001.

2.2.4 Calibration and Testing Service Suppliers should be certified to ISO/IEC 17025, or National equivalent.

2.2.5 Supplier shall inform NTF Quality Department of any changes to their quality management system certification status, within 5 business days of the change.

### 2.3 QUALITY MANAGEMENT SYSTEM OF SUBCONTRACTOR

2.3.1 NTF requires its Suppliers to maintain a quality management system.

2.3.2 Suppliers shall have a documented process to verify that incoming components and materials meet requirements.

2.3.3 NTF Quality Department may request evidence from the Supplier that they have verified the effectiveness of their subcontractors QMS, including APQP, applicable CQI assessments, problem solving and performance monitoring.

All Suppliers to NTF are responsible for the management and control of their own



## Global Supplier Quality Manual

Suppliers. Sub-contractors that provide material / services with Control Characteristics must implement appropriate documented controls. Visits and audits conducted by NTF on Supplier's sub-contractors shall not be considered part of the management and control of the sub-contractor.

NTF reserves the right to identify specific sub-contractors that provide unique product or services.

### 2.3.4 Code of Supplier Conduct

NTF subscribes to the Code of Conduct as described below. All suppliers to NTF are expected to comply with this code as a minimum requirement. NTF reserves the right to audit any supplier's compliance to this code.

The guiding principles set forth in this Code require that we:

- foster an employee environment of opportunity and mutual respect;
- ensure our global operations, do not utilize child or forced labor, employees are free to work without intimidation, harassment or undue influence;
- remain committed to the continuous improvement of workplace health and safety;
- ensure our products' raw materials are comprised of "DRC conflict free" minerals in accordance with the Conflict Free Sourcing Initiative and ensure our suppliers do the same (see [www.conflictreesourcing.org](http://www.conflictreesourcing.org))
- focus on the satisfaction of the interested parties
- abide by all applicable environmental laws; and
- seek suppliers who agree to commit to the same principals in an effort to ensure adequate working conditions across our supply-chain.

### 2.3.5 REACH regulation Europe

To follow the regulations in Europe the seller warrants that the Goods comply in all respects with all statutory requirements (of any status) or regulations of the United Kingdom and/or European Union applicable thereto which shall be in force at the date of delivery and thereafter, and that the Seller has complied with all of its obligations in relation to the Goods under any such statutory requirements or regulations, including, but not limited to, Regulation (EC) No 1907/2006 concerning the Registration, Evaluation, Authorization and Restriction of Chemicals (REACH), Directive 2002/95/EC restricting the use of certain hazardous substances in electrical and electronic equipment and Directive 2002/96/EC on waste electrical and electrical equipment (WEEE), including any and all domestic legislation enacting or incorporating these regulations and directives into law.

# Global Supplier Quality Manual

## 2.4 AUDITS

2.4.1 The Supplier must allow NTF to establish through audits whether its quality assurance procedures and policies fulfill the requirements defined in this manual. The audit can be a potential supplier assessment, control plan audit, or product audit. The Supplier will be notified in advance of the audit date.

The Supplier will allow NTF personnel and its customer representatives as applicable all reasonable access to verify, at the Suppliers manufacturing premises, that product and subcontracted product or service conforms to specified requirements. The Supplier will further allow access for NTF personnel to evaluate the Supplier's ability to sustain the contracted production capacity. The NTF Quality Engineer shall specify both the arrangements and method of performing these verifications.

2.4.2 The Supplier is to grant NTF all reasonable access to all operating sites, checkpoints, stores, adjoining areas, and related quality documents required to complete the audit.

2.4.3 NTF may require the Supplier to implement corrective actions and/or action plans to improve product or processes based on the audit results. The plan must include responsibility and due dates for completion. Supplier will report the status of the plan per agreement to NTF Quality Department.

2.4.4 When quality or other problems emerge that have been caused by products, services, and/or deliveries by the subcontractor of the Supplier, the Supplier is responsible for auditing their Supplier and identifying, implementing all required improvement actions.

## 2.5 SUPPLIER SELECTION / AWARD PROCESS (RFQ / SELECTION)

2.5.1 NTF Purchasing will select Suppliers from the current supply base and other Supplier listings with the agreement of NTF Purchasing management. Suggested or customer selected Suppliers must be approved prior to award of business.

All present and potential Suppliers to NTF shall be able to demonstrate, with objective evidence, that they have implemented and maintain a Quality Management System that conforms to the requirements detailed in ISO 9001:2015. Third party registration to ISO 9001:2015 (or IATF-16949) is required by NTF for automotive Suppliers.

Non-automotive Suppliers shall be reviewed at the discretion of NTF's Quality Department.

A Supplier Quality Technical Assessment (SQTA) by an NTF Quality Engineer on behalf of NTF Purchasing may be required prior to the approval of a purchasing agreement. The SQTA is structured to evaluate the Supplier's QMS conformance to ISO 9001 and AIAG requirements. The SQTA may contain additional requirements, which would be communicated to the supplier prior to the survey.

# Global Supplier Quality Manual

Further, the Supplier shall be able to demonstrate, upon request, compliance with local, national and international standards and regulations regarding health, safety and environmental issues relevant to the Supplier's business.

## **Feasibility Review**

At the discretion of Purchasing, a feasibility review meeting for new or current Suppliers offering new products or services may be conducted prior to the commencement of supply. Technical, quality, manufacturing, engineering, purchasing, delivery, capacity and business issues shall be reviewed during this meeting to provide:

- A. the Supplier with a thorough understanding of NTF 's requirements and expectations and
- B. NTF a thorough understanding of the Supplier's capabilities, program risks and limitations.

2.5.4 The Supplier quote must include tooling, equipment, gauging, and piece price costs, acceptance of NTF tooling policy and Terms & Conditions, along with PPAP timing and INCO terms to NTF. In some circumstances Tier II Suppliers may be required to identify subcontractors and/or Suppliers of raw material in their quote response.

2.5.5 The Supplier has accepted manufacturing feasibility of the product by submitting the quote to NTF, unless explicitly noted on their quotation as an exception(s).

2.5.6 NTF Purchasing with input from the program team will select a Supplier based on quality (current or anticipated), tooling cost, piece price, timing, QMS, risk assessment, financial stability, and Supplier rating/performance.

2.5.8 NTF will notify the nominated Supplier of the new business award by issuing a Letter of Intent to Purchase and/or a Purchase Order for the program.

## **2.6 PRODUCT/PROCESS DEVELOPMENT AND PLANNING (APQP)**

### **2.6.1 GENERAL DEVELOPMENT REQUIREMENTS**

2.6.1.1 The Supplier shall plan and develop quality systems and manufacturing processes required for product acceptance (PPAP) based on their quote and NTF program timing. The plan must facilitate communication within the organization to ensure all required steps are completed on time, at acceptable quality and cost levels.

Each Supplier shall develop a quality plan that promotes continual improvement in all activities such as quality, cost, and delivery and where appropriate, design and development. This plan shall include education and training in problem solving

## **Global Supplier Quality Manual**

techniques (including statistical problem solving), employee involvement and Cost of Quality data analysis. The plan shall incorporate assigned responsibilities, target dates and regularly scheduled management reviews.

Documentation providing evidence of adherence to this plan shall be made available to NTF upon request. For any characteristic not meeting the capability criteria, a corrective action plan with applicable timing and responsibilities must be submitted to NTF Quality Department.

All correspondence, records and reports provided to NTF shall be in the unit of measure of the design data (specification, drawing etc.) identified on the Purchase Order.

2.6.1.2 Supplier must review and approve feasibility of the product required by NTF prior to initiating a quote and/or accepting a Purchase Order. Feasibility must include manufacturing, appearance, material performance, and any functional requirement based on customer product requirements.

All production part sample submissions shall include all requirements listed in the AIAG manuals and customer specific requirements. Any deviations from these requirements shall only be authorized by NTF Quality Department. Other discretionary requirements will be clearly identified as a condition on the Purchase Order.

The default level of PPAP is Level 3. All PPAP submissions are preferred to be in electronic media.

### **Changes in Approved Processes**

Unapproved changes are considered by NTF to be extremely serious and raise very significant risks to the Supplier, NTF and our customers. The conditions which require the resubmission and approval are clearly stated in the AIAG - PPAP manual. To ensure there is no misunderstanding of these conditions, NTF feels compelled to restate that the changes to a previously approved manufacturing process, including changes of sub-Suppliers, require the Supplier to contact NTF for approval. Revalidation testing and its associated costs may be required. Failure to comply with these requirements shall make the Supplier fully responsible for the absorption of all costs relating to customer acceptance of the changed component and any failures (including field failures) attributed to the change. NTF may choose to inform the Supplier's third-party registrar of these violations. If there is any doubt on the part of a Supplier regarding the need for re PPAP of a previously approved component, it is strongly recommended that NTF's Quality Department be consulted.

2.6.1.3 NTF expects its Suppliers to identify, document and communicate any issues or concerns with design, materials, performance, appearance, and durability based on their expertise, knowledge and lessons learned from similar products.

2.6.1.4 The Supplier is responsible for disposition of all product requirement concerns prior to accepting the NTF Purchase Order.

## Global Supplier Quality Manual

2.6.1.5 The Supplier must ensure confidentiality of NTF designs and specifications for products and processes under development. NTF will ensure confidentiality of Supplier's proprietary designs and processes under development. In highly sensitive cases a documented confidentiality or no compete agreement may be required between NTF and Supplier.

2.6.1.6 The Supplier must allow NTF to review product and process development and planning via on-site review and confirmation during development or at any time during part production, if requested.

2.6.1.7 Supplier must notify NTF if there is a change in program timing and a risk to meeting agreed upon tooling completion or PPAP date. Supplier will be required to add additional resources and/or work additional hours (7 Days, 24 Hours) to ensure date is met.

2.6.1.8 The qualification and approval of tools, equipment and gauges will be defined and controlled by NTF. Approval may include run at rate, process capability, gauge R&R, and PPAP.

2.6.1.9 SAFE LAUNCH Process - It is the Supplier's responsibility to ensure all production processes are launched in such a manner that they will not adversely impact NTF or its customer's production processes to meet timing and quantity. In the execution of a SAFE LAUNCH the use of tools such as Pre-production Product Flow Diagrams and Control Plans is, at a minimum, required. Safe launch will be 90 days after SOP. The supplier shall request from NTF to be removed from safe launch.

### **2.6.2 DESIGN / PROCESS CONTROL**

2.6.2.1 The Supplier shall have a process to control and react to design and process changes. The Supplier is responsible for verifying that the required NTF written approval or amended or new Purchase Order has been obtained prior to proceeding with any change.

2.6.2.2 The Supplier is responsible for change feasibility of their product to Purchase Order and NTF defined requirements. Documented feasibility is required for any new or changed manufacturing process or product design.

2.6.2.3 Supplier must be capable of receiving all math data files for product development or tool change from NTF.

2.6.2.4 All special and critical characteristics must be defined on all process control documents. (I.e. Drawings, Process Flows, Control Plans, PFMEA, Inspection Plans, etc.)

2.6.2.5 Supplier must have an effective continuous improvement process that reduces the Risk Priority Number (RPN) by operation.

## Global Supplier Quality Manual

2.6.2.6 Dependent upon customer requirements, SPC is required for all SC or CC dimensions and functions listed in the design record and control plan. Process capability must be documented and evaluated. All critical characteristics (CC) should be error proofed to prevent failure modes. 100% verification is required when acceptable capability is not demonstrated.

A significant characteristic is a feature of any component/process, which requires particular attention on the part/process of the manufacturer to ensure conformance to the specification. Some examples are the application of special symbols on the engineering drawings, material & process specifications and appearance on a control characteristic list.

Minimum required ongoing process capability indices for all SC's shall be Cpk 1.33 minimum where index is chosen per AIAG requirements or CSR. Those items not meeting the capability criteria will be inspected 100% until capability is resolved.

2.6.2.7 Error proofing sensors and function must be verified with test masters or "rabbits" at the beginning of each shift and documented.

2.6.2.8 The supplier shall monitor capability data on an ongoing basis and maintain records. NTF has the option to request this capability data on a periodic basis.

2.6.2.9 To ensure continuing conformance, the supplier shall complete an annual layout inspection unless waived in writing by NTF.

### **2.6.3 PROCESS APPROVAL**

2.6.3.1 Process requirements and documentation at a minimum must meet the latest edition of the AIAG manuals and CSR. NTF may require additional evaluation or records as required. NTF will submit those requirements to the Supplier in advance.

2.6.3.2 The Supplier shall provide and maintain a timing plan to meet the contract agreement. Timing status will be submitted to the identified NTF team members.

2.6.3.3 Equipment, tooling, and components will be evaluated and approved based on drawing or specified requirements along with run at rate and capability evaluation. Capital equipment requires buyoff at the Supplier and NTF unless otherwise agreed upon.

2.6.3.4 Equipment and tooling ownership must be permanently marked and verified prior to PPAP approval. Identification shall be detailed by customer requirement.

2.6.3.5 Special Processes shall be assessed using the CQI assessment forms as applicable.

# Global Supplier Quality Manual

## 2.6.4 PROTOTYPE PARTS

2.6.4.1 The goal is to manufacture prototype parts using a production process and tools. But, at a minimum the Supplier must use process planning (flow charts, control plans, inspection plans, and work instructions) to define and implement the prototype build. All special and critical characteristics must be documented on all process control documents.

2.6.4.2 Prototype parts must meet all drawing requirements prior to shipment. Supplier must have a dimensional plan to layout or CMM parts to show conformance to drawing requirements for each serial numbered part, as required. Quantity of parts inspected will be documented in the specific build plan.

Engineering prototype parts with documentation of specification conformance shall be submitted for engineering validation testing. Documentation shall meet NTF, AIAG, and customer specific requirements.

## 2.6.5 TEST EQUIPMENT AND GAUGES

2.6.5.1 All test equipment and gauges must be calibrated traceable to NIST, or applicable standard such as VDI for Europe.

2.6.5.2 A test and inspection plan must be developed to measure all dimensions or functions and SC or CC requirements in the design record based on the control plan. Variable data is required for all SC and/or CC characteristics unless otherwise authorized in writing by NTF Quality Department.

2.6.5.3 Gage repeatability and reproducibility (GRR) shall be required for gages used in production and inspection.

2.6.5.4 NTF Quality Department may, at its discretion, require full MSA, gauge correlation studies, boundary samples and detailed measurement process instructions to assure comparable measurement results.

2.6.5.5 All test equipment or gauges purchased through an NTF Purchase Order must be permanently identified as detailed by customer requirement.

## 2.6.6 PLANNING OF PROCESS EQUIPMENT/ PREVENTIVE MAINTENANCE

2.6.6.1 Supplier's manufacturing processes and operating equipment must be planned and developed with sufficient capacity to produce the required features within tolerance at the specified part volume plus customer required percentage increase. Unless otherwise agreed to in writing by NTF Purchasing, Supplier shall have sufficient capacity in place to meet contracted volumes on a 5-day, 3 shift operating pattern. Supplier shall also have the capacity/ability to meet a 20% increase in contracted volumes at no additional cost to NTF.

## Global Supplier Quality Manual

2.6.6.2 The process plan includes the Process FMEA development and improvement actions. PFMEA, RPN must be scored correctly to the latest version of the AIAG FMEA Manual.

2.6.6.3 The capability of operating equipment and processes must be demonstrated. Unless otherwise approved in writing by an NTF Quality Engineer, the acceptance criteria for initial study is per AIAG PPAP manual. A formal Run at Rate for high volume components, using the NTF-provided form.

2.6.6.4 The Supplier must have a documented process and schedule for preventive maintenance. The maintenance schedule must include all NTF or NTF customer-owned equipment and tooling. Supplier is responsible for identifying and stocking critical spare parts.

### **Molds and Special Tooling**

The Supplier shall establish preventive/predictive maintenance programs on all tooling. Evidence of program execution shall be available upon request. Preventive maintenance schedules and tool history records shall be documented and available for review. Prior to disposition of NTF or customer-owned tooling Supplier shall obtain permission in writing. NTF Tooling Policy will be provided at the beginning of the quoting process for agreement prior to program award to Supplier.

### **2.6.7 PACKAGING PLAN / PRODUCT IDENTIFICATION**

2.6.7.1 Packaging must be developed and defined to eliminate damage during transportation and storage. Ergonomic handling and environmental criteria must be considered along with inventory restrictions, optimum pack size, and cost.

Material shall be packaged in such a manner that ensures integrity of each piece during all aspects of normal transit. Unless otherwise agreed to in writing, material shall also be protected from corrosion for a minimum of 90 days after delivery. Each shipping container, box, rack, package etc. must be identified with, at a minimum, the Suppliers Name, Part Name, Part Number, Revision Level, Lot Code, and Quantity. Specific requirements for packaging and identification will be clearly identified as a condition on the Purchase Order.

Note: Cleanliness requirements may be added to packaging requirements.

2.6.7.2 If no specific requirements for packaging are defined by NTF, the Supplier must define the packaging agreement with NTF Purchasing prior to production PPAP and or delivery. Transportation and/or packaging trials may be required prior to SOP to confirm robustness of dunnage to protect product.

2.6.7.3 The Supplier must ensure identification and traceability of products supplied. This identification includes labeling of packaged products, manufacturing location,



## Global Supplier Quality Manual

manufacturing date, shift, part identification, and sub-contractor traceability. All Labelling must be approved by NTF.

### 2.6.8 TRAINING

2.6.8.1 The Supplier's employees must be competent and qualified for their job function. The Supplier must ensure this through appropriate internal or external training courses. A training record must be available for all employees producing a product or service for NTF.

2.6.8.2 All shifts shall be staffed with personnel responsible for ensuring part or product quality.

### 2.6.9 INITIAL PPAP SAMPLES / IMDS

2.6.9.1 The Supplier is to submit for approval the manufactured first samples off the production process and tooling in the agreed amount. Dimensional results are required on at least one piece per cavity/ mold/fixture. All supplied parts shall have a PPAP submitted for approval.

Inspection frequency for capable processes will be per the control plan. Non-capable processes require 100 % gauging or inspection or as agreed upon with NTF Quality Department.

2.6.9.2 Supplier shall submit Level 3 PPAP documentation at a minimum unless otherwise agreed upon in writing from NTF Quality Department. AIAG manuals and customer specific requirements shall be followed.

2.6.9.3 The Supplier must provide verification of the composition of the materials used and their individual components as well as aspects relating to the environment. Supplier must input the IMDS data into the system prior to delivery of first samples or PPAP package. PPAP shall include PSW and material certifications for all purchased components or services. PPAP shall include MSDS for any rust preventative or coating.

2.6.9.4 Under the guidance of NTF Quality Department, the Supplier must develop a SAFE LAUNCH plan. This plan will include method, responsibility, characteristics, frequency and duration. SAFE LAUNCH is required whenever a new component is PPAP'd. At the plant Quality Manager's discretion, they may also require SAFE LAUNCH to be implemented by the supplier for PPAP's not related to a new part. It must be approved by NTF Quality Department. NTF may require the continuation and/or modification of SAFE LAUNCH if defects escape the Supplier while SAFE LAUNCH is in operation.

# Global Supplier Quality Manual

## 2.6.10 RE-SUBMISSION OF PPAP

2.6.10.1 The Supplier must submit a new PPAP package, per AIAG requirements and includes:

- Changes to manufacturing materials (also from subcontractors) defined in the process documents, specifications, and design record.
- Change to process steps or elimination of a process step.
- Changes to the inspection process / equipment defined in the process documents.
- Change of subcontractors.
- Transfer of manufacturing or subcontractor location.
- Transfer of the manufacturing equipment within the location, if and only if, the process sequence or process steps change.
- New start-up after decommissioning of 12 months or more.
- Rework processes whether in process or off line

2.6.10.2 Annual re-submission of PPAP may be required at NTF 's discretion.

## 2.6.11 ACCEPTANCE TESTS / TEST CERTIFICATES

2.6.11.1 Acceptance and test certificates are not required for PPAP product shipments, unless specified. The Supplier must record all test and acceptance data and file it in the case that NTF requests to review the documents.

2.6.11.2 The Supplier is stating in the PPAP that the goods delivered are free of defects, have guaranteed characteristics and correspond to the requirements defined in the design and process records.

### **Certificate of Conformance (CofC)**

When a CofC is identified as a condition on the Purchase Order, a copy of the CofC will be required to accompany each shipment of the specified material. The actual content of the CofC will be clearly identified as a condition on the Purchase Order.

### **Customer Specific Requirements**

Specific requirements may be clearly identified and made a condition of the Purchase Order to which they are relevant.

2.6.11.3 Record retention is defined per AIAG and customer specifics. Records must be available for review with in twenty-four (24) hours.

# Global Supplier Quality Manual

## 2.7 SUPPLY CHAIN MANAGEMENT

### 2.7.1 SUPPLIER COMMITMENT

2.7.1.1 NTF has high expectations of all Suppliers and will seek to work with Suppliers that demonstrate a strong commitment to quality improvement, continuous improvement and cost savings.

### 2.7.2 SUPPLIER DEVELOPMENT

2.7.2.1 NTF will prioritize Supplier development projects or plans based on potential risks, Supplier performance ratings and importance of the product or component to product quality and customer satisfaction.

2.7.2.2 A Supplier development plan or controlled shipping shall be initiated based on quality and delivery performance.

2.7.2.3 Supplier development plans may include support in quality systems, Lean Manufacturing, six-sigma, team-oriented problem solving, etc.

### 2.7.3 CONTROLLED SHIPPING

2.7.3.1 Based on continued poor quality and/or delivery performance a Supplier may be notified by NTF that controlled shipping is required to protect NTF and their customer from further problems. NTF Quality Department shall identify specific defect or concern to be controlled.

2.7.3.2 Controlled shipping (CS) has two levels:

2.7.3.2.1 **Level CS-1** – The Supplier must identify specific personnel to monitor, measure, inspect and certify all product(s) shipped to NTF and identify all product that was inspected. A report must be generated that identifies the type and quantity of defects or problems that were found by the CS-1 inspection. NTF may request to review the rejected material and/or any report pertaining to the concern. The additional inspection must be separate and distinct from production operations.

2.7.3.2.2 **Level CS-2** – Supplier must employ an independent third party to monitor, measure, inspect, and certify all products. All certified products must be marked and identified. A report must be generated that identifies the type and quantity of defects or problems that were found by the CS-2 inspection and sent to the NTF Quality Department. The Supplier must identify the CS-2 organization responsible to NTF Quality Department. If Supplier refuses to comply with CS-2 request, then NTF at our discretion may set-up CS-2 at their facility and charge back the cost to the Supplier. CS-1 operations are required to continue while CS-2 is in effect. Once CS-2 is terminated, defect free days begin to accumulate toward exit from CS-1. CS-2 is initiated by letter

# Global Supplier Quality Manual

from the NTF Quality Manager.

2.7.3.3 A Supplier will be removed from controlled shipping when inspection data shows a stable defect free process for a minimum of twenty consecutive production days for the specific defect or concern. NTF's Quality Department will review the data and current issues and if acceptable will remove the Supplier from controlled shipping. Exit is granted in writing by NTF Quality Department.

## **2.8 SUPPLIER RATING / EVALUATION**

### **2.8.1 EVALUATION OF APPROVED SUPPLIERS**

#### **2.8.1.1 Performance Monitoring and Reporting**

Ongoing performance to key parameters is monitored and reported utilizing the NTF Supplier Rating System. This system is used to determine the Supplier's performance to requirements, efforts on improvement and is a key tool in determining new business awards. It is reported to the Supply Base regularly via electronic media. When Supplier contact information changes (example; new contact for Quality at the Supplier's location) the Supplier should report the changes to NTF, this will enable NTF to update databases to ensure continued uninterrupted performance feedback to Suppliers. Second-party audits may be used for: Supplier risk assessment, supplier monitoring, supplier QMS development, product audits, and process audits. The scope for these audits will be defined when scheduling the audit based on the available data. The frequency of these audits will be determined based on the effectiveness of actions.

#### **2.8.1.2 Delivery**

NTF's expectation is 100% on-time delivery.

The supplier shall notify NTF within 24 hours of a production interruption. A production interruption is defined as an inability to meet the NTF specified production requirements.

### **2.8.2 SUPPLIER CHARGE BACK / DEBIT**

#### **2.8.2.1 SUPPLIER PRODUCT SHIPPED TO NTF FACILITIES**

2.8.2.1.1 In the event that non-conforming material is received by NTF, the Supplier is required to take immediate containment action in less than 24 hours to isolate NTF from further delivery of defective material. The Supplier needs to provide a detailed problem-solving analysis and 8D within 15 days. If additional time is necessary, the Supplier must contact NTF's Quality Department to explain the reason. When required, the specific OEM or NTF format will be used to document the permanent corrective action.

2.8.2.1.2 Costs incurred by NTF due to poor product quality, non-conforming product, and delivery based on contractual requirements may be charged back to the Supplier

## Global Supplier Quality Manual

with matching Supplier RMA.

2.8.2.1.3 Suppliers are expected to sort defective material delivered to NTF facilities. If necessary to maintain production, NTF may sort defective material at the Supplier's expense.

2.8.2.1.4 NTF expects that all Suppliers deliver material ready for use without the need for incoming inspection.

2.8.2.1.5 Special circumstances or unusual situations will be handled on a case-by-case basis through NTF Purchasing.

2.8.2.1.6 Costs to be charged to Supplier:

All costs related to Controlled Shipping Level CS-1 and/or Controlled Shipping Level CS-2 per OEM requirements.

All customer debits for line stoppage, sorting, replacement of parts, expedited shipments, and other charges incurred because of an issue with the Suppliers product.

### **2.8.3 PRODUCT / SUPPLIER RE-SOURCING**

2.8.3.1 If a Supplier continues to have quality or delivery issues with NTF, re-sourcing of that product to a different Supplier may be considered.

2.8.3.2 Upon request, the Supplier shall provide a detailed list of NTF-owned tooling and gauges along with specific capital equipment attached to the tooling to complete the current process.

2.8.3.3 Supplier is required to provide product up to the contract and additional amounts as required building the necessary product bank to protect product availability and quality to the customer.

2.8.3.5 NTF may witness the build out, transfer of tooling, gauges and address any issues or concerns that arise during the process.

# Global Supplier Quality Manual

## 3.0 NON-CONFORMING MATERIALS

### 3.1 NON-CONFORMING MATERIAL – IMMEDIATE ACTION

Suppliers are required to inform NTF as soon as non-conforming material is discovered.

Upon discovery of a Supplier non-conformance all suspect material, at all points of manufacture, will be placed in quarantine until one of the following conditions are met;

- Product is confirmed to be conforming
- An Engineering Deviation is approved
- Product is reworked and verified for conformance via an approved rework Procedure
- Product is scrapped

The Supplier is required to account for and document the disposition of all non-conforming material, NTF at its sole discretion, may request formal confirmation/photos of the disposal and/or scrapping of non-conforming or obsolete material.

### 3.2 NON-CONFORMING MATERIAL - CORRECTIVE ACTION REPORTS (INFORMAL)

A Corrective Action Report (CAR) will be issued when NTF receives material or service that fails to conform to specification. The CAR shall detail the root cause of the non-conformance, and the corrective actions implemented to prevent future recurrence as a result of the identified root cause. This response must also include an updated FMEA, Control Plan and verification of the effectiveness. Informal CARs do not impact 'Quality Performance Status' and are used solely to record the non-conformance elimination efforts.

### 3.3 NON-CONFORMING MATERIAL - CORRECTIVE ACTION REPORTS (FORMAL)

A formal notification of non-conformance will be issued when there is evidence of a systemic failure of Suppliers QMS (e.g. repeat occurrences, failure to inform NTF of a known quality issue, failure to implement corrective actions or lack of responsiveness, delivery).

### 3.4 DEVIATIONS FOR NON-CONFORMING MATERIAL

NTF does not accept products that do not meet the required specifications. However, in the rare case of exceptional circumstances, Suppliers may approach NTF for relief of specific requirements. NTF may choose to request a concession on non-conforming material. Requests should be submitted to the NTF Quality Department using the supplier proposed change request form – PCR. Any such request must be accompanied with a completed CAR and any statistical or process capability data necessary to support the request. Any and all costs relating to a deviation are the responsibility of the Supplier. Supplier must not ship without a formal deviation authorization.


# Global Supplier Quality Manual

## Revision History

Rev Level / Date	Description of the Change	Revised By:	Approved
1.0 July 8, 2019	Initial version	Chelsea Smith	John Billinghamurst and Karel Hendriks
2.0 August 20, 2019	Format revisions, tooling policy addition	Chelsea Smith	John Billinghamurst and Karel Hendriks

### Approvals:

  
\_\_\_\_\_  
John Billinghamurst  
NTF Quality Manager

  
\_\_\_\_\_  
Karel Hendriks  
NTF COO/CFO